Philipp Holliger

List of Publications by Year
in descending order

76 papers	6,991 citations	87888 38 h-index	82547 72 g-index
102 all docs	102 docs citations	102 times ranked	5954 citing authors

#	Article	IF	Citations
1	Engineered antibody fragments and the rise of single domains. Nature Biotechnology, 2005, 23, 1126-1136.	17.5	1,680
2	Synthetic Genetic Polymers Capable of Heredity and Evolution. Science, 2012, 336, 341-344.	12.6	635
3	Ribozyme-Catalyzed Transcription of an Active Ribozyme. Science, 2011, 332, 209-212.	12.6	336
4	In-ice evolution of RNA polymerase ribozyme activity. Nature Chemistry, 2013, 5, 1011-1018.	13.6	230
5	Catalysts from synthetic genetic polymers. Nature, 2015, 518, 427-430.	27.8	230
6	Mimicking Somatic Hypermutation: Affinity Maturation of Antibodies Displayed on Bacteriophage Using a Bacterial Mutator Strain. Journal of Molecular Biology, 1996, 260, 359-368.	4.2	211
7	The C-Terminal Domain of TolA Is the Coreceptor for Filamentous Phage Infection of E. coli. Cell, 1997, 90, 351-360.	28.9	191
8	Crystal structure of a diabody, a bivalent antibody fragment. Structure, 1994, 2, 1217-1226.	3.3	185
9	Generic expansion of the substrate spectrum of a DNA polymerase by directed evolution. Nature Biotechnology, 2004, 22, 755-759.	17.5	169
10	The XNA world: progress towards replication and evolution of synthetic genetic polymers. Current Opinion in Chemical Biology, 2012, 16, 245-252.	6.1	164
11	Ice as a protocellular medium for RNA replication. Nature Communications, 2010, 1, 76.	12.8	121
12	Molecular breeding of polymerases for amplification of ancient DNA. Nature Biotechnology, 2007, 25, 939-943.	17.5	115
13	Freezeâ€“thaw cycles as drivers of complex ribozyme assembly. Nature Chemistry, 2015, 7, 502-508.	13.6	113
14	Towards XNA nanotechnology: new materials from synthetic genetic polymers. Trends in Biotechnology, 2014, 32, 321-328.	9.3	110
15	Crystal structure of the two N-terminal domains of g3p from filamentous phage fd at 1.9 Ã…: evidence for conformational lability 1 1Edited by J. M. Thornton. Journal of Molecular Biology, 1999, 288, 649-657.	4.2	102
16	CyDNA: Synthesis and Replication of Highly Cy-Dye Substituted DNA by an Evolved Polymerase. Journal of the American Chemical Society, 2010, 132, 5096-5104.	13.7	97
17	Selection of 2â€²-deoxy-2â€²-fluoroarabinonucleotide (FANA) aptamers that bind HIV-1 reverse transcriptase with picomolar affinity. Nucleic Acids Research, 2015, 43, gkv1057.	14.5	97
18	A short adaptive path from DNA to RNA polymerases. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8067-8072.	7.1	93

#	Article	IF	Citations
19	Ribozyme-catalysed RNA synthesis using triplet building blocks. ELife, 2018, 7, .	6.0	91
20	Directed Evolution of DNA Polymerase, RNA Polymerase and Reverse Transcriptase Activity in a Single Polypeptide. Journal of Molecular Biology, 2006, 361, 537-550.	4.2	89
21	Specific killing of lymphoma cells by cytotoxic T-cells mediated by a bispecific diabody. Protein Engineering, Design and Selection, 1996, 9, 299-305.	2.1	81
22	Engineering bispecific antibodies. Current Opinion in Biotechnology, 1993, 4, 446-449.	6.6	77
23	Modified nucleic acids: replication, evolution, and next-generation therapeutics. BMC Biology, 2020, 18, 112.	3.8	77
24	A conserved infection pathway for filamentous bacteriophages is suggested by the structure of the membrane penetration domain of the minor coat protein g3p from phage fd. Structure, 1997, 5, 265-275.	3.3	76
25	Retargeting serum immunoglobulin with bispecific diabodies. Nature Biotechnology, 1997, 15, 632-636.	17.5	74
26	Evolving a Polymerase for Hydrophobic Base Analogues. Journal of the American Chemical Society, 2009, 131, 14827-14837.	13.7	73
27	Polymerase engineering: towards the encoded synthesis of unnatural biopolymers. Chemical Communications, 2009, , 4619.	4.1	72
28	A synthetic genetic polymer with an uncharged backbone chemistry based on alkyl phosphonate nucleic acids. Nature Chemistry, 2019, 11, 533-542.	13.6	69
29	Simple peptides derived from the ribosomal core potentiate RNA polymerase ribozyme function. Nature Chemistry, 2017, 9, 325-332.	13.6	65
30	Molecular breeding of polymerases for resistance to environmental inhibitors. Nucleic Acids Research, 2011, 39, e51-e51.	14.5	58
31	Exploring the Chemistry of Genetic Information Storage and Propagation through Polymerase Engineering. Accounts of Chemical Research, 2017, 50, 1079-1087.	15.6	58
32	Nanostructures from Synthetic Genetic Polymers. ChemBioChem, 2016, 17, 1107-1110.	2.6	57
33	Nucleic acids: function and potential for abiogenesis. Quarterly Reviews of Biophysics, 2017, 50, e4.	5.7	53
34	Beyond DNA and RNA: The Expanding Toolbox of Synthetic Genetics. Cold Spring Harbor Perspectives in Biology, 2019, 11, a032490.	5.5	46
35	Towards applications of synthetic genetic polymers in diagnosis and therapy. Current Opinion in Chemical Biology, 2014, 22, 79-84.	6.1	44
36	Site-directed mutagenesis of bovine pancreatic ribonuclease: Lysine-41 and aspartate-121. FEBS Letters, 1991, 281, 275-277.	2.8	43

#	Article	IF	Citations
37	Random-sequence genetic oligomer pools display an innate potential for ligation and recombination. ELife, 2018, 7, .	6.0	43
38	Engineering and application of polymerases for synthetic genetics. Current Opinion in Biotechnology, 2017, 48, 168-179.	6.6	41
39	Discovery and evolution of RNA and XNA reverse transcriptase function and fidelity. Nature Chemistry, 2020, 12, 683-690.	13.6	41
40	Directed evolution of artificial enzymes (XNAzymes) from diverse repertoires of synthetic genetic polymers. Nature Protocols, 2015, 10, 1625-1642.	12.0	40
41	Antibodies come back from the brink. Nature Biotechnology, 1998, 16, 1015-1016.	17.5	36
42	A novel emulsion mixture for in vitro compartmentalization of transcription and translation in the rabbit reticulocyte system. Protein Engineering, Design and Selection, 2004, 17, 201-204.	2.1	36
43	Synthetic polymers and their potential as genetic materials. BioEssays, 2013, 35, 113-122.	2.5	34
44	Nonâ€Enzymatic Assembly of a Minimized RNA Polymerase Ribozyme. ChemSystemsChem, 2019, 1, 1-4.	2.6	34
45	Isoguanine and 5â€Methylâ€Isocytosine Bases, In Vitro and In Vivo. Chemistry - A European Journal, 2015, 21, 5009-5022.	3.3	33
46	Subunit disassembly and inhibition of TNFÎ± by a semi-synthetic bicyclic peptide. Protein Engineering, Design and Selection, 2015, 28, 45-52.	2.1	32
47	A synthetic approach to abiogenesis. Nature Methods, 2014, 11, 495-498.	19.0	31
48	Selection of 2'-Deoxy-2'-Fluoroarabino Nucleic Acid (FANA) Aptamers that Bind HIV-1 Integrase with Picomolar Affinity. ACS Chemical Biology, 2019, 14, 2166-2175.	3.4	31
49	Chemical fidelity of an RNA polymerase ribozyme. Chemical Science, 2013, 4, 2804.	7.4	30
50	Isolation of receptor-ligand pairs by capture of long-lived multivalent interaction complexes. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 8530-8535.	7.1	29
51	Structures of an Apo and a Binary Complex of an Evolved Archeal B Family DNA Polymerase Capable of Synthesising Highly Cy-Dye Labelled DNA. PLoS ONE, 2013, 8, e70892.	2.5	29
52	Darwinian chemistry: towards the synthesis of a simple cell. Molecular BioSystems, 2009, 5, 686.	2.9	28
53	New chemistries and enzymes for synthetic genetics. Current Opinion in Biotechnology, 2022, 74, 129-136.	6.6	28
54	Non-canonical 3â€²-5â€² Extension of RNA with Prebiotically Plausible Ribonucleoside 2â€²,3â€²-Cyclic Phosphates. Journal of the American Chemical Society, 2014, 136, 5193-5196.	13.7	27

#	Article	IF	Citations
55	Rolling circle RNA synthesis catalyzed by RNA. ELife, 2022, 11, .	6.0	25
56	Direct Mapping of Higher-Order RNA Interactions by SHAPE-JuMP. Biochemistry, 2021, 60, 1971-1982.	2.5	24
57	Enzymatic Synthesis of Nucleic Acids with Defined Regioisomeric 2â€²â€5â€² Linkages. Angewandte Chemie - International Edition, 2015, 54, 15570-15573.	13.8	23
58	Compartmentalized Selfâ€Tagging for In Vitroâ€Directed Evolution of XNA Polymerases. Current Protocols in Nucleic Acid Chemistry, 2014, 57, 9.9.1-18.	0.5	20
59	[28] Methods for generating multivalent and bispecific antibody fragments. Methods in Enzymology, 2000, 326, 461-479.	1.0	19
60	Engineering High Affinity Superantigens by Phage Display. Journal of Molecular Biology, 2005, 347, 107-120.	4.2	19
61	Engineering antibodies for the clinic. , 1999, 18, 411-419.		17
62	Compartmentalized Self-Replication: A Novel Method for the Directed Evolution of Polymerases and Other Enzymes. , 2007, 352, 237-248.		17
63	Selecting Fullyâ€Modified XNA Aptamers Using Synthetic Genetics. Current Protocols in Chemical Biology, 2018, 10, e44.	1.7	16
64	The cooperative gene. Nature, 2012, 491, 48-49.	27.8	15
65	Reversible Fluorescence Photoswitching in DNA. Journal of Physical Chemistry B, 2012, 116, 10290-10293.	2.6	13
66	CD3ï¿½ anti-nitrophenyl bispecific diabodies: Universal immunotherapeutic tools for retargeting T cells to tumors. , 1999, 82, 700-708.		12
67	Autocrine costimulation: Tumor-specific CD28-mediated costimulation of T cells by in situ production of a bifunctional B7â€"anti-CEA diabody fusion protein. Cancer Gene Therapy, 2002, 9, 275-281.	4.6	12
68	Chemical biotechnologyâ€"a marriage of convenience and necessity. Current Opinion in Biotechnology, 2010, 21, 711-712.	6.6	12
69	Hydrophobic-cationic peptides modulate RNA polymerase ribozyme activity by accretion. Nature Communications, 2022, 13, .	12.8	12
70	On gene silencing by the X10-23 DNAzyme. Nature Chemistry, 2022, 14, 855-858.	13.6	12
71	Effect of a Hydrogen Bonding Carboxamide Group on Universal Bases. Collection of Czechoslovak Chemical Communications, 2006, 71, 899-911.	1.0	10
72	A polymerase engineered for bisulfite sequencing. Nucleic Acids Research, 2015, 43, e155-e155.	14.5	10

#	Article	IF	Citations
73	Structural Studies of HNA Substrate Specificity in Mutants of an Archaeal DNA Polymerase Obtained by Directed Evolution. Biomolecules, 2020, 10, 1647.	4.0	7
74	Expression of Antibody Fragments in Pichia pastoris. , 2002, 178, 349-357.		2
75	Antibodies live long and prosper. Nature Biotechnology, 1997, 15, 617-617.	17.5	1
76	Self-Replication in Chemistry and Biology. , 0, , 439-466.		0