Kinji Asaka

List of Publications by Year
in descending order

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		66315	76872
225 papers	6,767 citations	42 h-index	74 g-index
234 all docs	234 docs citations	234 times ranked	3783 citing authors

#	Article	IF	Citations
1	Fully Plastic Actuator through Layer-by-Layer Casting with Ionic-Liquid-Based Bucky Gel. Angewandte Chemie - International Edition, 2005, 44, 2410-2413.	7.2	509
2	Recent advances in ionic polymerâ€“metal composite actuators and their modeling and applications. Progress in Polymer Science, 2013, 38, 1037-1066.	11.8	336
3	Bending of Polyelectrolyte Membraneâ€“Platinum Composites by Electric Stimuli I. Response Characteristics to Various Waveforms. Polymer Journal, 1995, 27, 436-440.	1.3	270
4	Highly Conductive Sheets from Millimeterâ€Long Singleâ€Walled Carbon Nanotubes and Ionic Liquids: Application to Fastâ€Moving, Lowâ€Voltage Electromechanical Actuators Operable in Air. Advanced Materials, 2009, 21, 1582-1585.	11.1	230
5	Bending of polyelectrolyte membrane platinum composites by electric stimuli. Journal of Electroanalytical Chemistry, 2000, 480, 186-198.	1.9	219
6	High performance fully plastic actuator based on ionic-liquid-based bucky gel. Electrochimica Acta, 2008, 53, 5555-5562.	2.6	208
7	Electromechanical behavior of fully plastic actuators based on bucky gel containing various internal ionic liquids. Electrochimica Acta, 2009, 54, 1762-1768.	2.6	175
8	Preparation of Goldâˆ'Solid Polymer Electrolyte Composites As Electric Stimuli-Responsive Materials. Chemistry of Materials, 2000, 12, 1750-1754.	3.2	152
9	Sheet-Type Braille Displays by Integrating Organic Field-Effect Transistors and Polymeric Actuators. IEEE Transactions on Electron Devices, 2007, 54, 202-209.	1.6	149
10	Actuator properties of the complexes composed by carbon nanotube and ionic liquid: The effects of additives. Sensors and Actuators B: Chemical, 2009, 141, 179-186.	4.0	146
11	Morphology of electrodes and bending response of the polymer electrolyte actuator. Electrochimica Acta, 2001, 46, 737-743.	2.6	130
12	A 4 V Operation, Flexible Braille Display Using Organic Transistors, Carbon Nanotube Actuators, and Organic Static Randomâ€Access Memory. Advanced Functional Materials, 2011, 21, 4019-4027.	7.8	128
13	Flexible supercapacitor-like actuator with carbide-derived carbon electrodes. Carbon, 2011, 49, 3113-3119.	5.4	125
14	The effects of counter ions on characterization and performance of a solid polymer electrolyte actuator. Electrochimica Acta, 2001, 46, 1233-1241.	2.6	120
15	Electrostress Diffusion Coupling Model for Polyelectrolyte Gels. Macromolecules, 2005, 38, 1349-1356.	2.2	81
16	Electromechanical behavior of a fully plastic actuator based on dispersed nano-carbon/ionic-liquid-gel electrodes. Carbon, 2009, 47, 1373-1380.	5.4	81
17	Self-Sensing Ionic Polymer Actuators: A Review. Actuators, 2015, 4, 17-38.	1.2	73
18	State of water and ionic conductivity of solid polymer electrolyte membranes in relation to polymer actuators. Journal of Electroanalytical Chemistry, 2001, 505, 24-32.	1.9	72

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19	Electrolytes in porous electrodes: Effects of the pore size and the dielectric constant of the medium. Journal of Chemical Physics, 2010, 132, 144705.	1.2	72
20	A snake-like swimming robot using IPMC actuator/sensor. , 0, , .		70
21	High performance polymer actuator based on carbon nanotube-ionic liquid gel: Effect of ionic liquid. Sensors and Actuators B: Chemical, 2011, 156, 539-545.	4.0	70
22	Development of an artificial muscle linear actuator using ionic polymerâ€"metal composites. Advanced Robotics, 2004, 18, 383-399.	1.1	69
23	Effect of hexafluoropropylene on the performance of poly(vinylidene fluoride) polymer actuators based on single-walled carbon nanotubeâ€"ionic liquid gel. Sensors and Actuators B: Chemical, 2011, 160, 161-167.	4.0	68
24	Development of an Amphibious Turtle-Inspired Spherical Mother Robot. Journal of Bionic Engineering, 2013, 10, 446-455.	2.7	68
25	Improving the actuating response of carbon nanotube/ionic liquid composites by the addition of conductive nanoparticles. Carbon, 2011, 49, 3560-3570.	5.4	67
26	Effect on bending behavior of counter cation species in perfluorinated sulfonate membrane-platinum composite. Polymers for Advanced Technologies, 1998, 9, 520-526.	1.6	65
27	Low Melting and Electrochemically Stable Ionic Liquids Based on Asymmetric Fluorosulfonyl(trifluoromethylsulfonyl)amide. Chemistry Letters, 2008, 37, 1020-1021.	0.7	65
28	Ionic electroactive polymer artificial muscles in space applications. Scientific Reports, 2014, 4, 6913.	1.6	64
29	High-Performance PEDOT:PSS/Single-Walled Carbon Nanotube/Ionic Liquid Actuators Combining Electrostatic Double-Layer and Faradaic Capacitors. Langmuir, 2016, 32, 7210-7218.	1.6	64
30	<title>Polymer electrolyte actuator with gold electrodes</title>. , 1999, , .		60
31	A new type of hybrid fish-like microrobot. International Journal of Automation and Computing, 2006, 3, 358-365.	4.5	60
32	Ionic electroactive polymer actuators based on nano-carbon electrodes. Polymer International, 2013, 62, 1263-1270.	1.6	60
33	Nanothorn electrodes for ionic polymer-metal composite artificial muscles. Scientific Reports, 2014, 4, 6176.	1.6	60
34	Monte Carlo simulation of electrolytes in the constant voltage ensemble. Journal of Chemical Physics, 2007, 126, 214704.	1.2	55
35	Multiphysics of ionic polymerâ€"metal composite actuator. Journal of Applied Physics, 2013, 114, .	1.1	54
36	Monte Carlo Simulation of Porous Electrodes in the Constant Voltage Ensemble. Journal of Physical Chemistry C, 2007, 111, 15903-15909.	1.5	53

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37	A biomimetic underwater microrobot with multifunctional locomotion. Robotics and Autonomous Systems, 2012, 60, 1472-1483.	3.0	53
38	Electromechanical Analysis by Means of Complex Capacitance of Bucky-Gel Actuators Based on Single-Walled Carbon Nanotubes and an Ionic Liquid. Journal of Physical Chemistry C, 2010, 114, 17982-17988.	1.5	52
39	A multi-walled carbon nanotube/polymer actuator that surpasses the performance of a single-walled carbon nanotube/polymer actuator. Carbon, 2012, 50, 311-320.	5.4	52
40	A Novel Soft Biomimetic Microrobot with Two Motion Attitudes. Sensors, 2012, 12, 16732-16758.	2.1	50
41	Development of a Rajiform Swimming Robot using Ionic Polymer Artificial Muscles. , 2006, , .		48
42	Electrochemical Impedance Spectroscopy and Electromechanical Behavior of Bucky-Gel Actuators Containing Ionic Liquids. Journal of Physical Chemistry C, 2010, 114, 14627-14634.	1.5	48
43	Nanoporous carbide-derived carbon based actuators modified with gold foil: Prospect for fast response and low voltage applications. Sensors and Actuators B: Chemical, 2012, 161, 629-634.	4.0	46
44	Highâ€Speed Carbon Nanotube Actuators Based on an Oxidation/Reduction Reaction. Chemistry - A European Journal, 2011, 17, 10965-10971.	1.7	45
45	Phase transition in porous electrodes. Journal of Chemical Physics, 2011, 134, 154710.	1.2	44
46	Capacitive and faradic charge components in high-speed carbon nanotube actuator. Electrochimica Acta, 2012, 60, 177-183.	2.6	42
47	Electrical properties and electromechanical modeling of plasticized PVC gel actuators. Sensors and Actuators B: Chemical, 2018, 273, 1246-1256.	4.0	42
48	Impact of carbon nanotube additives on carbide-derived carbon-based electroactive polymer actuators. Carbon, 2012, 50, 4351-4358.	5.4	38
49	Mediated electron transfer across supported bilayer lipid membrane (s-BLM). Thin Solid Films, 1999, 354, 201-207.	0.8	34
50	Influence of Ambient Humidity on the Voltage Response of Ionic Polymerâ€"Metal Composite Sensor. Journal of Physical Chemistry B, 2016, 120, 3215-3225.	1.2	34
51	Development of a Lobster-Inspired Underwater Microrobot. International Journal of Advanced Robotic Systems, 2013, 10, 44.	1.3	33
52	Comparative experimental investigation on the actuation mechanisms of ionic polymerâ€"metal composites with different backbones and water contents. Journal of Applied Physics, 2014, 115, 124903.	1.1	33
53	Wet spinning of continuous polymer-free carbon-nanotube fibers with high electrical conductivity and strength. Applied Physics Express, 2016, 9, 055101.	1.1	33
54	Superior performance of manganese oxide/multi-walled carbon nanotubes polymer actuator over ruthenium oxide/multi-walled carbon nanotubes and single-walled carbon nanotubes. Sensors and Actuators B: Chemical, 2012, 171-172, 595-601.	4.0	32

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55	Physical interpretation of deformation evolvement with water content of ionic polymer-metal composite actuator. Journal of Applied Physics, 2013, 114, .	1.1	31
56	High performance polymer actuators based on single-walled carbon nanotube gel using ionic liquid with quaternary ammonium or phosphonium cations and with electrochemical window of 6V. Sensors and Actuators B: Chemical, 2014, 193, 851-856.	4.0	31
57	Multi-physical model of cation and water transport in ionic polymer-metal composite sensors. Journal of Applied Physics, 2016, 119, .	1.1	31
58	Solid polymer electrolyte CO2 reduction. Energy Conversion and Management, 1995, 36, 629-632.	4.4	29
59	DEVELOPMENT OF A NEW JELLYFISH-TYPE UNDERWATER MICROROBOT. International Journal of Robotics and Automation, 2011, 26, .	0.1	29
60	Electrochemistry of Carbon Nanotubes: Reactive Processes, Dual Sensingâ€"Actuating Properties and Devices. ChemPhysChem, 2012, 13, 2108-2114.	1.0	27
61	Relationship between Mechanical and Electrical Properties of Continuous Polymer-Free Carbon Nanotube Fibers by Wet-Spinning Method and Nanotube-Length Estimated by Far-Infrared Spectroscopy. Journal of Physical Chemistry C, 2016, 120, 20419-20427.	1.5	27
62	Expansion and contraction of polymer electrodes under applied voltage. Journal of Applied Physics, 2009, 105, .	1.1	26
63	A novel multifunctional underwater microrobot. , 2010, , .		26
64	High performance polymer actuators based on multi-walled carbon nanotubes that surpass the performance of those containing single-walled carbon nanotubes: Effects of ionic liquid and composition. Sensors and Actuators B: Chemical, 2012, 163, 20-28.	4.0	26
65	High-performance graphene oxide/vapor-grown carbon fiber composite polymer actuator. Sensors and Actuators B: Chemical, 2018, 255, 2829-2837.	4.0	26
66	Superior performance of non-activated multi-walled carbon nanotube polymer actuator containing ruthenium oxide over a single-walled carbon nanotube. Carbon, 2012, 50, 1888-1896.	5.4	25
67	Effects of cation on electrical responses of ionic polymer-metal composite sensors at various ambient humidities. Journal of Applied Physics, 2016, 120, .	1.1	25
68	Superior performance of PEDOT:Poly(4-styrenesulfonate)/vapor-grown carbon fibre/ionic liquid actuators exhibiting synergistic effects. Sensors and Actuators B: Chemical, 2017, 248, 273-279.	4.0	25
69	IPMC Monolithic Thin Film Robots Fabricated Through a Multi-Layer Casting Process. IEEE Robotics and Automation Letters, 2019, 4, 1335-1342.	3.3	25
70	Phase transition in porous electrodes. II. Effect of asymmetry in the ion size. Journal of Chemical Physics, 2012, 136, 094701.	1.2	24
71	Mechanical behaviour of bending bucky-gel actuators and its representation. Smart Materials and Structures, 2014, 23, 025031.	1.8	24
72	Nanotube length and density dependences of electrical and mechanical properties of carbon nanotube fibres made by wet spinning. Carbon, 2019, 152, 1-6.	5.4	23

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73	Integrated design of IPMC actuator/sensor. , 0, , .		22
74	Position control of fishing line artificial muscles (coiled polymer actuators) from nylon thread. Proceedings of SPIE, 2016, , .	0.8	22
75	Bending of polyelectrolyte membraneâ€"platinum composite by electric stimuli III: self-oscillation. Electrochimica Acta, 2000, 45, 4517-4523.	2.6	21
76	Developments of two novel types of underwater crawling microrobots. , 0, , .		21
77	A bio-inspired underwater microrobot with compact structure and multifunctional locomotion. , 2011, , .		21
78	Superior performance of a vapor grown carbon fiber polymer actuator containing ruthenium oxide over a single-walled carbon nanotube. Journal of Materials Chemistry, 2012, 22, 15104.	6.7	21
79	High-Performance Hybrid (Electrostatic Double-Layer and Faradaic Capacitor-Based) Polymer Actuators Incorporating Nickel Oxide and Vapor-Grown Carbon Nanofibers. Langmuir, 2014, 30, 14343-14351.	1.6	21
80	IPMC actuator-based an underwater microrobot with 8 legs. , 2008, , .		20
81	Integrated Actuator-Sensor System on Patterned IPMC Film : Consideration of Electoric Interference. , 2007, , .		19
82	Comparative study of bending characteristics of ionic polymer actuators containing ionic liquids for modeling actuation. Journal of Applied Physics, 2011, 109, .	1.1	19
83	Self-standing cellulose nanofiber/poly(3,4-ethylenedioxythiophene):poly(4-styrenesulfonate)/ionic liquid actuators with superior performance. RSC Advances, 2018, 8, 33149-33155.	1.7	19
84	A NOVEL JELLYFISH- AND BUTTERFLY-INSPIRED UNDERWATER MICROROBOT WITH PECTORAL FINS. International Journal of Robotics and Automation, 2012, 27, .	0.1	19
85	Experiments and characteristics analysis of a bio-inspired underwater microrobot. , 2009, , .		18
86	The effects of Li salts on the performance of a polymer actuator based on single-walled carbon nanotube-ionic liquid gel. Polymer, 2010, 51, 3372-3376.	1.8	18
87	Voltage-controlled IPMC actuators for accommodating intra-ocular lens systems. Smart Materials and Structures, 2017, 26, 045021.	1.8	18
88	Sensor Property of a Novel EAP Device with Ionic-liquid-based Bucky Gel. , 2007, , .		17
89	Medium Effects on the Nucleation and Growth Mechanisms during the Redox Switching Dynamics of Conducting Polymers: Case of Poly(3,4-ethylenedioxythiophene). Journal of Physical Chemistry B, 2011, 115, 205-216.	1.2	17
90	Effects of surface roughening on the mass transport and mechanical properties of ionic polymer-metal composite. Journal of Applied Physics, 2014, 115, .	1.1	17

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91	A simple method for obtaining large deformation of IPMC actuators utilizing copper tape. Advanced Robotics, 2014, 28, 513-521.	1.1	17
92	Faradaic and Capacitive Components of the CNT Electrochemical Responses. Frontiers in Materials, 2016, 3, .	1.2	17
93	The effect of ambient humidity on the electrical response of ion-migration-based polymer sensor with various cations. Smart Materials and Structures, 2016, 25, 055024.	1.8	17
94	High-performance polymer actuators based on poly(ethylene oxide) and single-walled carbon nanotubeâ€"ionic liquid-based gels. Sensors and Actuators B: Chemical, 2014, 202, 382-387.	4.0	16
95	High-performance polymer actuators based on an iridium oxide and vapor-grown carbon nanofibers combining electrostatic double-layer and faradaic capacitor mechanisms. Sensors and Actuators B: Chemical, 2017, 240, 536-542.	4.0	16
96	Actuation mechanism of dry-type polymer actuators composed by carbon nanotubes and ionic liquids. Sensors and Actuators B: Chemical, 2018, 273, 955-965.	4.0	16
97	Integrated Design of an Ionic Polymerâ€"Metal Composite Actuator/Sensor. Advanced Robotics, 2008, 22, 913-928.	1.1	15
98	A novel butterfly-inspired underwater microrobot with pectoral fins. , 2011, , .		15
99	Application-oriented simplification of actuation mechanism and physical model for ionic polymer-metal composites. Journal of Applied Physics, 2016, 120, .	1.1	15
100	Electrochemical and Electromechanical Properties of Activated Multi-walled Carbon Nanotube Polymer Actuator that Surpass the Performance of a Single-walled Carbon Nanotube Polymer Actuator. Materials Today: Proceedings, 2016, 3, S178-S183.	0.9	15
101	Effect of surfactants and dispersion methods on properties of single-walled carbon nanotube fibers formed by wet-spinning. Applied Physics Express, 2017, 10, 055101.	1.1	15
102	Controllable and durable ionic electroactive polymer actuator based on nanoporous carbon nanotube film electrode. Smart Materials and Structures, 2019, 28, 085032.	1.8	15
103	Effect of ionic liquids as additives for improving the performance of plasticized PVC gel actuators. Smart Materials and Structures, 2020, 29, 025003.	1.8	15
104	Improved performance of an activated multi-walled carbon nanotube polymer actuator, compared with a single-walled carbon nanotube polymer actuator. Sensors and Actuators B: Chemical, 2012, 173, 66-71.	4.0	14
105	Superior performance hybrid (electrostatic double-layer and faradaic capacitor) polymer actuators incorporating noble metal oxides and carbon black. Sensors and Actuators B: Chemical, 2015, 210, 748-755.	4.0	14
106	Position control of twisted and coiled polymer actuator using a controlled fan for cooling. Proceedings of SPIE, 2017, , .	0.8	14
107	Electric deformation response of anion-exchange membrane/gold composites. Electrochimica Acta, 2003, 48, 3465-3471.	2.6	13
108	Modeling of the electromechanical response of ionic polymer metal composites (IPMC). , 2004, , .		13

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109	Doping effects on robotic systems with ionic polymerâ€“metal composite actuators. Advanced Robotics, 2007, 21, 65-85.	1.1	13
110	Actuator of double layer film composed of carbon nanotubes and polypyrroles. Sensors and Actuators B: Chemical, 2012, 161, 1010-1017.	4.0	13
111	Phase transition in porous electrodes. III. For the case of a two component electrolyte. Journal of Chemical Physics, 2013, 138, 234704.	1.2	13
112	High-performance cellulose nanofibers, single-walled carbon nanotubes and ionic liquid actuators with a poly(vinylidene fluoride-<i>co</i>-hexafluoropropylene)/ionic liquid gel electrolyte layer. RSC Advances, 2019, 9, 8215-8221.	1.7	13
113	Microporous and Mesoporous Carbide-Derived Carbons for Strain Modification of Electromechanical Actuators. Langmuir, 2014, 30, 2583-2587.	1.6	12
114	Performance enhancement of PEDOT:poly(4-styrenesulfonate) actuators by using ethylene glycol. RSC Advances, 2018, 8, 17732-17738.	1.7	12
115	On a distributed parameter model for electrical impedance of ionic polymer. , 2007, 6524, 318.		11
116	Development of an underwater biomimetic microrobot with compact structure and flexible locomotion. Microsystem Technologies, 2007, 13, 883-890.	1.2	11
117	IPMC actuator-sensor based a biomimetic underwater microrobot with 8 Legs. , 2008, , .		11
118	The performance of fast-moving low-voltage electromechanical actuators based on single-walled carbon nanotubes and ionic liquids. Smart Materials and Structures, 2011, 20, 124008.	1.8	11
119	Development of a Venus flytrap-inspired robotic flytrap. , 2012, , .		11
120	Impact of viscoelastic properties on bucky-gel actuator performance. Journal of Intelligent Material Systems and Structures, 2014, 25, 2235-2245.	1.4	11
121	Modeling and experiments of IPMC actuators for the position precision of underwater legged microrobots. , 2012, , .		10
122	Symbolic finite element discretization and model order reduction of a multiphysics model for IPMC sensors. Smart Materials and Structures, 2020, 29, 115037.	1.8	10
123	Experimental investigation of temperature-dependent hysteresis of fishing-line artificial muscle (twisted and coiled polymer fiber) actuator. , 2019, , .		10
124	Measurement and Modeling of Electro-Chemical Properties of Ion Polymer Metal Composite by Complex Impedance Analysis. SICE Journal of Control Measurement and System Integration, 2009, 2, 373-378.	0.4	9
125	Active Microcatheter and Biomedical Soft Devices Based on IPMC Actuators. , 0, , 121-136.		9
126	The effects of alkaline earth metal salts on the performance of a polymer actuator based on single-walled carbon nanotube-ionic liquid gel. Sensors and Actuators B: Chemical, 2010, 150, 625-630.	4.0	9

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127	A novel jellyfish-like biomimetic microrobot. , 2010, , .		9
128	CNT/conductive polymer composites for low-voltage driven EAP actuators. Proceedings of SPIE, 2012, , .	0.8	9
129	Voltage induced pressure in porous electrodes. Molecular Physics, 2013, 111, 297-308.	0.8	9
130	Voltage-controlled accommodating IOL system using an ion polymer metal composite actuator. Optics Express, 2016, 24, 23280.	1.7	9
131	Ionic and viscoelastic mechanisms of a bucky-gel actuator. Journal of Applied Physics, 2015, 118, 014502.	1.1	8
132	Elliptical-like cross-section ionic polymer-metal composite actuator for catheter surgery. Sensors and Actuators A: Physical, 2017, 267, 235-241.	2.0	8
133	Development of human-friendly polymeric actuators based on nano-carbon electrodes. Synthesiology, 2016, 9, 117-123.	0.2	8
134	Characteristics Analysis of a Biomimetic Underwater Walking Microrobot. , 2006, , .		7
135	A Tripodic Biomimetic Underwater Microrobots Utilizing ICPF Actuators. , 2006, , .		7
136	Formation of Patterned Electrode in Ionic Polymer-Metal Composite using Dry Film Photoresist. IEEJ Transactions on Electrical and Electronic Engineering, 2008, 3, 452-454.	0.8	7
137	Robust PID force control of IPMC actuators. , 2010, , .		7
138	Development and experiments of a novel multifunctional underwater microrobot. , 2010, , .		7
139	IPMC actuator-based a movable robotic venus flytrap. , 2013, , .		7
140	Electroactive Shape-Fixing of Bucky-Gel Actuators. IEEE/ASME Transactions on Mechatronics, 2015, 20, 1108-1116.	3.7	7
141	Soft Polymer-Electrolyte-Fuel-Cell Tube Realizing Air-Hose-Free Thin McKibben Muscles. , 2019, , .		7
142	High-performance ionic and non-ionic fluoropolymer/ionic liquid (with quaternary cation and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 147 Materials Today: Proceedings, 2020, 20, 265-272.	0.9	7
143	Bending response of an artificial muscle in high-pressure water environments. , 2005, , .		6
144	Reduction of the stress-relaxation of IPMC actuators by a fluctuating input and with a cooperative control. Proceedings of SPIE, 2012, , .	0.8	6

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145	Electrochemical and electromechanical properties of high performance polymer actuators using multi-walled carbon nanotubes containing ruthenium oxide. Sensors and Actuators B: Chemical, 2012, 174, 217-224.	4.0	6
146	Frequency response characteristics of IPMC sensors with current/voltage measurements. Proceedings of SPIE, 2008, , .	0.8	5
147	Frequency response of anisotropic ionic polymer metal composites (IPMC) transducers. Proceedings of SPIE, 2008, , .	0.8	5
148	A micropipette system based on low driving voltage carbon nanotube actuator. Microsystem Technologies, 2017, 23, 2657-2661.	1.2	5
149	Actuation and blocking force of carbon nanotube/polymer actuator with platelet-shaped graphene. Japanese Journal of Applied Physics, 2020, 59, SDDF08.	0.8	5
150	Limited-angle motor using ionic polymer-metal composite. , 2005, 5759, 487.		4
151	Solid polymer electrolyte membrane flow sensor for tracheal tube. , 2006, , .		4
152	Fast fully plastic actuator based on ionic-liquid-based bucky gel. Proceedings of SPIE, 2008, , .	0.8	4
153	State space modeling of ionic polymer-metal composite actuators based on electrostress diffusion coupling theory. , 2008, , .		4
154	One Actuator and Several Sensors in One Device with only Two Connecting Wires: Mimicking Muscle/Brain Feedback. Advances in Science and Technology, 2012, 79, 16-25.	0.2	4
155	Fast-moving bimorph actuator based on electrochemically treated millimeter-long carbon nanotube electrodes and ionic liquid gel. International Journal of Smart and Nano Materials, 2012, 3, 263-274.	2.0	4
156	Thermodynamics in Porous Electrodes: A Monte Carlo Simulation Study. ECS Transactions, 2013, 50, 223-233.	0.3	4
157	Actuation and blocking force of stacked nanocarbon polymer actuators. International Journal of Smart and Nano Materials, 2018, 9, 184-198.	2.0	4
158	The Development of a Hybrid Type of Underwater Micro Biped Robot. , 2006, , .		3
159	The effects of alkaline and alkaline earth metal salts on the performance of a polymer actuator based on single-wal led carbon nanotube-ionic liquid gel. Physics Procedia, 2011, 14, 73-86.	1.2	3
160	Microfabrication of ionic polymer actuators by selective plasma irradiation. IEEJ Transactions on Electrical and Electronic Engineering, 2014, 9, 572-574.	0.8	3
161	Electrochemical and electromechanical properties of superior-performance hybrid polymer actuators exhibiting synergistic effects due to manganese oxide and multi-walled carbon nanotubes on various ionic liquids. RSC Advances, 2016, 6, 66360-66367.	1.7	3
162	Strainâ€“capacitance relationship in polymer actuators based on single-walled carbon nanotubes and ionic liquid gels. Faraday Discussions, 2017, 199, 405-422.	1.6	3

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163	245 mm length IPMC catheter with an ellipse-like cross-section. Smart Materials and Structures, 2019, 28, 095028.	1.8	3
164	Modeling and characterization for straight twisted polymer fiber actuators in blocked torsion: effect of radial thermal expansion. Smart Materials and Structures, 2021, 30, 065023.	1.8	3
165	Polymer Actuators. Journal of the Robotics Society of Japan, 2003, 21, 708-712.	0.0	3
166	Development and Analysis an Underwater Boomimetic Microrobot. , 2006, , .		2
167	A Prototype of Underwater Microrobot System with An Artificial Swim Bladder. , 2006, , .		2
168	A Snake-like Swimming Robot with an Artificial Muscle. Transactions of the Society of Instrument and Control Engineers, 2006, 42, 80-89.	0.1	2
169	Experimental verifications on control and sensing of bucky gel actuator/sensor. , 2007, , .		2
170	Cytotoxicity test and mass spectrometry of IPMC. Electronics and Communications in Japan, 2010, 93, 1-8.	0.3	2
171	Modeling and position control of IPMC actuators for the underwater biomimetic microrobot. , 2012, , .		2
172	Electrochemical impedance spectroscopy of the bucky-gel actuators and their electromechanical modeling. , 2012, , .		2
173	Electrochemistry of electromechanical actuators based on carbon nanotubes and ionic liquids. , 2013, , .		2
174	Thermodynamics of nano-porous carbon materials as adsorbents and electrochemical double-layer capacitor electrodes. Tanso, 2014, 2014, 67-75.	0.1	2
175	Electromechanical performance of ionic polymer-metal composite under electrode constraint. Journal of Reinforced Plastics and Composites, 2015, 34, 1136-1143.	1.6	2
176	Measuring blocking force to interpret ionic mechanisms within bucky-gel actuators. Proceedings of SPIE, 2015, , .	0.8	2
177	Evaluating curvature and making picture-overlaid trajectory of motion of largely bent carbon nanotube composite bucky gel actuator using camera measurement system. Sensors and Actuators A: Physical, 2015, 235, 28-36.	2.0	2
178	IPMCs as EAPs: Fundamentals. , 2016, , 131-150.		2
179	IPMCs as EAPs: Applications. , 2016, , 191-214.		2
180	Study on simplification of a multi-physical model of IPMC sensor generating voltage as sensing signal. Proceedings of SPIE, 2017, , .	0.8	2

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181	Mechanism of Electroactive Polymer Actuator. , 2010, , 303-313.		2
182	Modeling and Control of Fishing-Line/Sewing-Thread Artificial Muscles (Twisted and Coiled Polymer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5		2
183	Simultaneous 3D Forming and Patterning Method of Realizing Soft IPMC Robots. , 2020, , .		2
184	Sensor-actuator coupled device for active tracheal tube using solid polymer electrolyte membrane. , 2007, , .		1
185	Control of Combined IPMC Actuator with 2 Variously Doped Films : Experimental Evaluation. Control Applications (CCA), Proceedings of the IEEE International Conference on, 2007, , .	0.0	1
186	Electromechanical characteristics of actuators based on carbide-derived carbon. Proceedings of SPIE, 2010, , .	0.8	1
187	Development of a novel underwater microrobot with proximity sensors. , 2011, , .		1
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