David L Kirchman

List of Publications by Year
in descending order

137 papers	17,291 citations	13099 68 h-index	15266 126 g-index
147 all docs	147 docs citations	147 times ranked	12367 citing authors

#	Article	IF	Citations
1	Microbial production of recalcitrant dissolved organic matter: long-term carbon storage in the global ocean. Nature Reviews Microbiology, 2010, 8, 593-599.	28.6	1,278
2	Natural Assemblages of Marine Proteobacteria and Members of the Cytophaga-Flavobacter Cluster Consuming Low- and High-Molecular-Weight Dissolved Organic Matter. Applied and Environmental Microbiology, 2000, 66, 1692-1697.	3.1	998
3	The ecology of CytophagaÃ¢Â€Â“Flavobacteria in aquatic environments. FEMS Microbiology Ecology, 2002, 39, 91-100.	2.7	963
4	The oceanic gel phase: a bridge in the DOMâ€“POM continuum. Marine Chemistry, 2004, 92, 67-85.	2.3	576
5	Activity of abundant and rare bacteria in a coastal ocean. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 12776-12781.	7.1	513
6	Ecology of the rare microbial biosphere of the Arctic Ocean. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 22427-22432.	7.1	488
7	Community Composition of Marine Bacterioplankton Determined by 16S rRNA Gene Clone Libraries and Fluorescence In Situ Hybridization. Applied and Environmental Microbiology, 2000, 66, 5116-5122.	3.1	404
8	High turnover rates of dissolved organic carbon during a spring phytoplankton bloom. Nature, 1991, 352, 612-614.	27.8	384
9	Bacterial diversity, community structure and potential growth rates along an estuarine salinity gradient. ISME Journal, 2013, 7, 210-220.	9.8	363
10	Utilization of inorganic and organic nitrogen by bacteria in marine systems1. Limnology and Oceanography, 1986, 31, 998-1009.	3.1	315
11	Microbial growth in the polar oceans â€” role of temperature and potential impact of climate change. Nature Reviews Microbiology, 2009, 7, 451-459.	28.6	297
12	Attachment Stimulates Exopolysaccharide Synthesis by a Bacterium. Applied and Environmental Microbiology, 1993, 59, 3280-3286.	3.1	254
13	Measuring bacterial biomass production and growth rates from leucine incorporation in natural aquatic environments. Methods in Microbiology, 2001, 30, 227-237.	0.8	242
14	Active cycling of organic carbon in the central Arctic Ocean. Nature, 1996, 380, 697-699.	27.8	232
15	Laboratory evidence for microbially mediated silicate mineral dissolution in nature. Chemical Geology, 1996, 132, 11-17.	3.3	229
16	The structure of bacterial communities in the western Arctic Ocean as revealed by pyrosequencing of 16S rRNA genes. Environmental Microbiology, 2010, 12, 1132-1143.	3.8	223
17	Contribution of Particle-Bound Bacteria to Total Microheterotrophic Activity in Five Ponds and Two Marshes. Applied and Environmental Microbiology, 1982, 43, 200-209.	3.1	222
18	Growth Rates of Microbes in the Oceans. Annual Review of Marine Science, 2016, 8, 285-309.	11.6	218

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19	Biogeography of major bacterial groups in the Delaware Estuary. Limnology and Oceanography, 2005, 50, 1697-1706.	3.1	204
20	Contribution of SAR11 Bacteria to Dissolved Dimethylsulfoniopropionate and Amino Acid Uptake in the North Atlantic Ocean. Applied and Environmental Microbiology, 2004, 70, 4129-4135.	3.1	200
21	Isotope fractionation associated with ammonium uptake by a marine bacterium. Limnology and Oceanography, 1992, 37, 1447-1459.	3.1	194
22	Standing stocks and activity of Archaea and Bacteria in the western Arctic Ocean. Limnology and Oceanography, 2007, 52, 495-507.	3.1	190
23	The GAAS Metagenomic Tool and Its Estimations of Viral and Microbial Average Genome Size in Four Major Biomes. PLoS Computational Biology, 2009, 5, e1000593.	3.2	177
24	Chitinases from Uncultured Marine Microorganisms. Applied and Environmental Microbiology, 1999, 65, 2553-2557.	3.1	177
25	Estimating Bacterial Production in Marine Waters from the Simultaneous Incorporation of Thymidine and Leucine. Applied and Environmental Microbiology, 1988, 54, 1934-1939.	3.1	175
26	High bacterial production, uptake and concentrations of dissolved organic matter in the Central Arctic Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 1997, 44, 1645-1663.	1.4	166
27	Unique archaeal assemblages in the Arctic Ocean unveiled by massively parallel tag sequencing. ISME Journal, 2009, 3, 860-869.	9.8	163
28	Bacterial Community Structure of Biofilms on Artificial Surfaces in an Estuary. Microbial Ecology, 2007, 53, 153-162.	2.8	161
29	Biomass and production of heterotrophic bacterioplankton in the oceanic subarctic Pacific. Deep-Sea Research Part I: Oceanographic Research Papers, 1993, 40, 967-988.	1.4	156
30	Concentrations and uptake of neutral monosaccharides along 14Â°W in the equatorial Pacific: Contribution of glucose to heterotrophic bacterial activity and the DOM flux. Limnology and Oceanography, 1996, 41, 595-604.	3.1	153
31	Bacteria induce settlement and metamorphosis of Janua (Dexiospira) brasiliensis Grube (Polychaeta:Spirprbidae). Journal of Experimental Marine Biology and Ecology, 1981, 56, 153-163.	1.5	150
32	Biomass Production and Assimilation of Dissolved Organic Matter by SAR11 Bacteria in the Northwest Atlantic Ocean. Applied and Environmental Microbiology, 2005, 71, 2979-2986.	3.1	150
33	Concentration and composition of dissolved combined neutral sugars (polysaccharides) in seawater determined by HPLC-PAD. Marine Chemistry, 1997, 57, 85-95.	2.3	149
34	Carbon versus iron limitation of bacterial growth in the California upwelling regime. Limnology and Oceanography, 2000, 45, 1681-1688.	3.1	147
35	Glucose fluxes and concentrations of dissolved combined neutral sugars (polysaccharides) in the Ross Sea and Polar Front Zone, Antarctica. Deep-Sea Research Part II: Topical Studies in Oceanography, 2001, 48, 4179-4197.	1.4	146
36	Abiotic transformation of labile protein to refractory protein in sea water. Marine Chemistry, 1994, 45, 187-196.	2.3	145

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37	Dynamics and molecular composition of dissolved organic material during experimental phytoplankton blooms. Marine Chemistry, 2001, 75, 185-199.	2.3	144
38	Photoheterotrophic Microbes in the Arctic Ocean in Summer and Winter. Applied and Environmental Microbiology, 2009, 75, 4958-4966.	3.1	141
39	Aerobic Anoxygenic Phototrophic Bacteria in the Mid-Atlantic Bight and the North Pacific Gyre. Applied and Environmental Microbiology, 2006, 72, 557-564.	3.1	139
40	Dissolved combined amino acids: Chemical form and utilization by marine bacteria. Limnology and Oceanography, 1993, 38, 1256-1270.	3.1	128
41	Dissolved combined amino acids in marine waters as determined by a vapor-phase hydrolysis method. Marine Chemistry, 1991, 33, 243-259.	2.3	123
42	Assimilation of Polysaccharides and Glucose by Major Bacterial Groups in the Delaware Estuary. Applied and Environmental Microbiology, 2005, 71, 7799-7805.	3.1	123
43	The effect of amino acids on ammonium utilization and regeneration by heterotrophic bacteria in the subarctic Pacific. Deep-sea Research Part A, Oceanographic Research Papers, 1989, 36, 1763-1776.	1.5	121
44	Identification and enumeration of bacteria assimilating dimethylsulfoniopropionate (DMSP) in the North Atlantic and Gulf of Mexico. Limnology and Oceanography, 2004, 49, 597-606.	3.1	117
45	Control of bacterial growth by temperature and organic matter in the Western Arctic. Deep-Sea Research Part II: Topical Studies in Oceanography, 2005, 52, 3386-3395.	1.4	117
46	Standing stocks, production, and respiration of phytoplankton and heterotrophic bacteria in the western Arctic Ocean. Deep-Sea Research Part II: Topical Studies in Oceanography, 2009, 56, 1237-1248.	1.4	117
47	High Abundances of Aerobic Anoxygenic Photosynthetic Bacteria in the South Pacific Ocean. Applied and Environmental Microbiology, 2007, 73, 4198-4205.	3.1	116
48	Bacterial diversity of metagenomic and PCR libraries from the Delaware River. Environmental Microbiology, 2005, 7, 1883-1895.	3.8	112
49	Selected Chitinase Genes in Cultured and Uncultured Marine Bacteria in the Î±- and Î³-Subclasses of the Proteobacteria. Applied and Environmental Microbiology, 2000, 66, 1195-1201.	3.1	109
50	Biomass and biomass production of heterotrophic bacteria along 140Â°W in the equatorial Pacific: Effect of temperature on the microbial loop. Deep-Sea Research Part II: Topical Studies in Oceanography, 1995, 42, 603-619.	1.4	104
51	Light-Stimulated Bacterial Production and Amino Acid Assimilation by Cyanobacteria and Other Microbes in the North Atlantic Ocean. Applied and Environmental Microbiology, 2007, 73, 5539-5546.	3.1	104
52	The seasonal development of the bacterioplankton bloom in the Ross Sea, Antarctica, 1994â€“1997. Deep-Sea Research Part II: Topical Studies in Oceanography, 2001, 48, 4199-4221.	1.4	100
53	Uptake of ammonium and nitrate by heterotrophic bacteria and phytoplankton in the sub-Arctic Pacific. Deep-Sea Research Part I: Oceanographic Research Papers, 1998, 45, 347-365.	1.4	97
54	Abundance, Diversity, and Activity of Ammonia-Oxidizing Prokaryotes in the Coastal Arctic Ocean in Summer and Winter. Applied and Environmental Microbiology, 2011, 77, 2026-2034.	3.1	97

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55	The production of bacteria attached to particles suspended in a freshwater pond1. Limnology and Oceanography, 1983, 28, 858-872.	3.1	93
56	Release of dissolved free and combined amino acids by bacterivorous marine flagellates. Limnology and Oceanography, 1991, 36, 433-443.	3.1	93
57	Aerobic Anoxygenic Phototrophic Bacteria Attached to Particles in Turbid Waters of the Delaware and Chesapeake Estuaries. Applied and Environmental Microbiology, 2007, 73, 3936-3944.	3.1	93
58	Bacterial dynamics and distribution during a spring diatom bloom in the Hudson River plume, USA. Journal of Plankton Research, 1983, 5, 333-355.	1.8	90
59	Biomass and nitrogen uptake by heterotrophic bacteria during the spring phytoplankton bloom in the North Atlantic Ocean. Deep-Sea Research Part I: Oceanographic Research Papers, 1994, 41, 879-895.	1.4	90
60	Microbial community structure and variability in the tropical Pacific. Deep-Sea Research Part II: Topical Studies in Oceanography, 2002, 49, 2669-2693.	1.4	84
61	Abundant proteorhodopsin genes in the North Atlantic Ocean. Environmental Microbiology, 2008, 10, 99-109.	3.8	84
62	Diversity and Abundance of Uncultured Cytophaga -Like Bacteria in the Delaware Estuary. Applied and Environmental Microbiology, 2003, 69, 6587-6596.	3.1	82
63	Depth Distribution of Bacterial Production in a Stratified Lake with an Anoxic Hypolimnion. Applied and Environmental Microbiology, 1986, 52, 992-1000.	3.1	80
64	A bacterium that inhibits the growth of Pfiesteria piscicida and other dinoflagellates. Harmful Algae, 2005, 4, 221-234.	4.8	79
65	Bioenergetics of photoheterotrophic bacteria in the oceans. Environmental Microbiology Reports, 2013, 5, 188-199.	2.4	79
66	Constraining bacterial production, conversion efficiency and respiration in the Ross Sea, Antarctica, Januaryâ€“February, 1997. Deep-Sea Research Part II: Topical Studies in Oceanography, 2000, 47, 3227-3247.	1.4	76
67	The microbial carbon pump and the oceanic recalcitrant dissolved organic matter pool. Nature Reviews Microbiology, 2011, 9, 555-555.	28.6	73
68	Role of Chitin-Binding Proteins in the Specific Attachment of the Marine Bacterium Vibrio harveyi to Chitin. Applied and Environmental Microbiology, 1993, 59, 373-379.	3.1	73
69	Carbon limitation of ammonium uptake by heterotrophic bacteria in the subarctic Pacific. Limnology and Oceanography, 1990, 35, 1258-1266.	3.1	71
70	Ammonium uptake by heterotrophic bacteria in the Delaware estuary and adjacent coastal waters. Limnology and Oceanography, 1995, 40, 886-897.	3.1	69
71	Growth rate of the major phylogenetic bacterial groups in the Delaware estuary. Limnology and Oceanography, 2004, 49, 1620-1629.	3.1	69
72	Diversity and Distribution of Ecotypes of the Aerobic Anoxygenic Phototrophy Gene pufM in the Delaware Estuary. Applied and Environmental Microbiology, 2008, 74, 4012-4021.	3.1	67

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73	Bacteriochlorophyll and community structure of aerobic anoxygenic phototrophic bacteria in a particle-rich estuary. ISME Journal, 2010, 4, 945-954.	9.8	66
74	Environmental Drivers of Dissolved Organic Matter Molecular Composition in the Delaware Estuary. Frontiers in Earth Science, 2016, 4, .	1.8	65
75	Phytoplankton death in the sea. Nature, 1999, 398, 293-294.	27.8	64
76	Aerobic anoxygenic photosynthesis genes and operons in uncultured bacteria in the Delaware River. Environmental Microbiology, 2005, 7, 1896-1908.	3.8	63
77	Growth rates and rRNA content of four marine bacteria in pure cultures and in the Delaware estuary. ISME Journal, 2016, 10, 823-832.	9.8	63
78	Lightâ€dependent growth and proteorhodopsin expression by Flavobacteria and SAR11 in experiments with Delaware coastal waters. Environmental Microbiology, 2009, 11, 3201-3209.	3.8	62
79	Sequence and Expression Analyses of Cytophaga -Like Hydrolases in a Western Arctic Metagenomic Library and the Sargasso Sea. Applied and Environmental Microbiology, 2005, 71, 8506-8513.	3.1	61
80	Degradation of Adsorbed Protein by Attached Bacteria in Relationship to Surface Hydrophobicity. Applied and Environmental Microbiology, 1990, 56, 3643-3648.	3.1	60
81	Diel periodicity in ammonium uptake and regeneration in the oceanic subarctic Pacific: Implications for interactions in microbial food webs. Limnology and Oceanography, 1989, 34, 1025-1033.	3.1	59
82	Phosphate and adenosineâ€5'â€triphosphate uptake by cyanobacteria and heterotrophic bacteria in the Sargasso Sea. Limnology and Oceanography, 2011, 56, 323-332.	3.1	58
83	Inhibition by Peptides of Amino Acid Uptake by Bacterial Populations in Natural Waters: Implications for the Regulation of Amino Acid Transport and Incorporation. Applied and Environmental Microbiology, 1984, 47, 624-631.	3.1	58
84	Dimethylsulfoniopropionate (DMSP) assimilation by Synechococcus in the Gulf of Mexico and northwest Atlantic Ocean. Limnology and Oceanography, 2005, 50, 1924-1931.	3.1	56
85	Geographic and Phylogenetic Variation in Bacterial Biovolume as Revealed by Protein and Nucleic Acid Staining. Applied and Environmental Microbiology, 2009, 75, 4028-4034.	3.1	54
86	Isotope fractionation during ammonium uptake by marine microbial assemblages. Geomicrobiology Journal, 1994, 12, 113-127.	2.0	53
87	Production and Vertical Flux of Attached Bacteria in the Hudson River Plume of the New York Bight as Studied with Floating Sediment Traps. Applied and Environmental Microbiology, 1982, 43, 769-776.	3.1	52
88	A timescale for dissolved organic carbon production in equatorial Pacific surface waters. Global Biogeochemical Cycles, 1997, 11, 435-452.	4.9	49
89	Seasonal variability of the inorganic carbon system in a large coastal plain estuary. Biogeosciences, 2017, 14, 4949-4963.	3.3	48
90	Microbial ferrous wheel. Nature, 1996, 383, 303-304.	27.8	47

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91	Induction of Chitin-Binding Proteins during the Specific Attachment of the Marine Bacterium Vibrio harveyi to Chitin. Applied and Environmental Microbiology, 1994, 60, 4284-4288.	3.1	47
92	Patterns in Abundance, Cell Size and Pigment Content of Aerobic Anoxygenic Phototrophic Bacteria along Environmental Gradients in Northern Lakes. PLoS ONE, 2015, 10, e0124035.	2.5	45
93	Transcriptional Control in Marine Copiotrophic and Oligotrophic Bacteria with Streamlined Genomes. Applied and Environmental Microbiology, 2016, 82, 6010-6018.	3.1	45
94	The metabolic balance between autotrophy and heterotrophy in the western Arctic Ocean. Deep-Sea Research Part I: Oceanographic Research Papers, 2006, 53, 1831-1844.	1.4	43
95	A meeting place of great ocean currents: shipboard observations of a convergent front at 2Â°N in the Pacific. Deep-Sea Research Part II: Topical Studies in Oceanography, 1997, 44, 1827-1849.	1.4	42
96	Abundance and singleâ€cell activity of bacterial groups in Antarctic coastal waters. Limnology and Oceanography, 2010, 55, 2526-2536.	3.1	42
97	Adsorption of proteins to surfaces in seawater. Marine Chemistry, 1989, 27, 201-217.	2.3	41
98	Summer community structure of aerobic anoxygenic phototrophic bacteria in the western Arctic Ocean. FEMS Microbiology Ecology, 2013, 85, 417-432.	2.7	41
99	Bacterial diversity in relatively pristine and anthropogenically-influenced mangrove ecosystems (Goa,) Tj ETQq1 1 0.784314 rgBT /Ove	2.0	40
100	Effects of naphthalene on microbial community composition in the Delaware estuary. FEMS Microbiology Ecology, 2006, 56, 55-63.	2.7	39
101	Summer distribution and diversity of aerobic anoxygenic phototrophic bacteria in the Mediterranean Sea in relation to environmental variables. FEMS Microbiology Ecology, 2010, 74, 397-409.	2.7	39
102	Composition of estuarine bacterial communities assessed by denaturing gradient gel electrophoresis and fluorescence in situ hybridization. Limnology and Oceanography: Methods, 2004, 2, 303-314.	2.0	37
103	Ribulose Bisphosphate Carboxylase from Three Chlorophyll c-Containing Algae. Plant Physiology, 1986, 80, 685-691.	4.8	35
104	Measurement of dissolved free and combined amino acids in unconcentrated wastewaters using high performance liquid chromatography. Water Environment Research, 1995, 67, 118-125.	2.7	35
105	Direct and indirect effects of grazing by Neocalanus plumchrus on plankton community dynamics in the subarctic Pacific. Progress in Oceanography, 1993, 32, 239-258.	3.2	34
106	Biodiversity and Biogeography of the Lower Trophic Taxa of the Pacific Arctic Region: Sensitivities to Climate Change. , 2014, , 269-336.		32
107	Single-cell activity of freshwater aerobic anoxygenic phototrophic bacteria and their contribution to biomass production. ISME Journal, 2016, 10, 1579-1588.	9.8	32
108	Temporal study of Helicobacter pylori presence in coastal freshwater, estuary and marine waters. Water Research, 2011, 45, 1897-1905.	11.3	31

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109	Picoplankton diversity in the Arctic Ocean and surrounding seas. Marine Biodiversity, 2011, 41, 5-12.	1.0	30
110	Bacterial Hydrolysis of Protein and Methylated Protein and Its Implications for Studies of Protein Degradation in Aquatic Systems. Applied and Environmental Microbiology, 1992, 58, 1374-1375.	3.1	30
111	Effects of composition of labile organic matter on biogenic production of methane in the coastal sediments of the Arabian Sea. Environmental Monitoring and Assessment, 2011, 182, 385-395.	2.7	28
112	Does adenine incorporation into nucleic acids measure total microbial production?1. Limnology and Oceanography, 1986, 31, 627-636.	3.1	27
113	Leucine incorporation by aerobic anoxygenic phototrophic bacteria in the Delaware estuary. ISME Journal, 2014, 8, 2339-2348.	9.8	27
114	Diversity and abundance of glycosyl hydrolase family 5 in the North Atlantic Ocean. FEMS Microbiology Ecology, 2008, 63, 316-327.	2.7	26
115	Phylogenetic and functional diversity of Bacteria and Archaea in a unique stratified lagoon, the Clipperton atoll (N Pacific). FEMS Microbiology Ecology, 2012, 79, 203-217.	2.7	25
116	Arsenite modifies structure of soil microbial communities and arsenite oxidization potential. FEMS Microbiology Ecology, 2013, 84, 270-279.	2.7	25
117	Metagenomic analysis of organic matter degradation in methaneâ€rich Arctic Ocean sediments. Limnology and Oceanography, 2014, 59, 548-559.	3.1	25
118	Metabolic regulation of amino acid uptake in marine waters1. Limnology and Oceanography, 1986, 31, 339-350.	3.1	24
119	Uptake of Dissolved Organic Carbon by Gammaproteobacterial Subgroups in Coastal Waters of the West Antarctic Peninsula. Applied and Environmental Microbiology, 2014, 80, 3362-3368.	3.1	20
120	New light on an important microbe in the ocean. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 8487-8488.	7.1	19
121	Growth activity of gammaproteobacterial subgroups in waters off the west <scp>A</scp>ntarctic <scp>P</scp>eninsula in summer and fall. Environmental Microbiology, 2014, 16, 1513-1523.	3.8	17
122	Carbon Biogeochemistry of the Western Arctic: Primary Production, Carbon Export and the Controls on Ocean Acidification. , 2014, , 223-268.		15
123	A Primer on Dissolved Organic Material and Heterotrophic Prokaryotes in the Oceans. , 2004, , 31-63.		13
124	Fluxes of dissolved combined neutral sugars (polysaccharides) in the Delaware estuary. Estuaries and Coasts, 2003, 26, 894-904.	1.7	12
125	Microbial proteins for organic material degradation in the deep ocean. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 445-447.	7.1	9
126	Adenine and total microbial production: A reply. Limnology and Oceanography, 1986, 31, 1395-1400.	3.1	8

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127	Marine archaea take a short cut in the nitrogen cycle. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 17732-17733.	7.1	7
128	Dead Zones. , 2021, , .		5
129	Predictions for the Future of Microbial Oceanography. Oceanography, 2007, 20, 166-171.	1.0	3
130	Killers of the winners. Nature, 2013, 494, 320-321.	27.8	3
131	MYSTERIES OF METAGENOMICS REVEALED. Limnology and Oceanography Bulletin, 2009, 18, 2-6.	0.4	2
132	Editorial: Metagenomics in Limnology and Oceanography. Limnology and Oceanography, 2020, 65, S1.	3.1	2
133	AN OCEANOGRAPHER'S REFLECTIONS ON 49 VOLUMES AND 50 YEARS OF L&O. Limnology and Oceanography Bulletin, 2005, 14, 30-34.	0.4	1
134	The First â€œDead Zoneâ€• Limnology and Oceanography Bulletin, 2020, 29, 107-109.	0.4	1
135	A marine virus as foe and friend. Nature Microbiology, 2020, 5, 982-983.	13.3	1
136	Editorial comment: Natural history of a manuscript, revisited. Limnology and Oceanography, 1994, 39, 739-741.	3.1	0
137	Microbial Lectins and Agglutinins. Properties and Biological Activity.David Mirelman. Quarterly Review of Biology, 1987, 62, 88-89.	0.1	0