Hyun Koo

List of Publications by Year
in descending order

73 papers	9,139 citations	61984 43 h-index	76900 74 g-index
76 all docs	76 docs citations	76 times ranked	9483 citing authors

#	Article	IF	Citations
1	The effect of Brazilian propolis type-3 against oral microbiota and volatile sulfur compounds in subjects with morning breath malodor. Clinical Oral Investigations, 2022, 26, 1531-1541.	3.0	5
2	Repurposing ferumoxytol: Diagnostic and therapeutic applications of an FDA-approved nanoparticle. Theranostics, 2022, 12, 796-816.	10.0	83
3	Polymicrobial Aggregates in Human Saliva Build the Oral Biofilm. MBio, 2022, 13, e0013122.	4.1	23
4	Surface Topography-Adaptive Robotic Superstructures for Biofilm Removal and Pathogen Detection on Human Teeth. ACS Nano, 2022, 16, 11998-12012.	14.6	20
5	Precision targeting of bacterial pathogen via bi-functional nanozyme activated by biofilm microenvironment. Biomaterials, 2021, 268, 120581.	11.4	54
6	Potential implications of SARS-CoV-2 oral infection in the host microbiota. Journal of Oral Microbiology, 2021, 13, 1853451.	2.7	58
7	The Impact of Dental Implant Surface Modifications on Osseointegration and Biofilm Formation. Journal of Clinical Medicine, 2021, 10, 1641.	2.4	119
8	Intervening in Symbiotic Cross-Kingdom Biofilm Interactions: a Binding Mechanism-Based Nonmicrobicidal Approach. MBio, 2021, 12, .	4.1	14
9	Affordable oral health care: dental biofilm disruption using chloroplast made enzymes with chewing gum delivery. Plant Biotechnology Journal, 2021, 19, 2113-2125.	8.3	17
10	Femtomolar SARS-CoV-2 Antigen Detection Using the Microbubbling Digital Assay with Smartphone Readout Enables Antigen Burden Quantitation and Tracking. Clinical Chemistry, 2021, 68, 230-239.	3.2	11
11	Impact of the repurposed drug thonzonium bromide on host oral-gut microbiomes. Npj Biofilms and Microbiomes, 2021, 7, 7.	6.4	7
12	Ferumoxytol Nanoparticles Target Biofilms Causing Tooth Decay in the Human Mouth. Nano Letters, 2021, 21, 9442-9449.	9.1	42
13	Dual antibacterial drug-loaded nanoparticles synergistically improve treatment of Streptococcus mutans biofilms. Acta Biomaterialia, 2020, 115, 418-431.	8.3	29
14	Inhibitory effects of xylitol and sorbitol on Streptococcus mutans and Candida albicans biofilms are repressed by the presence of sucrose. Archives of Oral Biology, 2020, 119, 104886.	1.8	11
15	Spatial mapping of polymicrobial communities reveals a precise biogeography associated with human dental caries. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12375-12386.	7.1	121
16	Electrostatic Interactions Enable Nanoparticle Delivery of the Flavonoid Myricetin. ACS Omega, 2020, 5, 12649-12659.	3.5	30
17	Dynamics of bacterial population growth in biofilms resemble spatial and structural aspects of urbanization. Nature Communications, 2020, 11, 1354.	12.8	78
18	Synergism of Streptococcus mutans and Candida albicans Reinforces Biofilm Maturation and Acidogenicity in Saliva: An In Vitro Study. Frontiers in Cellular and Infection Microbiology, 2020, 10, 623980.	3.9	42

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19	Multi-omics Analyses Reveal Synergistic Carbohydrate Metabolism in Streptococcus mutans-Candida albicans Mixed-Species Biofilms. Infection and Immunity, 2019, 87, .	2.2	71
20	Electrochemical Strategy for Eradicating Fluconazole-TolerantCandida albicansUsing Implantable Titanium. ACS Applied Materials & Interfaces, 2019, 11, 40997-41008.	8.0	5
21	Enhanced design and formulation of nanoparticles for anti-biofilm drug delivery. Nanoscale, 2019, 11, 219-236.	5.6	67
22	Catalytic antimicrobial robots for biofilm eradication. Science Robotics, 2019, 4, .	17.6	154
23	Dextran-Coated Iron Oxide Nanoparticles as Biomimetic Catalysts for Localized and pH-Activated Biofilm Disruption. ACS Nano, 2019, 13, 4960-4971.	14.6	243
24	<i>Streptococcus mutans yidC1</i> and <i>yidC2</i> Impact Cell Envelope Biogenesis, the Biofilm Matrix, and Biofilm Biophysical Properties. Journal of Bacteriology, 2019, 201, .	2.2	26
25	Candidaâ€“Bacterial Biofilms and Hostâ€“Microbe Interactions in Oral Diseases. Advances in Experimental Medicine and Biology, 2019, 1197, 119-141.	1.6	30
26	Bacterial-derived exopolysaccharides enhance antifungal drug tolerance in a cross-kingdom oral biofilm. ISME Journal, 2018, 12, 1427-1442.	9.8	111
27	Novel Endodontic Disinfection Approach Using Catalytic Nanoparticles. Journal of Endodontics, 2018, 44, 806-812.	3.1	43
28	<i>Candida albicans</i> and Early Childhood Caries: A Systematic Review and Meta-Analysis. Caries Research, 2018, 52, 102-112.	2.0	139
29	Emerging Biomedical Applications of Enzyme-Like Catalytic Nanomaterials. Trends in Biotechnology, 2018, 36, 15-29.	9.3	154
30	Oral Biofilms: Pathogens, Matrix, and Polymicrobial Interactions in Microenvironments. Trends in Microbiology, 2018, 26, 229-242.	7.7	600
31	Candidaâ€“streptococcal interactions in biofilm-associated oral diseases. PLoS Pathogens, 2018, 14, e1007342.	4.7	103
32	The oral microbiota: dynamic communities and host interactions. Nature Reviews Microbiology, 2018, 16, 745-759.	28.6	1,143
33	Converting organosulfur compounds to inorganic polysulfides against resistant bacterial infections. Nature Communications, 2018, 9, 3713.	12.8	141
34	Topical ferumoxytol nanoparticles disrupt biofilms and prevent tooth decay in vivo via intrinsic catalytic activity. Nature Communications, 2018, 9, 2920.	12.8	129
35	Retrospective Analysis of Candida-related Conditions in Infancy and Early Childhood Caries. Pediatric Dentistry (discontinued), 2018, 40, 131-135.	0.4	7
36	Do catalytic nanoparticles offer an improved therapeutic strategy to combat dental biofilms?. Nanomedicine, 2017, 12, 275-279.	3.3	15

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37	Candida albicans stimulates Streptococcus mutans microcolony development via cross-kingdom biofilm-derived metabolites. Scientific Reports, 2017, 7, 41332.	3.3	148
38	Biofilm three-dimensional architecture influences in situ pH distribution pattern on the human enamel surface. International Journal of Oral Science, 2017, 9, 74-79.	8.6	59
39	Targeting microbial biofilms: current and prospective therapeutic strategies. Nature Reviews Microbiology, 2017, 15, 740-755.	28.6	1,187
40	Nonleachable Imidazolium-Incorporated Composite for Disruption of Bacterial Clustering, Exopolysaccharide-Matrix Assembly, and Enhanced Biofilm Removal. ACS Applied Materials & Interfaces, 2017, 9, 38270-38280.	8.0	39
41	Streptococcus mutans Displays Altered Stress Responses While Enhancing Biofilm Formation by Lactobacillus casei in Mixed-Species Consortium. Frontiers in Cellular and Infection Microbiology, 2017, 7, 524.	3.9	23
42	RNA-Seq Reveals Enhanced Sugar Metabolism in Streptococcus mutans Co-cultured with Candida albicans within Mixed-Species Biofilms. Frontiers in Microbiology, 2017, 8, 1036.	3.5	71
43	Genetic analysis of the Candida albicans biofilm transcription factor network using simple and complex haploinsufficiency. PLoS Genetics, 2017, 13, e1006948.	3.5	43
44	Candida albicans mannans mediate Streptococcus mutans exoenzyme GtfB binding to modulate cross-kingdom biofilm development in vivo. PLoS Pathogens, 2017, 13, e1006407.	4.7	146
45	Candida albicans Carriage in Children with Severe Early Childhood Caries (S-ECC) and Maternal Relatedness. PLoS ONE, 2016, 11, e0164242.	2.5	84
46	Dynamic cellâ€"matrix interactions modulate microbial biofilm and tissue 3D microenvironments. Current Opinion in Cell Biology, 2016, 42, 102-112.	5.4	90
47	Microbial Nanoculture as an Artificial Microniche. Scientific Reports, 2016, 6, 30578.	3.3	30
48	Simultaneous spatiotemporal mapping of in situ pH and bacterial activity within an intact 3D microcolony structure. Scientific Reports, 2016, 6, 32841.	3.3	72
49	<scp>l</scp> -Arginine Modifies the Exopolysaccharide Matrix and Thwarts Streptococcus mutans Outgrowth within Mixed-Species Oral Biofilms. Journal of Bacteriology, 2016, 198, 2651-2661.	2.2	99
50	Topical delivery of low-cost protein drug candidates made in chloroplasts for biofilm disruption and uptake by oral epithelial cells. Biomaterials, 2016, 105, 156-166.	11.4	46
51	Nanocatalysts promote Streptococcus mutans biofilm matrix degradation and enhance bacterial killing to suppress dental caries inÂvivo. Biomaterials, 2016, 101, 272-284.	11.4	236
52	Targeted, triggered drug delivery to tumor and biofilm microenvironments. Nanomedicine, 2016, 11, 873-879.	3.3	91
53	Influence of Degree-of-Polymerization and Linkage on the Quantification of Proanthocyanidins using 4-Dimethylaminocinnamaldehyde (DMAC) Assay. Journal of Agricultural and Food Chemistry, 2016, 64, 2190-2199.	5.2	37
54	Characterization and optimization of pH-responsive polymer nanoparticles for drug delivery to oral biofilms. Journal of Materials Chemistry B, 2016, 4, 3075-3085.	5.8	69

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55	Streptococcus mutans-derived extracellular matrix in cariogenic oral biofilms. Frontiers in Cellular and Infection Microbiology, 2015, 5, 10.	3.9	248
56	Cranberry Flavonoids Modulate Cariogenic Properties of Mixed-Species Biofilm through Exopolysaccharides-Matrix Disruption. PLoS ONE, 2015, 10, e0145844.	2.5	44
57	pH-Activated Nanoparticles for Controlled Topical Delivery of Farnesol To Disrupt Oral Biofilm Virulence. ACS Nano, 2015, 9, 2390-2404.	14.6	266
58	Surface-Induced Changes in the Conformation and Glucan Production of Glucosyltransferase Adsorbed on Saliva-Coated Hydroxyapatite. Langmuir, 2015, 31, 4654-4662.	3.5	15
59	The Collagen Binding Protein Cnm Contributes to Oral Colonization and Cariogenicity of Streptococcus mutans OMZ175. Infection and Immunity, 2015, 83, 2001-2010.	2.2	48
60	Analysis of the mechanical stability and surface detachment of mature<i>Streptococcus mutans</i>biofilms by applying a range of external shear forces. Biofouling, 2014, 30, 1079-1091.	2.2	61
61	<i>Candida albicans</i> and <i>Streptococcus mutans</i>: a potential synergistic alliance to cause virulent tooth decay in children. Future Microbiology, 2014, 9, 1295-1297.	2.0	87
62	Beyond Mucosal Infection: a Role for C. albicans-Streptococcal Interactions in the Pathogenesis of Dental Caries. Current Oral Health Reports, 2014, 1, 86-93.	1.6	5
63	Symbiotic Relationship between Streptococcus mutans and Candida albicans Synergizes Virulence of Plaque Biofilms <i>In Vivo</i>. Infection and Immunity, 2014, 82, 1968-1981.	2.2	451
64	Generation of compartmentalized pressure by a nuclear piston governs cell motility in a 3D matrix. Science, 2014, 345, 1062-1065.	12.6	296
65	Streptococcus mutans Extracellular DNA Is Upregulated during Growth in Biofilms, Actively Released via Membrane Vesicles, and Influenced by Components of the Protein Secretion Machinery. Journal of Bacteriology, 2014, 196, 2355-2366.	2.2	249
66	Î±-Mangostin Disrupts the Development of Streptococcus mutans Biofilms and Facilitates Its Mechanical Removal. PLoS ONE, 2014, 9, e111312.	2.5	40
67	The Exopolysaccharide Matrix Modulates the Interaction between 3D Architecture and Virulence of a Mixed-Species Oral Biofilm. PLoS Pathogens, 2012, 8, e1002623.	4.7	428
68	An Analytical Tool-box for Comprehensive Biochemical, Structural and Transcriptome Evaluation of Oral Biofilms Mediated by Mutans Streptococci. Journal of Visualized Experiments, 2011, , .	0.3	22
69	Dynamics of Streptococcus mutans Transcriptome in Response to Starch and Sucrose during Biofilm Development. PLoS ONE, 2010, 5, e13478.	2.5	106
70	Isolation and purification of total RNA from Streptococcus mutans in suspension cultures and biofilms. Brazilian Oral Research, 2008, 22, 216-222.	1.4	18
71	Extraction and purification of total RNA from Sreptococcus mutans biofilms. Analytical Biochemistry, 2007, 365, 208-214.	2.4	68
72	The influence of mutanase and dextranase on the production and structure of glucans synthesized by streptococcal glucosyltransferases. Carbohydrate Research, 2004, 339, 2127-2137.	2.3	82

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73	Effects of <i>Apis mellifera</i> Propolis on the Activities of Streptococcal Glucosyltransferases in Solution and Adsorbed onto Salivaâ€"Coated Hydroxyapatite. Caries Research, 2000, 34, 418-426.	2.0	69