

Hiroaki Suzuki

List of Publications by Year in descending order

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144
papers

3,008
citations

136950

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144
docs citations

144
times ranked

2683
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrochemical Protein Chip with Arrayed Immunosensors with Antibodies Immobilized in a Plasma-Polymerized Film. <i>Analytical Chemistry</i> , 2003, 75, 1116-1122.	6.5	162
2	Microfabricated Liquid Junction Ag/AgCl Reference Electrode and Its Application to a One-Chip Potentiometric Sensor. <i>Analytical Chemistry</i> , 1999, 71, 5069-5075.	6.5	150
3	Advances in the Microfabrication of Electrochemical Sensors and Systems. <i>Electroanalysis</i> , 2000, 12, 703-715.	2.9	138
4	Problems associated with the thin-film Ag/AgCl reference electrode and a novel structure with improved durability. <i>Sensors and Actuators B: Chemical</i> , 1998, 46, 104-113.	7.8	123
5	Integrated microfluidic system with electrochemically actuated on-chip pumps and valves. <i>Sensors and Actuators B: Chemical</i> , 2003, 96, 38-45.	7.8	95
6	On-Chip Microfluidic Transport and Mixing Using Electrowetting and Incorporation of Sensing Functions. <i>Analytical Chemistry</i> , 2005, 77, 6857-6863.	6.5	81
7	Micromachined liquid-junction Ag/AgCl reference electrode. <i>Sensors and Actuators B: Chemical</i> , 1998, 46, 146-154.	7.8	79
8	Electrochemical techniques for microfluidic applications. <i>Electrophoresis</i> , 2008, 29, 1787-1800.	2.4	74
9	Thin-Film Ag/AgCl Structure and Operational Modes to Realize Long-Term Storage. <i>Journal of the Electrochemical Society</i> , 2001, 148, E468.	2.9	67
10	Fabrication of an oxygen electrode using semiconductor technology. <i>Analytical Chemistry</i> , 1988, 60, 1078-1080.	6.5	63
11	Microfabricated electrochemical sensing devices. <i>Lab on A Chip</i> , 2020, 20, 1358-1389.	6.0	62
12	Micromachined Clark oxygen electrode. <i>Sensors and Actuators B: Chemical</i> , 1993, 10, 91-98.	7.8	58
13	An integrated module for sensing pO ₂ , pCO ₂ , and pH. <i>Analytica Chimica Acta</i> , 2000, 405, 57-65.	5.4	52
14	Microfluidic transport based on direct electrowetting. <i>Journal of Applied Physics</i> , 2004, 96, 835-841.	2.5	49
15	Micromachined Severinghaus-Type Carbon Dioxide Electrode. <i>Analytical Chemistry</i> , 1999, 71, 1737-1743.	6.5	48
16	Determination of blood pO ₂ using a micromachined Clark-type oxygen electrode. <i>Analytica Chimica Acta</i> , 2001, 431, 249-259.	5.4	48
17	Electrochemical immunoassay on a microfluidic device with sequential injection and flushing functions. <i>Biosensors and Bioelectronics</i> , 2007, 22, 3167-3173.	10.1	48
18	Coulometric Detection of Components in Liquid Plugs by Microfabricated Flow Channel and Electrode Structures. <i>Analytical Chemistry</i> , 2010, 82, 8725-8732.	6.5	47

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19	A disposable "intelligent mosquito" with a reversible sampling mechanism using the volume-phase transition of a gel. <i>Sensors and Actuators B: Chemical</i> , 2002, 83, 53-59.	7.8	46
20	Microprocessing of Liquid Plugs for Bio/chemical Analyses. <i>Analytical Chemistry</i> , 2008, 80, 6206-6213.	6.5	45
21	Fabrication of a sensing module using micromachined biosensors. <i>Biosensors and Bioelectronics</i> , 2001, 16, 725-733.	10.1	44
22	A miniature Clark-type oxygen electrode using a polyelectrolyte and its application as a glucose sensor. <i>Biosensors and Bioelectronics</i> , 1991, 6, 395-400.	10.1	42
23	A reversible electrochemical nanosyringe pump and some considerations to realize low-power consumption. <i>Sensors and Actuators B: Chemical</i> , 2002, 86, 242-250.	7.8	42
24	A novel thin-film Ag/AgCl anode structure for microfabricated Clark-type oxygen electrodes. <i>Sensors and Actuators B: Chemical</i> , 1998, 53, 140-146.	7.8	39
25	Microfabrication of chemical sensors and biosensors for environmental monitoring. <i>Materials Science and Engineering C</i> , 2000, 12, 55-61.	7.3	39
26	Miniaturized shape memory alloy pumps for stepping microfluidic transport. <i>Sensors and Actuators B: Chemical</i> , 2012, 165, 157-163.	7.8	39
27	Microdevice for On-Site Fish Freshness Checking Based on <i>pH</i> -Value Measurement. <i>Analytical Chemistry</i> , 2013, 85, 10962-10968.	6.5	38
28	On-chip handling of solutions and electrochemiluminescence detection of amino acids. <i>Sensors and Actuators B: Chemical</i> , 2007, 122, 542-548.	7.8	36
29	Electrowetting-based valve for the control of the capillary flow. <i>Journal of Applied Physics</i> , 2008, 103, .	2.5	36
30	Stimulus-responsive Gels: Promising Materials for the Construction of Micro Actuators and Sensors. <i>Journal of Intelligent Material Systems and Structures</i> , 2006, 17, 1091-1097.	2.5	35
31	A sampling mechanism employing the phase transition of a gel and its application to a micro analysis system imitating a mosquito. <i>Sensors and Actuators B: Chemical</i> , 2001, 80, 1-8.	7.8	34
32	Disposable Chemical Oxygen Demand Sensor Using a Microfabricated Clark-Type Oxygen Electrode with a TiO ₂ Suspension Solution. <i>Electroanalysis</i> , 2000, 12, 1334-1338.	2.9	33
33	Droplet-based microfluidic sensing system for rapid fish freshness determination. <i>Sensors and Actuators B: Chemical</i> , 2012, 171-172, 619-626.	7.8	33
34	Miniature Clark-type oxygen electrode with a three-electrode configuration. <i>Sensors and Actuators B: Chemical</i> , 1990, 2, 297-303.	7.8	31
35	Integration of microfabricated needle-type glucose sensor devices with a novel thin-film Ag/AgCl electrode and plasma-polymerized thin film: mass production techniques. <i>Analyst</i> , The, 2001, 126, 658-663.	3.5	31
36	A microfluidic microbial culture device for rapid determination of the minimum inhibitory concentration of antibiotics. <i>Analyst</i> , The, 2013, 138, 1000.	3.5	30

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37	A disposable biosensor employing a glucose-sensitive biochemomechanical gel. <i>Biosensors and Bioelectronics</i> , 2003, 18, 1289-1297.	10.1	28
38	A disposable on-line microsystem for continuous sampling and monitoring of glucose. <i>Sensors and Actuators B: Chemical</i> , 2004, 97, 90-97.	7.8	28
39	Integrated microfluidic system for the simultaneous determination of ammonia, creatinine, and urea. <i>Sensors and Actuators B: Chemical</i> , 2005, 108, 700-707.	7.8	28
40	Automatic Electrochemical Micro-pH-Stat for Biomicrosystems. <i>Analytical Chemistry</i> , 2008, 80, 905-914.	6.5	28
41	Integrated Electrochemical Analysis System with Microfluidic and Sensing Functions. <i>Sensors</i> , 2008, 8, 1111-1127.	3.8	28
42	On-chip culturing of hepatocytes and monitoring their ammoniametabolism. <i>Lab on A Chip</i> , 2009, 9, 35-37.	6.0	28
43	Native and sodium dodecyl sulfate-capillary gel electrophoresis of proteins on a single microchip. <i>Electrophoresis</i> , 2004, 25, 494-501.	2.4	27
44	Programmed Transport and Release of Cells by Self-Propelled Micromotors. <i>Langmuir</i> , 2016, 32, 9381-9388.	3.5	27
45	Microfabricated flow system for ammonia and creatinine with an air-gap structure. <i>Sensors and Actuators B: Chemical</i> , 2004, 98, 101-111.	7.8	25
46	A micro IrO potentiometric sensor for direct determination of organophosphate pesticides. <i>Sensors and Actuators B: Chemical</i> , 2015, 220, 859-863.	7.8	24
47	Electrochemical microsystem with porous matrix packed-beds for enzyme analysis. <i>Sensors and Actuators B: Chemical</i> , 2007, 124, 477-485.	7.8	23
48	Self-Propelled Metal-Polymer Hybrid Micromachines with Bending and Rotational Motions. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 21355-21361.	8.0	23
49	On-chip microfluidic transport and bio/chemical sensing based on electrochemical bubble formation. <i>Sensors and Actuators B: Chemical</i> , 2007, 123, 1153-1160.	7.8	21
50	Photonic Lab-on-a-Chip for Rapid Cytokine Detection. <i>ACS Sensors</i> , 2016, 1, 979-986.	7.8	21
51	Determination of the activities of glutamic oxaloacetic transaminase and glutamic pyruvic transaminase in a microfluidic system. <i>Biosensors and Bioelectronics</i> , 2007, 22, 1330-1336.	10.1	20
52	Electrowetting-based pH- and biomolecule-responsive valves and pH filters. <i>Biosensors and Bioelectronics</i> , 2009, 24, 2171-2176.	10.1	20
53	On-chip diagnosis of subclinical mastitis in cows by electrochemical measurement of neutrophil activity in milk. <i>Lab on A Chip</i> , 2012, 12, 1309.	6.0	20
54	Switchable Hydrophobic Valve for Controlled Microfluidic Processing. <i>ChemPhysChem</i> , 2016, 17, 817-821.	2.1	20

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55	New Type of Glucose Sensor Based on Enzymatic Conversion of Gel Volume into Liquid Column Length. <i>Biomacromolecules</i> , 2004, 5, 486-491.	5.4	19
56	Enhancement of the sensitivity of electrochemical stripping analysis by evaporative concentration using a super-hydrophobic surface. <i>Science and Technology of Advanced Materials</i> , 2005, 6, 671-677.	6.1	19
57	Micromachined sensing module for pO ₂ , pCO ₂ , and pH and its design optimization for practical use. <i>Sensors and Actuators B: Chemical</i> , 2001, 76, 565-572.	7.8	17
58	Dependence of the response of an amperometric biosensor formed in a micro flow channel on structural and conditional parameters. <i>Biosensors and Bioelectronics</i> , 2006, 21, 2224-2231.	10.1	17
59	Continuous Monitoring of Ammonia Removal Activity and Observation of Morphology of Microbial Complexes in a Microdevice. <i>Applied and Environmental Microbiology</i> , 2011, 77, 4253-4255.	3.1	17
60	Sonochemical synthesis of magnetic Fe ₃ O ₄ /graphene nanocomposites for label-free electrochemical biosensors. <i>Journal of Materials Science: Materials in Electronics</i> , 2020, 31, 15381-15393.	2.2	17
61	Performance characterization of recombinant l-glutamate oxidase in a micro GOT/GPT sensing system. <i>Sensors and Actuators B: Chemical</i> , 2006, 119, 570-576.	7.8	16
62	Autonomous Microfluidic Control by Chemically Actuated Micropumps and Its Application to Chemical Analyses. <i>Analytical Chemistry</i> , 2010, 82, 6870-6876.	6.5	16
63	Disposable Clark oxygen electrode using recycled materials and its application. <i>Sensors and Actuators B: Chemical</i> , 1994, 21, 17-22.	7.8	13
64	Design and Validation of a Low-Cost Paper-Based Oxygen Electrode. <i>Analytical Letters</i> , 1997, 30, 1797-1807.	1.8	13
65	Amperometric biosensor-based flow-through microdetector for microdialysis applications. <i>Analytica Chimica Acta</i> , 2004, 525, 75-82.	5.4	13
66	Micro analysis system for pH and protease activities with an integrated sample injection mechanism. <i>Biosensors and Bioelectronics</i> , 2006, 22, 86-93.	10.1	13
67	Electrowetting on gold electrodes with microscopic three-dimensional structures for microfluidic devices. <i>Journal of Applied Physics</i> , 2008, 104, 064910.	2.5	13
68	Microfluidic device coupled with a microfabricated oxygen electrode for the measurement of bactericidal activity of neutrophil-like cells. <i>Analytica Chimica Acta</i> , 2017, 985, 1-6.	5.4	13
69	Electrochemical determination of $\hat{1}^3$ -glutamyl transpeptidase activity and its application to a miniaturized analysis system. <i>Biosensors and Bioelectronics</i> , 2006, 21, 1230-1236.	10.1	11
70	Autonomous microfluidic transport using electrowetting-based valves and integrated cells. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	11
71	Biochip with integrated pumps for plug-based sequential exchange of solutions. <i>Sensors and Actuators B: Chemical</i> , 2009, 140, 649-655.	7.8	11
72	Automatic electrochemical sequential processing in a microsystem for urea detection. <i>Sensors and Actuators B: Chemical</i> , 2010, 144, 146-152.	7.8	11

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73	Separation of DNA in a versatile microchip. <i>Sensors and Actuators B: Chemical</i> , 2005, 107, 975-979.	7.8	10
74	Integrated amino acid sensors for detection of L-glutamate, L-lysine, L-arginine, and L-histidine. <i>Electroanalysis</i> , 1994, 6, 299-304.	2.9	9
75	Enzyme electrode formed by evaporative concentration and its performance characterization. <i>Biosensors and Bioelectronics</i> , 2007, 22, 3154-3160.	10.1	9
76	Microfluidic Separation of Redox Reactions for Coulometry Based on Metallization at the Mixed Potential. <i>Analytical Chemistry</i> , 2016, 88, 9427-9434.	6.5	9
77	Microfluidic device for high-sensitivity coulometric detection of proteins. <i>Sensors and Actuators B: Chemical</i> , 2018, 256, 835-838.	7.8	9
78	Bipolar Electrode Arrays for Chemical Imaging and Multiplexed Sensing. <i>ACS Omega</i> , 2022, 7, 20298-20305.	3.5	9
79	Performance Characteristics of a Urea Microsensor Employing a Micromachined Carbon Dioxide Electrode. <i>Electroanalysis</i> , 2000, 12, 1327-1333.	2.9	8
80	Microdevice with integrated multi-enzyme sensors for the measurement of pork freshness. <i>Sensors and Actuators B: Chemical</i> , 2016, 235, 535-540.	7.8	8
81	The reduced bactericidal activity of neutrophils as an incisive indicator of water-immersion restraint stress and impaired exercise performance in mice. <i>Scientific Reports</i> , 2019, 9, 4562.	3.3	8
82	A simple micropump based on a freeze-dried superabsorbent polymer for multiplex solution processing in disposable devices. <i>Royal Society Open Science</i> , 2019, 6, 182213.	2.4	8
83	Switchable Microvalves Employing a Conducting Polymer and Their Automatic Operation in Conjunction with Micropumps with a Superabsorbent Polymer. <i>ACS Applied Materials & Interfaces</i> , 2020, 12, 37741-37749.	8.0	8
84	Microfluidic ion-responsive channels based on electrowetting. <i>Sensors and Actuators B: Chemical</i> , 2013, 177, 929-935.	7.8	7
85	Silicon nitride directional coupler interferometer for surface sensing. <i>Optical Engineering</i> , 2017, 56, 017101.	1.0	7
86	Microdevice with an Integrated Clark-Type Oxygen Electrode for the Measurement of the Respiratory Activity of Cells. <i>Analytical Chemistry</i> , 2021, 93, 5577-5585.	6.5	7
87	Electrochemical microdevice for on-site determination of ricefreshness. <i>Biosensors and Bioelectronics</i> , 2013, 42, 640-645.	10.1	6
88	Dynamic feedback regulation of the potential of a microfabricated liquid-junction Ag/AgCl reference electrode. <i>Sensors and Actuators B: Chemical</i> , 2011, 156, 228-235.	7.8	5
89	Electrochemical Bubble-Based Bidirectional Microfluidic Transport. <i>ACS Sensors</i> , 2016, 1, 190-196.	7.8	5
90	High Temporal Resolution Monitoring of Fermentations Using an On-Line Amperometric Flow-Through Microdetector. <i>Electroanalysis</i> , 2007, 19, 43-48.	2.9	4

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91	Towards microsystems for automatic acquisition of in vivo gastrointestinal information. Journal of Applied Physics, 2009, 105, 102013.	2.5	4
92	Active Junctions to Improve Sensitivity and Detection Limit of a Microdevice Based on Coulometry Coupled with Silver Metallization. Electroanalysis, 2019, 31, 1630-1634.	2.9	4
93	Control of Interfacial Potentials and Redox Reactions on Bipolar Electrodes Using Ag/AgCl. Electroanalysis, 2021, 33, 2123-2127.	2.9	4
94	Rapid Diagnostic Device for Subclinical Mastitis Based on Electrochemical Detection of Superoxide Produced from Neutrophils in Fresh Milk. IEEJ Transactions on Sensors and Micromachines, 2011, 131, 218-222.	0.1	4
95	Evaporative concentration of a microdroplet for highly sensitive detection of trace heavy metal ions in real samples. IEEJ Transactions on Electrical and Electronic Engineering, 2009, 4, 365-371.	1.4	3
96	Electrochemical microdevice for the determination of the minimum inhibitory concentration of antibiotics. , 2012, , .		3
97	Perforated Bimodal Interferometric Biosensor for Affinity Sensing. Advanced Materials Technologies, 2019, 4, 1800533.	5.8	3
98	Mass-producible disposable needle-type ion-selective electrodes for plant research. RSC Advances, 2019, 9, 30309-30316.	3.6	3
99	Wired Microfabricated Electrochemical Systems. Analytical Chemistry, 2021, 93, 12655-12663.	6.5	3
100	Micromachined glass electrode. Sensors and Actuators B: Chemical, 1994, 20, 27-32.	7.8	2
101	Processing of nanolitre liquid plugs for microfluidic cell-based assays. Science and Technology of Advanced Materials, 2012, 13, 064201.	6.1	2
102	On-chip processing of droplets for surface plasmon resonance analysis. Sensors and Actuators B: Chemical, 2014, 190, 975-981.	7.8	2
103	On-site rapid detection of antibacterial activity of neutrophils using freeze-dried bacteria. Medical Devices & Sensors, 2019, 2, e10030.	2.7	2
104	Microfluidic device with a push-pull sequential solution-exchange function for affinity sensing. Microfluidics and Nanofluidics, 2019, 23, 1.	2.2	2
105	Review of Microfabricated Electrochemical Devices for the Analysis of Cell Functions and Biological Samples. Electronics and Communications in Japan, 2017, 100, 51-58.	0.5	2
106	Detection of Heavy-metal Ions Based on Evaporative Concentration Using a Super-hydrophobic Surface. IEEJ Transactions on Sensors and Micromachines, 2006, 126, 356-357.	0.1	2
107	Electrochemical detection of heavy metal ions using a microfluidic device. Electrochemistry, 2000, 68, 289-293.		
108	Simple manual roller pump-driven valve-free microfluidic solution exchange system for urgent bioassay. RSC Advances, 2022, 12, 2938-2946.	3.6	2

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109	Micro Analysis System for Digestive Enzymes Based on Integrated Automatic pH-Stats. , 2007, , .		1
110	Microfluidic Device for On-Chip Manipulation of Liquid Plugs for Biosensing Applications. , 2007, , .		1
111	Electrochemical microdevices for proteins based on coulometry coupled with silver metallization. , 2017, , .		1
112	Electrochemical Microdevices. , 2013, , 483-494.		1
113	Micro-Analysis System for Glucose with an Electrochemically Actuated Sampling Mechanism. IEEJ Transactions on Sensors and Micromachines, 2004, 124, 148-149.	0.1	1
114	Current Status of Research and Development of Devices Based on Electrowetting. IEEJ Transactions on Sensors and Micromachines, 2011, 131, 316-321.	0.1	1
115	Hybrid plasmon waveguide for highly sensitive biosensing. Optical Engineering, 2020, 59, .	1.0	1
116	Freeze-Dried Matrix as an Alternative to Solution Mixing for Enzyme Analysis in a Micro Flow Channel. , 2006, , .		0
117	Behavior of a Microelectrode with a Concentrated Enzyme-Immobilized Layer. , 2006, , .		0
118	On-Chip pH-Regulator and its Application to Bio/Chemical Sensing. , 2006, , .		0
119	Highly Sophisticated Electrochemical Analysis System with an Integrated Microfluidic System Based on Electrowetting. , 2006, , .		0
120	Microanalysis System Based on Electrochemiluminescence with Automatic Mixing and pH-Regulation Functions. , 2007, , .		0
121	Analysis of Heavy Metal Ions in Real Samples using a Concentrator Device with a Super-Hydrophobic Surface. , 2007, , .		0
122	Electrochemical pH-responsive valve for automatic sampling. , 2008, , .		0
123	Rapid diagnostic device for mastitis based on electrochemical detection of superoxide produced from neutrophils in fresh milk. , 2009, , .		0
124	Automatic processing of solutions for chemical analyses using an electrowetting-based valve and an integrated cell. , 2009, , .		0
125	ã,ã,ªãf³é»æ¥µã®ã¼ ©ã°ãCE-ãªãã®ãfžã,ã,-ãfãf‡ãfã,ã,1ã,ã®ã¿œç”“. Electrochemistry, 2010, 78, 692-697.	1.4	0
126	Multi-point ATP sensing for rapid precise fish freshness check. , 2010, , .		0

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127	Programmed autonomous valve operation based on electrowetting on composite single electrodes. , 2010, , .		0
128	Electrochemical microsystem for continuous monitoring of nitrification activity of microbial complexes. , 2010, , .		0
129	Microfluidic device for freshness or ageing determination of food materials. , 2012, , .		0
130	Electrochemistry, 2012, 180, 424-428.		0
131	Measurement of enzyme activity using a plug-based electrochemical microdevice. , 2012, , .		0
132	Self-deformable micro/nanomotors with organic-inorganic hybrid structures. , 2016, , .		0
133	Microfabricated directional coupler-based biosensor for affinity sensing. , 2017, , .		0
134	Selectively excited bimodal interferometer for highly sensitive refractive index sensing. Optical Engineering, 2021, 60, .	1.0	0
135	Electrochemical Circuits for Autonomous Microfluidic Solution Processing. ECS Meeting Abstracts, 2021, MA2021-01, 1609-1609.	0.0	0
136	Microfluidic Device for Sequential Injection and Flushing of Solutions and its Application to Immunosensing. IEEJ Transactions on Sensors and Micromachines, 2006, 126, 202-203.	0.1	0
137	Electrochemical Microdevices for Point-of-Care Testing. IEEJ Transactions on Sensors and Micromachines, 2012, 132, 371-376.	0.1	0
138	Review of Microdevices for Food Quality Inspection. IEEJ Transactions on Sensors and Micromachines, 2013, 133, 129-134.	0.1	0
139	Microdevices for Point of Care. Journal of the Institute of Electrical Engineers of Japan, 2014, 134, 144-147.	0.0	0
140	Review of Microfabricated Electrochemical Devices for the Analysis of Cell Functions and Biological Samples. IEEJ Transactions on Sensors and Micromachines, 2016, 136, 250-255.	0.1	0
141	Review of Microfluidic Devices for On-Chip Chemical Sensing. IEEJ Transactions on Sensors and Micromachines, 2016, 136, 244-249.	0.1	0
142	Microfluidic Devices Using Electrochemical Micropumps and Microvalves for Autonomous Solution Processing. ECS Meeting Abstracts, 2020, MA2020-02, 3378-3378.	0.0	0
143	Control of Reactions on Bipolar Electrodes Using Ion-Selective Membranes. ECS Meeting Abstracts, 2020, MA2020-02, 3371-3371.	0.0	0
144	Microdevice for the Measurement of Respiratory Activity of Cells. ECS Meeting Abstracts, 2020, MA2020-02, 3394-3394.	0.0	0