Xavier Crispin

List of Publications by Year in Descending Order

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	Towards printable water-in-polymer salt electrolytes for high power organic batteries. *Journal of Power Sources*, **2022**, 524, 231103	8.9	4
127	High-performance flexible thermoelectric modules based on high crystal quality printed TiS/hexylamine. *Science and Technology of Advanced Materials*, **2021**, 22, 907-916	7.1	1
126	Negatively-Doped Conducting Polymers for Oxygen Reduction Reaction. *Advanced Energy Materials* , **2021**, 11, 2002664	21.8	10
125	Unconventional Thermoelectric Materials for Energy Harvesting and Sensing Applications. *Chemical Reviews*, **2021**, 121, 12465-12547	68.1	35
124	Reflective and transparent cellulose-based passive radiative coolers. *Cellulose*, **2021**, 28, 9383-9393	5.5	9
123	Wearable Thermoelectric Materials and Devices for Self-Powered Electronic Systems. *Advanced Materials*, **2021**, 33, e2102990	24	49
122	Ionic thermoelectric materials and devices. *Journal of Energy Chemistry*, **2021**, 61, 88-103	12	21
121	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	
120	Elastic conducting polymer composites in thermoelectric modules. *Nature Communications*, **2020**, 11, 1424	17.4	68
119	Can Hybrid Na-Air Batteries Outperform Nonaqueous Na-O Batteries?. *Advanced Science*, **2020**, 7, 1902866	15.6	39
118	Molecular Oxygen Activation at a Conducting Polymer: Electrochemical Oxygen Reduction Reaction at PEDOT Revisited, a Theoretical Study. *Journal of Physical Chemistry C*, **2020**, 124, 13263-13272	3.8	23
117	Solar Heat-Enhanced Energy Conversion in Devices Based on Photosynthetic Membranes and PEDOT:PSS-Nanocellulose Electrodes. *Advanced Sustainable Systems*, **2020**, 4, 1900100	5.9	5
116	Ion-Selective Electrocatalysis on Conducting Polymer Electrodes: Improving the Performance of Redox Flow Batteries. *Advanced Functional Materials*, **2020**, 30, 2007009	15.6	7
115	Effect of Sulfonation Level on Lignin/Carbon Composite Electrodes for Large-Scale Organic Batteries. *ACS Sustainable Chemistry and Engineering*, **2020**, 8, 17933-17944	8.3	8
114	Doped Conjugated Polymer Enclosing a Redox Polymer: Wiring Polyquinones with Poly(3,4-Ethylenedioxythiophene). *Advanced Energy and Sustainability Research*, **2020**, 1, 2000027	1.6	8
113	Ultrasensitive electrolyte-assisted temperature sensor. *Npj Flexible Electronics*, **2020**, 4,	10.7	7
112	Unraveling vertical inhomogeneity in vapour phase polymerized PEDOT:Tos films. *Journal of Materials Chemistry A*, **2020**, 8, 18726-18734	13	13

111	High Thermoelectric Performance in n-Type Perylene Bisimide Induced by the Soret Effect. *Advanced Materials*, **2020**, 32, e2002752	24	28
110	Cellulose-Conducting Polymer Aerogels for Efficient Solar Steam Generation. *Advanced Sustainable Systems*, **2020**, 4, 2000004	5.9	38
109	Organic Electrochemical Devices: Ion Electron□Coupled Functionality in Materials and Devices Based on Conjugated Polymers (Adv. Mater. 22/2019). *Advanced Materials*, **2019**, 31, 1970160	24	1
108	Printable acid-modified corn starch as non-toxic, disposable hydrogel-polymer electrolyte in supercapacitors. *Applied Physics A: Materials Science and Processing*, **2019**, 125, 1	2.6	23
107	Twinning Lignosulfonate with a Conducting Polymer via Counter-Ion Exchange for Large-Scale Electrical Storage. *Advanced Sustainable Systems*, **2019**, 3, 1900039	5.9	12
106	Conducting-Polymer Bolometers for Low-Cost IR-Detection Systems. *Advanced Electronic Materials*, **2019**, 5, 1800975	6.4	9
105	On the anomalous optical conductivity dispersion of electrically conducting polymers: ultra-wide spectral range ellipsometry combined with a Drude□Lorentz model. *Journal of Materials Chemistry C*, **2019**, 7, 4350-4362	7.1	17
104	Poly(3,4-ethylenedioxythiophene): Chemical Synthesis, Transport Properties, and Thermoelectric Devices. *Advanced Electronic Materials*, **2019**, 5, 1800918	6.4	65
103	Polymer gels with tunable ionic Seebeck coefficient for ultra-sensitive printed thermopiles. *Nature Communications*, **2019**, 10, 1093	17.4	96
102	Thermodiffusion-Assisted Pyroelectrics□Enabling Rapid and Stable Heat and Radiation Sensing. *Advanced Functional Materials*, **2019**, 29, 1900572	15.6	8
101	A Multiparameter Pressure-Temperature-Humidity Sensor Based on Mixed Ionic-Electronic Cellulose Aerogels. *Advanced Science*, **2019**, 6, 1802128	13.6	59
100	Greyscale and Paper Electrochromic Polymer Displays by UV Patterning. *Polymers*, **2019**, 11,	4.5	13
99	Interfaces in organic electronics. *Nature Reviews Materials*, **2019**, 4, 627-650	73.3	129
98	Heat Sensing: Thermodiffusion-Assisted Pyroelectrics□Enabling Rapid and Stable Heat and Radiation Sensing (Adv. Funct. Mater. 28/2019). *Advanced Functional Materials*, **2019**, 29, 1970194	15.6	1
97	Controlling the Organization of PEDOT:PSS on Cellulose Structures. *ACS Applied Polymer Materials*, **2019**, 1, 2342-2351	4.3	20
96	Asymmetric Aqueous Supercapacitor Based on p- and n-Type Conducting Polymers. *ACS Applied Energy Materials*, **2019**, 2, 5350-5355	6.1	21
95	Electric Transport Properties in PEDOT Thin Films **2019**, 45-128		9
94	Electrochemical hydrogen production on a metal-free polymer. *Sustainable Energy and Fuels*, **2019**, 3, 3387-3398	5.8	19

93	PEDOT-Cellulose Gas Diffusion Electrodes for Disposable Fuel Cells. *Advanced Sustainable Systems*, **2019**, 3, 1900097	5.9	1
92	Polarons, Bipolarons, And Absorption Spectroscopy of PEDOT. *ACS Applied Polymer Materials*, **2019**, 1, 83-94	4.3	130
91	Ion Electron-Coupled Functionality in Materials and Devices Based on Conjugated Polymers. *Advanced Materials*, **2019**, 31, e1805813	24	77
90	Electrocatalytic Production of Hydrogen Peroxide with Poly(3,4-ethylenedioxythiophene) Electrodes. *Advanced Sustainable Systems*, **2019**, 3, 1800110	5.9	45
89	Controlling the electrochromic properties of conductive polymers using UV-light. *Journal of Materials Chemistry C*, **2018**, 6, 4663-4670	7.1	22
88	Nanofibrillated Cellulose-Based Electrolyte and Electrode for Paper-Based Supercapacitors. *Advanced Sustainable Systems*, **2018**, 2, 1700121	5.9	27
87	A Free-Standing High-Output Power Density Thermoelectric Device Based on Structure-Ordered PEDOT:PSS. *Advanced Electronic Materials*, **2018**, 4, 1700496	6.4	58
86	Complementary Logic Circuits Based on High-Performance n-Type Organic Electrochemical Transistors. *Advanced Materials*, **2018**, 30, 1704916	24	138
85	Understanding the Impact of Film Disorder and Local Surface Potential in Ultraviolet Photoelectron Spectroscopy of PEDOT. *Macromolecular Rapid Communications*, **2018**, 39, 1700533	4.8	20
84	Charge transport and structure in semimetallic polymers. *Journal of Polymer Science, Part B: Polymer Physics*, **2018**, 56, 97-104	2.6	43
83	Conducting Polymer Electrocatalysts for Proton-Coupled Electron Transfer Reactions: Toward Organic Fuel Cells with Forest Fuels. *Advanced Sustainable Systems*, **2018**, 2, 1800021	5.9	13
82	Vapor phase synthesized poly(3,4-ethylenedioxythiophene)-trifluoromethanesulfonate as a transparent conductor material. *Journal of Materials Chemistry A*, **2018**, 6, 21304-21312	13	23
81	Correlating the Seebeck coefficient of thermoelectric polymer thin films to their charge transport mechanism. *Organic Electronics*, **2018**, 52, 335-341	3.5	56
80	Bulk electronic transport impacts on electron transfer at conducting polymer electrode-electrolyte interfaces. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 11899-11904	11.5	35
79	Thermoelectric materials and applications for energy harvesting power generation. *Science and Technology of Advanced Materials*, **2018**, 19, 836-862	7.1	279
78	Gelatin Hydrogel-Based Organic Electrochemical Transistors and Their Integrated Logic Circuits. *ACS Applied Materials & Interfaces*, **2018**, 10, 39083-39090	9.5	48
77	A Chemically Doped Naphthalenediimide-Bithiazole Polymer for n-Type Organic Thermoelectrics. *Advanced Materials*, **2018**, 30, e1801898	24	123
76	Ionic thermoelectric gating organic transistors. *Nature Communications*, **2017**, 8, 14214	17.4	75

75	Ionic Thermoelectric Figure of Merit for Charging of Supercapacitors. *Advanced Electronic Materials*, **2017**, 3, 1700013	6.4	89
74	Effect of (3-glycidyloxypropyl)trimethoxysilane (GOPS) on the electrical properties of PEDOT:PSS films. *Journal of Polymer Science, Part B: Polymer Physics*, **2017**, 55, 814-820	2.6	112
73	Oxygen-induced doping on reduced PEDOT. *Journal of Materials Chemistry A*, **2017**, 5, 4404-4412	13	66
72	Quantum Molecular Dynamical Calculations of PEDOT 12-Oligomer and its Selenium and Tellurium Derivatives. *Journal of Electronic Materials*, **2017**, 46, 3071-3075	1.9	3
71	Understanding the Capacitance of PEDOT:PSS. *Advanced Functional Materials*, **2017**, 27, 1700329	15.6	178
70	Thermoplasmonic Semitransparent Nanohole Electrodes. *Nano Letters*, **2017**, 17, 3145-3151	11.5	31
69	Semiconducting polymers: Probing the solid-liquid interface. *Nature Materials*, **2017**, 16, 704-705	27	2
68	Oxygen Reduction Reaction in Conducting Polymer PEDOT: Density Functional Theory Study. *Journal of Physical Chemistry C*, **2017**, 121, 12270-12277	3.8	45
67	Infrared electrochromic conducting polymer devices. *Journal of Materials Chemistry C*, **2017**, 5, 5824-5830	7.1	57
66	Thermoelectric Polymer Aerogels for Pressure–Temperature Sensing Applications. *Advanced Functional Materials*, **2017**, 27, 1703549	15.6	91
65	Poly(3,4-ethylenedioxythiophene)-tosylate (PEDOT-Tos) electrodes in thermogalvanic cells. *Journal of Materials Chemistry A*, **2017**, 5, 19619-19625	13	30
64	Ionic thermoelectric paper. *Journal of Materials Chemistry A*, **2017**, 5, 16883-16888	13	48
63	Ferroelectric polarization induces electronic nonlinearity in ion-doped conducting polymers. *Science Advances*, **2017**, 3, e1700345	14.3	36
62	Ground-state charge transfer for NIR absorption with donor/acceptor molecules: interactions mediated via energetics and orbital symmetries. *Journal of Materials Chemistry C*, **2017**, 5, 275-281	7.1	17
61	Thermoelectric Properties of Polymeric Mixed Conductors. *Advanced Functional Materials*, **2016**, 26, 6288-6296	15.6	65
60	Thermoelectric Properties of Solution-Processed n-Doped Ladder-Type Conducting Polymers. *Advanced Materials*, **2016**, 28, 10764-10771	24	186
59	High-Performance Hole Transport and Quasi-Balanced Ambipolar OFETs Based on DAA Thieno-benzo-isoindigo Polymers. *Advanced Electronic Materials*, **2016**, 2, 1500313	6.4	29
58	Energy Level Bending in Ultrathin Polymer Layers Obtained through Langmuir–Shäfer Deposition. *Advanced Functional Materials*, **2016**, 26, 1077-1084	15.6	33

57	Ionic thermoelectric supercapacitors. *Energy and Environmental Science*, **2016**, 9, 1450-1457	35.4	188
56	Single Crystal-Like Performance in Solution-Coated Thin-Film Organic Field-Effect Transistors. *Advanced Functional Materials*, **2016**, 26, 2379-2386	15.6	78
55	Thermoelectric Polymers and their Elastic Aerogels. *Advanced Materials*, **2016**, 28, 4556-62	24	124
54	Insulator to semimetallic transition in conducting polymers. *Physical Review B*, **2016**, 94,	3.3	28
53	Freestanding electrochromic paper. *Journal of Materials Chemistry C*, **2016**, 4, 9680-9686	7.1	32
52	An Organic Mixed Ion-Electron Conductor for Power Electronics. *Advanced Science*, **2016**, 3, 1500305	13.6	140
51	Solution processed liquid metal-conducting polymer hybrid thin films as electrochemical pH-threshold indicators. *Journal of Materials Chemistry C*, **2015**, 3, 7604-7611	7.1	12
50	Ionic Seebeck Effect in Conducting Polymers. *Advanced Energy Materials*, **2015**, 5, 1500044	21.8	134
49	Acido-basic control of the thermoelectric properties of poly(3,4-ethylenedioxythiophene)tosylate (PEDOT-Tos) thin films. *Journal of Materials Chemistry C*, **2015**, 3, 10616-10623	7.1	115
48	Experimental evidence that short-range intermolecular aggregation is sufficient for efficient charge transport in conjugated polymers. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 10599-604	11.5	141
47	Electronic plants. *Science Advances*, **2015**, 1, e1501136	14.3	143
46	An Electrochromic Bipolar Membrane Diode. *Advanced Materials*, **2015**, 27, 3909-14	24	14
45	Significant electronic thermal transport in the conducting polymer poly(3,4-ethylenedioxythiophene). *Advanced Materials*, **2015**, 27, 2101-6	24	158
44	Semi-metallic polymers. *Nature Materials*, **2014**, 13, 190-4	27	605
43	Selective remanent ambipolar charge transport in polymeric field-effect transistors for high-performance logic circuits fabricated in ambient. *Advanced Materials*, **2014**, 26, 7438-43	24	32
42	Ferroelectric polarization induces electric double layer bistability in electrolyte-gated field-effect transistors. *ACS Applied Materials & Interfaces*, **2014**, 6, 438-42	9.5	49
41	Effect of Gate Electrode Work-Function on Source Charge Injection in Electrolyte-Gated Organic Field-Effect Transistors. *Advanced Functional Materials*, **2014**, 24, 695-700	15.6	44
40	Bias stress effect in polyelectrolyte-gated organic field-effect transistors. *Applied Physics Letters*, **2013**, 102, 113306	3.4	21

39	Tuning the thermoelectric properties of conducting polymers in an electrochemical transistor. *Journal of the American Chemical Society*, **2012**, 134, 16456-9	16.4	230
38	Towards polymer-based organic thermoelectric generators. *Energy and Environmental Science*, **2012**, 5, 9345	35.4	601
37	Optimization of the thermoelectric figure of merit in the conducting polymer poly(3,4-ethylenedioxythiophene). *Nature Materials*, **2011**, 10, 429-33	27	1302
36	A Static Model for Electrolyte-Gated Organic Field-Effect Transistors. *IEEE Transactions on Electron Devices*, **2011**, 58, 3574-3582	2.9	27
35	Novel regioregular poly(3-hexylthiophene)-based polycationic block copolymers. *Polymer Bulletin*, **2011**, 66, 51-64	2.4	17
34	Polyelectrolyte-gated organic complementary circuits operating at low power and voltage. *Advanced Materials*, **2011**, 23, 4684-9	24	76
33	Controlling the dimensionality of charge transport in organic thin-film transistors. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 15069-73	11.5	112
32	Ultra-low voltage air-stable polyelectrolyte gated n-type organic thin film transistors. *Applied Physics Letters*, **2011**, 99, 063305	3.4	22
31	Thermoelectric properties of conducting polymers: The case of poly(3-hexylthiophene). *Physical Review B*, **2010**, 82,	3.3	173
30	Effect of the Ionic Conductivity on the Performance of Polyelectrolyte-Based Supercapacitors. *Advanced Functional Materials*, **2010**, 20, 4344-4350	15.6	66
29	A water-gate organic field-effect transistor. *Advanced Materials*, **2010**, 22, 2565-9	24	227
28	Insulator Polarization Mechanisms in Polyelectrolyte-Gated Organic Field-Effect Transistors. *Advanced Functional Materials*, **2009**, 19, 3334-3341	15.6	152
27	Effects of the Ionic Currents in Electrolyte-gated Organic Field-Effect Transistors. *Advanced Functional Materials*, **2008**, 18, 3529-3536	15.6	49
26	Low-Voltage Polymer Field-Effect Transistors Gated via a Proton Conductor. *Advanced Materials*, **2007**, 19, 97-101	24	196
25	The effect of pH on the electrochemical over-oxidation in PEDOT:PSS films. *Solid State Ionics*, **2007**, 177, 3521-3527	3.3	106
24	Polymer field-effect transistor gated via a poly(styrenesulfonic acid) thin film. *Applied Physics Letters*, **2006**, 89, 143507	3.4	87
23	The Origin of the High Conductivity of Poly(3,4-ethylenedioxythiophene)–Poly(styrenesulfonate) (PEDOT–PSS) Plastic Electrodes. *Chemistry of Materials*, **2006**, 18, 4354-4360	9.6	728
22	Transition between energy level alignment regimes at a low band gap polymer-electrode interfaces. *Applied Physics Letters*, **2006**, 89, 213503	3.4	72

21	Towards all-plastic flexible light emitting diodes. *Chemical Physics Letters*, **2006**, 433, 110-114	2.5	45
20	Transparent low-work-function indium tin oxide electrode obtainedby molecular scale interface engineering. *Applied Physics Letters*, **2004**, 85, 1616-1618	3.4	55
19	Electronic delocalization in discotic liquid crystals: a joint experimental and theoretical study. *Journal of the American Chemical Society*, **2004**, 126, 11889-99	16.4	132
18	Light induced damage in poly(3,4-ethylenedioxythiophene) and its derivatives studied by photoelectron spectroscopy. *Synthetic Metals*, **2004**, 141, 67-73	3.6	56
17	Iron-Polyaniline Interfaces: Implications for Corrosion Protection. *ACS Symposium Series*, **2003**, 76-89	0.4	
16	Conductivity, morphology, interfacial chemistry, and stability of poly(3,4-ethylene dioxythiophene)–poly(styrene sulfonate): A photoelectron spectroscopy study. *Journal of Polymer Science, Part B: Polymer Physics*, **2003**, 41, 2561-2583	2.6	432
15	Electrochemical and XPS Studies toward the Role of Monomeric and Polymeric Sulfonate Counterions in the Synthesis, Composition, and Properties of Poly(3,4-ethylenedioxythiophene). *Macromolecules*, **2003**, 36, 3337-3344	5.5	255
14	The effects of solvents on the morphology and sheet resistance in poly(3,4-ethylenedioxythiophene)–polystyrenesulfonic acid (PEDOT–PSS) films. *Synthetic Metals*, **2003**, 139, 1-10	3.6	641
13	A joint theoretical and experimental study on the electronic properties of phenyl-capped 3,4-ethylenedioxythiophene oligomers. *Journal of Chemical Physics*, **2003**, 119, 10415-10420	3.9	10
12	Electronic structure of highly ordered films of self-assembled graphitic nanocolumns. *Physical Review B*, **2003**, 68,	3.3	49
11	Influence of dopant on the electronic structure of spiro-oligophenyl-based disordered organic semiconductors. *Journal of Chemical Physics*, **2002**, 116, 8159-8167	3.9	15
10	Stability of Indium Tin Oxide/Polymer Interfaces. *Materials Research Society Symposia Proceedings*, **2002**, 747, 1		
9	Characterization of the interface dipole at organic/ metal interfaces. *Journal of the American Chemical Society*, **2002**, 124, 8131-41	16.4	434
8	A Photoelectron Spectroscopy Study of Ethylenedioxythiophene Adsorption on Polycrystalline Gold Surfaces. *Materials Research Society Symposia Proceedings*, **2000**, 660, 1		3
7	A Photoelectron Spectroscopy Study of Ethylenedioxythiophene Adsorption on Polycrystalline Gold Surfaces. *Materials Research Society Symposia Proceedings*, **2000**, 660,		5
6	The role of absorbed water in ionic liquid cellulosic electrolytes for ionic thermoelectrics. *Journal of Materials Chemistry C*,	7.1	5
5	Water-in-Polymer Salt Electrolyte for Slow Self-Discharge in Organic Batteries. *Advanced Energy and Sustainability Research*,2100165	1.6	6
4	Manufacturing Poly(3,4-Ethylenedioxythiophene) Electrocatalytic Sheets for Large-Scale H 2 O 2 Production. *Advanced Sustainable Systems*,2100316	5.9	1

3	A Biomimetic Evolvable Organic Electrochemical Transistor. *Advanced Electronic Materials*,2001126	6.4	14
2	The Interfacial Effect on the Open Circuit Voltage of Ionic Thermoelectric Devices with Conducting Polymer Electrodes. *Advanced Electronic Materials*,2100506	6.4	6
1	Oxygen reduction reaction at conducting polymer electrodes in a wider context: Insights from modelling concerning outer and inner sphere mechanisms. *Electrochemical Science Advances*,		0