Philip S Stewart

List of Publications by Year
in descending order

176 papers	38,869 citations	8181 76 h-index	4645 170 g-index
179 all docs	179 docs citations	179 times ranked	30034 citing authors

#	Article	IF	Citations
1	The importance of understanding the infectious microenvironment. Lancet Infectious Diseases, The, 2022, 22, e88-e92.	9.1	78
2	Search for a Shared Genetic or Biochemical Basis for Biofilm Tolerance to Antibiotics across Bacterial Species. Antimicrobial Agents and Chemotherapy, 2022, , e0002122.	3.2	3
3	Novel phenolic antimicrobials enhanced activity of iminodiacetate prodrugs against biofilm and planktonic bacteria. Chemical Biology and Drug Design, 2021, 97, 134-147.	3.2	4
4	Novel Nitro-Heteroaromatic Antimicrobial Agents for the Control and Eradication of Biofilm-Forming Bacteria. Antibiotics, 2021, 10, 855.	3.7	4
5	Delayed neutrophil recruitment allows nascent Staphylococcus aureus biofilm formation and immune evasion. Biomaterials, 2021, 275, 120775.	11.4	24
6	The impact of mental models on the treatment and research of chronic infections due to biofilms. Apmis, 2021, 129, 598-606.	2.0	11
7	Experimental Designs to Study the Aggregation and Colonization of Biofilms by Video Microscopy With Statistical Confidence. Frontiers in Microbiology, 2021, 12, 785182.	3.5	3
8	Potential biofilm control strategies for extended spaceflight missions. Biofilm, 2020, 2, 100026.	3.8	45
9	The zone model: A conceptual model for understanding the microenvironment of chronic wound infection. Wound Repair and Regeneration, 2020, 28, 593-599.	3.0	33
10	Microbial growth rates and local external mass transfer coefficients in a porous bed biofilm system measured by ¹⁹F magnetic resonance imaging of structure, oxygen concentration, and flow velocity. Biotechnology and Bioengineering, 2020, 117, 1458-1469.	3.3	4
11	Risk factors for chronic biofilm-related infection associated with implanted medical devices. Clinical Microbiology and Infection, 2020, 26, 1034-1038.	6.0	81
12	Permeability enhancers sensitize Î²-lactamase-expressing Enterobacteriaceae and Pseudomonas aeruginosa to Î²-lactamase inhibitors, thereby restoring their Î²-lactam susceptibility. International Journal of Antimicrobial Agents, 2020, 56, 105986.	2.5	13
13	Sulfenate Esters of Simple Phenols Exhibit Enhanced Activity against Biofilms. ACS Omega, 2020, 5, 6010-6020.	3.5	6
14	Nonâ€invasive imaging of oxygen concentration in a complex in vitro biofilm infection model using 19 F MRI: Persistence of an oxygen sink despite prolonged antibiotic therapy. Magnetic Resonance in Medicine, 2019, 82, 2248-2256.	3.0	9
15	Antimicrobial Activity of Naturally Occurring Phenols and Derivatives Against Biofilm and Planktonic Bacteria. Frontiers in Chemistry, 2019, 7, 653.	3.6	47
16	Conceptual Model of Biofilm Antibiotic Tolerance That Integrates Phenomena of Diffusion, Metabolism, Gene Expression, and Physiology. Journal of Bacteriology, 2019, 201, .	2.2	57
17	A permeability-increasing drug synergizes with bacterial efflux pump inhibitors and restores susceptibility to antibiotics in multi-drug resistant Pseudomonas aeruginosa strains. Scientific Reports, 2019, 9, 3452.	3.3	65
18	Measuring Antimicrobial Efficacy against Biofilms: a Meta-analysis. Antimicrobial Agents and Chemotherapy, 2019, 63, .	3.2	17

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19	Direct Microscopic Observation of Human Neutrophil-Staphylococcus aureus Interaction <i>In Vitro</i> Suggests a Potential Mechanism for Initiation of Biofilm Infection on an Implanted Medical Device. Infection and Immunity, 2019, 87, .	2.2	28
20	Nisin penetration and efficacy against Staphylococcus aureus biofilms under continuous-flow conditions. Microbiology (United Kingdom), 2019, 165, 761-771.	1.8	11
21	Polynomial Accelerated Solutions to a Large Gaussian Model for Imaging Biofilms: In Theory and Finite Precision. Journal of the American Statistical Association, 2018, 113, 1431-1442.	3.1	5
22	Hypoxia arising from concerted oxygen consumption by neutrophils and microorganisms in biofilms. Pathogens and Disease, 2018, 76, .	2.0	31
23	Analysis of Clostridium difficile biofilms: imaging and antimicrobial treatment. Journal of Antimicrobial Chemotherapy, 2018, 73, 102-108.	3.0	44
24	Spatiotemporal mapping of oxygen in a microbially-impacted packed bed using 19F Nuclear magnetic resonance oximetry. Journal of Magnetic Resonance, 2018, 293, 123-133.	2.1	9
25	Bacterial biofilm in acute lesions of hidradenitis suppurativa. British Journal of Dermatology, 2017, 176, 241-243.	1.5	19
26	Propionibacterium acnes biofilm is present in intervertebral discs of patients undergoing microdiscectomy. PLoS ONE, 2017, 12, e0174518.	2.5	81
27	Gel-Entrapped Staphylococcus aureus Bacteria as Models of Biofilm Infection Exhibit Growth in Dense Aggregates, Oxygen Limitation, Antibiotic Tolerance, and Heterogeneous Gene Expression. Antimicrobial Agents and Chemotherapy, 2016, 60, 6294-6301.	3.2	78
28	Reactionâ€"diffusion theory explains hypoxia and heterogeneous growth within microbial biofilms associated with chronic infections. Npj Biofilms and Microbiomes, 2016, 2, 16012.	6.4	106
29	Microsensor and transcriptomic signatures of oxygen depletion in biofilms associated with chronic wounds. Wound Repair and Regeneration, 2016, 24, 373-383.	3.0	96
30	Subaerial Biofilms on Outdoor Stone Monuments: Changing the Perspective Toward an Ecological Framework. BioScience, 2016, 66, 285-294.	4.9	38
31	Biofilm Cohesive Strength as a Basis for Biofilm Recalcitrance: Are Bacterial Biofilms Overdesigned?. Microbiology Insights, 2015, 8s2, MBI.S31444.	2.0	28
32	Antimicrobial Tolerance in Biofilms. Microbiology Spectrum, 2015, 3, .	3.0	317
33	Prospects for Anti-Biofilm Pharmaceuticals. Pharmaceuticals, 2015, 8, 504-511.	3.8	32
34	Development of a Laboratory Model of a Phototroph-Heterotroph Mixed-Species Biofilm at the Stone/Air Interface. Frontiers in Microbiology, 2015, 6, 1251.	3.5	42
35	Biochemical Association of Metabolic Profile and Microbiome in Chronic Pressure Ulcer Wounds. PLoS ONE, 2015, 10, e0126735.	2.5	45
36	Contribution of Stress Responses to Antibiotic Tolerance in Pseudomonas aeruginosa Biofilms. Antimicrobial Agents and Chemotherapy, 2015, 59, 3838-3847.	3.2	115

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37	Antimicrobial activity of synthetic cationic peptides and lipopeptides derived from human lactoferricin against Pseudomonas aeruginosa planktonic cultures and biofilms. BMC Microbiology, 2015, 15, 137.	3.3	61
38	Biocides in Hydraulic Fracturing Fluids: A Critical Review of Their Usage, Mobility, Degradation, and Toxicity. Environmental Science & Technology, 2015, 49, 16-32.	10.0	317
39	Biophysics of biofilm infection. Pathogens and Disease, 2014, 70, 212-218.	2.0	88
40	Biofilms and Inflammation in Chronic Wounds. Advances in Wound Care, 2013, 2, 389-399.	5.1	296
41	Iron induces bimodal population development by <i>Escherichia coli</i>. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 2629-2634.	7.1	102
42	Study of the effect of antimicrobial peptide mimic, CSA â€13, on an established biofilm formed by P seudomonas aeruginosa. MicrobiologyOpen, 2013, 2, 318-325.	3.0	43
43	Direct Electric Current Treatment under Physiologic Saline Conditions Kills Staphylococcus epidermidis Biofilms via Electrolytic Generation of Hypochlorous Acid. PLoS ONE, 2013, 8, e55118.	2.5	66
44	General Theory for Integrated Analysis of Growth, Gene, and Protein Expression in Biofilms. PLoS ONE, 2013, 8, e83626.	2.5	19
45	Heterogeneity in Pseudomonas aeruginosa Biofilms Includes Expression of Ribosome Hibernation Factors in the Antibiotic-Tolerant Subpopulation and Hypoxia-Induced Stress Response in the Metabolically Active Population. Journal of Bacteriology, 2012, 194, 2062-2073.	2.2	219
46	Identification of Peptides Derived from the Human Antimicrobial Peptide LL-37 Active against Biofilms Formed by Pseudomonas aeruginosa Using a Library of Truncated Fragments. Antimicrobial Agents and Chemotherapy, 2012, 56, 5698-5708.	3.2	101
47	Time course study of delayed wound healing in a biofilmâ€challenged diabetic mouse model. Wound Repair and Regeneration, 2012, 20, 342-352.	3.0	96
48	Mini-review: Convection around biofilms. Biofouling, 2012, 28, 187-198.	2.2	155
49	Phevalin (aureusimine B)Production by Staphylococcus aureus Biofilm and Impacts on Human Keratinocyte Gene Expression. PLoS ONE, 2012, 7, e40973.	2.5	30
50	Differential effects of planktonic and biofilm <scp>MRSA</scp> on human fibroblasts. Wound Repair and Regeneration, 2012, 20, 253-261.	3.0	64
51	Development and application of a polymicrobial, in vitro, wound biofilm model. Journal of Applied Microbiology, 2012, 112, 998-1006.	3.1	59
52	Chemical and antimicrobial treatments change the viscoelastic properties of bacterial biofilms. Biofouling, 2011, 27, 207-215.	2.2	72
53	Characterization and effect of biofouling on polyamide reverse osmosis and nanofiltration membrane surfaces. Biofouling, 2011, 27, 173-183.	2.2	35
54	In vitro efficacy of bismuth thiols against biofilms formed by bacteria isolated from human chronic wounds. Journal of Applied Microbiology, 2011, 111, 989-996.	3.1	53

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55	An in vitro model for the growth and analysis of chronic wound MRSA biofilms. Journal of Applied Microbiology, 2011, 111, 1275-1282.	3.1	47
56	The importance of a multifaceted approach to characterizing the microbial flora of chronic wounds. Wound Repair and Regeneration, 2011, 19, 532-541.	3.0	129
57	Efficacy of Zosteric Acid Sodium Salt on the Yeast Biofilm Model Candida albicans. Microbial Ecology, 2011, 62, 584-598.	2.8	44
58	Staphylococcus aureus Biofilm and Planktonic cultures differentially impact gene expression, mapk phosphorylation, and cytokine production in human keratinocytes. BMC Microbiology, 2011, 11, 143.	3.3	101
59	Hydrodynamic deformation and removal of <i>Staphylococcus epidermidis</i> biofilms treated with urea, chlorhexidine, iron chloride, or DispersinB. Biotechnology and Bioengineering, 2011, 108, 2968-2977.	3.3	63
60	Antimicrobial Penetration and Efficacy in an <i>In Vitro</i> Oral Biofilm Model. Antimicrobial Agents and Chemotherapy, 2011, 55, 3338-3344.	3.2	91
61	Assessing biofouling on polyamide reverse osmosis (RO) membrane surfaces in a laboratory system. Journal of Membrane Science, 2010, 349, 429-437.	8.2	51
62	Robustness analysis of culturing perturbations on Escherichia coli colony biofilm beta-lactam and aminoglycoside antibiotic tolerance. BMC Microbiology, 2010, 10, 185.	3.3	31
63	Physiology of Pseudomonas aeruginosa in biofilms as revealed by transcriptome analysis. BMC Microbiology, 2010, 10, 294.	3.3	119
64	Delayed wound healing in diabetic (db/db) mice with Pseudomonas aeruginosa biofilm challenge: a model for the study of chronic wounds. Wound Repair and Regeneration, 2010, 18, 467-477.	3.0	206
65	Characterization of a modified rotating disk reactor for the cultivation of Staphylococcus epidermidis biofilm. Journal of Applied Microbiology, 2010, 109, 2105-2117.	3.1	14
66	Spatial and Temporal Patterns of Biocide Action against <i>Staphylococcus epidermidis</i> Biofilms. Antimicrobial Agents and Chemotherapy, 2010, 54, 2920-2927.	3.2	116
67	Hindering biofilm formation with zosteric acid. Biofouling, 2010, 26, 739-752.	2.2	47
68	Testing wound dressings using an <i>in vitro</i> wound model. Journal of Wound Care, 2010, 19, 220-226.	1.2	73
69	Biofilm maturity studies indicate sharp debridement opens a time-dependent therapeutic window. Journal of Wound Care, 2010, 19, 320-328.	1.2	346
70	Diffusion of Macromolecules in Model Oral Biofilms. Applied and Environmental Microbiology, 2009, 75, 1750-1753.	3.1	40
71	Nanoscale Structural and Mechanical Properties of Nontypeable <i>Haemophilus influenzae</i> Biofilms. Journal of Bacteriology, 2009, 191, 2512-2520.	2.2	38
72	Tolerance of dormant and active cells in Pseudomonas aeruginosa PA01 biofilm to antimicrobial agents. Journal of Antimicrobial Chemotherapy, 2009, 63, 129-135.	3.0	97

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73	Daptomycin Rapidly Penetrates a <i>Staphylococcus epidermidis</i> Biofilm. Antimicrobial Agents and Chemotherapy, 2009, 53, 3505-3507.	3.2	164
74	Secondary flow mixing due to biofilm growth in capillaries of varying dimensions. Biotechnology and Bioengineering, 2009, 103, 353-360.	3.3	17
75	A method for growing a biofilm under low shear at the airâ€“liquid interface using the drip flow biofilm reactor. Nature Protocols, 2009, 4, 783-788.	12.0	189
76	Highlights from the Montana wound biofilm retreat. Wound Repair and Regeneration, 2009, 17, 626-627.	3.0	0
77	Loss of viability and induction of apoptosis in human keratinocytes exposed to <i>Staphylococcus aureus</i> biofilms in vitro. Wound Repair and Regeneration, 2009, 17, 690-699.	3.0	83
78	Escherichia coli O157:H7 Requires Colonizing Partner to Adhere and Persist in a Capillary Flow Cell. Environmental Science & Technology, 2009, 43, 2105-2111.	10.0	59
79	Physiological heterogeneity in biofilms. Nature Reviews Microbiology, 2008, 6, 199-210.	28.6	1,860
80	Biofilms in chronic wounds. Wound Repair and Regeneration, 2008, 16, 37-44.	3.0	1,226
81	Measurements of accumulation and displacement at the single cell cluster level in <i>Pseudomonas aeruginosa</i> biofilms. Environmental Microbiology, 2008, 10, 2344-2354.	3.8	15
82	Comparison of the Antimicrobial Effects of Chlorine, Silver Ion, and Tobramycin on Biofilm. Antimicrobial Agents and Chemotherapy, 2008, 52, 1446-1453.	3.2	174
83	Biopolymer and Water Dynamics in Microbial Biofilm Extracellular Polymeric Substance. Biomacromolecules, 2008, 9, 2322-2328.	5.4	33
84	Anti-biofilm properties of chitosan-coated surfaces. Journal of Biomaterials Science, Polymer Edition, 2008, 19, 1035-1046.	3.5	182
85	Localized Gene Expression in <i>Pseudomonas aeruginosa</i> Biofilms. Applied and Environmental Microbiology, 2008, 74, 4463-4471.	3.1	143
86	Direct Visualization of Spatial and Temporal Patterns of Antimicrobial Action within Model Oral Biofilms. Applied and Environmental Microbiology, 2008, 74, 1869-1875.	3.1	58
87	Confocal Laser Microscopy on Biofilms: Successes and Limitations. Microscopy Today, 2008, 16, 18-23.	0.3	6
88	Spatial Patterns of DNA Replication, Protein Synthesis, and Oxygen Concentration within Bacterial Biofilms Reveal Diverse Physiological States. Journal of Bacteriology, 2007, 189, 4223-4233.	2.2	278
89	A three-dimensional computer model analysis of three hypothetical biofilm detachment mechanisms. Biotechnology and Bioengineering, 2007, 97, 1573-1584.	3.3	64
90	High-Density Targeting of a Viral Multifunctional Nanoplatform to a Pathogenic, Biofilm-Forming Bacterium. Chemistry and Biology, 2007, 14, 387-398.	6.0	58

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91	Observations of cell cluster hollowing in Staphylococcus epidermidis biofilms. Letters in Applied Microbiology, 2007, 44, 454-457.	2.2	21
92	The effect of the chemical, biological, and physical environment on quorum sensing in structured microbial communities. Analytical and Bioanalytical Chemistry, 2007, 387, 371-380.	3.7	149
93	Arginine or Nitrate Enhances Antibiotic Susceptibility of Pseudomonas aeruginosa in Biofilms. Antimicrobial Agents and Chemotherapy, 2006, 50, 382-384.	3.2	104
94	A Three-Dimensional Computer Model of Four Hypothetical Mechanisms Protecting Biofilms from Antimicrobials. Applied and Environmental Microbiology, 2006, 72, 2005-2013.	3.1	142
95	Removal and Inactivation of Staphylococcus epidermidis Biofilms by Electrolysis. Applied and Environmental Microbiology, 2006, 72, 6364-6366.	3.1	38
96	Engineering Approaches for the Detection and Control of Orthopaedic Biofilm Infections. Clinical Orthopaedics and Related Research, 2005, &NA;, 59-66.	1.5	105
97	Adaptive responses to antimicrobial agents in biofilms. Environmental Microbiology, 2005, 7, 1186-1191.	3.8	114
98	Biofilms strike back. Nature Biotechnology, 2005, 23, 1378-1379.	17.5	64
99	Magnetic resonance microscopy analysis of advective transport in a biofilm reactor. Biotechnology and Bioengineering, 2005, 89, 822-834.	3.3	33
100	DIFFUSION COEFFICIENT OF FLUORIDE IN DENTAL PLAQUE. Journal of Dental Research, 2005, 84, 1087-1088.	5.2	9
101	Rapid Diffusion of Fluorescent Tracers into Staphylococcus epidermidis Biofilms Visualized by Time Lapse Microscopy. Antimicrobial Agents and Chemotherapy, 2005, 49, 728-732.	3.2	159
102	Modelling protection from antimicrobial agents in biofilms through the formation of persister cells. Microbiology (United Kingdom), 2005, 151, 75-80.	1.8	135
103	Biofilm-control strategies based on enzymic disruption of the extracellular polymeric substance matrix â€" a modelling study. Microbiology (United Kingdom), 2005, 151, 3817-3832.	1.8	175
104	Survival strategies of infectious biofilms. Trends in Microbiology, 2005, 13, 34-40.	7.7	1,542
105	Ultrasonically Controlled Release of Ciprofloxacin from Self-Assembled Coatings on Poly(2-Hydroxyethyl Methacrylate) Hydrogels for Pseudomonas aeruginosa Biofilm Prevention. Antimicrobial Agents and Chemotherapy, 2005, 49, 4272-4279.	3.2	75
106	Hypothesis for the Role of Nutrient Starvation in Biofilm Detachment. Applied and Environmental Microbiology, 2004, 70, 7418-7425.	3.1	244
107	Oxygen Limitation Contributes to Antibiotic Tolerance of Pseudomonas aeruginosa in Biofilms. Antimicrobial Agents and Chemotherapy, 2004, 48, 2659-2664.	3.2	407
108	Stratified Growth in Pseudomonas aeruginosa Biofilms. Applied and Environmental Microbiology, 2004, 70, 6188-6196.	3.1	322

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109	Modeling Antibiotic Tolerance in Biofilms by Accounting for Nutrient Limitation. Antimicrobial Agents and Chemotherapy, 2004, 48, 48-52.	3.2	91
110	Magnetic resonance microscopy of biofilm structure and impact on transport in a capillary bioreactor. Journal of Magnetic Resonance, 2004, 167, 322-327.	2.1	89
111	A genetic basis for Pseudomonas aeruginosa biofilm antibiotic resistance. Nature, 2003, 426, 306-310.	27.8	1,036
112	New ways to stop biofilm infections. Lancet, The, 2003, 361, 97.	13.7	70
113	Pretreatment for membrane water treatment systems: a laboratory study. Water Research, 2003, 37, 3367-3378.	11.3	39
114	A microtiter-plate screening method for biofilm disinfection and removal. Journal of Microbiological Methods, 2003, 54, 269-276.	1.6	270
115	Contributions of Antibiotic Penetration, Oxygen Limitation, and Low Metabolic Activity to Tolerance of <i>Pseudomonas aeruginosa</i> Biofilms to Ciprofloxacin and Tobramycin. Antimicrobial Agents and Chemotherapy, 2003, 47, 317-323.	3.2	839
116	Diffusion in Biofilms. Journal of Bacteriology, 2003, 185, 1485-1491.	2.2	964
117	Role of Nutrient Limitation and Stationary-Phase Existence in Klebsiella pneumoniae Biofilm Resistance to Ampicillin and Ciprofloxacin. Antimicrobial Agents and Chemotherapy, 2003, 47, 1251-1256.	3.2	299
118	Transmission Electron Microscopic Study of Antibiotic Action on Klebsiella pneumoniae Biofilm. Antimicrobial Agents and Chemotherapy, 2002, 46, 2679-2683.	3.2	56
119	Penetration of Rifampin through Staphylococcus epidermidis Biofilms. Antimicrobial Agents and Chemotherapy, 2002, 46, 900-903.	3.2	174
120	Mechanisms of antibiotic resistance in bacterial biofilms. International Journal of Medical Microbiology, 2002, 292, 107-113.	3.6	1,094
121	Role of electrostatic interactions in cohesion of bacterial biofilms. Applied Microbiology and Biotechnology, 2002, 59, 718-720.	3.6	120
122	Multicellular resistance: biofilms. Trends in Microbiology, 2001, 9, 204.	7.7	32
123	Antibiotic resistance of bacteria in biofilms. Lancet, The, 2001, 358, 135-138.	13.7	3,809
124	Reduced susceptibility of thin Pseudomonas aeruginosa biofilms to hydrogen peroxide and monochloramine. Journal of Applied Microbiology, 2001, 88, 22-30.	3.1	160
125	A repeatable laboratory method for testing the efficacy of biocides against toilet bowl biofilms. Journal of Applied Microbiology, 2001, 91, 110-117.	3.1	32
126	Biofilm penetration and disinfection efficacy of alkaline hypochlorite and chlorosulfamates. Journal of Applied Microbiology, 2001, 91, 525-532.	3.1	235

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127	Gene expression and protein levels of the stationary phase sigma factor, RpoS, in continuously-fed Pseudomonas aeruginosa biofilms. FEMS Microbiology Letters, 2001, 199, 67-71.	1.8	59
128	Battling Biofilms. Scientific American, 2001, 285, 74-81.	1.0	158
129	Modeling biocide action against biofilms. , 2000, 49, 445-455.		52
130	Modeling biofilm antimicrobial resistance. Biotechnology and Bioengineering, 2000, 68, 456-465.	3.3	59
131	Role of RpoS and AlgT in Pseudomonas aeruginosa biofilm resistance to hydrogen peroxide and monochloramine. Journal of Applied Microbiology, 2000, 88, 546-553.	3.1	76
132	Electrical enhancement of Streptococcus gordonii biofilm killing by gentamicin. Archives of Oral Biology, 2000, 45, 167-171.	1.8	34
133	Effect of Catalase on Hydrogen Peroxide Penetration into Pseudomonas aeruginosa Biofilms. Applied and Environmental Microbiology, 2000, 66, 836-838.	3.1	161
134	Biofilm resistance to antimicrobial agents. Microbiology (United Kingdom), 2000, 146, 547-549.	1.8	275
135	Biofilm removal caused by chemical treatments. Water Research, 2000, 34, 4229-4233.	11.3	231
136	Role of Antibiotic Penetration Limitation in <i>Klebsiella pneumoniae</i> Biofilm Resistance to Ampicillin and Ciprofloxacin. Antimicrobial Agents and Chemotherapy, 2000, 44, 1818-1824.	3.2	811
137	Electrolytic Generation of Oxygen Partially Explains Electrical Enhancement of Tobramycin Efficacy against <i>Pseudomonas aeruginosa</i> Biofilm. Antimicrobial Agents and Chemotherapy, 1999, 43, 292-296.	3.2	87
138	Protective Role of Catalase in <i>Pseudomonas aeruginosa</i> Biofilm Resistance to Hydrogen Peroxide. Applied and Environmental Microbiology, 1999, 65, 4594-4600.	3.1	218
139	[49] Enhanced bacterial biofilm control using electromagnetic fields in combination with antibiotics. Methods in Enzymology, 1999, 310, 656-670.	1.0	44
140	Reduction of polysaccharide production in Pseudomonas aeruginosa biofilms by bismuth dimercaprol (BisBAL) treatment. Journal of Antimicrobial Chemotherapy, 1999, 44, 601-605.	3.0	50
141	Quorum sensing in Pseudomonas aeruginosa controls expression of catalase and superoxide dismutase genes and mediates biofilm susceptibility to hydrogen peroxide. Molecular Microbiology, 1999, 34, 1082-1093.	2.5	379
142	Bacterial Biofilms: A Common Cause of Persistent Infections. Science, 1999, 284, 1318-1322.	12.6	10,329
143	[13] Fluorescent probes applied to physiological characterization of bacterial biofilms. Methods in Enzymology, 1999, 310, 166-178.	1.0	17
144	A review of experimental measurements of effective diffusive permeabilities and effective diffusion coefficients in biofilms. Biotechnology and Bioengineering, 1998, 59, 261-272.	3.3	264

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145	Analysis of biocide transport limitation in an artificial biofilm system. Journal of Applied Microbiology, 1998, 85, 495-500.	3.1	85
146	Color measurement as a means of quantifying surface biofouling. Journal of Microbiological Methods, 1998, 34, 143-149.	1.6	11
147	Bacterial characterization of toilet bowl biofilm. Biofouling, 1998, 13, 19-30.	2.2	13
148	Spatial Physiological Heterogeneity in <i>Pseudomonas aeruginosa</i> Biofilm Is Determined by Oxygen Availability. Applied and Environmental Microbiology, 1998, 64, 4035-4039.	3.1	448
149	Spatial Patterns of Alkaline Phosphatase Expression within Bacterial Colonies and Biofilms in Response to Phosphate Starvation. Applied and Environmental Microbiology, 1998, 64, 1526-1531.	3.1	146
150	Spatial Distribution and Coexistence of Klebsiella pneumoniae and Pseudomonas aeruginosa in Biofilms. Microbial Ecology, 1997, 33, 2-10.	2.8	80
151	Evidence of bacterial adaptation to monochloramine inPseudomonas aeruginosa biofilms and evaluation of biocide action model. , 1997, 56, 201-209.		41
152	Chlorine Penetration into Artificial Biofilm Is Limited by a Reactionâ˘'Diffusion Interaction. Environmental Science & Technology, 1996, 30, 2078-2083.	10.0	161
153	Control of microbial souring by nitrate, nitrite or glutaraldehyde injection in a sandstone column. Journal of Industrial Microbiology, 1996, 17, 128-136.	0.9	104
154	Effects of ultrasonic treatment on the efficacy of gentamicin against established Pseudomonas aeruginosa biofilms. Colloids and Surfaces B: Biointerfaces, 1996, 6, 235-242.	5.0	19
155	Spatial Variations in Growth Rate within Klebsiella pneumoniae Colonies and Biofilm. Biotechnology Progress, 1996, 12, 316-321.	2.6	155
156	Evaluation of physiological staining, cryoembedding and autofluorescence quenching techniques on fouling biofilms. Biofouling, 1996, 9, 269-277.	2.2	13
157	Transport limitation of chlorine disinfection of Pseudomonas aeruginosa entrapped in alginate beads. Biotechnology and Bioengineering, 1996, 49, 93-100.	3.3	44
158	Transport limitation of chlorine disinfection of Pseudomonas aeruginosa entrapped in alginate beads. Biotechnology and Bioengineering, 1996, 49, 93-100.	3.3	29
159	Quantitative analysis of biofilm thickness variability. Biotechnology and Bioengineering, 1995, 45, 503-510.	3.3	129
160	Biofilm parameters influencing biocide efficacy. Biotechnology and Bioengineering, 1995, 46, 553-560.	3.3	62
161	Implications of reaction-diffusion theory for the disinfection of microbial biofilms by reactive antimicrobial agents. Chemical Engineering Science, 1995, 50, 3099-3104.	3.8	69
162	Engineering scale-up of in situ bioremediation processes: a review. Journal of Contaminant Hydrology, 1995, 19, 171-203.	3.3	104

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163	Physiological assessment of bacteria using fluorochromes. Journal of Microbiological Methods, 1995, 21, 1-13.	1.6	143
164	Biofilm structural heterogeneity visualized by three microscopic methods. Water Research, 1995, 29, 2006-2009.	11.3	95
165	Cryosectioning of biofilms for microscopic examination. Biofouling, 1994, 8, 85-91.	2.2	45
166	Biofilm accumulation model that predicts antibiotic resistance of Pseudomonas aeruginosa biofilms. Antimicrobial Agents and Chemotherapy, 1994, 38, 1052-1058.	3.2	130
167	A model of biofilm detachment. Biotechnology and Bioengineering, 1993, 41, 111-117.	3.3	154
168	Transport of 1-?m latex particles inpseudomonas aeruginosa biofilms. Biotechnology and Bioengineering, 1993, 42, 111-117.	3.3	61
169	Interactions of 1 Î¼m latex particles with pseudomonas aeruginosa biofilms. Water Research, 1993, 27, 1119-1126.	11.3	50
170	Effects of various metal substrata on accumulation ofPseudomonas aeruginosabiofilms and the efficacy of monochloramine as a biocide. Biofouling, 1993, 7, 241-251.	2.2	22
171	Biodegradation rates of crude oil in seawater. Water Environment Research, 1993, 65, 845-848.	2.7	18
172	Characterization of immobilized cell growth rates using autoradiography. Biotechnology and Bioengineering, 1991, 37, 824-833.	3.3	19
173	Microbial growth in a fixed volume: studies with entrapped Escherichia coli. Applied Microbiology and Biotechnology, 1989, 30, 34.	3.6	29
174	Biofilms and Device-Related Infections. , 0, , 423-439.		21
175	Antimicrobial Tolerance in Biofilms. , 0, , 269-285.		17
176	A review of experimental measurements of effective diffusive permeabilities and effective diffusion coefficients in biofilms. , 0, .		1