Toribio FernÃ¡ndez Otero

List of Publications by Year
in descending order

297 papers	9,635 citations	30070 54 h-index	58581 82 g-index
302 all docs	302 docs citations	302 times ranked	5188 citing authors

#	Article	IF	Citations
1	Electrochemomechanical properties from a bilayer: polypyrrole / non-conducting and flexible material â€" artificial muscle. Journal of Electroanalytical Chemistry, 1992, 341, 369-375.	3.8	286
2	Biomimetic electrochemistry from conducting polymers. A review. Electrochimica Acta, 2012, 84, 112-128.	5.2	269
3	Artificial Muscles with Tactile Sensitivity. Advanced Materials, 2003, 15, 279-282.	21.0	251
4	Reinterpretation of Polypyrrole Electrochemistry after Consideration of Conformational Relaxation Processes. Journal of Physical Chemistry B, 1997, 101, 3688-3697.	2.6	200
5	Soft and Wet Conducting Polymers for Artificial Muscles. Advanced Materials, 1998, 10, 491-494.	21.0	187
6	Artificial muscles from bilayer structures. Synthetic Metals, 1993, 57, 3713-3717.	3.9	180
7	Bilayer dimensions and movement in artificial muscles. Bioelectrochemistry, 1997, 42, 117-122.	1.0	175
8	A new model for electrochemical oxidation of polypyrrole under conformational relaxation control. Journal of Electroanalytical Chemistry, 1995, 394, 211-216.	3.8	158
9	Fabrication of conductive electrospun silk fibroin scaffolds by coating with polypyrrole for biomedical applications. Bioelectrochemistry, 2012, 85, 36-43.	4.6	146
10	Electrochemical control of the morphology, adherence, appearance and growth of polypyrrole films. Synthetic Metals, 1988, 26, 79-88.	3.9	132
11	Sensing characteristics of a conducting polymer/hydrogel hybrid microfiber artificial muscle. Sensors and Actuators B: Chemical, 2011, 160, 1180-1190.	7.8	132
12	Artificial muscle: movement and position control. Chemical Communications, 2004, , 284.	4.1	128
13	Artificial muscles based on conducting polymers. Bioelectrochemistry, 1995, 38, 411-414.	1.0	125
14	A sensing muscle. Sensors and Actuators B: Chemical, 2003, 96, 152-156.	7.8	124
15	A solid state artificial muscle based on polypyrrole and a solid polymeric electrolyte working in air. Chemical Communications, 1997, , 2217-2218.	4.1	122
16	Biomimetic Conducting Polymers: Synthesis, Materials, Properties, Functions, and Devices. Polymer Reviews, 2013, 53, 311-351.	10.9	119
17	Comparative Study of Conducting Polymers by the ESCR Model. Journal of Physical Chemistry B, 2003, 107, 6730-6738.	2.6	118
18	Electrochemical generation of polythiophene films on platinum electrodes. Polymer, 1988, 29, 1522-1527.	3.8	116

#	Article	IF	Citations
19	Role of Conformational Relaxation on the Voltammetric Behavior of Polypyrrole. Experiments and Mathematical Model. Journal of Physical Chemistry B, 1997, 101, 8525-8533.	2.6	102
20	Effect of the Electrolyte Concentration and Substrate on Conducting Polymer Actuators. Langmuir, 2014, 30, 3894-3904.	3.5	96
21	Physical and chemical awareness from sensing polymeric artificial muscles. Experiments and modeling. Progress in Polymer Science, 2015, 44, 62-78.	24.7	95
22	Biomimetic Structural Electrochemistry from Conducting Polymers: Processes, Charges, and Energies. Coulovoltammetric Results from Films on Metals Revisited. Advanced Functional Materials, 2013, 23, 3929-3940.	14.9	91
23	Metal-functionalized covalent organic frameworks as precursors of supercapacitive porous N-doped graphene. Journal of Materials Chemistry A, 2017, 5, 4343-4351.	10.3	91
24	Conformational relaxation during polypyrrole oxidation: From experiment to theory. Electrochimica Acta, 1996, 41, 1863-1869.	5.2	90
25	Sensing and Tactile Artificial Muscles from Reactive Materials. Sensors, 2010, 10, 2638-2674.	3.8	89
26	Soft, wet, and reactive polymers. Sensing artificial muscles and conformational energy. Journal of Materials Chemistry, 2009, 19, 681-689.	6.7	87
27	Parallel kinetic studies of the electrogeneration of conducting polymers: mixed materials, composition and properties control. Electrochimica Acta, 1994, 39, 245-253.	5.2	77
28	Biomimetic intracellular matrix (ICM) materials, properties and functions. Full integration of actuators and sensors. Journal of Materials Chemistry B, 2013, 1, 26-38.	5.8	77
29	Conducting polymers as positive electrodes in rechargeable lithium-ion batteries. Journal of Power Sources, 1999, 81-82, 838-841.	7.8	76
30	Polypyrrole:â€‰ Diffusion Coefficients and Degradation by Overoxidation. Journal of Physical Chemistry B, 2004, 108, 15429-15433.	2.6	76
31	Conformational movements explain logarithmic relaxation in conducting polymers. Electrochimica Acta, 1999, 44, 1893-1900.	5.2	75
32	Biomimetic Dual Sensing-Actuators Based on Conducting Polymers. Galvanostatic Theoretical Model for Actuators Sensing Temperature. Journal of Physical Chemistry B, 2012, 116, 5279-5290.	2.6	75
33	Biomimetic polypyrrole based all three-in-one triple layer sensing actuators exchanging cations. Journal of Materials Chemistry, 2011, 21, 17265.	6.7	74
34	Revisiting the Electrochemical and Polymeric Behavior of a Polypyrrole Free-Standing Electrode in Aqueous Solution. Journal of Physical Chemistry B, 2003, 107, 13954-13961.	2.6	72
35	Electrospun silk fibroin scaffolds coated with reduced graphene promote neurite outgrowth of PC-12 cells under electrical stimulation. Materials Science and Engineering C, 2017, 79, 315-325.	7.3	71
36	Formation and modification of polypyrrole films on platinum electrodes by cyclic voltammetry and anodic polarization. Polymer, 1987, 28, 651-658.	3.8	68

#	Article	IF	Citations
37	Anodic shrinking and compaction of polypyrrole blend: electrochemical reduction under conformational relaxation kinetic control. Journal of Electroanalytical Chemistry, 2004, 561, 167-171.	3.8	68
38	Characterization of the movement of polypyrroleâ€“dodecylbenzenesulfonateâ€“perchlorate/tape artificial muscles. Faradaic control of reactive artificial molecular motors and muscles. Electrochimica Acta, 2011, 56, 3721-3726.	5.2	68
39	An interpretation of the vibrational spectra of insulating and electrically conducting poly(3â€methylthiophene) aided by a theoretical dynamical model. Journal of Chemical Physics, 1994, 100, 114-129.	3.0	66
40	Artificial Muscles: A Tool To Quantify Exchanged Solvent during Biomimetic Reactions. Chemistry of Materials, 2012, 24, 4093-4099.	6.7	66
41	Polypyrrole artificial muscles: a new rhombic element. Construction andâ£electrochemomechanical characterization. Journal of Applied Electrochemistry, 2006, 36, 205-214.	2.9	64
42	Structural and Biomimetic Chemical Kinetics: Kinetic Magnitudes Include Structural Information. Advanced Functional Materials, 2013, 23, 404-416.	14.9	63
43	Structural Electrochemistry: Conductivities and Ionic Content from Rising Reduced Polypyrrole Films. Advanced Functional Materials, 2014, 24, 1259-1264.	14.9	62
44	Diffusion Coefficients in Swelling Polypyrrole:Â ESCR and Cottrell Modelsâ€. Journal of Physical Chemistry B, 2005, 109, 1723-1729.	2.6	60
45	Biomimetic Dual Sensing-Actuators: Theoretical Description. Sensing Electrolyte Concentration and Driving Current. Journal of Physical Chemistry B, 2012, 116, 9223-9230.	2.6	60
46	Exchanged Cations and Water during Reactions in Polypyrrole Macroions from Artificial Muscles. ChemPhysChem, 2014, 15, 293-301.	2.1	59
47	Intrinsic Asymmetry, Hysteresis, and Conformational Relaxation during Redox Switching in Polypyrrole:Â A Coulovoltametric Study. Journal of Physical Chemistry B, 1998, 102, 7535-7540.	2.6	58
48	Solvent effects on the charge storage ability in polypyrrole. Electrochimica Acta, 1999, 44, 2053-2059.	5.2	57
49	Nucleation, non-stoiquiometry and sensing muscles from conducting polymers. Electrochimica Acta, 2004, 49, 3719-3726.	5.2	57
50	Kinetics of the polypyrrole electrogeneration from aqueous solution. An ex situ microgravimetric study. Electrochimica Acta, 1992, 37, 297-307.	5.2	56
51	Chronoamperometric Study of Conformational Relaxation in PPy(DBS). Journal of Physical Chemistry B, 2009, 113, 1277-1293.	2.6	56
52	Fabrication of electrospun silk fibroin scaffolds coated with graphene oxide and reduced graphene for applications in biomedicine. Bioelectrochemistry, 2016, 108, 36-45.	4.6	56
53	Ionic exchanges, structural movements and driven reactions in conducting polymers from bending artificial muscles. Sensors and Actuators B: Chemical, 2014, 199, 27-30.	7.8	55
54	Polypyrrole Asymmetric Bilayer Artificial Muscle: Driven Reactions, Cooperative Actuation, and Osmotic Effects. Advanced Functional Materials, 2015, 25, 1535-1541.	14.9	55

#	Article	IF	Citations
55	Electrogeneration of polythiophene films: temperature influence and electrical properties. Polymer, 1990, 31, 220-222.	3.8	54
56	Comparative kinetic studies of polypyrrole electrogeneration from acetonitrile solutions. Journal of Applied Electrochemistry, 1992, 22, 369-375.	2.9	54
57	Molecular dynamic simulation of the hydration and diffusion of chloride ions from bulk water to polypyrrole matrix. Journal of Chemical Physics, 2004, 120, 1951-1957.	3.0	53
58	Magnetic Nanocomposites Formed by FeNi₃ Nanoparticles Embedded in Graphene. Application as Supercapacitors. Particle and Particle Systems Characterization, 2013, 30, 853-863.	2.3	53
59	Oxidation-reduction of polypyrrole films. Kinetics, structural model and applications. Solid State Ionics, 1993, 63-65, 803-809.	2.7	51
60	UVâ^'Visible Spectroelectrochemistry of Conducting Polymers. Energy Linked to Conformational Changes. Langmuir, 1999, 15, 1323-1327.	3.5	51
61	Potentiostatic Oxidation of Polyaniline under Conformational Relaxation Control:Â Experimental and Theoretical Study. Journal of Physical Chemistry B, 2003, 107, 4269-4276.	2.6	51
62	Model of an Asymmetric DPPC/DPPS Membrane:Â Effect of Asymmetry on the Lipid Properties. A Molecular Dynamics Simulation Study. Journal of Physical Chemistry B, 2006, 110, 2358-2363.	2.6	51
63	Activation energy for polypyrrole oxidation: film thickness influence. Journal of Solid State Electrochemistry, 2011, 15, 1169-1178.	2.5	51
64	Electro-chemo-biomimetics from conducting polymers: fundamentals, materials, properties and devices. Journal of Materials Chemistry B, 2016, 4, 2069-2085.	5.8	51
65	Reversible electrochemical reactions in conducting polymers: A molecular approach to artificial muscles. Journal of Physical Organic Chemistry, 1996, 9, 381-386.	1.9	50
66	Ionic diffusion across oxidized polypyrrole membranes and during oxidation of the free-standing film. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 270-271, 226-231.	4.7	49
67	Structural Electrochemistry from Freestanding Polypyrrole Films: Full Hydrogen Inhibition from Aqueous Solutions. Advanced Functional Materials, 2014, 24, 1265-1274.	14.9	49
68	Coulovoltammetric and Dynamovoltammetric Responses from Conducting Polymers and Bilayer Muscles as Tools to Identify Reaction-driven Structural Changes. A review. Electrochimica Acta, 2016, 212, 440-457.	5.2	49
69	In Situ FTIR Spectroscopy Study of the Break-In Phenomenon Observed for PPy/PVS Films in Acetonitrile. Journal of Physical Chemistry B, 2005, 109, 21078-21085.	2.6	48
70	Optimization, preparation, and electrical short evaluation for 30cm2 active area dual conjugated polymer electrochromic windows. Organic Electronics, 2007, 8, 367-381.	2.6	48
71	Hybrid Material Polypyrrole/[SiCr(H2O)W11O39]5-:Â Electrogeneration, Properties, and Stability under Cycling. Journal of Physical Chemistry B, 2002, 106, 7585-7591.	2.6	47
72	Nucleation and Nonstoichiometry in Electrochromic Conducting Polymers. ChemPhysChem, 2003, 4, 868-872.	2.1	46

#	Article	IF	Citations
73	Polymeric actuators: Solvents tune reaction-driven cation to reaction-driven anion actuation. Sensors and Actuators B: Chemical, 2016, 233, 328-336.	7.8	46
74	Linear movements from two bending triple-layers. Electrochimica Acta, 2007, 53, 1252-1258.	5.2	45
75	Highâ€Speed Carbon Nanotube Actuators Based on an Oxidation/Reduction Reaction. Chemistry - A European Journal, 2011, 17, 10965-10971.	3.3	45
76	Nitrate and chloride transport through a smart membrane. Journal of Membrane Science, 2007, 290, 241-249.	8.2	44
77	Contrast limitations of dual electrochromic systems. Electrochemistry Communications, 2008, 10, 1-6.	4.7	44
78	Maximum contrast from an electrochromic material. Electrochemistry Communications, 2007, 9, 1931-1935.	4.7	43
79	Mechanical awareness from sensing artificial muscles: Experiments and modeling. Sensors and Actuators B: Chemical, 2014, 195, 365-372.	7.8	43
80	Mechanical characterization of free-standing polypyrrole film. Materials Science and Engineering C, 2007, 27, 18-22.	7.3	42
81	Capacitive and faradic charge components in high-speed carbon nanotube actuator. Electrochimica Acta, 2012, 60, 177-183.	5.2	42
82	Creeping and structural effects in Faradaic artificial muscles. Journal of Solid State Electrochemistry, 2015, 19, 2683-2689.	2.5	41
83	Polypyrrole oxidation: Kinetic coefficients, activation energy and conformational energy. Synthetic Metals, 2009, 159, 681-688.	3.9	40
84	Polythiophene electrogeneration on a rotating disk electrode. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 310, 219-237.	0.1	39
85	Characterization of the Reduced and Oxidized Polypyrrole/Water Interface:Â A Molecular Dynamics Simulation Study. Journal of Physical Chemistry B, 2003, 107, 9339-9343.	2.6	39
86	High contrast solid-state electrochromic devices from substituted 3,4-propylenedioxythiophenes using the dual conjugated polymer approach. Synthetic Metals, 2007, 157, 261-268.	3.9	38
87	Polythiophene oxidation: Rate coefficients, activation energy and conformational energies. Electrochimica Acta, 2008, 53, 3166-3174.	5.2	38
88	Role of protons on the electrochemical polymerization of pyrrole from acetonitrile solutions. Journal of Electroanalytical Chemistry, 1994, 379, 513-516.	3.8	37
89	Electrochemical oxidation of polypyrrole under conformational relaxation control. Electrochemical relaxation model. Synthetic Metals, 1996, 76, 285-288.	3.9	37
90	Perchlorate Interchange during the Redox Process of PPy/PVS Films in an Acetonitrile Medium. A Voltammetric and EDX Study. Journal of Physical Chemistry B, 2005, 109, 907-914.	2.6	36

#	Article	IF	Citations
91	Fibroin/Polyaniline microfibrous mat. Preparation and electrochemical characterization as reactive sensor. Electrochimica Acta, 2014, 123, 501-510.	5.2	36
92	Influence of the counterion size on the rate of electrochemical relaxation in polypyrrole. Synthetic Metals, 1996, 83, 205-208.	3.9	35
93	Electroâ€conductive doubleâ€network hydrogels. Journal of Polymer Science, Part B: Polymer Physics, 2012, 50, 790-796.	2.1	35
94	Reactions drive conformations. Biomimetic properties and devices, theoretical description. Journal of Materials Chemistry B, 2013, 1, 3754.	5.8	35
95	Determination of the solubility parameter of poly(ethylene oxide) at 25Â°C by gas-liquid chromatography. Polymer, 1982, 23, 1361-1366.	3.8	34
96	Poly(3-methylthiophene) oxidation under chemical control. Rate coefficients change with prepolarization potentials of reduction. Journal of Electroanalytical Chemistry, 2007, 610, 96-101.	3.8	33
97	Synthesis, electropolymerization and oxidation kinetics of an anthraquinone-functionalized poly(3,4-ethylenedioxythiophene). Electrochimica Acta, 2010, 55, 1535-1542.	5.2	33
98	Kinetics of polypyrrole and polythiophene electrogeneration followed by microgravimetry. Synthetic Metals, 1991, 43, 2831-2836.	3.9	32
99	Electrogeneration of polypyrrole in presence of polyvinylsulphonate. Kinetic study. Electrochimica Acta, 1996, 41, 213-220.	5.2	32
100	Electropolymerization kinetics of pyrrole in aqueous solution on graphite felt electrodes. Synthetic Metals, 2001, 123, 487-492.	3.9	32
101	The Behavior of Polypyrrole-Coated Electrodes in Propylene Carbonate Solutions. Journal of the Electrochemical Society, 2002, 149, E204.	2.9	32
102	Conformational relaxation in conducting polymers: effect of polymerâ€“solvent interactions. Journal of Non-Crystalline Solids, 1998, 235-237, 619-622.	3.1	31
103	Hybrid Materials Polypyrrole/PW12O403-. 2. Physical, Spectroscopic and Electrochemical Characterization. Journal of Physical Chemistry B, 2000, 104, 10528-10533.	2.6	31
104	An electromechanical model for the electrochemical oxidation of conducting polymers. Synthetic Metals, 1996, 76, 293-295.	3.9	30
105	Influence of synthesis conditions on polypyrrole-poly(styrenesulphonate) composite electroactivity. Journal of Electroanalytical Chemistry, 1996, 412, 109-116.	3.8	30
106	Hybrid Materials Polypyrrole/PW12O403-. 1. Electrochemical Synthesis, Kinetics and Specific Charges. Journal of Physical Chemistry B, 2000, 104, 10522-10527.	2.6	30
107	Electrochemical study of dual conjugated polymer electrochromic devices. Journal of Electroanalytical Chemistry, 2007, 609, 75-84.	3.8	30
108	Polypyrroleâ€“para-phenolsulfonic acid/tape artificial muscle as a tool to clarify biomimetic driven reactions and ionic exchanges. Journal of Materials Chemistry B, 2014, 2, 1954-1965.	5.8	30

#	Article	IF	Citations
109	Asymmetric Bilayer Muscles. Cooperative and Antagonist Actuation. Electrochimica Acta, 2016, 195, 9-18.	5.2	30
110	Improving the onset potential and Tafel slope determination of earth-abundant water oxidation electrocatalysts. Electrochimica Acta, 2021, 388, 138613.	5.2	30
111	Hybrid molecular materials based on organic molecules and the inorganic magnetic cluster [M4(H2O)2(PW9O34)2]10â^'(M2+=Co, Mn). Journal of Materials Chemistry, 1998, 8, 309-312.	6.7	29
112	Polyurethane microfibrous mat templated polypyrrole: Preparation and biomimetic reactive sensing capabilities. Journal of Electroanalytical Chemistry, 2014, 719, 47-53.	3.8	29
113	Chemical sensors from the cooperative actuation of multistep electrochemical molecular machines of polypyrrole: Voltammetric study. Sensors and Actuators B: Chemical, 2017, 253, 958-966.	7.8	29
114	Reduction and Oxidation Doping Kinetics of an Electropolymerized Donorâ^'Acceptor Low-Bandgap Conjugated Copolymer. Journal of Physical Chemistry B, 2010, 114, 12777-12784.	2.6	28
115	Using reactive artificial muscles to determine water exchange during reactions. Smart Materials and Structures, 2013, 22, 104019.	3.5	28
116	Potentiostatic oxidation of poly(3-methylthiophene): Influence of the prepolarization time at cathodic potentials on the kinetics. Journal of Electroanalytical Chemistry, 2008, 618, 39-44.	3.8	27
117	Electrochemistry of Carbon Nanotubes: Reactive Processes, Dual Sensingâ€"Actuating Properties and Devices. ChemPhysChem, 2012, 13, 2108-2114.	2.1	27
118	Electrochemical characterization of PEDOTâ€"PSSâ€"Sorbitol electrodes. Sorbitol changes cation to anion interchange during reactions. Journal of Electroanalytical Chemistry, 2011, 657, 23-27.	3.8	26
119	Functional Hybrid Materials Containing Polypyrrole and Polyoxometalate Clusters: Searching for High Conductivities and Specific Charges. ChemPhysChem, 2002, 3, 808-811.	2.1	25
120	Characterization of polypyrrole degradation by the conformational relaxation model. Electrochimica Acta, 2006, 51, 6238-6242.	5.2	25
121	Graphene electrochemical responses sense surroundings. Electrochimica Acta, 2012, 81, 49-57.	5.2	25
122	Polypyrrole electrogeneration at different potentials. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 312, 285-291.	0.1	24
123	Oxidized and reduced poly(2,5-di-(-2-thienyl)-pyrrole): solubilities, electrodissolution and molar mass. Journal of Electroanalytical Chemistry, 1995, 392, 55-61.	3.8	24
124	Electrogeneration of polypyrrole-carboxymethylcellulose composites: electrochemical, microgravimetric and morphological studies. Electrochimica Acta, 1998, 43, 1089-1100.	5.2	24
125	Electro-assisted solvent extraction of Cu2+, Ni2+ and Cd2+. Electrochimica Acta, 1998, 44, 29-38.	5.2	24
126	Photopatterned electrochromic conjugated polymer films via precursor approach. Polymer, 2008, 49, 3686-3692.	3.8	24

#	Article	IF	Citations
127	Conformational energy from the oxidation kinetics of poly(3,4â€ethylenedioxythiophene) films. Polymer International, 2010, 59, 329-336.	3.1	24
128	Mechanism of enhancement of the corrosion of steel by alternating currents and electrocatalytic properties of cycled steel surfaces. Journal of Applied Electrochemistry, 1990, 20, 26-31.	2.9	23
129	Polypyrrole electrogeneration at different potentials in acetonitrile and acetonitrile/water solutions. Synthetic Metals, 1993, 55, 1418-1423.	3.9	22
130	Interpenetrated triple polymeric layer as electrochemomechanical actuator: Solvent influence and diffusion coefficient of counterions. Electrochimica Acta, 2017, 230, 461-469.	5.2	22
131	Conductivity and capacity of polythiophene films: Impedance study. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1988, 244, 311-318.	0.1	21
132	Optimization of the electrical conductivity of polypyrrole films electrogenerated on aluminium electrodes. Synthetic Metals, 1996, 76, 301-303.	3.9	21
133	Electrodeposition of Cu on deeply reduced polypyrrole electrodes at very high cathodic potentials. Journal of Materials Chemistry, 2005, 15, 1662.	6.7	21
134	Phase Transition of a DPPC Bilayer Induced by an External Surface Pressure:Â From Bilayer to Monolayer Behavior. A Molecular Dynamics Simulation Study. Langmuir, 2006, 22, 5818-5824.	3.5	21
135	Reactive conducting polymers as actuating sensors and tactile muscles. Bioinspiration and Biomimetics, 2008, 3, 035004.	2.9	21
136	Reactions driving conformational movements (molecular motors) in gels: conformational and structural chemical kinetics. Physical Chemistry Chemical Physics, 2017, 19, 1718-1730.	2.8	21
137	Anodic electrosynthesis and cathodic electrodissolution of poly(2,5-di-(2-thienyl)pyrrole). A new way of processibility. Synthetic Metals, 1993, 61, 253-258.	3.9	20
138	Synthesis, electropolymerization and characterization of a cross-linked PEDOT derivative. Journal of Materials Chemistry, 2012, 22, 4944.	6.7	20
139	Electrochemo-dynamical characterization of polypyrrole actuators coated on gold electrodes. Physical Chemistry Chemical Physics, 2016, 18, 827-836.	2.8	20
140	Towards artificial proprioception from artificial muscles constituted by self-sensing multi-step electrochemical macromolecular motors. Electrochimica Acta, 2021, 368, 137576.	5.2	20
141	Solid state transitions during oxidation/reduction processes in conducting polymers. Electrochemical detection and study. Synthetic Metals, 1991, 43, 2947-2952.	3.9	19
142	Polypyrrole freeâ€standing electrodes sense temperature or current during reaction. Polymer International, 2010, 59, 337-342.	3.1	19
143	Concept of an artificial muscle design on polypyrrole nanofiber scaffolds. PLoS ONE, 2020, 15, e0232851.	2.5	19
144	Electrochemical oxidation of 2,5-di-(-2-thienyl)-pyrrole in acetonitrile: cathodic stripping of the electrogenerated conducting polymer. Journal of Electroanalytical Chemistry, 1994, 370, 231-239.	3.8	18

#	Article	IF	Citations
145	â€˜In situâ€™ spectroelectrochemical study of a series of Î±,Î±â€²-dimethyl end-capped oligothiophene films. Synthetic Metals, 1998, 95, 93-100.	3.9	18
146	Statistical Design to Optimize Specific Charges in Polypyrrole by Electrosynthesis. Journal of the Electrochemical Society, 1999, 146, 4118-4123.	2.9	18
147	Electrogeneration and electrochemical properties of hybrid materials: polypyrrole doped with polyoxometalates PW12â^'xMoxO403â^' (x=0,3,6,12). Synthetic Metals, 2002, 129, 53-59.	3.9	18
148	Reactive polymer films. Synthetic Metals, 2010, 160, 425-431.	3.9	18
149	Conducting Polymers, Electrochemistry, and Biomimicking Processes. , 2002, , 307-434.		17
150	Structural electrochemistry. Chronopotentiometric responses from rising compacted polypyrrole electrodes: experiments and model. RSC Advances, 2014, 4, 29139-29145.	3.6	17
151	Faradaic and Capacitive Components of the CNT Electrochemical Responses. Frontiers in Materials, 2016, 3, .	2.4	17
152	Graphene adsorbed on silk-fibroin meshes: Biomimetic and reversible conformational movements driven by reactions. Electrochimica Acta, 2016, 209, 521-528.	5.2	16
153	Construction and coulodynamic characterization of PPy-DBS-MWCNT/tape bilayer artificial muscles. RSC Advances, 2016, 6, 68538-68544.	3.6	16
154	Dependence of polypyrrole production on potential. Synthetic Metals, 1992, 51, 313-319.	3.9	15
155	Stability of thick polypyrrole films electrogenerated on stainless steel. Synthetic Metals, 1993, 54, 217-222.	3.9	15
156	Electrogeneration of a composite polypyrrole-carboxymethylcellulose: kinetic study. Journal of Electroanalytical Chemistry, 1995, 397, 171-176.	3.8	15
157	Self-supported semi-interpenetrating polymer networks as reactive ambient sensors. Journal of Electroanalytical Chemistry, 2011, 652, 37-43.	3.8	15
158	Polymerization of methyl methacrylate initiated by the redox system Ce(IV)/isobutyl alcohol. Journal of Polymer Science, Polymer Letters Edition, 1985, 23, 79-83.	0.4	14
159	Electrochemical doping in a series of Î±, Î±â€²-dimethyl end-capped oligothienyls An FT-Raman confirmation of a radical cation generation. Optical Materials, 1998, 9, 82-87.	3.6	14
160	Reversible 2D to 3D electrode transitions in polypyrrole films. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 1998, 134, 85-94.	4.7	14
161	Electrochemistry and conducting polymers: soft, wet, multifunctional and biomimetic materials. Synthetic Metals, 2001, 119, 419-420.	3.9	14
162	Electrons create a reaction. Nature Materials, 2008, 7, 429-430.	27.5	14

#	Article	IF	Citations
163	Electropolymerization of naphthaleneamidinemonoimide-modified poly(thiophene). Physical Chemistry Chemical Physics, 2011, 13, 16513.	2.8	14
164	A chemical and electrochemical multivalent memory made from FeNi3-graphene nanocomposites. Electrochemistry Communications, 2014, 39, 15-18.	4.7	14
165	The cooperative actuation of polypyrrole electrochemical machines senses the chemical conditions as muscles sense their fatigue state. Sensors and Actuators B: Chemical, 2018, 263, 493-501.	7.8	14
166	Electrogeneration and solubilities of oxidized poly(2,5-di-(-2-thienyl) -thiophene). Journal of Electroanalytical Chemistry, 1996, 418, 115-122.	3.8	13
167	Molecular Dynamics Simulations of the Orientation and Reorientational Dynamics of Water and Polypyrrole Rings as a Function of the Oxidation State of the Polymer. Macromolecular Theory and Simulations, 2005, 14, 40-48.	1.4	13
168	Effect of the Doping Ion on the Electrical Response of a Free-Standing Polypyrrole Strip Subjected to Different Preloads:â€‰ Perspectives and Limitations Associated with the Use of These Devices as Actuators. Macromolecules, 2006, 39, 9551-9556.	4.8	13
169	Electropolymerization and characterization of COOH-functionalized poly(3,4-ethylenedioxythiophene): Ionic exchanges. Electrochimica Acta, 2011, 56, 10238-10245.	5.2	13
170	A Potentiostatic/Galvanostatic Study and Theoretical Description of Polypyrrole Film Electrodes: A Model of the Intracellular Matrix of Ectothermic Muscle Cells. ChemElectroChem, 2017, 4, 3091-3099.	3.4	13
171	The cooperative actuation of multistep electrochemical molecular machines senses the working temperature: voltammetric study. Electrochimica Acta, 2017, 257, 403-411.	5.2	13
172	Electroinitiated polymerization of acrylamide in DMF. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1991, 304, 153-170.	0.1	12
173	Electrogeneration of thick polythiophene films on stainless steel. Synthetic Metals, 1993, 55, 1574-1579.	3.9	12
174	Structural reorganization of the PPy/DBS films caused by the reduction branch of potentiodynamic polymerization. Electrochimica Acta, 2007, 52, 3621-3629.	5.2	12
175	A COTS-Based Portable System to Conduct Accurate Substance Concentration Measurements. Sensors, 2018, 18, 539.	3.8	12
176	Electrogeneration: a fast way, through a complex mechanism, to obtain polyconjugated tailored materials. Synthetic Metals, 1992, 51, 307-312.	3.9	11
177	Impedance studies of electrogenerated polypyrrole films. Synthetic Metals, 1992, 51, 87-94.	3.9	11
178	Polypyrrole electrogeneration from a nucleophilic solvent (DMF). Synthetic Metals, 1994, 66, 25-32.	3.9	11
179	Polypyrrole + polyacrylate composites: electrogeneration. Journal of Electroanalytical Chemistry, 1996, 410, 69-77.	3.8	11
180	Use of polymer/ionic liquid plasticizers as gel electrolytes in electrochromic devices. Journal of Physics: Conference Series, 2008, 127, 012011.	0.4	11

#	Article	IF	Citations
181	Biomimetic Sensing â€“ Actuators Based on Conducting Polymers. , 0, , .		11
182	Electrochemical Synthesis and Characterization of Flavin Mononucleotideâ€Exfoliated Pristine Graphene/Polypyrrole Composites. ChemElectroChem, 2017, 4, 1487-1497.	3.4	11
183	The cooperative actuation of multistep electrochemical molecular machines in polypyrrole films senses the imposed energetic conditions: Influence of the potential scan rate. Electrochimica Acta, 2017, 258, 1293-1303.	5.2	11
184	Structural and Conformational Chemistry from Electrochemical Molecular Machines. Replicating Biological Functions. A Review. Chemical Record, 2018, 18, 788-806.	5.8	11
185	Role of polyethylene oxide content in polypyrrole linear actuators. Materials Today Communications, 2020, 23, 100908.	1.9	11
186	Electrochemically initiated acrylic acid / acrylamide copolymerization. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1988, 256, 433-439.	0.1	10
187	Thick layers of PPy and PTh: Electrosynthesis and modification of electrical parameters by ion implantation. p-n junctions. Synthetic Metals, 1993, 55, 1459-1464.	3.9	10
188	Kinetics of polypyrrole electrogeneration on Pt through tafel slopes. Synthetic Metals, 1993, 55, 1436-1440.	3.9	10
189	Electropolymerization of acrylamide at high current density in aqueous media. Journal of Electroanalytical Chemistry, 1995, 395, 75-81.	3.8	10
190	Thermally enhanced conformational relaxation during electrochemical oxidation of polypyrrole. Journal of Electroanalytical Chemistry, 1996, 414, 171-176.	3.8	10
191	Polypyrrole + polyacrylate composites, kinetic study. Journal of Electroanalytical Chemistry, 1997, 429, 19-25.	3.8	10
192	Study of the processability of the poly(SNS) in different media. Synthetic Metals, 1999, 102, 1402-1403.	3.9	10
193	Polypyrrole-amphiphile blend electrodes: new reaction-driven structural processes with possible formation of vesicles. Electrochimica Acta, 2017, 246, 89-96.	5.2	10
194	Three electrochemical tools (motor-sensor-battery) with energy recovery work simultaneously in a trilayer artificial muscle. Electrochimica Acta, 2019, 294, 126-133.	5.2	10
195	Electrochemical behaviour of poly(2,5-di-(-2-thienyl) -thiophene): properties of the reduced polymer. Journal of Electroanalytical Chemistry, 1996, 418, 123-130.	3.8	9
196	Electrochemical processing of the conducting polymer poly(SNS). Acta Polymerica, 1998, 49, 433-438.	0.9	9
197	Electrogeneration of polypyrrole films doped with LiN(SO2CF3)2. Synthetic Metals, 2000, 108, 57-65.	3.9	9
198	Characterization of triple layers. , 2001, 4329, 93.		9

#	Article	IF	Citations
199	Poly (3, 4-ethylendioxithiophene) (PEDOT) oxidation: activation energy and conformational energy. Journal of Physics: Conference Series, 2008, 127, 012016.	0.4	9
200	Chemical sensors from the cooperative actuation of multistep electrochemical molecular machines of polypyrrole: potentiostatic study. Trying to replicate muscleâ€™s fatigue signals. Smart Materials and Structures, 2018, 27, 074001.	3.5	9
201	The Energy Consumed by Electrochemical Molecular Machines as Selfâ€Sensor of the Reaction Conditions: Origin of Sensing Nervous Pulses and Asymmetry in Biological Functions. ChemElectroChem, 2018, 5, 3335-3347.	3.4	9
202	Electrogeneration of conducting poly(2,5-di-(-2-thienyl)-furan). Journal of Electroanalytical Chemistry, 1998, 445, 125-133.	3.8	8
203	Electrochemomechanical Devices Based on Conducting Polymers. , 2000, , 295-323.		8
204	Electrodeposition of Polypyrrole/Carboxymethyl Cellulose on Platinum and Indium Tin Oxide. Polymer Journal, 2001, 33, 255-262.	2.7	8
205	Electrochromic films of a methylcarbazole derivative: optimization of polymerization and optical contrast. Journal of Solid State Electrochemistry, 2007, 11, 1697-1703.	2.5	8
206	Deep Reduced PEDOT Films Support Electrochemical Applications: Biomimetic Color Front. Frontiers in Bioengineering and Biotechnology, 2015, 3, 15.	4.1	8
207	Bending Monolayer Artificial Muscle. ChemElectroChem, 2017, 4, 3276-3282.	3.4	8
208	Multifunctionality of Polypyrrole Polyethyleneoxide Composites: Concurrent Sensing, Actuation and Energy Storage. Polymers, 2020, 12, 2060.	4.5	8
209	Electroactive macromolecular motors as model materials of ectotherm muscles. RSC Advances, 2021, 11, 21489-21506.	3.6	8
210	Electrochemical doping processes in conducting polymers followed by in situ laser electroreflection. Synthetic Metals, 1993, 55, 1430-1435.	3.9	7
211	Polyacrylamide Electrogeneration at Highâ€Current Densities and Different Water Content in â€‰DMFâ€‰â€‰/â€‰NaNO3 Solutions. Journal of the Electrochemical Society, 1993, 140, 41-46.	2.9	7
212	Electrogeneration of poly(2,5-di-(2-thienyl)-pyrrole) in acetonirile. Kinetics, productivity and composition of the oxidized form. Synthetic Metals, 1996, 83, 193-196.	3.9	7
213	Reversible redox switching in polypyrrole and poly-SNS films. Synthetic Metals, 1997, 84, 183-184.	3.9	7
214	Conducting polymers are simultaneous sensing actuators. Proceedings of SPIE, 2013, , .	0.8	7
215	Oxidation kinetics of polypyrrole films: Solvent influence. Journal of Electroanalytical Chemistry, 2016, 777, 108-116.	3.8	7
216	Potentiostatic preparation of poly-1,3-dimethoxybenzene films. Kinetics and bilayer structure. Journal of Electroanalytical Chemistry, 1994, 370, 171-176.	3.8	6

#	Article	IF	Citations
217	<title>EAP as multifunctional and biomimetic materials</title>. , 1999, 3669, 26.		6
218	Electrochemical characterization and control of triple-layer muscles. , 2000, , .		6
219	Molar enthalpy of the polypyrrole electrochemistry. Journal of Electroanalytical Chemistry, 2004, 562, 161-165.	3.8	6
220	Polypyrrol/chitosan hydrogel hybrid microfiber as sensing artificial muscle. Proceedings of SPIE, 2011, , .	0.8	6
221	Self-Supported Polypyrrole/Polyvinylsulfate Films: Electrochemical Synthesis, Characterization, and Sensing Properties of Their Redox Reactions. ChemistryOpen, 2017, 6, 25-32.	1.9	6
222	Artificial muscles driven by the cooperative actuation of electrochemical molecular machines. Persistent discrepancies and challenges. International Journal of Smart and Nano Materials, 2017, 8, 125-143.	4.2	6
223	The response of polypyrroleâ€“DBS electrochemical molecular motors to Na concentration: Analogies in cell biology. Electrochemistry Communications, 2019, 103, 114-119.	4.7	6
224	Enhancing the electrocatalytic activity and stability of Prussian blue analogues by increasing their electroactive sites through the introduction of Au nanoparticles. Nanoscale, 2021, 13, 12676-12686.	5.6	6
225	Artificial muscle like behavior of polypyrrole polyethylene oxide independent of applied potential ranges. Journal of Applied Polymer Science, 2022, 139, .	2.6	6
226	Poly(phenylene oxide); electropolymerization on mild steel and anticorrosive properties of the layer: A new corrosion test. Makromolekulare Chemie Macromolecular Symposia, 1987, 8, 255-263.	0.6	5
227	Kinetic studies of polypyrrole electrogeneration in three solvents. Journal of Electroanalytical Chemistry, 1995, 380, 291-294.	3.8	5
228	Implanted polymer junctions from highly compacted polypyrrole films. Synthetic Metals, 1996, 83, 201-203.	3.9	5
229	Oxidized and reduced oligo(2,5-di-(-2-thienyl)-furan): solubilities and related properties. Synthetic Metals, 1999, 101, 25-26.	3.9	5
230	Optimization of poly-3-methylthiophene to be used in advance polymer batteries. International Journal of Hydrogen Energy, 2000, 25, 221-233.	7.1	5
231	<title>Mechanical characterization of artificial muscles with computer vision</title>. , 2002, , .		5
232	Nucleation, non-stoiquiometry, and tactile muscles with conducting polymers. , 2004, , .		5
233	Electrochromic variable transmission optical combiner. , 2005, 5801, 268.		5
234	Photopatterned conjugated polymer electrochromic nanofibers on paper. Journal of Physics: Conference Series, 2008, 127, 012014.	0.4	5

#	Article	IF	Citations
235	Electro-Chemo-Mechanical Actuators Touching and Sensing Both, Physical and Chemical Ambient. Advances in Science and Technology, 2008, 61, 112-121.	0.2	5
236	Electrochemical synthesis and characterization of self-supported polypyrrole-DBS-MWCNT electrodes. Journal of Electroanalytical Chemistry, 2016, 782, 182-191.	3.8	5
237	Effect of temperature on the potentiodynamic behaviour of iridium in 0.5 M H2SO4. Journal of Electroanalytical Chemistry and Interfacial Electrochemistry, 1983, 158, 375-381.	0.1	4
238	On the induction period in polyacrylamide electrogeneration from DMF solutions. Electrochimica Acta, 1992, 37, 2083-2086.	5.2	4
239	Redox behaviour of thin polypyrrole films. Optimization of response times. Solid State Ionics, 1993, 63-65, 810-815.	2.7	4
240	A Combined Scanning Tunneling Microscopy and Electrochemical Study of Copper Electrodeposition from a Cyanide Solution on a Zinc Alloy. Journal of the Electrochemical Society, 2000, 147, 4546.	2.9	4
241	Mechanical characterization of the life cycle of artificial muscles through stereoscopic computer vision and active contours. , 2005, , .		4
242	Electrochromic conducting polymers: optical contrast characterization of chameleonic materials. Bioinspiration and Biomimetics, 2008, 3, 035006.	2.9	4
243	One Actuator and Several Sensors in One Device with only Two Connecting Wires: Mimicking Muscle/Brain Feedback. Advances in Science and Technology, 2012, 79, 16-25.	0.2	4
244	Solvent effects on carbide-derived-carbon trilayer bending actuators. Synthetic Metals, 2019, 247, 170-176.	3.9	4
245	Corrosion of cyanide copper deposits on zinc diecastings in acid solutions. Journal of Applied Electrochemistry, 1999, 29, 239-244.	2.9	3
246	Modulation of EAP properties through the variables of synthesis. , 2000, , .		3
247	Attempting a classification for electrical polymeric actuators. , 2007, , .		3
248	Asymmetric Bilayer Muscles: Cooperative Actuation, Dynamic Hysteresis, and Creeping in NaPF₆ Aqueous Solutions. ChemistryOpen, 2016, 5, 369-374.	1.9	3
249	Biomimetic reactions in conducting polymers for artificial muscles: sensing working conditions. Proceedings of SPIE, 2017, , .	0.8	3
250	Biomimetics, Artificial Muscles & Nano-Bio 2007: Scientists Meet Doctors. Journal of Physics: Conference Series, 2008, 127, 011001.	0.4	3
251	Implanted polymer junctions obtained with electrogenerated polythiophene films. Advanced Materials for Optics and Electronics, 1995, 5, 277-282.	0.4	2
252	Electrodissolution of poly(2,5-di-(2-thienyl)-pyrrole) in organic and hydro-organic media. Synthetic Metals, 1996, 83, 189-192.	3.9	2

#	Article	IF	Citations
253	Title is missing!. Journal of Materials Science Letters, 2001, 20, 1055-1057.	0.5	2
254	<title>Macroscopic devices and complex movements developed with artificial muscles</title>. , 2002, , .		2
255	Conducting polymers as simultaneous sensor-actuators. Proceedings of SPIE, 2010, , .	0.8	2
256	Electrochemical Kinetics in Dense, Reactive and Wet Gels. Biomimicking Reactions and Devices. Molecular Crystals and Liquid Crystals, 2012, 555, 295-305.	0.9	2
257	Electrochemistry of electromechanical actuators based on carbon nanotubes and ionic liquids. , 2013, , .		2
258	Conducting Polymers as EAPs: Fundamentals and Materials. , 2016, , 237-255.		2
259	Reprint of: Oxidation kinetics of polypyrrole films: Solvent influence. Journal of Electroanalytical Chemistry, 2017, 793, 25-33.	3.8	2
260	Exploring Brain Information Storage/Reading for Neuronal Connectivity Using Macromolecular Electrochemical Sensing Motors. Advanced Intelligent Systems, 2022, 4, 2100058.	6.1	2
261	Non-conducting polyphenylene oxide electrogeneration on mild steel by different electrochemical methods. Thin Solid Films, 1988, 162, 209-216.	1.8	1
262	Electrogeneration of acrylamide-bisacrylamide gel films on platinum. Journal of Applied Electrochemistry, 1994, 24, 581-583.	2.9	1
263	Electrogeneration of poly-1,3-dimethoxybenzene uniform coatings by consecutive square-wave potentials: Kinetic studies. Journal of Electroanalytical Chemistry, 1994, 370, 177-182.	3.8	1
264	Artificial muscles: influence of electrolyte concentration on bilayer movement. , 1996, , .		1
265	<title>Artificial muscles working in aqueous solutions or in air</title>. , 1999, 3669, 98.		1
266	Electro-chemo-mechanical response of a free-standing polypyrrole strip. Journal of Physics: Conference Series, 2008, 127, 012005.	0.4	1
267	Solvent and electrolyte effects in PPyDBS free standing films. , 2015, , .		1
268	Chemo-ionic-conformational memory from reactive dense gels: a way to explore new multivalent memories and brain memory. Materials Research Society Symposia Proceedings, 2015, 1729, 137-142.	0.1	1
269	Conducting Polymers as EAPs: Fundamentals and Materials. , 2016, , 1-19.		1
270	Dual sensing-actuation artificial muscle based on polypyrrole-carbon nanotube composite. Proceedings of SPIE, 2017, , .	0.8	1

#	Article	IF	Citations
271	Self-Supported Polypyrrole/Polyvinylsulfate Films: Electrochemical Synthesis, Characterization, and Sensing Properties of Their Redox Reactions. ChemistryOpen, 2017, 6, 2-2.	1.9	1
272	<title>Processability of poly 2,5-di-(-2-thienyl)pyrrole, poly(SNS)</title>. , 1999, , .		0
273	<title>Muscles and artificial muscles: electrochemically stimulated conformational relaxation model</title>. , 1999, , .		0
274	Theoretical models and electrochemical behavior of polyconjugated materials for EAPAD. , 2001, , .		0
275	Revisiting the electrochemical properties of conducting polymers. , 2004, , .		0
276	Modeling the polypyrrole water interface by molecular dynamics simulation. , 2004, , .		0
277	<title>Chemical and mechanical sensing in electrochemical actuators</title>. , 2005, 5836, 477.		0
278	Understanding the structural changes that take place in a polypyrrole film during its oxi-reduction process: a molecular dynamics simulation study. , 2005, 5838, 258.		0
279	Multifunctional and biomimicking electrochemical properties of conducting polymers. , 2005, , .		0
280	Reactive actuators and sensors integrated in one device: mimicking brain-muscles feedback communication. Proceedings of SPIE, 2013, , .	0.8	0
281	Can Human Proprioception Be Described by Physical-Chemical Equations? Proprioceptive Artificial Muscles. Key Engineering Materials, 0, 644, 145-152.	0.4	0
282	Artificial Physical and Chemical Awareness (Proprioception) from Polymeric Motors. Materials Research Society Symposia Proceedings, 2015, 1717, 27.	0.1	0
283	Polymeric Artificial Muscles are Linear Faradaic Motors. Key Engineering Materials, 2015, 644, 137-144.	0.4	0
284	Asymmetric Bilayer Artificial Muscles Based on Polypyrrole. Advances in Science and Technology, 0, , .	0.2	0
285	Properties of polypyrrole polyvinilsulfate films for dual actuator sensing systems. Proceedings of SPIE, 2017, , .	0.8	0
286	Progress in electromechanically active polymers: selected papers from EuroEAP 2017. Smart Materials and Structures, 2018, 27, 070201.	3.5	0
287	Chapter 6. Artificial Muscles, Sensing and Multifunctionality. , 2007, , 142-190.		0
288	Conducting polymers as simultaneous sensor-actuators. SPIE Newsroom, 2010, , .	0.1	0

#	Article	IF	Citations
289	Simultaneous sensing characteristics of a biomimetic polypyrrole based triple layer actuator exchanging cations. Proceedings of SPIE, 2012, , .	0.8	0
290	Mechanical and actuating properties of Ppy/DBS dependency with the synthesis parameters. , 2018, , .		0
291	Front Matter: Volume 10594. , 2018, , .		0
292	Self-Supported Polypyrrole/Polyvinylsulfate Films: Electrochemical Synthesis, Characterization, and Sensing Properties of Their Redox Reactions. ChemistryOpen, 2017, , .	1.9	0
293	Self-Supported Polypyrrole/Polyvinylsulfate Films: Electrochemical Synthesis, Characterization, and Sensing Properties of Their Redox Reactions. ChemistryOpen, 2017, , .	1.9	0
294	Concept of an artificial muscle design on polypyrrole nanofiber scaffolds. , 2020, 15, e0232851.		0
295	Concept of an artificial muscle design on polypyrrole nanofiber scaffolds. , 2020, 15, e0232851.		0
296	Concept of an artificial muscle design on polypyrrole nanofiber scaffolds. , 2020, 15, e0232851.		0
297	Concept of an artificial muscle design on polypyrrole nanofiber scaffolds. , 2020, 15, e0232851.		0