

Xavier Crispin

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128
papers

11,678
citations

52
h-index

107
g-index

137
ext. papers

13,315
ext. citations

12
avg, IF

6.46
L-index

#	Paper	IF	Citations
128	Optimization of the thermoelectric figure of merit in the conducting polymer poly(3,4-ethylenedioxythiophene). <i>Nature Materials</i> , 2011 , 10, 429-33	27	1302
127	The Origin of the High Conductivity of Poly(3,4-ethylenedioxythiophene)Poly(styrenesulfonate) (PEDOT:PSS) Plastic Electrodes. <i>Chemistry of Materials</i> , 2006 , 18, 4354-4360	9.6	728
126	The effects of solvents on the morphology and sheet resistance in poly(3,4-ethylenedioxythiophene) polystyrenesulfonic acid (PEDOT:PSS) films. <i>Synthetic Metals</i> , 2003 , 139, 1-10	3.6	641
125	Semi-metallic polymers. <i>Nature Materials</i> , 2014 , 13, 190-4	27	605
124	Towards polymer-based organic thermoelectric generators. <i>Energy and Environmental Science</i> , 2012 , 5, 9345	35.4	601
123	Characterization of the interface dipole at organic/ metal interfaces. <i>Journal of the American Chemical Society</i> , 2002 , 124, 8131-41	16.4	434
122	Conductivity, morphology, interfacial chemistry, and stability of poly(3,4-ethylene dioxithiophene)poly(styrene sulfonate): A photoelectron spectroscopy study. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003 , 41, 2561-2583	2.6	432
121	Thermoelectric materials and applications for energy harvesting power generation. <i>Science and Technology of Advanced Materials</i> , 2018 , 19, 836-862	7.1	279
120	Electrochemical and XPS Studies toward the Role of Monomeric and Polymeric Sulfonate Counterions in the Synthesis, Composition, and Properties of Poly(3,4-ethylenedioxythiophene). <i>Macromolecules</i> , 2003 , 36, 3337-3344	5.5	255
119	Tuning the thermoelectric properties of conducting polymers in an electrochemical transistor. <i>Journal of the American Chemical Society</i> , 2012 , 134, 16456-9	16.4	230
118	A water-gate organic field-effect transistor. <i>Advanced Materials</i> , 2010 , 22, 2565-9	24	227
117	Low-Voltage Polymer Field-Effect Transistors Gated via a Proton Conductor. <i>Advanced Materials</i> , 2007 , 19, 97-101	24	196
116	Ionic thermoelectric supercapacitors. <i>Energy and Environmental Science</i> , 2016 , 9, 1450-1457	35.4	188
115	Thermoelectric Properties of Solution-Processed n-Doped Ladder-Type Conducting Polymers. <i>Advanced Materials</i> , 2016 , 28, 10764-10771	24	186
114	Understanding the Capacitance of PEDOT:PSS. <i>Advanced Functional Materials</i> , 2017 , 27, 1700329	15.6	178
113	Thermoelectric properties of conducting polymers: The case of poly(3-hexylthiophene). <i>Physical Review B</i> , 2010 , 82,	3.3	173
112	Significant electronic thermal transport in the conducting polymer poly(3,4-ethylenedioxythiophene). <i>Advanced Materials</i> , 2015 , 27, 2101-6	24	158

111	Insulator Polarization Mechanisms in Polyelectrolyte-Gated Organic Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2009 , 19, 3334-3341	15.6	152
110	Electronic plants. <i>Science Advances</i> , 2015 , 1, e1501136	14.3	143
109	Experimental evidence that short-range intermolecular aggregation is sufficient for efficient charge transport in conjugated polymers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 10599-604	11.5	141
108	An Organic Mixed Ion-Electron Conductor for Power Electronics. <i>Advanced Science</i> , 2016 , 3, 1500305	13.6	140
107	Complementary Logic Circuits Based on High-Performance n-Type Organic Electrochemical Transistors. <i>Advanced Materials</i> , 2018 , 30, 1704916	24	138
106	Ionic Seebeck Effect in Conducting Polymers. <i>Advanced Energy Materials</i> , 2015 , 5, 1500044	21.8	134
105	Electronic delocalization in discotic liquid crystals: a joint experimental and theoretical study. <i>Journal of the American Chemical Society</i> , 2004 , 126, 11889-99	16.4	132
104	Polarons, Bipolarons, And Absorption Spectroscopy of PEDOT. <i>ACS Applied Polymer Materials</i> , 2019 , 1, 83-94	4.3	130
103	Interfaces in organic electronics. <i>Nature Reviews Materials</i> , 2019 , 4, 627-650	73.3	129
102	Thermoelectric Polymers and their Elastic Aerogels. <i>Advanced Materials</i> , 2016 , 28, 4556-62	24	124
101	A Chemically Doped Naphthalenediimide-Bithiazole Polymer for n-Type Organic Thermoelectrics. <i>Advanced Materials</i> , 2018 , 30, e1801898	24	123
100	Acido-basic control of the thermoelectric properties of poly(3,4-ethylenedioxythiophene)tosylate (PEDOT-Tos) thin films. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 10616-10623	7.1	115
99	Effect of (3-glycidyloxypropyl)trimethoxysilane (GOPS) on the electrical properties of PEDOT:PSS films. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2017 , 55, 814-820	2.6	112
98	Controlling the dimensionality of charge transport in organic thin-film transistors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 15069-73	11.5	112
97	The effect of pH on the electrochemical over-oxidation in PEDOT:PSS films. <i>Solid State Ionics</i> , 2007 , 177, 3521-3527	3.3	106
96	Polymer gels with tunable ionic Seebeck coefficient for ultra-sensitive printed thermopiles. <i>Nature Communications</i> , 2019 , 10, 1093	17.4	96
95	Thermoelectric Polymer Aerogels for Pressure/temperature Sensing Applications. <i>Advanced Functional Materials</i> , 2017 , 27, 1703549	15.6	91
94	Ionic Thermoelectric Figure of Merit for Charging of Supercapacitors. <i>Advanced Electronic Materials</i> , 2017 , 3, 1700013	6.4	89

93	Polymer field-effect transistor gated via a poly(styrenesulfonic acid) thin film. <i>Applied Physics Letters</i> , 2006 , 89, 143507	3.4	87
92	Single Crystal-Like Performance in Solution-Coated Thin-Film Organic Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2016 , 26, 2379-2386	15.6	78
91	Ion Electron-Coupled Functionality in Materials and Devices Based on Conjugated Polymers. <i>Advanced Materials</i> , 2019 , 31, e1805813	24	77
90	Polyelectrolyte-gated organic complementary circuits operating at low power and voltage. <i>Advanced Materials</i> , 2011 , 23, 4684-9	24	76
89	Ionic thermoelectric gating organic transistors. <i>Nature Communications</i> , 2017 , 8, 14214	17.4	75
88	Transition between energy level alignment regimes at a low band gap polymer-electrode interfaces. <i>Applied Physics Letters</i> , 2006 , 89, 213503	3.4	72
87	Elastic conducting polymer composites in thermoelectric modules. <i>Nature Communications</i> , 2020 , 11, 1424	17.4	68
86	Oxygen-induced doping on reduced PEDOT. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 4404-4412	13	66
85	Effect of the Ionic Conductivity on the Performance of Polyelectrolyte-Based Supercapacitors. <i>Advanced Functional Materials</i> , 2010 , 20, 4344-4350	15.6	66
84	Poly(3,4-ethylenedioxythiophene): Chemical Synthesis, Transport Properties, and Thermoelectric Devices. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800918	6.4	65
83	Thermoelectric Properties of Polymeric Mixed Conductors. <i>Advanced Functional Materials</i> , 2016 , 26, 6288-6296	6.2	65
82	A Multiparameter Pressure-Temperature-Humidity Sensor Based on Mixed Ionic-Electronic Cellulose Aerogels. <i>Advanced Science</i> , 2019 , 6, 1802128	13.6	59
81	A Free-Standing High-Output Power Density Thermoelectric Device Based on Structure-Ordered PEDOT:PSS. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700496	6.4	58
80	Infrared electrochromic conducting polymer devices. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 5824-5830	3.1	57
79	Light induced damage in poly(3,4-ethylenedioxythiophene) and its derivatives studied by photoelectron spectroscopy. <i>Synthetic Metals</i> , 2004 , 141, 67-73	3.6	56
78	Correlating the Seebeck coefficient of thermoelectric polymer thin films to their charge transport mechanism. <i>Organic Electronics</i> , 2018 , 52, 335-341	3.5	56
77	Transparent low-work-function indium tin oxide electrode obtained by molecular scale interface engineering. <i>Applied Physics Letters</i> , 2004 , 85, 1616-1618	3.4	55
76	Ferroelectric polarization induces electric double layer bistability in electrolyte-gated field-effect transistors. <i>ACS Applied Materials & Interfaces</i> , 2014 , 6, 438-42	9.5	49

75	Effects of the Ionic Currents in Electrolyte-gated Organic Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2008 , 18, 3529-3536	15.6	49
74	Electronic structure of highly ordered films of self-assembled graphitic nanocolumns. <i>Physical Review B</i> , 2003 , 68,	3.3	49
73	Wearable Thermoelectric Materials and Devices for Self-Powered Electronic Systems. <i>Advanced Materials</i> , 2021 , 33, e2102990	24	49
72	Ionic thermoelectric paper. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 16883-16888	13	48
71	Gelatin Hydrogel-Based Organic Electrochemical Transistors and Their Integrated Logic Circuits. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 39083-39090	9.5	48
70	Oxygen Reduction Reaction in Conducting Polymer PEDOT: Density Functional Theory Study. <i>Journal of Physical Chemistry C</i> , 2017 , 121, 12270-12277	3.8	45
69	Towards all-plastic flexible light emitting diodes. <i>Chemical Physics Letters</i> , 2006 , 433, 110-114	2.5	45
68	Electrocatalytic Production of Hydrogen Peroxide with Poly(3,4-ethylenedioxythiophene) Electrodes. <i>Advanced Sustainable Systems</i> , 2019 , 3, 1800110	5.9	45
67	Effect of Gate Electrode Work-Function on Source Charge Injection in Electrolyte-Gated Organic Field-Effect Transistors. <i>Advanced Functional Materials</i> , 2014 , 24, 695-700	15.6	44
66	Charge transport and structure in semimetallic polymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2018 , 56, 97-104	2.6	43
65	Can Hybrid Na-Air Batteries Outperform Nonaqueous Na-O Batteries?. <i>Advanced Science</i> , 2020 , 7, 1902866	6.6	39
64	Cellulose-Conducting Polymer Aerogels for Efficient Solar Steam Generation. <i>Advanced Sustainable Systems</i> , 2020 , 4, 2000004	5.9	38
63	Ferroelectric polarization induces electronic nonlinearity in ion-doped conducting polymers. <i>Science Advances</i> , 2017 , 3, e1700345	14.3	36
62	Bulk electronic transport impacts on electron transfer at conducting polymer electrode-electrolyte interfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 11899-11904	11.5	35
61	Unconventional Thermoelectric Materials for Energy Harvesting and Sensing Applications. <i>Chemical Reviews</i> , 2021 , 121, 12465-12547	68.1	35
60	Energy Level Bending in Ultrathin Polymer Layers Obtained through Langmuir-Blodgett Deposition. <i>Advanced Functional Materials</i> , 2016 , 26, 1077-1084	15.6	33
59	Selective remanent ambipolar charge transport in polymeric field-effect transistors for high-performance logic circuits fabricated in ambient. <i>Advanced Materials</i> , 2014 , 26, 7438-43	24	32
58	Freestanding electrochromic paper. <i>Journal of Materials Chemistry C</i> , 2016 , 4, 9680-9686	7.1	32

57	Thermoplasmonic Semitransparent Nanohole Electrodes. <i>Nano Letters</i> , 2017 , 17, 3145-3151	11.5	31
56	Poly(3,4-ethylenedioxythiophene)-tosylate (PEDOT-Tos) electrodes in thermogalvanic cells. <i>Journal of Materials Chemistry A</i> , 2017 , 5, 19619-19625	13	30
55	High-Performance Hole Transport and Quasi-Balanced Ambipolar OFETs Based on DAA Thieno-benzo-isoindigo Polymers. <i>Advanced Electronic Materials</i> , 2016 , 2, 1500313	6.4	29
54	High Thermoelectric Performance in n-Type Perylene Bisimide Induced by the Soret Effect. <i>Advanced Materials</i> , 2020 , 32, e2002752	24	28
53	Insulator to semimetallic transition in conducting polymers. <i>Physical Review B</i> , 2016 , 94,	3.3	28
52	Nanofibrillated Cellulose-Based Electrolyte and Electrode for Paper-Based Supercapacitors. <i>Advanced Sustainable Systems</i> , 2018 , 2, 1700121	5.9	27
51	A Static Model for Electrolyte-Gated Organic Field-Effect Transistors. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 3574-3582	2.9	27
50	Printable acid-modified corn starch as non-toxic, disposable hydrogel-polymer electrolyte in supercapacitors. <i>Applied Physics A: Materials Science and Processing</i> , 2019 , 125, 1	2.6	23
49	Vapor phase synthesized poly(3,4-ethylenedioxythiophene)-trifluoromethanesulfonate as a transparent conductor material. <i>Journal of Materials Chemistry A</i> , 2018 , 6, 21304-21312	13	23
48	Molecular Oxygen Activation at a Conducting Polymer: Electrochemical Oxygen Reduction Reaction at PEDOT Revisited, a Theoretical Study. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 13263-13272	3.8	23
47	Controlling the electrochromic properties of conductive polymers using UV-light. <i>Journal of Materials Chemistry C</i> , 2018 , 6, 4663-4670	7.1	22
46	Ultra-low voltage air-stable polyelectrolyte gated n-type organic thin film transistors. <i>Applied Physics Letters</i> , 2011 , 99, 063305	3.4	22
45	Asymmetric Aqueous Supercapacitor Based on p- and n-Type Conducting Polymers. <i>ACS Applied Energy Materials</i> , 2019 , 2, 5350-5355	6.1	21
44	Bias stress effect in polyelectrolyte-gated organic field-effect transistors. <i>Applied Physics Letters</i> , 2013 , 102, 113306	3.4	21
43	Ionic thermoelectric materials and devices. <i>Journal of Energy Chemistry</i> , 2021 , 61, 88-103	12	21
42	Understanding the Impact of Film Disorder and Local Surface Potential in Ultraviolet Photoelectron Spectroscopy of PEDOT. <i>Macromolecular Rapid Communications</i> , 2018 , 39, 1700533	4.8	20
41	Controlling the Organization of PEDOT:PSS on Cellulose Structures. <i>ACS Applied Polymer Materials</i> , 2019 , 1, 2342-2351	4.3	20
40	Electrochemical hydrogen production on a metal-free polymer. <i>Sustainable Energy and Fuels</i> , 2019 , 3, 3387-3398	5.8	19

39	On the anomalous optical conductivity dispersion of electrically conducting polymers: ultra-wide spectral range ellipsometry combined with a Drude-Lorentz model. <i>Journal of Materials Chemistry C</i> , 2019 , 7, 4350-4362	7.1	17
38	Ground-state charge transfer for NIR absorption with donor/acceptor molecules: interactions mediated via energetics and orbital symmetries. <i>Journal of Materials Chemistry C</i> , 2017 , 5, 275-281	7.1	17
37	Novel regioregular poly(3-hexylthiophene)-based polycationic block copolymers. <i>Polymer Bulletin</i> , 2011 , 66, 51-64	2.4	17
36	Influence of dopant on the electronic structure of spiro-oligophenyl-based disordered organic semiconductors. <i>Journal of Chemical Physics</i> , 2002 , 116, 8159-8167	3.9	15
35	An Electrochromic Bipolar Membrane Diode. <i>Advanced Materials</i> , 2015 , 27, 3909-14	24	14
34	A Biomimetic Evolvable Organic Electrochemical Transistor. <i>Advanced Electronic Materials</i> , 2001126	6.4	14
33	Greyscale and Paper Electrochromic Polymer Displays by UV Patterning. <i>Polymers</i> , 2019 , 11,	4.5	13
32	Conducting Polymer Electrocatalysts for Proton-Coupled Electron Transfer Reactions: Toward Organic Fuel Cells with Forest Fuels. <i>Advanced Sustainable Systems</i> , 2018 , 2, 1800021	5.9	13
31	Unraveling vertical inhomogeneity in vapour phase polymerized PEDOT:Tos films. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 18726-18734	13	13
30	Twinning Lignosulfonate with a Conducting Polymer via Counter-Ion Exchange for Large-Scale Electrical Storage. <i>Advanced Sustainable Systems</i> , 2019 , 3, 1900039	5.9	12
29	Solution processed liquid metal-conducting polymer hybrid thin films as electrochemical pH-threshold indicators. <i>Journal of Materials Chemistry C</i> , 2015 , 3, 7604-7611	7.1	12
28	A joint theoretical and experimental study on the electronic properties of phenyl-capped 3,4-ethylenedioxythiophene oligomers. <i>Journal of Chemical Physics</i> , 2003 , 119, 10415-10420	3.9	10
27	Negatively-Doped Conducting Polymers for Oxygen Reduction Reaction. <i>Advanced Energy Materials</i> , 2021 , 11, 2002664	21.8	10
26	Conducting-Polymer Bolometers for Low-Cost IR-Detection Systems. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800975	6.4	9
25	Electric Transport Properties in PEDOT Thin Films 2019 , 45-128		9
24	Reflective and transparent cellulose-based passive radiative coolers. <i>Cellulose</i> , 2021 , 28, 9383-9393	5.5	9
23	Thermodiffusion-Assisted Pyroelectrics Enabling Rapid and Stable Heat and Radiation Sensing. <i>Advanced Functional Materials</i> , 2019 , 29, 1900572	15.6	8
22	Effect of Sulfonation Level on Lignin/Carbon Composite Electrodes for Large-Scale Organic Batteries. <i>ACS Sustainable Chemistry and Engineering</i> , 2020 , 8, 17933-17944	8.3	8

21	Doped Conjugated Polymer Enclosing a Redox Polymer: Wiring Polyquinones with Poly(3,4-Ethylenedioxythiophene). <i>Advanced Energy and Sustainability Research</i> , 2020 , 1, 2000027	1.6	8
20	Ion-Selective Electrocatalysis on Conducting Polymer Electrodes: Improving the Performance of Redox Flow Batteries. <i>Advanced Functional Materials</i> , 2020 , 30, 2007009	15.6	7
19	Ultrasensitive electrolyte-assisted temperature sensor. <i>Npj Flexible Electronics</i> , 2020 , 4,	10.7	7
18	Water-in-Polymer Salt Electrolyte for Slow Self-Discharge in Organic Batteries. <i>Advanced Energy and Sustainability Research</i> , 2100165	1.6	6
17	The Interfacial Effect on the Open Circuit Voltage of Ionic Thermoelectric Devices with Conducting Polymer Electrodes. <i>Advanced Electronic Materials</i> , 2100506	6.4	6
16	A Photoelectron Spectroscopy Study of Ethylenedioxythiophene Adsorption on Polycrystalline Gold Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 660,		5
15	The role of absorbed water in ionic liquid cellulosic electrolytes for ionic thermoelectrics. <i>Journal of Materials Chemistry C</i> ,	7.1	5
14	Solar Heat-Enhanced Energy Conversion in Devices Based on Photosynthetic Membranes and PEDOT:PSS-Nanocellulose Electrodes. <i>Advanced Sustainable Systems</i> , 2020 , 4, 1900100	5.9	5
13	Towards printable water-in-polymer salt electrolytes for high power organic batteries. <i>Journal of Power Sources</i> , 2022 , 524, 231103	8.9	4
12	Quantum Molecular Dynamical Calculations of PEDOT 12-Oligomer and its Selenium and Tellurium Derivatives. <i>Journal of Electronic Materials</i> , 2017 , 46, 3071-3075	1.9	3
11	A Photoelectron Spectroscopy Study of Ethylenedioxythiophene Adsorption on Polycrystalline Gold Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 2000 , 660, 1		3
10	Semiconducting polymers: Probing the solid-liquid interface. <i>Nature Materials</i> , 2017 , 16, 704-705	27	2
9	Organic Electrochemical Devices: Ion Electron-Coupled Functionality in Materials and Devices Based on Conjugated Polymers (Adv. Mater. 22/2019). <i>Advanced Materials</i> , 2019 , 31, 1970160	24	1
8	Heat Sensing: Thermodiffusion-Assisted Pyroelectrics Enabling Rapid and Stable Heat and Radiation Sensing (Adv. Funct. Mater. 28/2019). <i>Advanced Functional Materials</i> , 2019 , 29, 1970194	15.6	1
7	Manufacturing Poly(3,4-Ethylenedioxythiophene) Electrocatalytic Sheets for Large-Scale H ₂ O ₂ Production. <i>Advanced Sustainable Systems</i> , 2100316	5.9	1
6	High-performance flexible thermoelectric modules based on high crystal quality printed TiS/hexylamine. <i>Science and Technology of Advanced Materials</i> , 2021 , 22, 907-916	7.1	1
5	PEDOT-Cellulose Gas Diffusion Electrodes for Disposable Fuel Cells. <i>Advanced Sustainable Systems</i> , 2019 , 3, 1900097	5.9	1
4	Oxygen reduction reaction at conducting polymer electrodes in a wider context: Insights from modelling concerning outer and inner sphere mechanisms. <i>Electrochemical Science Advances</i> ,		0

- 3 Thermoelectric Materials: High Thermoelectric Performance in n-Type Perylene Bisimide Induced by the Soret Effect (Adv. Mater. 45/2020). *Advanced Materials*, **2020**, 32, 2070335 24
- 2 Iron-Polyaniline Interfaces: Implications for Corrosion Protection. *ACS Symposium Series*, **2003**, 76-89 0.4
- 1 Stability of Indium Tin Oxide/Polymer Interfaces. *Materials Research Society Symposia Proceedings*, **2002**, 747, 1