FrÃ©dÃ©ric Vidal

List of Publications by Year
in descending order

141 papers	3,658 citations	101384 36 h-index	161609 54 g-index
141 all docs	141 docs citations	141 times ranked	3533 citing authors

#	Article	IF	Citations
1	Active Thermal Control of Satellites with Electroactive Materials. , 2022, , 221-254.		1
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	Tailoring Electromechanical Properties of Natural Rubber Vitrimers by Cross-Linkers. Industrial & Engineering Chemistry Research, 2022, 61, 8871-8880.	1.8	5
5	Photopolymerizable Ionogel with Healable Properties Based on Dioxaborolane Vitrimer Chemistry. Gels, 2022, 8, 381.	2.1	5
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	Fabrication of bicontinuous double networks as thermal and pH stimuli responsive drug carriers for on-demand release. Materials Science and Engineering C, 2020, 109, 110495.	3.8	7
9	Printed PEDOT:PSS Trilayer: Mechanism Evaluation and Application in Energy Storage. Materials, 2020, 13, 491.	1.3	4
10	PEDOT:PSS-based micromuscles and microsensors fully integrated in flexible chips. Smart Materials and Structures, 2020, 29, 09LT01.	1.8	4
11	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
12	Thermal regulation of satellites using adaptive polymeric materials. Solar Energy Materials and Solar Cells, 2019, 200, 110035.	3.0	13
13	Impermeable and Compliant: SIBS as a Promising Encapsulant for Ionically Electroactive Devices. Robotics, 2019, 8, 60.	2.1	9
14	Study of the piezoionic effect and influence of electrolyte in conducting polymer based soft strain sensors. Multifunctional Materials, 2019, 2, 045002.	2.4	21
15	Transparent stretchable capacitive touch sensor grid using ionic liquid electrodes. Extreme Mechanics Letters, 2019, 33, 100574.	2.0	11
16	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
17	Evaluating performance of wet unencapsulated PEDOT trilayer actuators operating in air and water. Multifunctional Materials, 2019, 2, 014003.	2.4	2
18	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

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19	Ultrathin electrochemically driven conducting polymer actuators: fabrication and electrochemomechanical characterization. Electrochimica Acta, 2018, 265, 670-680.	2.6	23
20	Lithium-based oligomer ionic liquid for solvent-free conducting materials. Polymer, 2018, 142, 337-347.	1.8	7
21	Stretchable composite monolayer electrodes for low voltage dielectric elastomer actuators. Sensors and Actuators B: Chemical, 2018, 261, 135-143.	4.0	64
22	Conducting interpenetrating polymer network to sense and actuate: Measurements and modeling. Sensors and Actuators A: Physical, 2018, 272, 325-333.	2.0	4
23	Elaboration of bio-epoxy/benzoxazine interpenetrating polymer networks: a composition-to-morphology mapping. Polymer Chemistry, 2018, 9, 472-481.	1.9	18
24	Self-standing gel polymer electrolyte for improving supercapacitor thermal and electrochemical stability. Journal of Power Sources, 2018, 391, 86-93.	4.0	27
25	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
26	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
27	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
28	Nonlinear dynamic modeling of ultrathin conducting polymer actuators including inertial effects. Smart Materials and Structures, 2018, 27, 115032.	1.8	10
29	Highly Conductive, Photolithographically Patternable Ionogels for Flexible and Stretchable Electrochemical Devices. ACS Applied Materials & Interfaces, 2018, 10, 21601-21611.	4.0	45
30	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
31	Polymeric ionic liquid based interpenetrating polymer network for all-solid self-standing polyelectrolyte material. European Polymer Journal, 2018, 106, 257-265.	2.6	8
32	All-solid state ionic actuators based on polymeric ionic liquids and electronic conducting polymers. , 2018, , .		2
33	Toward electroactive catheter design using conducting interpenetrating polymer networks actuators. , 2018, , .		0
34	Nonlinear Two-Dimensional Transmission Line Models for Electrochemically Driven Conducting Polymer Actuators. IEEE/ASME Transactions on Mechatronics, 2017, 22, 705-716.	3.7	6
35	Symmetric Versus Asymmetric di-Bz Monomer Design. , 2017, , 89-107.		7
36	Understanding the colorimetric properties of quinoxaline-based pi-conjugated copolymers by tuning their acceptor strength: a joint theoretical and experimental approach. RSC Advances, 2017, 7, 22311-22319.	1.7	4

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37	Microfabricated PEDOT trilayer actuators: synthesis, characterization, and modeling. , 2017, , .		4
38	Electrochemical characterisations and ageing of ionic liquid/Î³-butyrolactone mixtures as electrolytes for supercapacitor applications over a wide temperature range. Journal of Power Sources, 2017, 359, 242-249.	4.0	39
39	Nanostructured Thermal Responsive Materials Synthesized by Soft Templating. ACS Applied Materials & Interfaces, 2017, 9, 12706-12718.	4.0	9
40	Linear finite-difference bond graph model of an ionic polymer actuator. Smart Materials and Structures, 2017, 26, 095055.	1.8	6
41	Ion Transport in Polymer Composites with Non-Uniform Distributions of Electronic Conductors. Electrochimica Acta, 2017, 247, 149-162.	2.6	8
42	Probing the effect of anion structure on the physical properties of cationic 1,2,3â€triazoliumâ€based poly(ionic liquid)s. Journal of Polymer Science Part A, 2016, 54, 2191-2199.	2.5	21
43	An embedded system to control conducting interpenetrating polymer networks actuators. , 2016, , .		1
44	Nanostructure Changes upon Polymerization of Aqueous and Organic Phases in Organized Mixtures. Langmuir, 2016, 32, 10104-10112.	1.6	6
45	Self-contained tubular bending actuator driven by conducting polymers. Sensors and Actuators A: Physical, 2016, 249, 45-56.	2.0	29
46	Conducting Polymers as EAPs: How to Start Experimenting with Them. , 2016, , 413-436.		1
47	Conducting Polymers as EAPs: How to Start Experimenting with Them. , 2016, , 1-25.		0
48	Characterization and dynamic charge dependent modeling of conducting polymer trilayer bending. Smart Materials and Structures, 2016, 25, 115044.	1.8	10
49	Behavior of ionic conducting IPN actuators in simulated space conditions. Proceedings of SPIE, 2016, , .	0.8	0
50	Synergetic PEDOT degradation during a reactive ion etching process. Sensors and Actuators B: Chemical, 2016, 229, 635-645.	4.0	8
51	Breaking the symmetry of dibenzoxazines: a paradigm to tailor the design of bio-based thermosets. Green Chemistry, 2016, 18, 3346-3353.	4.6	94
52	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
53	Graphitic carbon nitride nanosheet electrode-based high-performance ionic actuator. Nature Communications, 2015, 6, 7258.	5.8	211
54	High speed electromechanical response of ionic microactuators. Proceedings of SPIE, 2015, , .	0.8	2

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55	Ionic liquids and Î³-butyrolactone mixtures as electrolytes for supercapacitors operating over extended temperature ranges. RSC Advances, 2015, 5, 13095-13101.	1.7	50
56	Ionic semi-interpenetrating networks as a new approach for highly conductive and stretchable polymer materials. Journal of Materials Chemistry A, 2015, 3, 2188-2198.	5.2	47
57	Conducting interpenetrating polymer networks actuators for biomimetic vision system. , 2015, , 163-179.		0
58	A comprehensive study of infrared reflectivity of poly(3,4-ethylenedioxythiophene) model layers with different morphologies and conductivities. Solar Energy Materials and Solar Cells, 2015, 143, 141-151.	3.0	34
59	Smarter Actuator Design with Complementary and Synergetic Functions. Advanced Materials, 2015, 27, 4418-4422.	11.1	44
60	Stacking trilayers to increase force generation. , 2015, , .		1
61	Electrospun rubber fibre mats with electrochemically controllable pore sizes. Journal of Materials Chemistry B, 2015, 3, 4249-4258.	2.9	29
62	Conducting IPNs and Ionic Liquids: Applications to Electroactive Polymer Devices. , 2015, , 297-321.		1
63	Conducting IPN actuator/sensor for biomimetic vibrissa system. Proceedings of SPIE, 2014, , .	0.8	2
64	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
65	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
66	Soft and flexible Interpenetrating Polymer Networks hosting electroreflective poly(3,4-ethylenedioxythiophene). Solar Energy Materials and Solar Cells, 2014, 127, 33-42.	3.0	17
67	Demonstrating kHz Frequency Actuation for Conducting Polymer Microactuators. Advanced Functional Materials, 2014, 24, 4851-4859.	7.8	96
68	Patterning innovative conducting interpenetrating polymer network by dry etching. , 2014, , .		2
69	Solid-state electrolytes based on ionic network polymers. Polymer Science - Series B, 2014, 56, 164-177.	0.3	22
70	A first truly all-solid state organic electrochromic device based on polymeric ionic liquids. Chemical Communications, 2014, 50, 3191-3193.	2.2	68
71	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
72	Ionic electroactive polymer artificial muscles in space applications. Scientific Reports, 2014, 4, 6913.	1.6	64

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73	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
74	Microemulsion as the template for synthesis of interpenetrating polymer networks with predefined structure. Polymer, 2013, 54, 4436-4445.	1.8	9
75	Self-standing single lithium ion conductor polymer network with pendant trifluoromethanesulfonylimide groups: Li+ diffusion coefficients from PFGSTE NMR. European Polymer Journal, 2013, 49, 4108-4117.	2.6	39
76	Synthesis and properties of polymeric analogs of ionic liquids. Polymer Science - Series B, 2013, 55, 122-138.	0.3	46
77	Robust solid polymer electrolyte for conducting IPN actuators. Smart Materials and Structures, 2013, 22, 104005.	1.8	79
78	Electromechanically active polymer transducers: research in Europe. Smart Materials and Structures, 2013, 22, 100301.	1.8	1
79	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
80	Patterning process and actuation in open air of micro-beam actuator based on conducting IPNs. Proceedings of SPIE, 2012, , .	0.8	4
81	Nuclear Magnetic Resonance (NMR) Characterization of a Polymerized Ionic Liquid Electrolyte Material. Materials Research Society Symposia Proceedings, 2012, 1440, 31.	0.1	3
82	IR Reflectivity Change from Electroactive IPN. Molecular Crystals and Liquid Crystals, 2012, 554, 95-102.	0.4	5
83	Symmetrical electrochromic device from poly(3,4-(2,2-dimethylpropylenedioxy)thiophene)-based semi-interpenetrating polymer network. Synthetic Metals, 2012, 162, 1903-1911.	2.1	19
84	Thiolâ€Ene Click Chemistry as a Tool for a Novel Family of Polymeric Ionic Liquids. Macromolecular Chemistry and Physics, 2012, 213, 1359-1369.	1.1	19
85	Feasibility of conducting semi-IPN with variable electro-emissivity: A promising way for spacecraft thermal control. Solar Energy Materials and Solar Cells, 2012, 99, 116-122.	3.0	32
86	Electropolymerization of 3,4-ethylenedioxythiophene within an insulating nitrile butadiene rubber network: Application to electroreflective surfaces and devices. Solar Energy Materials and Solar Cells, 2012, 99, 109-115.	3.0	18
87	Micro-beam actuator based on conducting interpenetrating polymer networks: From patterning process to actuation in open air. , 2011, , .		0
88	Design and synthesis of new anionic â€œpolymeric ionic liquidsâ€•with high charge delocalization. Polymer Chemistry, 2011, 2, 2609.	1.9	96
89	Polymeric Ionic Liquids: Comparison of Polycations and Polyanions. Macromolecules, 2011, 44, 9792-9803.	2.2	84
90	Conducting interpenetrating polymer network sized to fabricate microactuators. Applied Physics Letters, 2011, 98, .	1.5	60

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91	Thermal Control of Satellites by Polymer-based Electro-Emissive Device in Infrared Spectra: Component Design and Ground Thermal Testing. , 2011, , .		2
92	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
93	Actuation and Sensing properties of Electroactive Polymer Whiskers. Procedia Computer Science, 2011, 7, S4-S7.	1.2	11
94	Bis(trifluoromethylsulfonyl)amide based â€œpolymeric ionic liquidsâ€: Synthesis, purification and peculiarities of structureâ€“properties relationships. Electrochimica Acta, 2011, 57, 74-90.	2.6	84
95	Dispersion of Luminescent Nanoparticles in Different Derivatives of Poly(ethyl methacrylate). Journal of Nanoscience and Nanotechnology, 2011, 11, 3208-3214.	0.9	3
96	Self-supported semi-interpenetrating polymer networks as reactive ambient sensors. Journal of Electroanalytical Chemistry, 2011, 652, 37-43.	1.9	15
97	Conducting IPN actuators for biomimetic vision system. Proceedings of SPIE, 2011, , .	0.8	6
98	Polyethylene oxideâ€“polytetrahydrofuraneâ€“PEDOT conducting interpenetrating polymer networks for high speed actuators. Smart Materials and Structures, 2011, 20, 124002.	1.8	36
99	Electroactive semi-interpenetrating polymer networks architecture with tunable IR reflectivity. , 2011, , .		3
100	Photopolymerization of poly(ethylene glycol) dimethacrylates: The influence of ionic liquids on the formulation and the properties of the resultant polymer materials. Journal of Polymer Science Part A, 2010, 48, 2388-2409.	2.5	36
101	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
102	Electroactive Polymers with Semi-IPN Architectures for Electrochromic Devices. Molecular Crystals and Liquid Crystals, 2010, 522, 53/[353]-60/[360].	0.4	9
103	New Prospects in the Conception of IR Electro-Tunable Devices: The Use of Conducting Semi-Interpenetrating Polymer Network Architecture. Chemistry of Materials, 2010, 22, 4539-4547.	3.2	25
104	Conducting polymer artificial muscle fibres: toward an open air linear actuation. Chemical Communications, 2010, 46, 2910.	2.2	50
105	Ionic IPNs as novel candidates for highly conductive solid polymer electrolytes. Journal of Polymer Science Part A, 2009, 47, 4245-4266.	2.5	56
106	Synthesis, polymerization and conducting properties of an ionic liquid-type anionic monomer. Tetrahedron Letters, 2009, 50, 128-131.	0.7	35
107	RÃ©seaux interpÃ©nÃ©trÃ©s Ã©lectrocommandables pour l'actionnement et l'Ã©lectrochromisme. Materiaux Et Techniques, 2009, 97, 51-57.	0.3	1
108	Synthesis and characterization of p and n dopable interpenetrating polymer networks for organic photovoltaic devices. Thin Solid Films, 2008, 516, 7223-7229.	0.8	17

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109	Self-supported semi-interpenetrating polymer networks for new design of electrochromic devices. Electrochimica Acta, 2008, 53, 4336-4343.	2.6	58
110	Thermal ageing of poly(ethylene oxide)/poly(3,4-ethylenedioxythiophene) semi-IPNs. European Polymer Journal, 2008, 44, 3864-3870.	2.6	21
111	Molecular dynamics studies of interpenetrating polymer networks for actuator devices. , 2008, , .		1
112	Polysiloxane Based Interpenetrating Polymer Networks: synthesis and Properties. , 2008, , 19-28.		3
113	Electrochemical cross-linking of carbazole derivatives: a new route for bulk heterojunction based on semi-interpenetrating polymer networks. EPJ Applied Physics, 2007, 37, 271-275.	0.3	2
114	Poly(ethylene oxide)/polybutadiene based IPNs synthesis and characterization. Polymer, 2007, 48, 696-703.	1.8	50
115	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
116	Synthesis and luminescent properties of PEO/lanthanide oxide nanoparticle hybrid films. Journal of Luminescence, 2007, 126, 289-296.	1.5	15
117	Conducting IPN actuators: From polymer chemistry to actuator with linear actuation. Synthetic Metals, 2006, 156, 1299-1304.	2.1	62
118	Fabrication and characterization of linear-moving in air ionic polymer actuators with design and motion simulation tools. , 2006, 6168, 333.		3
119	Polysiloxaneâ€"Cellulose acetate butyrate cellulose interpenetrating polymers networks close to true IPNs on a large composition range. Part II. Polymer, 2006, 47, 3747-3753.	1.8	23
120	Interpenetrating Polymer Networks from Polymeric Imidazolium-type Ionic Liquid and polybutadiene. Polymer Bulletin, 2006, 57, 473-480.	1.7	22
121	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
122	Polydimethylsiloxaneâ€"cellulose acetate butyrate interpenetrating polymer networks synthesis and kinetic study. Part I. Polymer, 2005, 46, 37-47.	1.8	45
123	Synthesis and characterization of conducting interpenetrating polymer networks for new actuators. Polymer, 2005, 46, 7771-7778.	1.8	84
124	New design methods and simulation of linear actuators using ionic polymers. , 2005, , .		2
125	Synthesis and characterization of interpenetrating networks from polycarbonate and cellulose acetate butyrate. Polymer, 2004, 45, 5047-5055.	1.8	29
126	Long-life air working conducting semi-IPN/ionic liquid based actuator. Synthetic Metals, 2004, 142, 287-291.	2.1	154

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127	Actuator based on poly(3,4-ethylenedioxythiophene)/PEO/elastomer IPNs. , 2004, , .		4
128	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
129	<title>Actuators based on conducting poly(3,4-ethylenedioxythiophene)/PEO semi-IPN</title>. , 2002, , .		3
130	Semi-interpenetrating polymer networks based on modified cellulose and poly(3,4-ethylenedioxythiophene). Synthetic Metals, 2002, 128, 197-204.	2.1	27
131	Reactive surfactants in heterophase polymerization for high performance polymers. Colloid and Polymer Science, 1998, 276, 402-411.	1.0	23
132	Determination of transfer constants of non-ionic thiolended surfactants (transurfs) in styrene free-radical polymerizations. Macromolecular Chemistry and Physics, 1996, 197, 1835-1840.	1.1	8
133	Surfactants with transfer agent properties (transurfs) in styrene emulsion polymerization. Colloid and Polymer Science, 1995, 273, 999-1007.	1.0	19
134	Non-ionic thiol-ended surfactants. Polymer Bulletin, 1995, 35, 1-7.	1.7	14
135	Inifer surfactants in emulsion polymerization. Polymer Bulletin, 1995, 34, 569-576.	1.7	7
136	Steric stabilization of polystyrene colloids using thiol-ended polyethylene oxide. Polymers for Advanced Technologies, 1995, 6, 473-479.	1.6	14
137	Characterization of a new interpenetrated network conductive polymer (IPN-CP) as a potential actuator that works in air conditions. , 0, , .		4
138	Synthesis and Characterization of IPNs for Electrochemical Actuators. Advances in Science and Technology, 0, , .	0.2	9
139	Symmetrical Electrochromic and Electroemissive Devices from Semi-Interpenetrating Polymer Networks. Advances in Science and Technology, 0, , .	0.2	6
140	Conducting IPN Fibers: A New Design for Linear Actuation in Open Air. Advances in Science and Technology, 0, , .	0.2	6
141	PEDOT Based Conducting IPN Actuators: Effects of Electrolyte on Actuation. Advances in Science and Technology, 0, , .	0.2	5