

# Stephen B H Kent

## List of Publications by Year in descending order

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106  
papers

10,260  
citations

41323

49  
h-index

32815

100  
g-index

128  
all docs

128  
docs citations

128  
times ranked

5952  
citing authors

#	ARTICLE	IF	CITATIONS
1	Synthesis of Native Proteins by Chemical Ligation. <i>Annual Review of Biochemistry</i> , 2000, 69, 923-960.	5.0	1,049
2	Total chemical synthesis of proteins. <i>Chemical Society Reviews</i> , 2009, 38, 338-351.	18.7	840
3	Insights into the Mechanism and Catalysis of the Native Chemical Ligation Reaction. <i>Journal of the American Chemical Society</i> , 2006, 128, 6640-6646.	6.6	553
4	Chemical Synthesis of Peptides and Proteins. <i>Annual Review of Biochemistry</i> , 1988, 57, 957-989.	5.0	485
5	A new synthetic route to tert-butyloxycarbonylaminoacyl-4-(oxymethyl)phenylacetamidomethyl-resin, an improved support for solid-phase peptide synthesis. <i>Journal of Organic Chemistry</i> , 1978, 43, 2845-2852.	1.7	350
6	A One-Pot Total Synthesis of Crambin. <i>Angewandte Chemie - International Edition</i> , 2004, 43, 2534-2538.	7.2	336
7	Design and Chemical Synthesis of a Homogeneous Polymer-Modified Erythropoiesis Protein. <i>Science</i> , 2003, 299, 884-887.	6.0	315
8	Photosensitivity of Neurons Enabled by Cell-Targeted Gold Nanoparticles. <i>Neuron</i> , 2015, 86, 207-217.	3.8	295
9	Kinetically Controlled Ligation for the Convergent Chemical Synthesis of Proteins. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 3985-3988.	7.2	268
10	Extending the Applicability of Native Chemical Ligation. <i>Journal of the American Chemical Society</i> , 1996, 118, 5891-5896.	6.6	264
11	Modulation of Reactivity in Native Chemical Ligation through the Use of Thiol Additives. <i>Journal of the American Chemical Society</i> , 1997, 119, 4325-4329.	6.6	260
12	Structure at 2.5-Å resolution of chemically synthesized Human Immunodeficiency Virus Type 1 protease complexed with a hydroxyethylene-based inhibitor. <i>Biochemistry</i> , 1991, 30, 1600-1609.	1.2	242
13	X-ray Structure of Snow Flea Antifreeze Protein Determined by Racemic Crystallization of Synthetic Protein Enantiomers. <i>Journal of the American Chemical Society</i> , 2008, 130, 9695-9701.	6.6	216
14	Total Chemical Synthesis of a Unique Transcription Factor-Related Protein: cMyc-Max. <i>Journal of the American Chemical Society</i> , 1995, 117, 2998-3007.	6.6	193
15	Selective Desulfurization of Cysteine in the Presence of Cys(Acm) in Polypeptides Obtained by Native Chemical Ligation. <i>Organic Letters</i> , 2007, 9, 687-690.	2.4	191
16	Properties of swollen polymer networks. Solvation and swelling of peptide-containing resins in solid-phase peptide synthesis. <i>Journal of the American Chemical Society</i> , 1980, 102, 5463-5470.	6.6	186
17	Convergent Chemical Synthesis and Crystal Structure of a 203 Amino Acid Covalent Dimer of HIV-1 Protease Enzyme Molecule. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 1667-1670.	7.2	164
18	Convergent chemical synthesis and high-resolution x-ray structure of human lysozyme. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007, 104, 4846-4851.	3.3	153

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19	Medicinal chemistry applied to a synthetic protein: Development of highly potent HIV entry inhibitors. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 16460-16465.	3.3	151
20	In Situ Neutralization in Boc-chemistry Solid Phase Peptide Synthesis. International Journal of Peptide Research and Therapeutics, 2007, 13, 31-44.	0.9	151
21	Racemic Protein Crystallography. Annual Review of Biophysics, 2012, 41, 41-61.	4.5	151
22	Chemical Protein Synthesis by Solid Phase Ligation of Unprotected Peptide Segments. Journal of the American Chemical Society, 1999, 121, 8720-8727.	6.6	146
23	Chemical synthesis and X-ray structure of a heterochiral {D-protein antagonist <i>plus</i> vascular endothelial growth factor} protein complex by racemic crystallography. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 14779-14784.	3.3	118
24	Chemical Synthesis of Lymphotoxin: A Glycosylated Chemokine with a C-Terminal Mucin-Like Domain. Chemistry - A European Journal, 2001, 7, 1129-1132.	1.7	97
25	Total Chemical Synthesis of Crambin. Journal of the American Chemical Society, 2004, 126, 1377-1383.	6.6	97
26	Chemical Ligation of Cysteine-Containing Peptides: Synthesis of a 22 kDa Tethered Dimer of HIV-1 Protease. Journal of the American Chemical Society, 1995, 117, 1881-1887.	6.6	95
27	Probing Intermolecular Main Chain Hydrogen Bonding in Serine Proteinase $\alpha$ -Protein Inhibitor Complexes: Chemical Synthesis of Backbone-Engineered Turkey Ovomucoid Third Domain. Biochemistry, 1997, 36, 673-679.	1.2	88
28	Towards the total chemical synthesis of integral membrane proteins: a general method for the synthesis of hydrophobic peptide- $\beta$ -thioester building blocks. Tetrahedron Letters, 2007, 48, 1795-1799.	0.7	88
29	Native Chemical Ligation at Asx-Cys, Glx-Cys: Chemical Synthesis and High-Resolution X-ray Structure of ShK Toxin by Racemic Protein Crystallography. Journal of the American Chemical Society, 2013, 135, 11911-11919.	6.6	88
30	Protein conformational dynamics in the mechanism of HIV-1 protease catalysis. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 20982-20987.	3.3	86
31	Fully Convergent Chemical Synthesis of Ester Insulin: Determination of the High Resolution X-ray Structure by Racemic Protein Crystallography. Journal of the American Chemical Society, 2013, 135, 3173-3185.	6.6	84
32	Racemic crystallography of synthetic protein enantiomers used to determine the X-ray structure of plectasin by direct methods. Protein Science, 2009, 18, 1146-1154.	3.1	80
33	Modular Total Chemical Synthesis of a Human Immunodeficiency Virus Type 1 Protease. Journal of the American Chemical Society, 2007, 129, 11480-11490.	6.6	79
34	Total chemical synthesis of enzymes. Journal of Peptide Science, 2003, 9, 574-593.	0.8	74
35	A One-Pot Approach to Neoglycopeptides using Orthogonal Native Chemical Ligation and Click Chemistry. Organic Letters, 2009, 11, 5270-5273.	2.4	74
36	Mirror Image Forms of Snow Flea Antifreeze Protein Prepared by Total Chemical Synthesis Have Identical Antifreeze Activities. Journal of the American Chemical Society, 2008, 130, 9702-9707.	6.6	71

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37	Total Chemical Synthesis and Catalytic Properties of the Enzyme Enantiomers L- and D-4-Oxalocrotonate Tautomerase. <i>Journal of the American Chemical Society</i> , 1995, 117, 11075-11080.	6.6	70
38	Convergent Chemical Synthesis of [Lysine <sup>24</sup> , <sup>38</sup> ] Human Erythropoietin. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 993-999.	7.2	70
39	A Potent $\alpha$ -Protein Antagonist of VEGF-A is Nonimmunogenic, Metabolically Stable, and Longer-Circulating <i>in Vivo</i> . <i>ACS Chemical Biology</i> , 2016, 11, 1058-1065.	1.6	69
40	Design and Folding of [Glu <sup>A4</sup> (O <sup>12</sup> Thr <sup>B30</sup> )]Insulin (an Ester Insulin): A Minimal Proinsulin Surrogate that Can Be Chemically Converted into Human Insulin. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 5489-5493.	7.2	67
41	Novel protein science enabled by total chemical synthesis. <i>Protein Science</i> , 2019, 28, 313-328.	3.1	65
42	Biomimetic Synthesis of Lispro Insulin via a Chemically Synthesized $\alpha$ -Mini-Proinsulin Prepared by Oxime-Forming Ligation. <i>Journal of the American Chemical Society</i> , 2009, 131, 16313-16318.	6.6	60
43	(Quasi-)Racemic X-ray Structures of Glycosylated and Non-Glycosylated Forms of the Chemokine Ser <sup>CCL1</sup> Prepared by Total Chemical Synthesis. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 5194-5198.	7.2	59
44	His6 tag-assisted chemical protein synthesis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 5014-5019.	3.3	58
45	Total Chemical Synthesis, Folding, and Assay of a Small Protein on a Water-Compatible Solid Support. <i>Angewandte Chemie - International Edition</i> , 2006, 45, 3283-3287.	7.2	52
46	Chemical protein synthesis: Inventing synthetic methods to decipher how proteins work. <i>Bioorganic and Medicinal Chemistry</i> , 2017, 25, 4926-4937.	1.4	52
47	Total synthesis by modern chemical ligation methods and high resolution (1.1 Å..) X-ray structure of ribonuclease A. <i>Biopolymers</i> , 2008, 90, 278-286.	1.2	50
48	Total Chemical Synthesis of Biologically Active Vascular Endothelial Growth Factor. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 8029-8033.	7.2	49
49	Determination of the X-ray structure of the snake venom protein omwaprin by total chemical synthesis and racemic protein crystallography. <i>Protein Science</i> , 2010, 19, 1840-1849.	3.1	48
50	Structural engineering of the HIV-1 protease molecule with a $\beta$ -turn mimic of fixed geometry. <i>Protein Science</i> , 1993, 2, 1085-1091.	3.1	47
51	Comparative Properties of Insulin-like Growth Factor...1 (IGF-1) and [Gly7D-Ala]IGF-1 Prepared by Total Chemical Synthesis. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 1102-1106.	7.2	47
52	Total chemical synthesis and X-ray structure of kalitoxin by racemic protein crystallography. <i>Chemical Communications</i> , 2010, 46, 8174.	2.2	47
53	Design, Total Chemical Synthesis, and X-ray Structure of a Protein Having a Novel Linear Loop Polypeptide Chain Topology. <i>Angewandte Chemie - International Edition</i> , 2012, 51, 1481-1486.	7.2	47
54	Synthetic Erythropoietic Proteins: Tuning Biological Performance by Site-Specific Polymer Attachment. <i>Chemistry and Biology</i> , 2005, 12, 371-383.	6.2	44

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55	X-ray Structure of Native Scorpion Toxin BmBKTx1 by Racemic Protein Crystallography Using Direct Methods. <i>Journal of the American Chemical Society</i> , 2009, 131, 1362-1363.	6.6	43
56	Total Chemical Synthesis and Biological Activities of Glycosylated and Non-Glycosylated Forms of the Chemokines CCL1 and Ser-CCL1. <i>Angewandte Chemie - International Edition</i> , 2014, 53, n/a-n/a.	7.2	43
57	A functional role of Rv1738 in <i>Mycobacterium tuberculosis</i> persistence suggested by racemic protein crystallography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 4310-4315.	3.3	43
58	Novel forms of chemical protein diversity in nature and in the laboratory. <i>Current Opinion in Biotechnology</i> , 2004, 15, 607-614.	3.3	37
59	Studies on the Insolubility of a Transmembrane Peptide from Signal Peptide Peptidase. <i>Journal of the American Chemical Society</i> , 2006, 128, 7140-7141.	6.6	37
60	Through the looking glass a new world of proteins enabled by chemical synthesis. <i>Journal of Peptide Science</i> , 2012, 18, 428-436.	0.8	35
61	Mapping of voltage sensor positions in resting and inactivated mammalian sodium channels by LRET. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, E1857-E1865.	3.3	35
62	Bringing the Science of Proteins into the Realm of Organic Chemistry: Total Chemical Synthesis of SEP (Synthetic Erythropoiesis Protein). <i>Angewandte Chemie - International Edition</i> , 2013, 52, 11988-11996.	7.2	29
63	Perplexing cooperative folding and stability of a low-sequence complexity, polyproline 2 protein lacking a hydrophobic core. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 2241-2246.	3.3	29
64	Ionization state of the catalytic dyad Asp25/25 <sup>2</sup> in the HIV-1 protease: NMR studies of site-specifically <sup>13</sup> C labelled HIV-1 protease prepared by total chemical synthesis. <i>Organic and Biomolecular Chemistry</i> , 2012, 10, 5887.	1.5	26
65	Total Chemical Synthesis of Biologically Active Fluorescent Dye-Labeled Ts1 Toxin. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 8970-8974.	7.2	26
66	Total Chemical Synthesis of the Enzyme Sortase <sup>N59</sup> with Full Catalytic Activity. <i>Angewandte Chemie - International Edition</i> , 2014, 53, 4662-4666.	7.2	23
67	Contribution of Residue B5 to the Folding and Function of Insulin and IGF-I. <i>Journal of Biological Chemistry</i> , 2010, 285, 5040-5055.	1.6	22
68	Total chemical synthesis of human proinsulin. <i>Chemical Communications</i> , 2010, 46, 8177.	2.2	20
69	Efficient Total Chemical Synthesis of <sup>13</sup> C= <sup>18</sup> O Isotopomers of Human Insulin for Isotope-Edited FTIR. <i>ChemBioChem</i> , 2016, 17, 415-420.	1.3	19
70	Scope and Limitations of Fmoc Chemistry SPPS-Based Approaches to the Total Synthesis of Insulin Lispro via Ester Insulin. <i>Chemistry - A European Journal</i> , 2017, 23, 1709-1716.	1.7	19
71	Deciphering a Molecular Mechanism of Neonatal Diabetes Mellitus by the Chemical Synthesis of a Protein Diastereomer, [d-Ala <sup>B8</sup> ]Human Proinsulin. <i>Journal of Biological Chemistry</i> , 2014, 289, 23683-23692.	1.6	18
72	Elucidation of the Covalent and Tertiary Structures of Biologically Active Ts3 Toxin. <i>Angewandte Chemie - International Edition</i> , 2016, 55, 8639-8642.	7.2	18

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73	Crystallization of Enantiomerically Pure Proteins from Quasi-Racemic Mixtures: Structure Determination by X-Ray Diffraction of Isotope-Labeled Ester Insulin and Human Insulin. <i>ChemBioChem</i> , 2016, 17, 421-425.	1.3	18
74	Inversion of the Side-Chain Stereochemistry of Individual Thr or Ile Residues in a Protein Molecule: Impact on the Folding, Stability, and Structure of the ShK Toxin. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 3324-3328.	7.2	17
75	The critical role of peptide chemistry in the life sciences. <i>Journal of Peptide Science</i> , 2015, 21, 136-138.	0.8	16
76	Î²1-subunit-induced structural rearrangements of the Ca <sup>2+</sup> - and voltage-activated K <sup>+</sup> (BK) channel. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E3231-9.	3.3	14
77	Obviation of hydrogen fluoride in Boc chemistry solid phase peptide synthesis of peptide-Î±-thioesters. <i>Chemical Communications</i> , 2016, 52, 13979-13982.	2.2	14
78	Crystal structure of chemically synthesized HIV-1 protease and a ketomethylene isostere inhibitor based on the p2/NC cleavage site. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2008, 18, 4554-4557.	1.0	13
79	Role of a salt bridge in the model protein crambin explored by chemical protein synthesis: X-ray structure of a unique protein analogue, [V15A]crambin-Î±-carboxamide. <i>Molecular BioSystems</i> , 2009, 5, 750.	2.9	13
80	Enhanced Solvation of Peptides Attached to Solid-Phase Resins: Straightforward Syntheses of the Elastin Sequence Pro-Gly-Val-Gly-Val-Pro-Gly-Val-Gly-Val. <i>Organic Letters</i> , 2015, 17, 3521-3523.	2.4	13
81	Synthesis of Photoactive Analogues of a Cystine Knot Trypsin Inhibitor Protein. <i>Organic Letters</i> , 2007, 9, 5497-5500.	2.4	12
82	Total chemical synthesis and biophysical characterization of the minimal isoform of the KCHIP2 potassium channel regulatory subunit. <i>Protein Science</i> , 2007, 16, 2056-2064.	3.1	10
83	Die Wissenschaft von Proteinen im Reich der organischen Chemie begründen: Totalsynthese von SEP (synthetisches Erythropoeseprotein). <i>Angewandte Chemie</i> , 2013, 125, 12208-12217.	1.6	10
84	Origin of the chemical ligation concept for the total synthesis of enzymes (proteins). <i>Biopolymers</i> , 2010, 94, iv-ix.	1.2	9
85	Single-wavelength phasing strategy for quasi-racemic protein crystal diffraction data. <i>Acta Crystallographica Section D: Biological Crystallography</i> , 2012, 68, 62-68.	2.5	9
86	A Non-immunogenic Bivalent d-Protein Potently Inhibits Retinal Vascularization and Tumor Growth. <i>ACS Chemical Biology</i> , 2021, 16, 548-556.	1.6	9
87	Synthesis of Tripeptide Mimetics Based on Dihydroquinolinone and Benzoxazinone Scaffolds. <i>Chemistry - A European Journal</i> , 2011, 17, 13983-13986.	1.7	8
88	Total chemical synthesis of fully functional Photoactive Yellow Protein. <i>Bioorganic and Medicinal Chemistry</i> , 2013, 21, 3436-3442.	1.4	8
89	Editorial overview: Synthetic Biomolecules. <i>Current Opinion in Chemical Biology</i> , 2014, 22, viii-xi.	2.8	7
90	Reinvestigation of the biological activity of d-allo-ShK protein. <i>Journal of Biological Chemistry</i> , 2017, 292, 12599-12605.	1.6	7

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91	Synthesis and comparative properties of two amide-generating resin linkers for use in solid phase peptide synthesis. <i>Journal of Peptide Science</i> , 2010, 16, 545-550.	0.8	6
92	Visualizing Tetrahedral Oxyanion Bound in HIV-1 Protease Using Neutrons: Implications for the Catalytic Mechanism and Drug Design. <i>ACS Omega</i> , 2020, 5, 11605-11617.	1.6	6
93	Total synthesis of bovine pancreatic trypsin inhibitor and the protein diastereomer [ <i>Gly37DAla</i> ]BPTI using Boc chemistry solid phase peptide synthesis. <i>Peptide Science</i> , 2020, 112, e24166.	1.0	6
94	Determining the 3D Structure of HIV-1 Protease. <i>Science</i> , 2000, 288, 1590a-1590.	6.0	6
95	Single-Molecule Studies of HIV-1 Protease Catalysis Enabled by Chemical Protein Synthesis. <i>Israel Journal of Chemistry</i> , 2011, 51, 960-967.	1.0	5
96	Reprint of "Crystal structure of chemically synthesized HIV-1 protease and a ketomethylene isostere inhibitor based on the p2/NC cleavage site" [ <i>Bioorg. Med. Chem. Lett.</i> 18 (2008) 4554-4557]. <i>Bioorganic and Medicinal Chemistry Letters</i> , 2008, 18, 6012-6015.	1.0	4
97	Exploratory synthesis of peptide-thioester segments spanning the polypeptide sequence of the $\mu$ -opioid receptor, a G protein-coupled receptor. <i>Biopolymers</i> , 2007, 88, 340-349.	1.2	3
98	Elucidation of the Covalent and Tertiary Structures of Biologically Active Ts3 Toxin. <i>Angewandte Chemie</i> , 2016, 128, 8781-8784.	1.6	3
99	Inversion of the Side-Chain Stereochemistry of Individual Thr or Ile Residues in a Protein Molecule: Impact on the Folding, Stability, and Structure of the ShK Toxin. <i>Angewandte Chemie</i> , 2017, 129, 3372-3376.	1.6	3
100	Chemical synthesis and enzymatic properties of RNase A analogues designed to enhance second-step catalytic activity. <i>Organic and Biomolecular Chemistry</i> , 2016, 14, 8804-8814.	1.5	2
101	In situ neutralization in Boc chemistry SPPS: High yield assembly of difficult sequences. , 1992, , 623-624.		2
102	Total Chemical Synthesis of Enzymes. <i>ChemInform</i> , 2004, 35, no.	0.1	0
103	Cover Picture: Kinetically Controlled Ligation for the Convergent Chemical Synthesis of Proteins ( <i>Angew. Chem. Int. Ed.</i> 24/2006). <i>Angewandte Chemie - International Edition</i> , 2006, 45, 3887-3887.	7.2	0
104	Special Issue "Tribute to Bruce Merrifield. <i>International Journal of Peptide Research and Therapeutics</i> , 2007, 13, 29-29.	0.9	0
105	Chemical Synthesis of an Enzyme Containing an Artificial Catalytic Apparatus. <i>Australian Journal of Chemistry</i> , 2020, 73, 321.	0.5	0
106	Total Chemical Protein Synthesis for the Determination of Novel X-ray Structures by Racemic Protein Crystallography. <i>NATO Science for Peace and Security Series A: Chemistry and Biology</i> , 2013, , 11-22.	0.5	0