

Shaopeng Wang

List of Publications by Year in descending order

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124
papers

6,793
citations

57758

44
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64796

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136
all docs

136
docs citations

136
times ranked

7333
citing authors

#	ARTICLE	IF	CITATIONS
1	Antigen/Antibody Immunocomplex from CdTe Nanoparticle Bioconjugates. <i>Nano Letters</i> , 2002, 2, 817-822.	9.1	501
2	Label-free imaging, detection, and mass measurement of single viruses by surface plasmon resonance. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 16028-16032.	7.1	310
3	Imaging Local Electrochemical Current via Surface Plasmon Resonance. <i>Science</i> , 2010, 327, 1363-1366.	12.6	309
4	Imaging the electrocatalytic activity of single nanoparticles. <i>Nature Nanotechnology</i> , 2012, 7, 668-672.	31.5	273
5	Nanoparticle Luminescence Thermometry. <i>Journal of Physical Chemistry B</i> , 2002, 106, 11203-11209.	2.6	227
6	A universal biosensing platform based on optical micro-ring resonators. <i>Biosensors and Bioelectronics</i> , 2008, 23, 939-944.	10.1	205
7	Detection of Heavy Metal Ions in Water by High-Resolution Surface Plasmon Resonance Spectroscopy Combined with Anodic Stripping Voltammetry. <i>Analytical Chemistry</i> , 2007, 79, 4427-4432.	6.5	199
8	Label-free measuring and mapping of binding kinetics of membrane proteins in single living cells. <i>Nature Chemistry</i> , 2012, 4, 846-853.	13.6	193
9	Single cells and intracellular processes studied by a plasmonic-based electrochemical impedance microscopy. <i>Nature Chemistry</i> , 2011, 3, 249-255.	13.6	179
10	Investigation of water-soluble x-ray luminescence nanoparticles for photodynamic activation. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	162
11	Quantification of Epidermal Growth Factor Receptor Expression Level and Binding Kinetics on Cell Surfaces by Surface Plasmon Resonance Imaging. <i>Analytical Chemistry</i> , 2015, 87, 9960-9965.	6.5	161
12	Stable Langmuir and Langmuir-Blodgett Films of Fullerene-Glycodendron Conjugates. <i>Langmuir</i> , 1998, 14, 1955-1959.	3.5	158
13	Current and emerging techniques for antibiotic susceptibility tests. <i>Theranostics</i> , 2017, 7, 1795-1805.	10.0	143
14	Inverted Colloidal Crystals as Three-Dimensional Cell Scaffolds. <i>Langmuir</i> , 2004, 20, 7887-7892.	3.5	141
15	Full-Color Emission from In ₂ S ₃ and In ₂ S ₃ :Eu ³⁺ Nanoparticles. <i>Journal of Physical Chemistry B</i> , 2004, 108, 11927-11934.	2.6	127
16	In vitro analog of human bone marrow from 3D scaffolds with biomimetic inverted colloidal crystal geometry. <i>Biomaterials</i> , 2009, 30, 1071-1079.	11.4	127
17	Antimicrobial Susceptibility Test with Plasmonic Imaging and Tracking of Single Bacterial Motions on Nanometer Scale. <i>ACS Nano</i> , 2016, 10, 845-852.	14.6	123
18	Inverted-Colloidal-Crystal Hydrogel Matrices as Three-Dimensional Cell Scaffolds. <i>Advanced Functional Materials</i> , 2005, 15, 725-731.	14.9	117

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19	Electrochemical Surface Plasmon Resonance: Basic Formalism and Experimental Validation. <i>Analytical Chemistry</i> , 2010, 82, 935-941.	6.5	110
20	Surface Plasmon Resonance Microscopy: From Single-Molecule Sensing to Single-Cell Imaging. <i>Angewandte Chemie - International Edition</i> , 2020, 59, 1776-1785.	13.8	103
21	Plasmonic Imaging and Detection of Single DNA Molecules. <i>ACS Nano</i> , 2014, 8, 3427-3433.	14.6	91
22	A Floating Self-Assembly Route to Colloidal Crystal Templates for 3D Cell Scaffolds. <i>Chemistry of Materials</i> , 2005, 17, 4918-4924.	6.7	88
23	Plasmonic scattering imaging of single proteins and binding kinetics. <i>Nature Methods</i> , 2020, 17, 1010-1017.	19.0	88
24	Label-Free Tracking of Single Organelle Transportation in Cells with Nanometer Precision Using a Plasmonic Imaging Technique. <i>Small</i> , 2015, 11, 2878-2884.	10.0	84
25	Mapping Single-Cell-Substrate Interactions by Surface Plasmon Resonance Microscopy. <i>Langmuir</i> , 2012, 28, 13373-13379.	3.5	83
26	Molecular Scale Origin of Surface Plasmon Resonance Biosensors. <i>Analytical Chemistry</i> , 2014, 86, 8992-8997.	6.5	75
27	Plasmonic-Based Electrochemical Impedance Spectroscopy: Application to Molecular Binding. <i>Analytical Chemistry</i> , 2012, 84, 327-333.	6.5	73
28	Optical behaviors of ZnO-porphyrin conjugates and their potential applications for cancer treatment. <i>Applied Physics Letters</i> , 2008, 92, .	3.3	71
29	Phototoxicity of Zinc Oxide Nanoparticle Conjugates in Human Ovarian Cancer NIH: OVCAR-3 Cells. <i>Journal of Biomedical Nanotechnology</i> , 2008, 4, 432-438.	1.1	71
30	X-ray luminescence of LaF ₃ :Tb ³⁺ and LaF ₃ :Ce ³⁺ , Tb ³⁺ water-soluble nanoparticles. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	70
31	Plasmonic Imaging of Surface Electrochemical Reactions of Single Gold Nanowires. <i>Journal of the American Chemical Society</i> , 2017, 139, 1376-1379.	13.7	70
32	Achieving High Spatial Resolution Surface Plasmon Resonance Microscopy with Image Reconstruction. <i>Analytical Chemistry</i> , 2017, 89, 2704-2707.	6.5	64
33	Imaging Local Heating and Thermal Diffusion of Nanomaterials with Plasmonic Thermal Microscopy. <i>ACS Nano</i> , 2015, 9, 11574-11581.	14.6	63
34	Surface plasmon resonance enhanced optical absorption spectroscopy for studying molecular adsorbates. <i>Review of Scientific Instruments</i> , 2001, 72, 3055-3060.	1.3	62
35	Luminescence temperature and pressure studies of Zn ₂ SiO ₄ phosphors doped with Mn ²⁺ and Eu ³⁺ ions. <i>Journal of Luminescence</i> , 2006, 116, 117-126.	3.1	62
36	Phenotypic Antimicrobial Susceptibility Testing with Deep Learning Video Microscopy. <i>Analytical Chemistry</i> , 2018, 90, 6314-6322.	6.5	61

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37	Time-Resolved Digital Immunoassay for Rapid and Sensitive Quantitation of Procalcitonin with Plasmonic Imaging. <i>ACS Nano</i> , 2019, 13, 8609-8617.	14.6	61
38	Measuring Surface Charge Density and Particle Height Using Surface Plasmon Resonance Technique. <i>Analytical Chemistry</i> , 2010, 82, 234-240.	6.5	60
39	Plasmonic-Based Electrochemical Impedance Imaging of Electrical Activities in Single Cells. <i>Angewandte Chemie - International Edition</i> , 2017, 56, 8855-8859.	13.8	59
40	How does fluorescent labeling affect the binding kinetics of proteins with intact cells?. <i>Biosensors and Bioelectronics</i> , 2015, 66, 412-416.	10.1	56
41	Plasmonic imaging of protein interactions with single bacterial cells. <i>Biosensors and Bioelectronics</i> , 2015, 63, 131-137.	10.1	52
42	Detection of Charges and Molecules with Self-Assembled Nano-Oscillators. <i>Nano Letters</i> , 2014, 14, 4151-4157.	9.1	51
43	High-Sensitivity Stark Spectroscopy Obtained by Surface Plasmon Resonance Measurement. <i>Analytical Chemistry</i> , 2000, 72, 4003-4008.	6.5	50
44	Surface and Optical Properties of Langmuir and LB Films of a Crown-Ether C60Derivative. <i>Langmuir</i> , 1997, 13, 1672-1676.	3.5	47
45	Imaging Action Potential in Single Mammalian Neurons by Tracking the Accompanying Sub-Nanometer Mechanical Motion. <i>ACS Nano</i> , 2018, 12, 4186-4193.	14.6	45
46	One and a Half Layers? Mixed Langmuir Monolayer of 10,12-Pentacosadiynoic Acid and a Semifluorinated Tetracosane. <i>Langmuir</i> , 2000, 16, 2882-2886.	3.5	43
47	Measurement of Small Molecule Binding Kinetics on a Protein Microarray by Plasmonic-Based Electrochemical Impedance Imaging. <i>Analytical Chemistry</i> , 2014, 86, 9860-9865.	6.5	43
48	Full-Color Emission and Temperature Dependence of the Luminescence in Poly-P-phenylene ethynylene-ZnS/Mn ²⁺ Composite Particles. <i>Journal of Physical Chemistry B</i> , 2003, 107, 6544-6551.	2.6	40
49	Kinetics of small molecule interactions with membrane proteins in single cells measured with mechanical amplification. <i>Science Advances</i> , 2015, 1, e1500633.	10.3	39
50	Mapping Local Quantum Capacitance and Charged Impurities in Graphene via Plasmonic Impedance Imaging. <i>Advanced Materials</i> , 2015, 27, 6213-6219.	21.0	38
51	In situ drug-receptor binding kinetics in single cells: a quantitative label-free study of anti-tumor drug resistance. <i>Scientific Reports</i> , 2014, 4, 6609.	3.3	38
52	Electronic energy relaxation and luminescence decay dynamics of Eu ³⁺ in Zn ₂ SiO ₄ :Eu ³⁺ phosphors. <i>Journal of Luminescence</i> , 2007, 126, 491-496.	3.1	37
53	Specific binding of avidin to biotin containing lipid lamella surfaces studied with monolayers and liposomes. <i>European Biophysics Journal</i> , 1995, 24, 31-38.	2.2	35
54	One-Step Digital Immunoassay for Rapid and Sensitive Detection of Cardiac Troponin I. <i>ACS Sensors</i> , 2020, 5, 1126-1131.	7.8	35

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55	Rapid Antibiotic Susceptibility Testing of Uropathogenic <i>E. coli</i> by Tracking Submicron Scale Motion of Single Bacterial Cells. <i>ACS Sensors</i> , 2017, 2, 1231-1239.	7.8	33
56	Charge-Based Detection of Small Molecules by Plasmonic-Based Electrochemical Impedance Microscopy. <i>Analytical Chemistry</i> , 2013, 85, 6682-6687.	6.5	30
57	Optical imaging of single-protein size, charge, mobility, and binding. <i>Nature Communications</i> , 2020, 11, 4768.	12.8	30
58	Quantification of Single-Molecule Protein Binding Kinetics in Complex Media with Prism-Coupled Plasmonic Scattering Imaging. <i>ACS Sensors</i> , 2021, 6, 1357-1366.	7.8	30
59	Imaging Local Electric Field Distribution by Plasmonic Impedance Microscopy. <i>Analytical Chemistry</i> , 2016, 88, 1547-1552.	6.5	29
60	Rapid Antimicrobial Susceptibility Testing of Patient Urine Samples Using Large Volume Free-Solution Light Scattering Microscopy. <i>Analytical Chemistry</i> , 2019, 91, 10164-10171.	6.5	29
61	Plasmonic-Based Imaging of Local Square Wave Voltammetry. <i>Analytical Chemistry</i> , 2011, 83, 7394-7399.	6.5	28
62	Bi-cell surface plasmon resonance detection of aptamer mediated thrombin capture in serum. <i>Biosensors and Bioelectronics</i> , 2011, 26, 4832-4836.	10.1	28
63	Cell Distribution Profiles in Three-Dimensional Scaffolds with Inverted-Colloidal-Crystal Geometry: Modeling and Experimental Investigations. <i>Small</i> , 2005, 1, 1208-1214.	10.0	27
64	Measuring Binding Kinetics of Antibody-Conjugated Gold Nanoparticles with Intact Cells. <i>Small</i> , 2015, 11, 3782-3788.	10.0	27
65	Dose dependent x-ray luminescence in MgF ₂ :Eu ²⁺ , Mn ²⁺ phosphors. <i>Journal of Applied Physics</i> , 2008, 103, 113103.	2.5	25
66	Integrated microring resonator biosensors for monitoring cell growth and detection of toxic chemicals in water. <i>Biosensors and Bioelectronics</i> , 2009, 24, 3061-3066.	10.1	25
67	Unusual chromatic properties observed from polymerized dipeptide diacetylenes. <i>Chemical Communications</i> , 1999, , 1601-1602.	4.1	22
68	Flow-through Electrochemical Surface Plasmon Resonance: Detection of intermediate reaction products. <i>Journal of Electroanalytical Chemistry</i> , 2010, 649, 37-41.	3.8	21
69	Critical angle reflection imaging for quantification of molecular interactions on glass surface. <i>Nature Communications</i> , 2021, 12, 3365.	12.8	21
70	Label-Free Imaging of Nanoscale Displacements and Free-Energy Profiles of Focal Adhesions with Plasmonic Scattering Microscopy. <i>ACS Sensors</i> , 2021, 6, 4244-4254.	7.8	21
71	Study of single particle charge and Brownian motions with surface plasmon resonance. <i>Applied Physics Letters</i> , 2010, 97, 223703.	3.3	20
72	Detection of molecular binding via charge-induced mechanical response of optical fibers. <i>Chemical Science</i> , 2014, 5, 4375-4381.	7.4	20

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73	Evanescent scattering imaging of single protein binding kinetics and DNA conformation changes. <i>Nature Communications</i> , 2022, 13, 2298.	12.8	19
74	Surface Topography of Acetylcholinesterase in Langmuir and Langmuir-Blodgett Films. <i>Journal of Physical Chemistry B</i> , 1997, 101, 6741-6748.	2.6	17
75	Excess Free Energies of Interaction between 10,12-Pentacosadiynoic Acid (PDA) and Its Mannoside Derivative (MPDA). A Mixed-Monolayer Study. <i>Langmuir</i> , 1997, 13, 1677-1681.	3.5	17
76	Surface Chemistry, Topography, and Spectroscopy of a Mixed Monolayer of 10,12-Pentacosadiynoic Acid and Its Mannoside Derivative at the Air-Water Interface. <i>Langmuir</i> , 1999, 15, 5623-5629.	3.5	17
77	Measuring Ligand Binding Kinetics to Membrane Proteins Using Virion Nano-oscillators. <i>Journal of the American Chemical Society</i> , 2018, 140, 11495-11501.	13.7	17
78	Anthracylmethyl crown ethers as fluorescence sensors of saxitoxin. <i>Tetrahedron Letters</i> , 1999, 40, 5461-5465.	1.4	16
79	Label-Free Quantification of Small-Molecule Binding to Membrane Proteins on Single Cells by Tracking Nanometer-Scale Cellular Membrane Deformation. <i>ACS Nano</i> , 2018, 12, 2056-2064.	14.6	16
80	Structure and luminescence of BaFBr:Eu ²⁺ and BaFBr:Eu ²⁺ , Tb ³⁺ phosphors and thin films. <i>Journal of Applied Physics</i> , 2005, 97, 083506.	2.5	15
81	Rapid aqueous photo-polymerization route to polymer and polymer-composite hydrogel 3D inverted colloidal crystal scaffolds. <i>Journal of Biomedical Materials Research - Part A</i> , 2007, 83A, 1-9.	4.0	15
82	Electrochemical Reactions in Subfemtoliter-Droplets Studied with Plasmonics-Based Electrochemical Current Microscopy. <i>Analytical Chemistry</i> , 2015, 87, 494-498.	6.5	15
83	Fabrication and Luminescence of ZnS:Mn Nanoflowers. <i>Journal of Nanoscience and Nanotechnology</i> , 2005, 5, 1309-1322.	0.9	14
84	Direct Antimicrobial Susceptibility Testing on Clinical Urine Samples by Optical Tracking of Single Cell Division Events. <i>Small</i> , 2020, 16, e2004148.	10.0	14
85	Rapid Antibiotic Susceptibility Testing Based on Bacterial Motion Patterns With Long Short-Term Memory Neural Networks. <i>IEEE Sensors Journal</i> , 2020, 20, 4940-4950.	4.7	14
86	Rapid Antimicrobial Susceptibility Testing on Clinical Urine Samples by Video-Based Object Scattering Intensity Detection. <i>Analytical Chemistry</i> , 2021, 93, 7011-7021.	6.5	14
87	3D inverted opal hydrogel scaffolds with oxygen sensing capability. <i>Colloids and Surfaces B: Biointerfaces</i> , 2007, 58, 8-13.	5.0	13
88	Study of Small-Molecule Membrane Protein Binding Kinetics with Nanodisc and Charge-Sensitive Optical Detection. <i>Analytical Chemistry</i> , 2016, 88, 2375-2379.	6.5	13
89	Tracking fast cellular membrane dynamics with sub-nm accuracy in the normal direction. <i>Nanoscale</i> , 2018, 10, 5133-5139.	5.6	13
90	Development and application of a high-content virion display human GPCR array. <i>Nature Communications</i> , 2019, 10, 1997.	12.8	13

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91	Molecular recognition of concanavalin A on mannoside diacetylene lipid monolayer at the air-water interface. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 1999, 1419, 307-312.	2.6	12
92	Gradient-Based Rapid Digital Immunoassay for High-Sensitivity Cardiac Troponin T (hs-cTnT) Detection in 1 μ L Plasma. <i>ACS Sensors</i> , 2021, 6, 399-407.	7.8	12
93	Real-Time analysis of exosome secretion of single cells with single molecule imaging. <i>Biocell</i> , 2021, 45, 1449-1451.	0.7	12
94	Quantifying Ligand-Protein Binding Kinetics with Self-Assembled Nano-oscillators. <i>Analytical Chemistry</i> , 2019, 91, 14149-14156.	6.5	11
95	Plasmonic Imaging of Oxidation and Reduction of Single Gold Nanoparticles and Their Surface Structural Dynamics. <i>ACS Sensors</i> , 2021, 6, 502-507.	7.8	11
96	Label-Free Imaging of Histamine Mediated G Protein-Coupled Receptors Activation in Live Cells. <i>Analytical Chemistry</i> , 2016, 88, 11498-11503.	6.5	10
97	Amphiphilic Anthracyl Crown Ether. A Langmuir and Langmuir-Schaefer Films Study. <i>Langmuir</i> , 2000, 16, 4607-4612.	3.5	9
98	Quantification of protein interaction kinetics in a micro droplet. <i>Review of Scientific Instruments</i> , 2015, 86, 114101.	1.3	9
99	Surface Plasmon Resonance Microscopy: From Single-Molecule Sensing to Single-Cell Imaging. <i>Angewandte Chemie</i> , 2020, 132, 1792-1801.	2.0	9
100	Chemical and Photochemical Dual Polymerization in a Mixed Langmuir Monolayer of Diacetylene Derivatives and Octadecyltrimethoxysilane. <i>Journal of Colloid and Interface Science</i> , 1998, 207, 303-308.	9.4	8
101	Optical Tracking of Nanometer-Scale Cellular Membrane Deformation Associated with Single Vesicle Release. <i>ACS Sensors</i> , 2019, 4, 2205-2212.	7.8	8
102	Simultaneous Quantification of Protein Binding Kinetics in Whole Cells with Surface Plasmon Resonance Imaging and Edge Deformation Tracking. <i>Membranes</i> , 2020, 10, 247.	3.0	8
103	Plasmonic imaging of subcellular electromechanical deformation in mammalian cells. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	8
104	Study of Langmuir monolayers of crown-ether C60 derivatives and their interaction with different subphase ions. <i>Thin Solid Films</i> , 1998, 327-329, 141-144.	1.8	7
105	Three-Dimensional Tracking of Tethered Particles for Probing Nanometer-Scale Single-Molecule Dynamics Using a Plasmonic Microscope. <i>ACS Sensors</i> , 2021, 6, 4234-4243.	7.8	7
106	Plasmonic-Based Electrochemical Impedance Imaging of Electrical Activities in Single Cells. <i>Angewandte Chemie</i> , 2017, 129, 8981-8985.	2.0	6
107	Imaging Single Bacterial Cells with Electro-optical Impedance Microscopy. <i>ACS Sensors</i> , 2021, 6, 348-354.	7.8	6
108	Label-Free Quantification of Molecular Interaction in Live Red Blood Cells by Tracking Nanometer Scale Membrane Fluctuations. <i>Small</i> , 0, , 2201623.	10.0	5

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109	Note: An automated image analysis method for high-throughput classification of surface-bound bacterial cell motions. <i>Review of Scientific Instruments</i> , 2015, 86, 126104.	1.3	4
110	Optical Imaging of Electrical and Mechanical Couplings between Cells. <i>ACS Sensors</i> , 2021, 6, 508-512.	7.8	3
111	Real-time detection of antibiotic activity by measuring nanometer-scale bacterial deformation. <i>Journal of Biomedical Optics</i> , 2017, 22, 1.	2.6	3
112	Note: Four-port microfluidic flow-cell with instant sample switching. <i>Review of Scientific Instruments</i> , 2013, 84, 106110.	1.3	2
113	Moving Electrons Purposefully through Single Molecules and Nanostructures: A Tribute to the Science of Professor Nongjian Tao (1963–2020). <i>ACS Nano</i> , 2020, 14, 12291-12312.	14.6	2
114	Charge-Sensitive Optical Detection of Small Molecule Binding Kinetics in Normal Ionic Strength Buffer. <i>ACS Sensors</i> , 2021, 6, 364-370.	7.8	2
115	Magnetic Nanoparticle Tracking for One-Step Protein Separation and Binding Kinetics Analysis. <i>Journal of the Electrochemical Society</i> , 2022, 169, 057509.	2.9	2
116	Full-Color Emission from In ₂ S ₃ and In ₂ S ₃ :Eu ³⁺ Nanoparticles.. <i>ChemInform</i> , 2004, 35, no.	0.0	1
117	Plasmonic Imaging of Electrochemical Reactions at Individual Prussian Blue Nanoparticles. <i>Frontiers in Chemistry</i> , 2021, 9, 718666.	3.6	1
118	Single-Cell Tracking: Label-Free Tracking of Single Organelle Transportation in Cells with Nanometer Precision Using a Plasmonic Imaging Technique (<i>Small</i> 24/2015). <i>Small</i> , 2015, 11, 2877-2877.	10.0	0
119	Simultaneous Imaging of Single Protein Size, Charge, and Binding Using A Protein Oscillation Approach. <i>Bio-protocol</i> , 2021, 11, e3934.	0.4	0
120	The NJ Tao We Knew. <i>ACS Sensors</i> , 2021, 6, 285-289.	7.8	0
121	InnenrÄ¼cktitelbild: Plasmonicâ€Based Electrochemical Impedance Imaging of Electrical Activities in Single Cells (<i>Angew. Chem.</i> 30/2017). <i>Angewandte Chemie</i> , 2017, 129, 9029-9029.	2.0	0
122	(Invited) Measure Single Protein Size and Binding Kinetics with Plasmonic Scattering Imaging. <i>ECS Meeting Abstracts</i> , 2021, MA2021-02, 1643-1643.	0.0	0
123	Charge Sensitive Optical Detection for Measurement of Small-Molecule Binding Kinetics. <i>Methods in Molecular Biology</i> , 2022, 2393, 315-328.	0.9	0
124	Charge-Sensitive Optical Detection of Binding Kinetics between Phage-Displayed Peptide Ligands and Protein Targets. <i>Biosensors</i> , 2022, 12, 394.	4.7	0