Ray Dixon

List of Publications by Year
in descending order

133 papers	9,723 citations	31976 53 h-index	38395 95 g-index
158 all docs	158 docs citations	158 times ranked	6421 citing authors

#	Article	IF	Citations
1	Genetic regulation of biological nitrogen fixation. Nature Reviews Microbiology, 2004, 2, 621-631.	28.6	943
2	PAS domain S-boxes in archaea, bacteria and sensors for oxygen and redox. Trends in Biochemical Sciences, 1997, 22, 331-333.	7.5	412
3	Distribution of nitrogen fixation and nitrogenase-like sequences amongst microbial genomes. BMC Genomics, 2012, 13, 162.	2.8	381
4	Upstream activator sequences are present in the promoters of nitrogen fixation genes. Nature, 1986, 320, 374-378.	27.8	299
5	The Role of Bacterial Enhancer Binding Proteins as Specialized Activators of Ïƒ ⁵⁴ -Dependent Transcription. Microbiology and Molecular Biology Reviews, 2012, 76, 497-529.	6.6	277
6	Domain Architectures of Ïƒ⁵⁴-Dependent Transcriptional Activators. Journal of Bacteriology, 2003, 185, 1757-1767.	2.2	272
7	Genome Sequence ofAzotobacter vinelandii, an Obligate Aerobe Specialized To Support Diverse Anaerobic Metabolic Processes. Journal of Bacteriology, 2009, 191, 4534-4545.	2.2	265
8	A non-haem iron centre in the transcription factor NorR senses nitric oxide. Nature, 2005, 437, 769-772.	27.8	264
9	Biotechnological solutions to the nitrogen problem. Current Opinion in Biotechnology, 2014, 26, 19-24.	6.6	259
10	The Emergence of 2-Oxoglutarate as a Master Regulator Metabolite. Microbiology and Molecular Biology Reviews, 2015, 79, 419-435.	6.6	222
11	Analysis of regulation of Klebsiella pneumoniae nitrogen fixation (nif) gene cluster with gene fusions. Nature, 1980, 286, 128-132.	27.8	207
12	Genetic Transfer of Nitrogen Fixation from Klebsiella pneumoniae to Escherichia coli. Nature, 1972, 237, 102-103.	27.8	206
13	Complementation analysis of Klebsiella pneumoniae mutants defective in nitrogen fixation. Molecular Genetics and Genomics, 1977, 157, 189-198.	2.4	189
14	Positive control and autogenous regulation of the nifLA promoter in Klebsiella pneumoniae. Nature, 1983, 301, 302-307.	27.8	187
15	Azotobacter vinelandii NIFL is a flavoprotein that modulates transcriptional activation of nitrogen-fixation genes via a redox-sensitive switch.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 2143-2148.	7.1	168
16	Construction of a P plasmid carrying nitrogen fixation genes from Klebsiella pneumoniae. Nature, 1976, 260, 268-271.	27.8	163
17	The PAS fold. FEBS Journal, 2004, 271, 1198-1208.	0.2	151
18	The NifL-NifA System: a Multidomain Transcriptional Regulatory Complex That Integrates Environmental Signals. Journal of Bacteriology, 2004, 186, 601-610.	2.2	142

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19	The oxygen-responsive NIFL-NIFA complex: a novel two-component regulatory system controlling nitrogenase synthesis in Î³-Proteobacteria. Archives of Microbiology, 1998, 169, 371-380.	2.2	139
20	The xylABC promoter from the Pseudomonas putida TOL plamid is activated by nitrogen regulatory genes in Escherichia coli. Molecular Genetics and Genomics, 1986, 203, 129-136.	2.4	137
21	Repressor properties of the nifL gene product in Klebsiella pneumoniae. Molecular Genetics and Genomics, 1982, 185, 75-81.	2.4	135
22	Tandem promoters determine regulation of theKlebsiella pneumoniaeglutamine synthetase (glnA) gene. Nucleic Acids Research, 1984, 12, 7811-7830.	14.5	123
23	A Minimal Nitrogen Fixation Gene Cluster from Paenibacillus sp. WLY78 Enables Expression of Active Nitrogenase in Escherichia coli. PLoS Genetics, 2013, 9, e1003865.	3.5	122
24	The Transcriptional Repressor Protein NsrR Senses Nitric Oxide Directly via a [2Fe-2S] Cluster. PLoS ONE, 2008, 3, e3623.	2.5	121
25	Transfer of Nitrogen-fixation Genes by Conjugation in Klebsiella pneumoniae. Nature, 1971, 234, 47-48.	27.8	113
26	There's NO stopping NsrR, a global regulator of the bacterial NO stress response. Trends in Microbiology, 2010, 18, 149-156.	7.7	111
27	Polarity of mutations induced by insertion of transposons Tn5, Tn7 and Tn10 into the nif gene cluster of Klebsiella pneumoniae. Molecular Genetics and Genomics, 1978, 165, 103-111.	2.4	106
28	Transcriptional Profiling of Nitrogen Fixation in Azotobacter vinelandii. Journal of Bacteriology, 2011, 193, 4477-4486.	2.2	99
29	Requirement of nifV gene for production of wild-type nitrogenase enzyme in Klebsiella pneumoniae. Nature, 1981, 292, 655-656.	27.8	98
30	Signal transduction to the Azotobacter vinelandii NIFL-NIFA regulatory system is influenced directly by interaction with 2-oxoglutarate and the PII regulatory protein. EMBO Journal, 2000, 19, 6041-6050.	7.8	94
31	Major cereal crops benefit from biological nitrogen fixation when inoculated with the nitrogenâ€fixing bacterium Pseudomonas protegens Pfâ€5 X940. Environmental Microbiology, 2016, 18, 3522-3534.	3.8	92
32	Cloning of the glnA, ntrB and ntrC genes of Klebsiella pneumoniae and studies of their role in regulation of the nitrogen fixation (nif) gene cluster. Molecular Genetics and Genomics, 1982, 186, 518-524.	2.4	90
33	The nifH gene product is required for the synthesis or stability of the iron-molybdenum cofactor of nitrogenase from Klebsiella pneumoniae. FEBS Journal, 1986, 160, 371-377.	0.2	85
34	Purification and in vitro activities of the native nitrogen fixation control proteins NifA and NifL. Journal of Bacteriology, 1994, 176, 3460-3465.	2.2	85
35	The redox- and fixed nitrogen-responsive regulatory protein NIFL from Azotobacter vinelandii comprises discrete flavin and nucleotide-binding domains. Molecular Microbiology, 2002, 28, 179-192.	2.5	85
36	Reconstruction and minimal gene requirements for the alternative iron-only nitrogenase in Escherichia coli. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E3718-25.	7.1	84

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37	Manipulating nitrogen regulation in diazotrophic bacteria for agronomic benefit. Biochemical Society Transactions, 2019, 47, 603-614.	3.4	83
38	Ammonia assimilation and nitrogen fixation in Rhizobium meliloti. Molecular Genetics and Genomics, 1977, 151, 221-226.	2.4	82
39	Role of metal ions in negative regulation of nitrogen fixation by the nifL gene product from Klebsiella pneumoniae. Molecular Genetics and Genomics, 1989, 216, 484-491.	2.4	82
40	PipX, the coactivator of NtcA, is a global regulator in cyanobacteria. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E2423-30.	7.1	80
41	The Amino-terminal GAF Domain of Azotobacter vinelandii NifA Binds 2-Oxoglutarate to Resist Inhibition by NifL under Nitrogen-limiting Conditions. Journal of Biological Chemistry, 2003, 278, 28711-28718.	3.4	78
42	Site-directed mutagenesis of theKlebsiella pneumoniae nifLandnifHpromoters andin vivoanalysis of promoter activity. Nucleic Acids Research, 1985, 13, 7621-7638.	14.5	77
43	The role of activator binding sites in transcriptional control of the divergently transcribed nifF and nif LA promoters from Klebsiella pneumoniae. Molecular Microbiology, 1988, 2, 433-442.	2.5	75
44	The Klebsiella pneumoniae nitrogenase Fe protein gene (nifH) functionally substitutes for the chlL gene in Chlamydomonas reinhardtii. Biochemical and Biophysical Research Communications, 2005, 329, 966-975.	2.1	70
45	NtrC-Dependent Regulatory Network for Nitrogen Assimilation in Pseudomonas putida. Journal of Bacteriology, 2009, 191, 6123-6135.	2.2	70
46	Direct Interaction of the NifL Regulatory Protein with the GlnK Signal Transducer Enables the Azotobacter vinelandiiNifL-NifA Regulatory System to Respond to Conditions Replete for Nitrogen. Journal of Biological Chemistry, 2002, 277, 15472-15481.	3.4	69
47	Electron donation to the flavoprotein NifL, a redox-sensing transcriptional regulator. Biochemical Journal, 1998, 332, 413-419.	3.7	68
48	Polyprotein strategy for stoichiometric assembly of nitrogen fixation components for synthetic biology. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E8509-E8517.	7.1	60
49	A Novel Purification Method for Histidine-Tagged Proteins Containing a Thrombin Cleavage Site. Analytical Biochemistry, 2001, 295, 180-185.	2.4	59
50	Role of the amino-terminal GAF domain of the NifA activator in controlling the response to the antiactivator protein NifL. Molecular Microbiology, 2004, 52, 1731-1744.	2.5	58
51	Plant viral leaders influence expression of a reporter gene in tobacco. Plant Molecular Biology, 1993, 23, 97-109.	3.9	57
52	Modular electron-transport chains from eukaryotic organelles function to support nitrogenase activity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E2460-E2465.	7.1	57
53	DNA supercolling and aerobic regulation of transcription from theKlebsiella pneumoniae nifLApromoter. Nucleic Acids Research, 1988, 16, 9933-9946.	14.5	54
54	Transcriptional activation of the nitrogenase promoter in vitro: adenosine nucleotides are required for inhibition of NIFA activity by NIFL. Journal of Bacteriology, 1995, 177, 1186-1195.	2.2	52

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55	Molecular adaptations of <scp>H</scp>erbaspirillum seropedicae during colonization of the maize rhizosphere. Environmental Microbiology, 2016, 18, 2343-2356.	3.8	52
56	Isolation and Properties of the Complex between the Enhancer Binding Protein NIFA and the Sensor NIFL. Journal of Bacteriology, 1999, 181, 4461-4468.	2.2	52
57	Why don't plants fix nitrogen?. Trends in Biotechnology, 1984, 2, 162-166.	9.3	51
58	Interaction of purified NtrC protein with nitrogen regulated promoters from Klebsiella pneumoniae. Molecular Genetics and Genomics, 1985, 201, 492-498.	2.4	50
59	Role of Escherichia coli Nitrogen Regulatory Genes in the Nitrogen Response of the Azotobacter vinelandii NifL-NifA Complex. Journal of Bacteriology, 2001, 183, 3076-3082.	2.2	49
60	DNA Binding Activity of the Escherichia coli Nitric Oxide Sensor NorR Suggests a Conserved Target Sequence in Diverse Proteobacteria. Journal of Bacteriology, 2004, 186, 6656-6660.	2.2	48
61	Characterisation of the Klebsiella pneumoniae nitrogen-fixation regulatory proteins NIFA and NIFL in vitro. FEBS Journal, 1990, 187, 353-360.	0.2	47
62	Nif gene transfer and expression in chloroplasts: Prospects and problems. Plant and Soil, 1997, 194, 193-203.	3.7	46
63	Analysis of the Nitric Oxide-sensing Non-heme Iron Center in the NorR Regulatory Protein. Journal of Biological Chemistry, 2008, 283, 908-918.	3.4	46
64	Environmental control of phosphorylation pathways in a branched twoâ€component system. Molecular Microbiology, 2010, 78, 475-489.	2.5	46
65	Influence of a mutation in the putative nucleotide binding site of the nitrogen regulatory protein NTRC on its positive control function. Nucleic Acids Research, 1991, 19, 2281-2287.	14.5	45
66	PHB Biosynthesis Counteracts Redox Stress in Herbaspirillum seropedicae. Frontiers in Microbiology, 2018, 9, 472.	3.5	44
67	Nitrogen fixation: key genetic regulatory mechanisms. Biochemical Society Transactions, 2005, 33, 152-156.	3.4	41
68	Using Synthetic Biology to Distinguish and Overcome Regulatory and Functional Barriers Related to Nitrogen Fixation. PLoS ONE, 2013, 8, e68677.	2.5	40
69	Concerted inhibition of the transcriptional activation functions of the enhancer-binding protein NIFA by the anti-activator NIFL. Molecular Microbiology, 2001, 39, 480-494.	2.5	38
70	Essential roles of three enhancer sites in Ïƒ54-dependent transcription by the nitric oxide sensing regulatory protein NorR. Nucleic Acids Research, 2010, 38, 1182-1194.	14.5	37
71	Effect of inoculation withKlebsiella oxytoca andEnterobacter cloacae on dinitrogen fixation by rice-bacteria associations. Plant and Soil, 1987, 103, 221-226.	3.7	36
72	Quaternary structure changes in a second Per-Arnt-Sim domain mediate intramolecular redox signal relay in the NifL regulatory protein. Molecular Microbiology, 2010, 75, 61-75.	2.5	36

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73	Transcriptional regulation by the dedicated nitric oxide sensor, NorR: a route towards NO detoxification. Biochemical Society Transactions, 2011, 39, 289-293.	3.4	36
74	Deciphering the Principles of Bacterial Nitrogen Dietary Preferences: a Strategy for Nutrient Containment. MBio, 2016, 7, .	4.1	36
75	Mechanism of transcriptional regulation by the Escherichia coli nitric oxide sensor NorR. Biochemical Society Transactions, 2006, 34, 191-194.	3.4	33
76	DNA supercoiling response of the Ïƒ54-dependent Klebsiella pneumoniae nifL promoter in vitro. Journal of Molecular Biology, 1992, 225, 591-607.	4.2	32
77	Mutant Forms of the Azotobacter vinelandii Transcriptional Activator NifA Resistant to Inhibition by the NifL Regulatory Protein. Journal of Bacteriology, 2002, 184, 6777-6785.	2.2	31
78	Substitutions at a single amino acid residue in the nitrogen-regulated activator protein NTRC differentially influence its activity in response to phosphorylation. Molecular Microbiology, 1991, 5, 1657-1667.	2.5	29
79	Using synthetic biology to overcome barriers to stable expression of nitrogenase in eukaryotic organelles. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 16537-16545.	7.1	28
80	Effectorâ€induced selfâ€association and conformational changes in the enhancerâ€binding protein NTRC. Molecular Microbiology, 1996, 22, 779-788.	2.5	26
81	Protein-Protein Interactions in the Complex between the Enhancer Binding Protein NIFA and the Sensor NIFL from Azotobacter vinelandii. Journal of Bacteriology, 2001, 183, 1359-1368.	2.2	26
82	Deletion loop mutagenesis of the nifL promoter from Klebsiella pneumoniae: role of the -26 to -12 region in promoter function. Gene, 1986, 45, 281-288.	2.2	22
83	Role of the central region of NifL in conformational switches that regulate nitrogen fixation. Biochemical Society Transactions, 2006, 34, 162-164.	3.4	22
84	Crystal structure of the MYB domain of the RAD transcription factor from Antirrhinum majus. Proteins: Structure, Function and Bioinformatics, 2006, 65, 1041-1045.	2.6	22
85	Nitric oxide-responsive interdomain regulation targets the Ïƒ54-interaction surface in the enhancer binding protein NorR. Molecular Microbiology, 2010, 77, 1278-1288.	2.5	20
86	Interaction of GlnK with the GAF domain of Herbaspirillum seropedicae NifA mediates NH4+-regulation. Biochimie, 2012, 94, 1041-1047.	2.6	20
87	Secondary structure and DNA binding by the C-terminal domain of the transcriptional activator NifA from Klebsiella pneumoniae. Nucleic Acids Research, 2002, 30, 3972-3980.	14.5	19
88	Role of the H Domain of the Histidine Kinase-like Protein NifL in Signal Transmission. Journal of Biological Chemistry, 2007, 282, 13429-13437.	3.4	18
89	Substitutions in the redoxâ€sensing PAS domain of the NifL regulatory protein define an interâ€subunit pathway for redox signal transmission. Molecular Microbiology, 2011, 82, 222-235.	2.5	17
90	The Herbaspirillum seropedicae SmR1 Fnr orthologs controls the cytochrome composition of the electron transport chain. Scientific Reports, 2013, 3, 2544.	3.3	17

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91	Disrupting hierarchical control of nitrogen fixation enables carbon-dependent regulation of ammonia excretion in soil diazotrophs. PLoS Genetics, 2021, 17, e1009617.	3.5	17
92	A crucial arginine residue is required for a conformational switch in NifL to regulate nitrogen fixation in Azotobacter vinelandii. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 16316-16321.	7.1	16
93	In silico analysis of the ÃÂƒ54-dependent enhancer-binding proteins inPirellulaspecies strain 1. FEMS Microbiology Letters, 2004, 230, 215-225.	1.8	16
94	Characterization of the Nitric Oxide-Reactive Transcriptional Activator NorR. Methods in Enzymology, 2008, 437, 235-251.	1.0	15
95	Influence of PAS Domain Flanking Regions on Oligomerisation and Redox Signalling By NifL. PLoS ONE, 2012, 7, e46651.	2.5	15
96	Mutational Analysis of the Nucleotide-binding Domain of the Anti-activator NifL. Journal of Molecular Biology, 2005, 346, 935-949.	4.2	14
97	The upstream region of thenodD3gene ofSinorhizobium meliloticarries enhancer sequences for the transcriptional activator NtrC. FEMS Microbiology Letters, 1999, 179, 491-499.	1.8	13
98	Role of conserved cysteine residues in Herbaspirillum seropedicae NifA activity. Research in Microbiology, 2009, 160, 389-395.	2.1	13
99	Spectroscopic analysis of protein Feâ€“NO complexes. Biochemical Society Transactions, 2011, 39, 1293-1298.	3.4	13
100	The structural basis for enhancerâ€dependent assembly and activation of the AAA transcriptional activator NorR. Molecular Microbiology, 2015, 95, 17-30.	2.5	13
101	The function of the upstream region of the ?;54-dependent Klebsiella pneumoniae nifL promoter is sensitive to DNA supercoiling. Molecular Microbiology, 1993, 9, 1107-1117.	2.5	12
102	Plant expression cassettes for enhanced translational efficiency. Plant Molecular Biology Reporter, 1994, 12, 347-357.	1.8	12
103	DNA binding properties of the Escherichia coli nitric oxide sensor NorR: towards an understanding of the regulation of flavorubredoxin expression. Biochemical Society Transactions, 2005, 33, 181-183.	3.4	11
104	Oxygen sensitivity and metal ion-dependent transcriptional activation by NIFA protein from Rhizobium leguminosarum biovar trifolii. Molecular Genetics and Genomics, 1994, 245, 313-322.	2.4	9
105	Diazotrophic Growth Allows Azotobacter vinelandii To Overcome the Deleterious Effects of a glnE Deletion. Applied and Environmental Microbiology, 2017, 83, .	3.1	9
106	Nif gene transfer and expression in chloroplasts: Prospects and problems. , 1997, , 193-203.		9
107	Genetic Determinants of Ammonium Excretion in nifL Mutants of Azotobacter vinelandii. Applied and Environmental Microbiology, 2022, 88, AEM0187621.	3.1	9
108	Control of nitrogen fixation and ammonia excretion in Azorhizobium caulinodans. PLoS Genetics, 2022, 18, e1010276.	3.5	9

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109	Torsional Constraints on the Formation of Open Promoter Complexes on DNA Minicircles Carrying Ïƒ54-Dependent Promotersâ€. Biochemistry, 1997, 36, 12303-12316.	2.5	8
110	Genetics and regulation of nif and related genes in Klebsiella pneumoniae. Philosophical Transactions of the Royal Society of London Series B, Biological Sciences, 1987, 317, 147-158.	2.3	7
111	Properties of a mutant form of the prokaryotic enhancer binding protein, NTRC, which hydrolyses ATP in the absence of effectors. FEBS Letters, 1998, 437, 70-74.	2.8	6
112	Novel insights into ecological distribution and plant growth promotion by nitrogenâ€fixing endophytes â€“ how specialised are they?. Environmental Microbiology Reports, 2017, 9, 179-181.	2.4	6
113	Regulation of Herbaspirillum seropedicae NifA by the GlnK PII signal transduction protein is mediated by effectors binding to allosteric sites. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2020, 1868, 140348.	2.3	6
114	REGULATION OF TRANSCRIPTION OF THE NITROGEN FIXATION OPERONS. , 1983, , 223-232.		6
115	nif genes in alien backgrounds. Philosophical Transactions of the Royal Society of London Series B, Biological Sciences, 1987, 317, 227-243.	2.3	5
116	Hierarchical interactions between Fnr orthologs allows fine-tuning of transcription in response to oxygen in Herbaspirillum seropedicae. Nucleic Acids Research, 2018, 46, 3953-3966.	14.5	5
117	Regulation of the nitrogen fixation genes inKlebsiella pneumoniae: Implications for genetic manipulation. Plant and Soil, 1986, 90, 225-233.	3.7	4
118	Crystallization and preliminary X-ray analysis of the RAD protein fromAntirrhinum majus. Acta Crystallographica Section F: Structural Biology Communications, 2005, 61, 885-888.	0.7	4
119	Enhanced oxygen consumption in Herbaspirillum seropedicae fnr mutants leads to increased NifA mediated transcriptional activation. BMC Microbiology, 2015, 15, 95.	3.3	4
120	The Nitrogen Fixation Cistrons of Klebsiella Pneumoniae. , 1977, 9, 51-66.		4
121	Interactions between paralogous bacterial enhancer binding proteins enable metalâ€dependent regulation of alternative nitrogenases in Azotobacter vinelandii. Molecular Microbiology, 0, , .	2.5	3
122	Energy shifts induce membrane sequestration of DraG in Rhodospirillum rubrum independent of the ammonium transporters and diazotrophic conditions. FEMS Microbiology Letters, 2018, 365, .	1.8	2
123	Integration of nitrogen, carbon and redox status by the Azotobacter vinelandii NifL-NifA regulatory complex.. , 2002, , 238-242.		2
124	Genetic Regulation of Nitrogen Fixation: Integration of Multiple Signals. , 2005, , 53-57.		1
125	Genetics of Nitrogen Fixation in the Bacterium Klebsiella Pneumoniae. , 1980, , 427-437.		1
126	The upstream region of the nodD3 gene of Sinorhizobium meliloti carries enhancer sequences for the transcriptional activator NtrC. FEMS Microbiology Letters, 1999, 179, 491-499.	1.8	1

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127	First things first. Nature, 1987, 326, 822-822.	27.8	0
128	Secondary Structure and DNA binding of the C-terminal Domain of the Transcriptional Activator NifA from Klebsiella pneumoniae.. Biochemical Society Transactions, 2000, 28, A422-A422.	3.4	0
129	Getting the signals across: networking inside and out. Current Opinion in Microbiology, 2005, 8, 113-115.	5.1	0
130	John Raymond Postgate FIBiol. 24 June 1922 â€" 22 October 2014. Biographical Memoirs of Fellows of the Royal Society, 2016, 62, 483-504.	0.1	0
131	Role of PII-Like Proteins in Nitrogen Sensing by Azotobacter vinelandii NifI and NifA. Current Plant Science and Biotechnology in Agriculture, 2002, , 139-139.	0.0	0
132	Regulation of Nitrogen Fixation Genes by the NIFA and NIFL Regulatory Proteins. , 1997, , 245-249.		0
133	Protein: Protein Interactions between the Enhancer Binding Protein, NIFA and the Sensor NIFL. , 2002, , 111-111.		0