

# Carmen C Mayorga-Martinez

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

111  
papers

3,865  
citations

35  
h-index

58  
g-index

117  
ext. papers

4,845  
ext. citations

11.4  
avg, IF

6.27  
L-index

#	Paper	IF	Citations
111	Plasmonic-magnetic nanorobots for SARS-CoV-2 RNA detection through electronic readout.. <i>Applied Materials Today</i> , <b>2022</b> , 27, 101402	6.6	4
110	Collective behavior of magnetic microrobots through immuno-sandwich assay: On-the-fly COVID-19 sensing.. <i>Applied Materials Today</i> , <b>2022</b> , 26, 101337	6.6	8
109	3D-Printed SARS-CoV-2 RNA Genosensing Microfluidic System.. <i>Advanced Materials Technologies</i> , <b>2022</b> , 2101121	6.8	5
108	Pick up and dispose of pollutants from water via temperature-responsive micellar copolymers on magnetite nanorobots.. <i>Nature Communications</i> , <b>2022</b> , 13, 1026	17.4	14
107	Flexible wearable MXene TiC-Based power patch running on sweat.. <i>Biosensors and Bioelectronics</i> , <b>2022</b> , 205, 114092	11.8	4
106	Magnetic Biohybrid Robots as Efficient Drug Carrier to Generate Plant Cell Clones.. <i>Small</i> , <b>2022</b> , e2200208		1
105	Microrobotic carrier with enzymatically encoded drug release in the presence of pancreatic cancer cells via programmed self-destruction. <i>Applied Materials Today</i> , <b>2022</b> , 27, 101494	6.6	3
104	Hybrid Magneto-Photocatalytic Microrobots for Sunscreens Pollutants Decontamination. <i>Chemical Engineering Journal</i> , <b>2022</b> , 137139	14.7	0
103	Microrobotic photocatalyst on-the-fly: 1D/2D nanoarchitectonic hybrid-based layered metal thiophosphate magnetic micromachines for enhanced photodegradation of nerve agent. <i>Chemical Engineering Journal</i> , <b>2022</b> , 137342	14.7	0
102	Magnetically Driven Micro and Nanorobots. <i>Chemical Reviews</i> , <b>2021</b> , 121, 4999-5041	68.1	104
101	Vanadium Dopants: A Boon or a Bane for Molybdenum Dichalcogenides-Based Electrocatalysis Applications. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2009083	15.6	7
100	Light-driven Ti3C2 MXene micromotors: self-propelled autonomous machines for photodegradation of nitroaromatic explosives. <i>Journal of Materials Chemistry A</i> , <b>2021</b> , 9, 14904-14910	13	9
99	Real-Time Biomonitoring Device Based on 2D Black Phosphorus and Polyaniline Nanocomposite Flexible Supercapacitors. <i>Small</i> , <b>2021</b> , 17, e2102337	11	7
98	Swarming Aqua Sperm Micromotors for Active Bacterial Biofilms Removal in Confined Spaces. <i>Advanced Science</i> , <b>2021</b> , 8, e2101301	13.6	13
97	Microplastic Removal and Degradation by Mussel-Inspired Adhesive Magnetic/Enzymatic Microrobots.. <i>Small Methods</i> , <b>2021</b> , 5, e2100230	12.8	15
96	Doping and Decorating 2D Materials for Biosensing: Benefits and Drawbacks. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2102555	15.6	5
95	Nickel Sulfide Microrockets as Self-Propelled Energy Storage Devices to Power Electronic Circuits "On-Demand".. <i>Small Methods</i> , <b>2021</b> , 5, e2100511	12.8	8

94	3D-printed transmembrane glycoprotein cancer biomarker aptasensor. <i>Applied Materials Today</i> , <b>2021</b> , 24, 101153	6.6	3
93	Two-dimensional materials in biomedical, biosensing and sensing applications. <i>Chemical Society Reviews</i> , <b>2021</b> , 50, 619-657	58.5	95
92	A highly sensitive enzyme-less glucose sensor based on prictogens and silver shell-gold core nanorod composites. <i>Chemical Communications</i> , <b>2020</b> , 56, 7909-7912	5.8	9
91	Cancer Cells Microsurgery Asymmetric Bent Surface Au/Ag/Ni Microrobotic Scalpels Through a Transversal Rotating Magnetic Field. <i>ACS Nano</i> , <b>2020</b> , 14, 8247-8256	16.7	39
90	Layered platinum dichalcogenides (PtS <sub>2</sub> , PtSe <sub>2</sub> , PtTe <sub>2</sub> ) for non-enzymatic electrochemical sensor. <i>Applied Materials Today</i> , <b>2020</b> , 19, 100606	6.6	6
89	Droplet-based differential microcalorimeter for real-time energy balance monitoring. <i>Sensors and Actuators B: Chemical</i> , <b>2020</b> , 312, 127967	8.5	5
88	Niobium-doped TiS: Formation of TiS nanobelts and their effects in enzymatic biosensors. <i>Biosensors and Bioelectronics</i> , <b>2020</b> , 155, 112114	11.8	13
87	MXene Titanium Carbide-based Biosensor: Strong Dependence of Exfoliation Method on Performance. <i>Analytical Chemistry</i> , <b>2020</b> , 92, 2452-2459	7.8	75
86	Bipolar Electrochemistry Exfoliation of Layered Metal Chalcogenides Sb S and Bi S and their Hydrogen Evolution Applications. <i>Chemistry - A European Journal</i> , <b>2020</b> , 26, 6479-6483	4.8	10
85	Structural transition induced by niobium doping in layered titanium disulfide: The impact on electrocatalytic performance. <i>Applied Materials Today</i> , <b>2020</b> , 19, 100555	6.6	2
84	3D-printed graphene direct electron transfer enzyme biosensors. <i>Biosensors and Bioelectronics</i> , <b>2020</b> , 151, 111980	11.8	73
83	Self-Propelled Tags for Protein Detection. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 1906449	15.6	17
82	Hexagonal and Cubic Boron Nitride in Bulk and Nanosized Forms and Their Capacitive Behavior. <i>ChemElectroChem</i> , <b>2020</b> , 7, 74-77	4.3	1
81	Flexible energy generation and storage devices: focus on key role of heterocyclic solid-state organic ionic conductors. <i>Chemical Society Reviews</i> , <b>2020</b> , 49, 7819-7844	58.5	17
80	Arsenene nanomotors as anticancer drug carrier. <i>Applied Materials Today</i> , <b>2020</b> , 21, 100819	6.6	7
79	MXene-Based Flexible Supercapacitors: Influence of an Organic Ionic Conductor Electrolyte on the Performance. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 53039-53048	9.5	21
78	Integrated Biomonitoring Sensing with Wearable Asymmetric Supercapacitors Based on Ti <sub>3</sub> C <sub>2</sub> MXene and 1T-Phase WS <sub>2</sub> Nanosheets. <i>Advanced Functional Materials</i> , <b>2020</b> , 30, 2003673	15.6	34
77	Structural Manipulation of Layered TiS <sub>2</sub> to TiS <sub>3</sub> Nanobelts through Niobium Doping for High-Performance Supercapacitors. <i>ChemElectroChem</i> , <b>2020</b> , 7, 4985-4989	4.3	0

76	Photocatalytic Micromotors Activated by UV to Visible Light for Environmental Remediation, Micropumps, Reversible Assembly, Transportation, and Biomimicry. <i>Small</i> , <b>2020</b> , 16, e1903179	11	48
75	MnPS3 shows anticancer behaviour towards lung cancer cells. <i>FlatChem</i> , <b>2019</b> , 18, 100134	5.1	4
74	3D-printed Ag/AgCl pseudo-reference electrodes. <i>Electrochemistry Communications</i> , <b>2019</b> , 103, 104-108	5.1	40
73	Smart Microdevices Laying "Breadcrumbs" to Find the Way Home: Chemotactic Homing TiO /Pt Janus Microrobots. <i>Chemistry - an Asian Journal</i> , <b>2019</b> , 14, 2456-2459	4.5	7
72	Cloisite Microrobots as Self-Propelling Cleaners for Fast and Efficient Removal of Improvised Organophosphate Nerve Agents. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 31832-31843	9.5	12
71	2D Stacks of MXene Ti3C2 and 1T-Phase WS2 with Enhanced Capacitive Behavior. <i>ChemElectroChem</i> , <b>2019</b> , 6, 3982-3986	4.3	16
70	Micromotors as "Motherships": A Concept for the Transport, Delivery, and Enzymatic Release of Molecular Cargo via Nanoparticles. <i>Langmuir</i> , <b>2019</b> , 35, 10618-10624	4	12
69	Bipolar Electrochemistry as a Simple Synthetic Route toward Nanoscale Transition of Mo2B5 and W2B5 for Enhanced Hydrogen Evolution Reaction. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2019</b> ,	8.3	3
68	Exfoliated transition metal dichalcogenide (MX2; M = Mo, W; X = S, Se, Te) nanosheets and their composites with polyaniline nanofibers for electrochemical capacitors. <i>Applied Materials Today</i> , <b>2019</b> , 16, 280-289	6.6	19
67	Binary Phosphorene Redox Behavior in Oxidoreductase Enzymatic Systems. <i>ACS Nano</i> , <b>2019</b> , 13, 13217-13224	13.74	11
66	Pnictogen-Based Enzymatic Phenol Biosensors: Phosphorene, Arsenene, Antimonene, and Bismuthene. <i>Angewandte Chemie - International Edition</i> , <b>2019</b> , 58, 134-138	16.4	69
65	Pnictogen-Based Enzymatic Phenol Biosensors: Phosphorene, Arsenene, Antimonene, and Bismuthene. <i>Angewandte Chemie</i> , <b>2019</b> , 131, 140-144	3.6	0
64	Platinum-Balloysite Nanoclay Nanojets as Sensitive and Selective Mobile Nanosensors for Mercury Detection. <i>Advanced Materials Technologies</i> , <b>2019</b> , 4, 1800502	6.8	16
63	Nonconductive layered hexagonal boron nitride exfoliation by bipolar electrochemistry. <i>Nanoscale</i> , <b>2018</b> , 10, 7298-7303	7.7	31
62	Metallic impurities in black phosphorus nanoflakes prepared by different synthetic routes. <i>Nanoscale</i> , <b>2018</b> , 10, 1540-1546	7.7	23
61	MoS Nanoparticles as Electrocatalytic Labels in Magneto-Immunoassays. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 16861-16866	9.5	10
60	Layered PtTe2 Matches Electrocatalytic Performance of Pt/C for Oxygen Reduction Reaction with Significantly Lower Toxicity. <i>ACS Sustainable Chemistry and Engineering</i> , <b>2018</b> , 6, 7432-7441	8.3	38
59	Bjerknes Forces in Motion: Long-Range Translational Motion and Chiral Directionality Switching in Bubble-Propelled Micromotors via an Ultrasonic Pathway. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1702518	15.6	26

58	Nanorobots Constructed from Nanoclay: Using Nature to Create Self-Propelled Autonomous Nanomachines. <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1802762	15.6	26
57	Structure-Function Dependence on Template-Based Micromotors. <i>ACS Applied Energy Materials</i> , <b>2018</b> , 1, 3443-3448	6.1	6
56	Fuel-Free Light-Powered TiO/Pt Janus Micromotors for Enhanced Nitroaromatic Explosives Degradation. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2018</b> , 10, 22427-22434	9.5	79
55	TaS Nanofibers: Layered Trichalcogenide for High-Performance Electronic and Sensing Devices. <i>ACS Nano</i> , <b>2018</b> , 12, 464-473	16.7	20
54	WSe nanoparticles with enhanced hydrogen evolution reaction prepared by bipolar electrochemistry: application in competitive magneto-immunoassay. <i>Nanoscale</i> , <b>2018</b> , 10, 23149-23156	7.7	16
53	Cytotoxicity of layered metal phosphorus chalcogenides (MPXY) nanoflakes; FePS <sub>3</sub> , CoPS <sub>3</sub> , NiPS <sub>3</sub> . <i>FlatChem</i> , <b>2018</b> , 12, 1-9	5.1	14
52	1T-Phase Tungsten Chalcogenides (WS <sub>2</sub> , WSe <sub>2</sub> , WTe <sub>2</sub> ) Decorated with TiO <sub>2</sub> Nanoplatelets with Enhanced Electron Transfer Activity for Biosensing Applications. <i>ACS Applied Nano Materials</i> , <b>2018</b> , 1, 7006-7015	5.6	20
51	Nanoclay Nanomotors: Nanorobots Constructed from Nanoclay: Using Nature to Create Self-Propelled Autonomous Nanomachines (Adv. Funct. Mater. 40/2018). <i>Advanced Functional Materials</i> , <b>2018</b> , 28, 1870291	15.6	1
50	Cytotoxicity of phosphorus allotropes (black, violet, red). <i>Applied Materials Today</i> , <b>2018</b> , 13, 310-319	6.6	17
49	A study of the effect of sonication time on the catalytic performance of layered WS from various sources. <i>Physical Chemistry Chemical Physics</i> , <b>2017</b> , 19, 2768-2777	3.6	4
48	Black phosphorus nanoparticles as a novel fluorescent sensing platform for nucleic acid detection. <i>Materials Chemistry Frontiers</i> , <b>2017</b> , 1, 1130-1136	7.8	65
47	Nano/Microrobots Meet Electrochemistry. <i>Advanced Functional Materials</i> , <b>2017</b> , 27, 1604759	15.6	50
46	Group 6 Layered Transition-Metal Dichalcogenides in Lab-on-a-Chip Devices: 1T-Phase WS for Microfluidics Non-Enzymatic Detection of Hydrogen Peroxide. <i>Analytical Chemistry</i> , <b>2017</b> , 89, 4978-4985	7.8	27
45	Two-Dimensional 1T-Phase Transition Metal Dichalcogenides as Nanocarriers To Enhance and Stabilize Enzyme Activity for Electrochemical Pesticide Detection. <i>ACS Nano</i> , <b>2017</b> , 11, 5774-5784	16.7	86
44	Layered Metal Thiophosphite Materials: Magnetic, Electrochemical, and Electronic Properties. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 12563-12573	9.5	126
43	1T-Phase WS <sub>2</sub> Protein-Based Biosensor. <i>Advanced Functional Materials</i> , <b>2017</b> , 27, 1604923	15.6	34
42	Nanomaterials connected to antibodies and molecularly imprinted polymers as bio/receptors for bio/sensor applications. <i>Applied Materials Today</i> , <b>2017</b> , 9, 387-401	6.6	44
41	Nanomaterials-Based Platforms for Environmental Monitoring. <i>Comprehensive Analytical Chemistry</i> , <b>2017</b> , 207-236	1.9	3

40	Black Phosphorus Nanoflakes/Polyaniline Hybrid Material for High-Performance Pseudocapacitors. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 20532-20538	3.8	66
39	2H- $\alpha$ T Phase Change in Direct Synthesis of WS Nanosheets via Solution-Based Electrochemical Exfoliation and Their Catalytic Properties. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 26350-26356	9.5	46
38	Microwave irradiated N- and B,Cl-doped graphene: Oxidation method has strong influence on capacitive behavior. <i>Applied Materials Today</i> , <b>2017</b> , 9, 204-211	6.6	22
37	1T-Phase Transition Metal Dichalcogenides (MoS, MoSe, WS, and WSe) with Fast Heterogeneous Electron Transfer: Application on Second-Generation Enzyme-Based Biosensor. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 40697-40706	9.5	95
36	Polyaniline/MoSX Supercapacitor by Electrodeposition. <i>Bulletin of the Chemical Society of Japan</i> , <b>2017</b> , 90, 847-853	5.1	40
35	Microfluidic platform for environmental contaminants sensing and degradation based on boron-doped diamond electrodes. <i>Biosensors and Bioelectronics</i> , <b>2016</b> , 75, 365-74	11.8	58
34	Imaging of localized enzymatic peroxidase activity over unbiased individual gold nanowires by scanning electrochemical microscopy. <i>Analytical Methods</i> , <b>2016</b> , 8, 6847-6855	3.2	8
33	MoSe Nanolabels for Electrochemical Immunoassays. <i>Analytical Chemistry</i> , <b>2016</b> , 88, 12204-12209	7.8	28
32	Valence and oxide impurities in MoS and WS dramatically change their electrocatalytic activity towards proton reduction. <i>Nanoscale</i> , <b>2016</b> , 8, 16752-16760	7.7	37
31	Bipolar Electrochemical Synthesis of WS <sub>2</sub> Nanoparticles and Their Application in Magneto-Immuno-sandwich Assay. <i>Advanced Functional Materials</i> , <b>2016</b> , 26, 4094-4098	15.6	35
30	Water Activated Graphene Oxide Transfer Using Wax Printed Membranes for Fast Patterning of a Touch Sensitive Device. <i>ACS Nano</i> , <b>2016</b> , 10, 853-60	16.7	25
29	Self-Propelled Supercapacitors for On-Demand Circuit Configuration Based on WS <sub>2</sub> Nanoparticles Micromachines. <i>Advanced Functional Materials</i> , <b>2016</b> , 26, 6662-6667	15.6	57
28	WS <sub>2</sub> Nanoparticles: Bipolar Electrochemical Synthesis of WS <sub>2</sub> Nanoparticles and Their Application in Magneto-Immuno-sandwich Assay (Adv. Funct. Mater. 23/2016). <i>Advanced Functional Materials</i> , <b>2016</b> , 26, 4231-4231	15.6	
27	Ferrocene-functionalized graphene electrode for biosensing applications. <i>Analytica Chimica Acta</i> , <b>2016</b> , 926, 28-35	6.6	40
26	Black Phosphorus Nanoparticle Labels for Immunoassays via Hydrogen Evolution Reaction Mediation. <i>Analytical Chemistry</i> , <b>2016</b> , 88, 10074-10079	7.8	118
25	High-performance sensor based on copper oxide nanoparticles for dual detection of phenolic compounds and a pesticide. <i>Electrochemistry Communications</i> , <b>2016</b> , 71, 33-37	5.1	27
24	An iridium oxide nanoparticle and polythionine thin film based platform for sensitive Leishmania DNA detection. <i>Journal of Materials Chemistry B</i> , <b>2015</b> , 3, 5166-5171	7.3	24
23	Label-free impedimetric aptasensor for ochratoxin-A detection using iridium oxide nanoparticles. <i>Analytical Chemistry</i> , <b>2015</b> , 87, 5167-72	7.8	182

22	Transition metal dichalcogenides (MoS <sub>2</sub> , MoSe <sub>2</sub> , WS <sub>2</sub> and WSe <sub>2</sub> ) exfoliation technique has strong influence upon their capacitance. <i>Electrochemistry Communications</i> , <b>2015</b> , 56, 24-28	5.1	97
21	Antithyroid drug detection using an enzyme cascade blocking in a nanoparticle-based lab-on-a-chip system. <i>Biosensors and Bioelectronics</i> , <b>2015</b> , 67, 670-6	11.8	32
20	Electrochemical Impedance Spectroscopy (bio)sensing through hydrogen evolution reaction induced by gold nanoparticles. <i>Biosensors and Bioelectronics</i> , <b>2015</b> , 67, 53-8	11.8	22
19	Layered Black Phosphorus as a Selective Vapor Sensor. <i>Angewandte Chemie - International Edition</i> , <b>2015</b> , 54, 14317-20	16.4	162
18	Metallic 1T-WS <sub>2</sub> for Selective Impedimetric Vapor Sensing. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 5611-5616	15.6	99
17	Innenrücktitelbild: Layered Black Phosphorus as a Selective Vapor Sensor (Angew. Chem. 48/2015). <i>Angewandte Chemie</i> , <b>2015</b> , 127, 14793-14793	3.6	1
16	Layered Black Phosphorus as a Selective Vapor Sensor. <i>Angewandte Chemie</i> , <b>2015</b> , 127, 14525-14528	3.6	32
15	Iridium oxide nanoparticle induced dual catalytic/inhibition based detection of phenol and pesticide compounds. <i>Journal of Materials Chemistry B</i> , <b>2014</b> , 2, 2233-2239	7.3	42
14	Nano/micromotors in (bio)chemical science applications. <i>Chemical Reviews</i> , <b>2014</b> , 114, 6285-322	68.1	409
13	An integrated phenol sensor removal microfluidic nanostructured platform. <i>Biosensors and Bioelectronics</i> , <b>2014</b> , 55, 355-9	11.8	10
12	Micromotor enhanced microarray technology for protein detection. <i>Small</i> , <b>2014</b> , 10, 2542-8	11	91
11	Graphene/Silicon heterojunction Schottky diode for vapors sensing using impedance spectroscopy. <i>Small</i> , <b>2014</b> , 10, 4193-9	11	25
10	Electrocatalytic tuning of biosensing response through electrostatic or hydrophobic enzyme-graphene oxide interactions. <i>Biosensors and Bioelectronics</i> , <b>2014</b> , 61, 655-62	11.8	37
9	Nanostructured CaCO <sub>3</sub> /poly(ethyleneimine) microparticles for phenol sensing in fluidic microsystem. <i>Electrophoresis</i> , <b>2013</b> , 34, 2011-6	3.6	12
8	Bismuth nanoparticles for phenolic compounds biosensing application. <i>Biosensors and Bioelectronics</i> , <b>2013</b> , 40, 57-62	11.8	77
7	Bimetallic nanowires as electrocatalysts for nonenzymatic real-time impedancimetric detection of glucose. <i>Chemical Communications</i> , <b>2012</b> , 48, 1686-8	5.8	58
6	Real-time measurement of glucose using chrono-impedance technique on a second generation biosensor. <i>Biosensors and Bioelectronics</i> , <b>2011</b> , 29, 200-3	11.8	13
5	Evaluation of chrono-impedance technique as transduction method for a carbon paste/glucose oxidase (CP/GOx) based glucose biosensor. <i>Biosensors and Bioelectronics</i> , <b>2010</b> , 26, 1239-44	11.8	16

4	Electrochemical and geometrical characterization of iridium oxide electrodes in stainless steel substrate. <i>Sensors and Actuators B: Chemical</i> , <b>2008</b> , 133, 682-686	8.5	22
3	Ultrasonically Propelled Micro- and Nanorobots. <i>Advanced Functional Materials</i> ,2102265	15.6	13
2	Smart Energy Bricks: Ti <sub>3</sub> C <sub>2</sub> @Polymer Electrochemical Energy Storage inside Bricks by 3D Printing. <i>Advanced Functional Materials</i> ,2106990	15.6	9
1	Light-Driven Micromotors to Dissociate Protein Aggregates That Cause Neurodegenerative Diseases. <i>Advanced Functional Materials</i> ,2106699	15.6	11