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	Graphitic carbon nitride nanosheet electrode-based high-performance ionic actuator. Nature Communications, 2015, 6, 7258.	5.8	211
2	Long-life air working conducting semi-IPN/ionic liquid based actuator. Synthetic Metals, 2004, 142, 287-291.	2.1	154
3	Piezoionic mechanoreceptors: Force-induced current generation in hydrogels. Science, 2022, 376, 502-507.	6.0	128
4	Design and synthesis of new anionic â€œpolymeric ionic liquidsâ€•with high charge delocalization. Polymer Chemistry, 2011, 2, 2609.	1.9	96
5	Demonstrating kHz Frequency Actuation for Conducting Polymer Microactuators. Advanced Functional Materials, 2014, 24, 4851-4859.	7.8	96
6	Breaking the symmetry of dibenzoxazines: a paradigm to tailor the design of bio-based thermosets. Green Chemistry, 2016, 18, 3346-3353.	4.6	94
7	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
8	Synthesis and characterization of conducting interpenetrating polymer networks for new actuators. Polymer, 2005, 46, 7771-7778.	1.8	84
9	Polymeric Ionic Liquids: Comparison of Polycations and Polyanions. Macromolecules, 2011, 44, 9792-9803.	2.2	84
10	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
11	Robust solid polymer electrolyte for conducting IPN actuators. Smart Materials and Structures, 2013, 22, 104005.	1.8	79
12	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
13	A first truly all-solid state organic electrochromic device based on polymeric ionic liquids. Chemical Communications, 2014, 50, 3191-3193.	2.2	68
14	Ionic electroactive polymer artificial muscles in space applications. Scientific Reports, 2014, 4, 6913.	1.6	64
15	Stretchable composite monolayer electrodes for low voltage dielectric elastomer actuators. Sensors and Actuators B: Chemical, 2018, 261, 135-143.	4.0	64
16	Conducting IPN actuators: From polymer chemistry to actuator with linear actuation. Synthetic Metals, 2006, 156, 1299-1304.	2.1	62
17	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
18	Conducting interpenetrating polymer network sized to fabricate microactuators. Applied Physics Letters, 2011, 98, .	1.5	60

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19	Self-supported semi-interpenetrating polymer networks for new design of electrochromic devices. Electrochimica Acta, 2008, 53, 4336-4343.	2.6	58
20	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
21	Ionic IPNs as novel candidates for highly conductive solid polymer electrolytes. Journal of Polymer Science Part A, 2009, 47, 4245-4266.	2.5	56
22	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
23	Poly(ethylene oxide)/polybutadiene based IPNs synthesis and characterization. Polymer, 2007, 48, 696-703.	1.8	50
24	Conducting polymer artificial muscle fibres: toward an open air linear actuation. Chemical Communications, 2010, 46, 2910.	2.2	50
25	Ionic liquids and Î³-butyrolactone mixtures as electrolytes for supercapacitors operating over extended temperature ranges. RSC Advances, 2015, 5, 13095-13101.	1.7	50
26	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
27	Synthesis and properties of polymeric analogs of ionic liquids. Polymer Science - Series B, 2013, 55, 122-138.	0.3	46
28	Polydimethylsiloxaneâ€“cellulose acetate butyrate interpenetrating polymer networks synthesis and kinetic study. Part I. Polymer, 2005, 46, 37-47.	1.8	45
29	Highly Conductive, Photolithographically Patternable Ionogels for Flexible and Stretchable Electrochemical Devices. ACS Applied Materials & Interfaces, 2018, 10, 21601-21611.	4.0	45
30	Smarter Actuator Design with Complementary and Synergetic Functions. Advanced Materials, 2015, 27, 4418-4422.	11.1	44
31	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
32	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
33	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
34	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
35	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
36	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

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37	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
38	Polyethylene oxideâ€“polytetrahydrofuraneâ€“PEDOT conducting interpenetrating polymer networks for high speed actuators. Smart Materials and Structures, 2011, 20, 124002.	1.8	36
39	Synthesis, polymerization and conducting properties of an ionic liquid-type anionic monomer. Tetrahedron Letters, 2009, 50, 128-131.	0.7	35
40	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
41	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
42	Synthesis and characterization of interpenetrating networks from polycarbonate and cellulose acetate butyrate. Polymer, 2004, 45, 5047-5055.	1.8	29
43	Electrospun rubber fibre mats with electrochemically controllable pore sizes. Journal of Materials Chemistry B, 2015, 3, 4249-4258.	2.9	29
44	Self-contained tubular bending actuator driven by conducting polymers. Sensors and Actuators A: Physical, 2016, 249, 45-56.	2.0	29
45	Semi-interpenetrating polymer networks based on modified cellulose and poly(3,4-ethylenedioxythiophene). Synthetic Metals, 2002, 128, 197-204.	2.1	27
46	Self-standing gel polymer electrolyte for improving supercapacitor thermal and electrochemical stability. Journal of Power Sources, 2018, 391, 86-93.	4.0	27
47	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
48	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
49	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
50	Reactive surfactants in heterophase polymerization for high performance polymers. Colloid and Polymer Science, 1998, 276, 402-411.	1.0	23
51	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
52	Ultrathin electrochemically driven conducting polymer actuators: fabrication and electrochemomechanical characterization. Electrochimica Acta, 2018, 265, 670-680.	2.6	23
53	Interpenetrating Polymer Networks from Polymeric Imidazolium-type Ionic Liquid and polybutadiene. Polymer Bulletin, 2006, 57, 473-480.	1.7	22
54	Solid-state electrolytes based on ionic network polymers. Polymer Science - Series B, 2014, 56, 164-177.	0.3	22

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55	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
56	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
57	Thermal ageing of poly(ethylene oxide)/poly(3,4-ethylenedioxythiophene) semi-IPNs. European Polymer Journal, 2008, 44, 3864-3870.	2.6	21
58	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
59	Study of the piezoionic effect and influence of electrolyte in conducting polymer based soft strain sensors. Multifunctional Materials, 2019, 2, 045002.	2.4	21
60	Surfactants with transfer agent properties (transurfs) in styrene emulsion polymerization. Colloid and Polymer Science, 1995, 273, 999-1007.	1.0	19
61	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
62	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
63	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
64	Elaboration of bio-epoxy/benzoxazine interpenetrating polymer networks: a composition-to-morphology mapping. Polymer Chemistry, 2018, 9, 472-481.	1.9	18
65	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
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	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
68	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
69	Synthesis and luminescent properties of PEO/lanthanide oxide nanoparticle hybrid films. Journal of Luminescence, 2007, 126, 289-296.	1.5	15
70	Self-supported semi-interpenetrating polymer networks as reactive ambient sensors. Journal of Electroanalytical Chemistry, 2011, 652, 37-43.	1.9	15
71	Non-ionic thiol-ended surfactants. Polymer Bulletin, 1995, 35, 1-7.	1.7	14
72	Steric stabilization of polystyrene colloids using thiol-ended polyethylene oxide. Polymers for Advanced Technologies, 1995, 6, 473-479.	1.6	14

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73	Thermal regulation of satellites using adaptive polymeric materials. Solar Energy Materials and Solar Cells, 2019, 200, 110035.	3.0	13
74	Asymmetric PEDOT:PSS Trilayers as Actuating and Sensing Linear Artificial Muscles. Advanced Materials Technologies, 2021, 6, 2001063.	3.0	12
75	Actuation and Sensing properties of Electroactive Polymer Whiskers. Procedia Computer Science, 2011, 7, S4-S7.	1.2	11
76	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
77	Transparent stretchable capacitive touch sensor grid using ionic liquid electrodes. Extreme Mechanics Letters, 2019, 33, 100574.	2.0	11
78	Characterization and dynamic charge dependent modeling of conducting polymer trilayer bending. Smart Materials and Structures, 2016, 25, 115044.	1.8	10
79	Nonlinear dynamic modeling of ultrathin conducting polymer actuators including inertial effects. Smart Materials and Structures, 2018, 27, 115032.	1.8	10
80	Synthesis and Characterization of IPNs for Electrochemical Actuators. Advances in Science and Technology, 0, , .	0.2	9
81	Electroactive Polymers with Semi-IPN Architectures for Electrochromic Devices. Molecular Crystals and Liquid Crystals, 2010, 522, 53/[353]-60/[360].	0.4	9
82	Microemulsion as the template for synthesis of interpenetrating polymer networks with predefined structure. Polymer, 2013, 54, 4436-4445.	1.8	9
83	Nanostructured Thermal Responsive Materials Synthesized by Soft Templating. ACS Applied Materials & Interfaces, 2017, 9, 12706-12718.	4.0	9
84	Impermeable and Compliant: SIBS as a Promising Encapsulant for Ionically Electroactive Devices. Robotics, 2019, 8, 60.	2.1	9
85	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
86	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
87	Synergetic PEDOT degradation during a reactive ion etching process. Sensors and Actuators B: Chemical, 2016, 229, 635-645.	4.0	8
88	Ion Transport in Polymer Composites with Non-Uniform Distributions of Electronic Conductors. Electrochimica Acta, 2017, 247, 149-162.	2.6	8
89	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
90	Polymeric ionic liquid based interpenetrating polymer network for all-solid self-standing polyelectrolyte material. European Polymer Journal, 2018, 106, 257-265.	2.6	8

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91	Inifer surfactants in emulsion polymerization. Polymer Bulletin, 1995, 34, 569-576.	1.7	7
92	Symmetric Versus Asymmetric di-Bz Monomer Design. , 2017, , 89-107.		7
93	Lithium-based oligomer ionic liquid for solvent-free conducting materials. Polymer, 2018, 142, 337-347.	1.8	7
94	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
95	Electro-interpenetration as tool for high strain trilayer conducting polymer actuator. Smart Materials and Structures, 2021, 30, 025041.	1.8	7
96	Symmetrical Electrochromic and Electroemissive Devices from Semi-Interpenetrating Polymer Networks. Advances in Science and Technology, 0, , .	0.2	6
97	Conducting IPN Fibers: A New Design for Linear Actuation in Open Air. Advances in Science and Technology, 0, , .	0.2	6
98	Conducting IPN actuators for biomimetic vision system. Proceedings of SPIE, 2011, , .	0.8	6
99	Nanostructure Changes upon Polymerization of Aqueous and Organic Phases in Organized Mixtures. Langmuir, 2016, 32, 10104-10112.	1.6	6
100	Nonlinear Two-Dimensional Transmission Line Models for Electrochemically Driven Conducting Polymer Actuators. IEEE/ASME Transactions on Mechatronics, 2017, 22, 705-716.	3.7	6
101	Linear finite-difference bond graph model of an ionic polymer actuator. Smart Materials and Structures, 2017, 26, 095055.	1.8	6
102	Ionofibers: Ionically Conductive Textile Fibers for Conformal iâ€Textiles. Advanced Materials Technologies, 2022, 7, .	3.0	6
103	IR Reflectivity Change from Electroactive IPN. Molecular Crystals and Liquid Crystals, 2012, 554, 95-102.	0.4	5
104	PEDOT Based Conducting IPN Actuators: Effects of Electrolyte on Actuation. Advances in Science and Technology, 0, , .	0.2	5
105	Tailoring Electromechanical Properties of Natural Rubber Vitrimers by Cross-Linkers. Industrial & Engineering Chemistry Research, 2022, 61, 8871-8880.	1.8	5
106	Photopolymerizable Ionogel with Healable Properties Based on Dioxaborolane Vitrimer Chemistry. Gels, 2022, 8, 381.	2.1	5
107	Actuator based on poly(3,4-ethylenedioxythiophene)/PEO/elastomer IPNs. , 2004, , .		4
108	Characterization of a new interpenetrated network conductive polymer (IPN-CP) as a potential actuator that works in air conditions. , 0, , .		4

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109	Patterning process and actuation in open air of micro-beam actuator based on conducting IPNs. Proceedings of SPIE, 2012, , .	0.8	4
110	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
111	Microfabricated PEDOT trilayer actuators: synthesis, characterization, and modeling. , 2017, , .		4
112	Conducting interpenetrating polymer network to sense and actuate: Measurements and modeling. Sensors and Actuators A: Physical, 2018, 272, 325-333.	2.0	4
113	Printed PEDOT:PSS Trilayer: Mechanism Evaluation and Application in Energy Storage. Materials, 2020, 13, 491.	1.3	4
114	PEDOT:PSS-based micromuscles and microsensors fully integrated in flexible chips. Smart Materials and Structures, 2020, 29, 09LT01.	1.8	4
115	<title>Actuators based on conducting poly(3,4-ethylenedioxythiophene)/PEO semi-IPN</title>. , 2002, , .		3
116	Fabrication and characterization of linear-moving in air ionic polymer actuators with design and motion simulation tools. , 2006, 6168, 333.		3
117	Dispersion of Luminescent Nanoparticles in Different Derivatives of Poly(ethyl methacrylate). Journal of Nanoscience and Nanotechnology, 2011, 11, 3208-3214.	0.9	3
118	Electroactive semi-interpenetrating polymer networks architecture with tunable IR reflectivity. , 2011, , .		3
119	Nuclear Magnetic Resonance (NMR) Characterization of a Polymerized Ionic Liquid Electrolyte Material. Materials Research Society Symposia Proceedings, 2012, 1440, 31.	0.1	3
120	Polysiloxane Based Interpenetrating Polymer Networks: synthesis and Properties. , 2008, , 19-28.		3
121	New design methods and simulation of linear actuators using ionic polymers. , 2005, , .		2
122	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
123	Thermal Control of Satellites by Polymer-based Electro-Emissive Device in Infrared Spectra: Component Design and Ground Thermal Testing. , 2011, , .		2
124	Conducting IPN actuator/sensor for biomimetic vibrissa system. Proceedings of SPIE, 2014, , .	0.8	2
125	Patterning innovative conducting interpenetrating polymer network by dry etching. , 2014, , .		2
126	High speed electromechanical response of ionic microactuators. Proceedings of SPIE, 2015, , .	0.8	2

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127	Evaluating performance of wet unencapsulated PEDOT trilayer actuators operating in air and water. Multifunctional Materials, 2019, 2, 014003.	2.4	2
128	All-solid state ionic actuators based on polymeric ionic liquids and electronic conducting polymers. , 2018, , .		2
129	Molecular dynamics studies of interpenetrating polymer networks for actuator devices. , 2008, , .		1
130	Electromechanically active polymer transducers: research in Europe. Smart Materials and Structures, 2013, 22, 100301.	1.8	1
131	Stacking trilayers to increase force generation. , 2015, , .		1
132	An embedded system to control conducting interpenetrating polymer networks actuators. , 2016, , .		1
133	Conducting Polymers as EAPs: How to Start Experimenting with Them. , 2016, , 413-436.		1
134	Active Thermal Control of Satellites with Electroactive Materials. , 2022, , 221-254.		1
135	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
136	Conducting IPNs and Ionic Liquids: Applications to Electroactive Polymer Devices. , 2015, , 297-321.		1
137	Micro-beam actuator based on conducting interpenetrating polymer networks: From patterning process to actuation in open air. , 2011, , .		0
138	Conducting interpenetrating polymer networks actuators for biomimetic vision system. , 2015, , 163-179.		0
139	Conducting Polymers as EAPs: How to Start Experimenting with Them. , 2016, , 1-25.		0
140	Behavior of ionic conducting IPN actuators in simulated space conditions. Proceedings of SPIE, 2016, , .	0.8	0
141	Toward electroactive catheter design using conducting interpenetrating polymer networks actuators. , 2018, , .		0