Ichiro Hirao

List of Publications by Year
in descending order

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72	4,448	94381 37	106281 65
papers	citations	h-index	g-index

75	75	75	2271
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Dyeâ€Conjugated Spinach RNA by Genetic Alphabet Expansion. Chemistry - A European Journal, 2022, 28, .	1.7	9
2	Cognate baseâ€pair selectivity of hydrophobic unnatural bases in <scp>DNA</scp> ligation by <scp>T4 DNA</scp> ligase. Biopolymers, 2021, 112, e23407.	1.2	9
3	High-affinity five/six-letter DNA aptamers with superior specificity enabling the detection of dengue NS1 protein variants beyond the serotype identification. Nucleic Acids Research, 2021, 49, 11407-11424.	6.5	29
4	Competitive ELISA for a serologic test to detect dengue serotype-specific anti-NS1 IgGs using high-affinity UB-DNA aptamers. Scientific Reports, 2021, 11, 18000.	1.6	8
5	Uptake mechanisms of cell-internalizing nucleic acid aptamers for applications as pharmacological agents. RSC Medicinal Chemistry, 2021, 12, 1640-1649.	1.7	8
6	Genetic alphabet expansion technology by creating unnatural base pairs. Chemical Society Reviews, 2020, 49, 7602-7626.	18.7	74
7	Sanger Gap Sequencing for Genetic Alphabet Expansion of DNA. ChemBioChem, 2020, 21, 2287-2296.	1.3	5
8	New Research Area, Xenobiology, by Integrating Chemistry and Biology. Yuki Gosei Kagaku Kyokaishi/Journal of Synthetic Organic Chemistry, 2020, 78, 465-475.	0.0	0
9	Molecular affinity rulers: systematic evaluation of DNA aptamers for their applicabilities in ELISA. Nucleic Acids Research, 2019, 47, 8362-8374.	6.5	47
10	DNA Sequencing Method Including Unnatural Bases for DNA Aptamer Generation by Genetic Alphabet Expansion. ACS Synthetic Biology, 2019, 8, 1401-1410.	1.9	17
11	Genetic Alphabet Expansion Provides Versatile Specificities and Activities of Unnatural-Base DNA Aptamers Targeting Cancer Cells. Molecular Therapy - Nucleic Acids, 2019, 14, 158-170.	2.3	39
12	Genetic alphabet expansion biotechnology by creating unnatural base pairs. Current Opinion in Biotechnology, 2018, 51, 8-15.	3.3	36
13	DNA aptamer generation by ExSELEX using genetic alphabet expansion with a mini-hairpin DNA stabilization method. Biochimie, 2018, 145, 15-21.	1.3	33
14	Visual Detection of Amplified DNA by Polymerase Chain Reaction Using a Genetic Alphabet Expansion System. Journal of the American Chemical Society, 2018, 140, 14038-14041.	6.6	41
15	Creation of unnatural base pairs for genetic alphabet expansion toward synthetic xenobiology. Current Opinion in Chemical Biology, 2018, 46, 108-114.	2.8	46
16	Crystal structure of Deep Vent DNA polymerase. Biochemical and Biophysical Research Communications, 2017, 483, 52-57.	1.0	12
17	Structural Basis for Expansion of the Genetic Alphabet with an Artificial Nucleobase Pair. Angewandte Chemie - International Edition, 2017, 56, 12000-12003.	7.2	30
18	High-Affinity DNA Aptamer Generation Targeting von Willebrand Factor A1-Domain by Genetic Alphabet Expansion for Systematic Evolution of Ligands by Exponential Enrichment Using Two Types of Libraries Composed of Five Different Bases. Journal of the American Chemical Society, 2017, 139, 324-334.	6.6	114

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19	Genetic alphabet expansion transcription generating functional RNA molecules containing a five-letter alphabet including modified unnatural and natural base nucleotides by thermostable T7 RNA polymerase variants. Chemical Communications, 2017, 53, 12309-12312.	2.2	21
20	Titelbild: Strukturelle Studie zur Erweiterung des genetischen Codes durch ein artifizielles Nucleobasenpaar (Angew. Chem. 39/2017). Angewandte Chemie, 2017, 129, 11815-11815.	1.6	0
21	Strukturelle Studie zur Erweiterung des genetischen Codes durch ein artifizielles Nucleobasenpaar. Angewandte Chemie, 2017, 129, 12162-12166.	1.6	5
22	Unique Thermal Stability of Unnatural Hydrophobic Ds Bases in Double-Stranded DNAs. ACS Synthetic Biology, 2017, 6, 1944-1951.	1.9	10
23	Evolving Aptamers with Unnatural Base Pairs. Current Protocols in Chemical Biology, 2017, 9, 315-339.	1.7	10
24	Architecture of high-affinity unnatural-base DNA aptamers toward pharmaceutical applications. Scientific Reports, 2016, 5, 18478.	1.6	52
25	Post-ExSELEX stabilization of an unnatural-base DNA aptamer targeting VEGF₁₆₅toward pharmaceutical applications. Nucleic Acids Research, 2016, 44, gkw619.	6.5	51
26	High Fidelity, Efficiency and Functionalization of Dsâ€“Px Unnatural Base Pairs in PCR Amplification for a Genetic Alphabet Expansion System. ACS Synthetic Biology, 2016, 5, 1220-1230.	1.9	52
27	DNA Aptamer Generation by Genetic Alphabet Expansion SELEX (ExSELEX) Using an Unnatural Base Pair System. Methods in Molecular Biology, 2016, 1380, 47-60.	0.4	23
28	Site-specific labeling of RNA by combining genetic alphabet expansion transcription and copper-free click chemistry. Nucleic Acids Research, 2015, 43, 6665-6676.	6.5	59
29	Generation of high-affinity DNA aptamers using an expanded genetic alphabet. Nature Biotechnology, 2013, 31, 453-457.	9.4	443
30	Siteâ€Specific Functional Labeling of Nucleic Acids by In Vitro Replication and Transcription using Unnatural Base Pair Systems. Israel Journal of Chemistry, 2013, 53, 450-468.	1.0	15
31	Unnatural base pair systems toward the expansion of the genetic alphabet in the central dogma. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2012, 88, 345-367.	1.6	67
32	Site-specific functionalization of RNA molecules by an unnatural base pair transcription system via click chemistry. Chemical Communications, 2012, 48, 10835.	2.2	51
33	Site-Specific Incorporation of Functional Components into RNA by an Unnatural Base Pair Transcription System. Molecules, 2012, 17, 2855-2876.	1.7	38
34	Highly specific unnatural base pair systems as a third base pair for PCR amplification. Nucleic Acids Research, 2012, 40, 2793-2806.	6.5	147
35	PCR Amplification and Transcription for Site-Specific Labeling of Large RNA Molecules by a Two-Unnatural-Base-Pair System. Journal of Nucleic Acids, 2012, 2012, 1-8.	0.8	24
36	Natural versus Artificial Creation of Base Pairs in DNA: Origin of Nucleobases from the Perspectives of Unnatural Base Pair Studies. Accounts of Chemical Research, 2012, 45, 2055-2065.	7.6	130

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37	Monitoring the site-specific incorporation of dual fluorophore-quencher base analogues for target DNA detection by an unnatural base pair system. Organic and Biomolecular Chemistry, 2011, 9, 7504.	1.5	25
38	Site-specific fluorescent probing of RNA molecules by unnatural base-pair transcription for local structural conformation analysis. Nature Protocols, 2010, 5, 1312-1323.	5.5	45
39	A New Unnatural Base Pair System between Fluorophore and Quencher Base Analogues for Nucleic Acid-Based Imaging Technology. Journal of the American Chemical Society, 2010, 132, 15418-15426.	6.6	55
40	A Unique Fluorescent Base Analogue for the Expansion of the Genetic Alphabet. Journal of the American Chemical Society, 2010, 132, 4988-4989.	6.6	67
41	Site-Specific Incorporation of Extra Components into RNA by Transcription Using Unnatural Base Pair Systems. Methods in Molecular Biology, 2010, 634, 355-369.	0.4	17
42	An unnatural base pair system for efficient PCR amplification and functionalization of DNA molecules. Nucleic Acids Research, 2009, 37, e14-e14.	6.5	165
43	An Efficient Unnatural Base Pair for PCR Amplification. Journal of the American Chemical Society, 2007, 129, 15549-15555.	6.6	112
44	Fluorescent probing for RNA molecules by an unnatural base-pair system. Nucleic Acids Research, 2007, 35, 5360-5369.	6.5	65
45	Characterization of fluorescent, unnatural base pairs. Tetrahedron, 2007, 63, 3528-3537.	1.0	34
46	Cytostatic evaluations of nucleoside analogs related to unnatural base pairs for a genetic expansion system. Bioorganic and Medicinal Chemistry Letters, 2007, 17, 5582-5585.	1.0	15
47	An unnatural hydrophobic base pair system: site-specific incorporation of nucleotide analogs into DNA and RNA. Nature Methods, 2006, 3, 729-735.	9.0	229
48	Unnatural base pair systems for DNA/RNA-based biotechnology. Current Opinion in Chemical Biology, 2006, 10, 622-627.	2.8	142
49	Site-specific biotinylation of RNA molecules by transcription using unnatural base pairs. Nucleic Acids Research, 2005, 33, e129-e129.	6.5	61
50	Site-Specific Fluorescent Labeling of RNA Molecules by Specific Transcription Using Unnatural Base Pairs. Journal of the American Chemical Society, 2005, 127, 17286-17295.	6.6	102
51	An Efficient Unnatural Base Pair for a Base-Pair-Expanded Transcription System. Journal of the American Chemical Society, 2005, 127, 8652-8658.	6.6	53
52	A quantitative, non-radioactive single-nucleotide insertion assay for analysis of DNA replication fidelity by using an automated DNA sequencer. Biotechnology Letters, 2004, 26, 999-1005.	1.1	11
53	Unnatural base pairs mediate the site-specific incorporation of an unnatural hydrophobic component into RNA transcripts. Bioorganic and Medicinal Chemistry Letters, 2004, 14, 2593-2596.	1.0	23
54	Site-Specific Incorporation of a Photo-Crosslinking Component into RNA by T7 Transcription Mediated by Unnatural Base Pairs. Chemistry and Biology, 2004, 11, 47-55.	6.2	57

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55	In VitroSelection of RNA Aptamers that Bind to Colicin E3 and Structurally Resemble the Decoding Site of 16S Ribosomal RNAâ€. Biochemistry, 2004, 43, 3214-3221.	1.2	24
56	A Two-Unnatural-Base-Pair System toward the Expansion of the Genetic Code. Journal of the American Chemical Society, 2004, 126, 13298-13305.	6.6	117
57	An unnatural hydrophobic base, 4-propynylpyrrole-2-carbaldehyde, as an efficient pairing partner of 9-methylimidazo[(4,5)- b]pyridine. Bioorganic and Medicinal Chemistry Letters, 2003, 13, 4515-4518.	1.0	34
58	An Unnatural Hydrophobic Base Pair with Shape Complementarity between Pyrrole-2-carbaldehyde and 9-Methylimidazo[(4,5)-b]pyridine. Journal of the American Chemical Society, 2003, 125, 5298-5307.	6.6	114
59	An unnatural base pair for incorporating amino acid analogs into proteins. Nature Biotechnology, 2002, 20, 177-182.	9.4	270
60	Synthesis of 6-(2-thienyl)purine nucleoside derivatives that form unnatural base pairs with pyridin-2-one nucleosides. Bioorganic and Medicinal Chemistry Letters, 2001, 11, 2221-2223.	1.0	57
61	Synthesis of 3-(2-deoxy-Î²-d-ribofuranosyl)pyridin-2-one and 2-amino-6-(N,N-dimethylamino)-9-(2-deoxy-Î²-d-ribofuranosyl)purine derivatives for an unnatural base pair. Tetrahedron Letters, 2000, 41, 3931-3934.	0.7	52
62	RNA Aptamers That Bind to and Inhibit the Ribosome-inactivating Protein, Pepocin. Journal of Biological Chemistry, 2000, 275, 4943-4948.	1.6	28
63	The limits of specificity: an experimental analysis with RNA aptamers to MS2 coat protein variants. Molecular Diversity, 1998, 4, 75-89.	2.1	56
64	GNA Trinucleotide Loop Sequences Producing Extraordinarily Stable DNA Minihairpinsâ€. Biochemistry, 1997, 36, 4761-4767.	1.2	138
65	Nuclease resistance of an extraordinarily thermostable mini-hairpin DNA fragment, d(GCGAAGC) and its application toin vitroprotein synthesis. Nucleic Acids Research, 1994, 22, 2217-2221.	6.5	58
66	Most compact hairpin-turn structure exerted by a short DNA fragment, d(GCGAAGC) in solution: an extraordinarily stable structure resistant to nucleases and heat. Nucleic Acids Research, 1994, 22, 576-582.	6.5	203
67	Stabilization of mRNA in an Escherichia coli cell-free translation system. FEBS Letters, 1993, 321, 169-172.	1.3	18
68	Extraordinarily stable mini-hairpins: electrophoretical and thermal properties of the various sequence variants of d(GCFAAAGC)and their effect on DNA sequencing. Nucleic Acids Research, 1992, 20, 3891-3896.	6.5	140
69	Synthesis of Fused Oligoribonucleotides with Trideoxyribonucleotide Containing Phosphorothioate to Stabilize Against Nuclease Activity. Nucleosides & Nucleotides, 1991, 10, 1377-1390.	0.5	4
70	Synthesis and Properties of an Initiation Codon Analog Consisting of 2â€²-O-Methyl Nucleotides. Nucleosides & Nucleotides, 1990, 9, 1113-1122.	0.5	1
71	Extraordinary stable structure of short single-stranded DNA fragments containing a specific base sequence: d(GCGAAAGC). Nucleic Acids Research, 1989, 17, 2223-2231.	6.5	86
72	Genetic Code Engineering by Natural and Unnatural Base Pair Systems for the Site-Specific Incorporation of Non-Standard Amino Acids Into Proteins. Frontiers in Molecular Biosciences, 0, 9, .	1.6	8