Cedric Plesse

List of Publications by Year
in descending order

91 papers	2,959 citations	117571 34 h-index	175177 52 g-index
93 all docs	93 docs citations	93 times ranked	2998 citing authors

#	Article	IF	Citations
1	Versatile methods for improving the mechanical properties of fullerene and non-fullerene bulk heterojunction layers to enable stretchable organic solar cells. Journal of Materials Chemistry C, 2022, 10, 3375-3386.	2.7	10
2	Piezoionic mechanoreceptors: Force-induced current generation in hydrogels. Science, 2022, 376, 502-507.	6.0	128
3	Ionofibers: Ionically Conductive Textile Fibers for Conformal iâ€Textiles. Advanced Materials Technologies, 2022, 7, .	3.0	6
4	Photopolymerizable Ionogel with Healable Properties Based on Dioxaborolane Vitrimer Chemistry. Gels, 2022, 8, 381.	2.1	5
5	Toward an Electroactive Polymer-Based Soft Microgripper. IEEE Access, 2021, 9, 32188-32195.	2.6	6
6	Electro-interpenetration as tool for high strain trilayer conducting polymer actuator. Smart Materials and Structures, 2021, 30, 025041.	1.8	7
7	Asymmetric PEDOT:PSS Trilayers as Actuating and Sensing Linear Artificial Muscles. Advanced Materials Technologies, 2021, 6, 2001063.	3.0	12
8	Pushing the Limits of Flexibility and Stretchability of Solar Cells: A Review. Advanced Materials, 2021, 33, e2101469.	11.1	51
9	Piezoionic sensors based on formulated PEDOT:PSS and Aquivion^{Â®} for ionic polymerâ€"polymer composites. Smart Materials and Structures, 2021, 30, 105027.	1.8	4
10	Ionic liquid-based semi-interpenetrating polymer network (sIPN) membranes for CO2 separation. Separation and Purification Technology, 2021, 274, 118437.	3.9	11
11	Dynamic crosslinked rubbers for a green future: A material perspective. Materials Science and Engineering Reports, 2020, 141, 100561.	14.8	90
12	Printed PEDOT:PSS Trilayer: Mechanism Evaluation and Application in Energy Storage. Materials, 2020, 13, 491.	1.3	4
13	Stretchable and Transparent Conductive PEDOT:PSSâ€Based Electrodes for Organic Photovoltaics and Strain Sensors Applications. Advanced Functional Materials, 2020, 30, 2001251.	7.8	88
14	PEDOT:PSS-based micromuscles and microsensors fully integrated in flexible chips. Smart Materials and Structures, 2020, 29, 09LT01.	1.8	4
15	Linear Artificial Muscle Based on Ionic Electroactive Polymer: A Rational Design for Openâ€Air and Vacuum Actuation. Advanced Materials Technologies, 2019, 4, 1800519.	3.0	22
16	Impermeable and Compliant: SIBS as a Promising Encapsulant for Ionically Electroactive Devices. Robotics, 2019, 8, 60.	2.1	9
17	Study of the piezoionic effect and influence of electrolyte in conducting polymer based soft strain sensors. Multifunctional Materials, 2019, 2, 045002.	2.4	21
18	Transparent stretchable capacitive touch sensor grid using ionic liquid electrodes. Extreme Mechanics Letters, 2019, 33, 100574.	2.0	11

#	ARTICLE	IF	CITATIONS
19	Electromechanical Model of a Conducting Polymer Transducer, Application to a Soft Gripper. IEEE Access, 2019, 7, 155209-155218.	2.6	3
20	Tailorable, 3D structured and micro-patternable ionogels for flexible and stretchable electrochemical devices. Journal of Materials Chemistry C, 2019, 7, 256-266.	2.7	26
21	Evaluating performance of wet unencapsulated PEDOT trilayer actuators operating in air and water. Multifunctional Materials, 2019, 2, 014003.	2.4	2
22	Poly(3,4â€ethylenedioxythiophene):Poly(styrene sulfonate)/Polyethylene Oxide Electrodes with Improved Electrical and Electrochemical Properties for Soft Microactuators and Microsensors. Advanced Electronic Materials, 2019, 5, 1800948.	2.6	39
23	Conducting and Stretchable PEDOT:PSS Electrodes: Role of Additives on Self-Assembly, Morphology, and Transport. ACS Applied Materials & Interfaces, 2019, 11, 17570-17582.	4.0	72
24	Ultrathin electrochemically driven conducting polymer actuators: fabrication and electrochemomechanical characterization. Electrochimica Acta, 2018, 265, 670-680.	2.6	23
25	Stretchable composite monolayer electrodes for low voltage dielectric elastomer actuators. Sensors and Actuators B: Chemical, 2018, 261, 135-143.	4.0	64
26	Conducting interpenetrating polymer network to sense and actuate: Measurements and modeling. Sensors and Actuators A: Physical, 2018, 272, 325-333.	2.0	4
27	Interpenetrating polymer network (IPN) as tool for tuning electromechanical properties of electrochemical actuator operating in open-air. Sensors and Actuators B: Chemical, 2018, 256, 294-303.	4.0	8
28	Conducting electrospun fibres with polyanionic grafts as highly selective, label-free, electrochemical biosensor with a low detection limit for non-Hodgkin lymphoma gene. Biosensors and Bioelectronics, 2018, 100, 549-555.	5.3	38
29	Thin ink-jet printed trilayer actuators composed of PEDOT:PSS on interpenetrating polymer networks. Sensors and Actuators B: Chemical, 2018, 258, 1072-1079.	4.0	40
30	Investigations of ionic liquids on the infrared electroreflective properties of poly(3,4-ethylenedioxythiophene). Solar Energy Materials and Solar Cells, 2018, 177, 23-31.	3.0	17
31	Nonlinear dynamic modeling of ultrathin conducting polymer actuators including inertial effects. Smart Materials and Structures, 2018, 27, 115032.	1.8	10
32	Highly Conductive, Photolithographically Patternable Ionogels for Flexible and Stretchable Electrochemical Devices. ACS Applied Materials & Interfaces, 2018, 10, 21601-21611.	4.0	45
33	Synthesis of novel families of conductive cationic poly(ionic liquid)s and their application in all-polymer flexible pseudo-supercapacitors. Electrochimica Acta, 2018, 281, 777-788.	2.6	26
34	All-solid state ionic actuators based on polymeric ionic liquids and electronic conducting polymers. , 2018, , .		2
35	Toward electroactive catheter design using conducting interpenetrating polymer networks actuators. , 2018, , .		0
36	Nonlinear Two-Dimensional Transmission Line Models for Electrochemically Driven Conducting Polymer Actuators. IEEE/ASME Transactions on Mechatronics, 2017, 22, 705-716.	3.7	6

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37	Microfabricated PEDOT trilayer actuators: synthesis, characterization, and modeling. , 2017, , .		4
38	A versatile conducting interpenetrating polymer network for sensing and actuation. , 2017, , .		3
39	Ion Transport in Polymer Composites with Non-Uniform Distributions of Electronic Conductors. Electrochimica Acta, 2017, 247, 149-162.	2.6	8
40	Self-contained tubular bending actuator driven by conducting polymers. Sensors and Actuators A: Physical, 2016, 249, 45-56.	2.0	29
41	Conducting Polymers as EAPs: How to Start Experimenting with Them. , 2016, , 413-436.		1
42	Conducting Polymers as EAPs: How to Start Experimenting with Them. , 2016, , 1-25.		0
43	Characterization and dynamic charge dependent modeling of conducting polymer trilayer bending. Smart Materials and Structures, 2016, 25, 115044.	1.8	10
44	Behavior of ionic conducting IPN actuators in simulated space conditions. Proceedings of SPIE, 2016, , .	0.8	0
45	Synergetic PEDOT degradation during a reactive ion etching process. Sensors and Actuators B: Chemical, 2016, 229, 635-645.	4.0	8
46	Top-down Approach for the Direct Synthesis, Patterning, and Operation of Artificial Micromuscles on Flexible Substrates. ACS Applied Materials & Interfaces, 2016, 8, 1559-1564.	4.0	41
47	Graphitic carbon nitride nanosheet electrode-based high-performance ionic actuator. Nature Communications, 2015, 6, 7258.	5.8	211
48	High speed electromechanical response of ionic microactuators. Proceedings of SPIE, 2015, , .	0.8	2
49	Smarter Actuator Design with Complementary and Synergetic Functions. Advanced Materials, 2015, 27, 4418-4422.	11.1	44
50	Stacking trilayers to increase force generation. , 2015, , .		1
51	Electrospun rubber fibre mats with electrochemically controllable pore sizes. Journal of Materials Chemistry B, 2015, 3, 4249-4258.	2.9	29
52	Polypyrrole Derivatives in the Design of Electrochemically Driven Actuators. Mini-Reviews in Organic Chemistry, 2015, 12, 414-423.	0.6	2
53	Conducting IPNs and Ionic Liquids: Applications to Electroactive Polymer Devices. , 2015, , 297-321.		1
54	Solid state dye-sensitized solar cells based on polymeric ionic liquid with free imidazolium cation. Electronic Materials Letters, 2014, 10, 209-212.	1.0	8

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55	Electro-active Interpenetrating Polymer Networks actuators and strain sensors: Fabrication, position control and sensing properties. Sensors and Actuators B: Chemical, 2014, 193, 82-88.	4.0	52
56	Demonstrating kHz Frequency Actuation for Conducting Polymer Microactuators. Advanced Functional Materials, 2014, 24, 4851-4859.	7.8	96
57	Patterning innovative conducting interpenetrating polymer network by dry etching. , 2014, , .		2
58	A first truly all-solid state organic electrochromic device based on polymeric ionic liquids. Chemical Communications, 2014, 50, 3191-3193.	2.2	68
59	Truly solid state electrochromic devices constructed from polymeric ionic liquids as solid electrolytes and electrodes formulated by vapor phase polymerization of 3,4-ethylenedioxythiophene. Polymer, 2014, 55, 3385-3396.	1.8	57
60	Ionic electroactive polymer artificial muscles in space applications. Scientific Reports, 2014, 4, 6913.	1.6	64
61	Influence of the poly(ethylene oxide)/polybutadiene IPN morphology on the ionic conductivity of ionic liquid. European Polymer Journal, 2013, 49, 2670-2679.	2.6	11
62	Robust solid polymer electrolyte for conducting IPN actuators. Smart Materials and Structures, 2013, 22, 104005.	1.8	79
63	In search of better electroactive polymer actuator materials: PPy versus PEDOT versus PEDOTâ€“PPy composites. Smart Materials and Structures, 2013, 22, 104006.	1.8	76
64	Patterning process and actuation in open air of micro-beam actuator based on conducting IPNs. Proceedings of SPIE, 2012, , .	0.8	4
65	Processable Star-Shaped Molecules with Triphenylamine Core as Hole-Transporting Materials: Experimental and Theoretical Approach. Journal of Physical Chemistry C, 2012, 116, 3765-3772.	1.5	95
66	Micro-beam actuator based on conducting interpenetrating polymer networks: From patterning process to actuation in open air. , 2011, , .		0
67	Conducting interpenetrating polymer network sized to fabricate microactuators. Applied Physics Letters, 2011, 98, .	1.5	60
68	Flexible Solid Polymer Electrolytes Based on Nitrile Butadiene Rubber/Poly(ethylene oxide) Interpenetrating Polymer Networks Containing Either LiTFSI or EMITFSI. Macromolecules, 2011, 44, 9683-9691.	2.2	88
69	Actuation and Sensing properties of Electroactive Polymer Whiskers. Procedia Computer Science, 2011, 7, S4-S7.	1.2	11
70	Facile route to prepare film of poly(3,4-ethylene dioxythiophene)-TiO2 nanohybrid for solar cell application. Thin Solid Films, 2011, 519, 1876-1881.	0.8	19
71	Conducting IPN actuators for biomimetic vision system. Proceedings of SPIE, 2011, , .	0.8	6
72	Polyethylene oxideâ€“polytetrahydrofuraneâ€“PEDOT conducting interpenetrating polymer networks for high speed actuators. Smart Materials and Structures, 2011, 20, 124002.	1.8	36

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73	New star-shaped molecules derived from thieno[3,2-b]thiophene unit and triphenylamine. Tetrahedron Letters, 2010, 51, 6673-6676.	0.7	26
74	Poly(3,4â€ethylenedioxythiophene)â€containing semiâ€interpenetrating polymer networks: a versatile concept for the design of optical or mechanical electroactive devices. Polymer International, 2010, 59, 313-320.	1.6	38
75	Conducting polymer artificial muscle fibres: toward an open air linear actuation. Chemical Communications, 2010, 46, 2910.	2.2	50
76	Poly(ethylene oxide)/polybutadiene based IPNs synthesis and characterization. Polymer, 2007, 48, 696-703.	1.8	50
77	Polybutadiene/poly(ethylene oxide) based IPNs, Part II: Mechanical modelling and LiClO4 loading as tools for IPN morphology investigation. Polymer, 2007, 48, 7476-7483.	1.8	21
78	Conducting IPN actuators: From polymer chemistry to actuator with linear actuation. Synthetic Metals, 2006, 156, 1299-1304.	2.1	62
79	Long-Life Air Working Semi-IPN/Ionic Liquid: New Precursor of Artificial Muscles. Molecular Crystals and Liquid Crystals, 2006, 448, 95/[697]-102/[704].	0.4	15
80	Synthesis and characterization of conducting interpenetrating polymer networks for new actuators. Polymer, 2005, 46, 7771-7778.	1.8	84
81	Relaxation kinetics of poly(3,4-ethylenedioxythiophene) in 1-ethyl-3-methylimidazolium bis((trifluoromethyl)sulfonyl)amide ionic liquid during potential step experiments. Electrochimica Acta, 2005, 50, 1515-1522.	2.6	46
82	Charging/discharging kinetics of poly(3,4-ethylenedioxythiophene) in 1-ethyl-3-methylimidazolium bis-(trifluoromethylsulfonyl)imide ionic liquid under galvanostatic conditions. Electrochimica Acta, 2005, 50, 4222-4229.	2.6	35
83	Ions transfer mechanisms during the electrochemical oxidation of poly(3,4-ethylenedioxythiophene) in 1-ethyl-3-methylimidazolium bis((trifluoromethyl)sulfonyl)amide ionic liquid. Electrochemistry Communications, 2004, 6, 299-305.	2.3	72
84	Spontaneous styrene sulfonate polymerization in Langmuir films: evidence for an anionic mechanism. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2004, 244, 121-130.	2.3	5
85	Long-life air working conducting semi-IPN/ionic liquid based actuator. Synthetic Metals, 2004, 142, 287-291.	2.1	154
86	Actuator based on poly(3,4-ethylenedioxythiophene)/PEO/elastomer IPNs. , 2004, , .		4
87	Feasibility of conducting semi-interpenetrating networks based on a poly(ethylene oxide) network and poly(3,4-ethylenedioxythiophene) in actuator design. Journal of Applied Polymer Science, 2003, 90, 3569-3577.	1.3	61
88	Electrochemical behaviour of poly(3,4-ethylenedioxythiophene) in a room-temperature ionic liquid. Electrochemistry Communications, 2003, 5, 613-617.	2.3	75
89	Synthesis and Characterization of IPNs for Electrochemical Actuators. Advances in Science and Technology, 0, , .	0.2	9
90	Conducting IPN Fibers: A New Design for Linear Actuation in Open Air. Advances in Science and Technology, 0, , .	0.2	6

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91	PEDOT Based Conducting IPN Actuators: Effects of Electrolyte on Actuation. Advances in Science and Technology, 0, , .	0.2	5