Francesca Maria Toma

List of Publications by Year
in descending order

79 papers	6,374 citations	57631 44 h-index	64668 79 g-index
80 all docs	80 docs citations	80 times ranked	10999 citing authors

#	Article	IF	Citations
1	Efficient water oxidation at carbon nanotubeâ€“polyoxometalate electrocatalytic interfaces. Nature Chemistry, 2010, 2, 826-831.	6.6	459
2	Electronic Structure of Monoclinic BiVO₄. Chemistry of Materials, 2014, 26, 5365-5373.	3.2	356
3	Tunable electrical conductivity in oriented thin films of tetrathiafulvalene-based covalent organic framework. Chemical Science, 2014, 5, 4693-4700.	3.7	295
4	High Photoluminescence Quantum Yield in Band Gap Tunable Bromide Containing Mixed Halide Perovskites. Nano Letters, 2016, 16, 800-806.	4.5	269
5	Understanding the Oxygen Evolution Reaction Mechanism on CoO_x using Operando Ambient-Pressure X-ray Photoelectron Spectroscopy. Journal of the American Chemical Society, 2017, 139, 8960-8970.	6.6	241
6	Indirect Bandgap and Optical Properties of Monoclinic Bismuth Vanadate. Journal of Physical Chemistry C, 2015, 119, 2969-2974.	1.5	233
7	A multifunctional biphasic water splitting catalyst tailored for integration with high-performance semiconductor photoanodes. Nature Materials, 2017, 16, 335-341.	13.3	217
8	Efficient and Sustained Photoelectrochemical Water Oxidation by Cobalt Oxide/Silicon Photoanodes with Nanotextured Interfaces. Journal of the American Chemical Society, 2014, 136, 6191-6194.	6.6	204
9	Carbon Nanotubes Promote Growth and Spontaneous Electrical Activity in Cultured Cardiac Myocytes. Nano Letters, 2012, 12, 1831-1838.	4.5	196
10	Effects of Surface Roughness on the Electrochemical Reduction of CO₂ over Cu. ACS Energy Letters, 2020, 5, 1206-1214.	8.8	172
11	Synthesis and Characterization of a Carbon Nanotubeâ^'Dendron Series for Efficient siRNA Delivery. Journal of the American Chemical Society, 2009, 131, 9843-9848.	6.6	168
12	Carbon Nanotube Scaffolds Tune Synaptic Strength in Cultured Neural Circuits: Novel Frontiers in Nanomaterialâ€“Tissue Interactions. Journal of Neuroscience, 2011, 31, 12945-12953.	1.7	142
13	Electrocatalysis at Organicâ€“Metal Interfaces: Identification of Structureâ€“Reactivity Relationships for CO₂ Reduction at Modified Cu Surfaces. Journal of the American Chemical Society, 2019, 141, 7355-7364.	6.6	133
14	Spinal Cord Explants Use Carbon Nanotube Interfaces To Enhance Neurite Outgrowth and To Fortify Synaptic Inputs. ACS Nano, 2012, 6, 2041-2055.	7.3	127
15	p-Type Transparent Conducting Oxide/n-Type Semiconductor Heterojunctions for Efficient and Stable Solar Water Oxidation. Journal of the American Chemical Society, 2015, 137, 9595-9603.	6.6	122
16	Fabrication of Planar Heterojunction Perovskite Solar Cells by Controlled Low-Pressure Vapor Annealing. Journal of Physical Chemistry Letters, 2015, 6, 493-499.	2.1	112
17	Elucidating the alkaline oxygen evolution reaction mechanism on platinum. Journal of Materials Chemistry A, 2017, 5, 11634-11643.	5.2	109
18	Carbon Nanotubes Instruct Physiological Growth and Functionally Mature Syncytia: Nongenetic Engineering of Cardiac Myocytes. ACS Nano, 2013, 7, 5746-5756.	7.3	105

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19	Bismuth Vanadate as a Platform for Accelerating Discovery and Development of Complex Transition-Metal Oxide Photoanodes. ACS Energy Letters, 2017, 2, 139-150.	8.8	105
20	Role of Hydrogen in Defining the n-Type Character of BiVO₄ Photoanodes. Chemistry of Materials, 2016, 28, 5761-5771.	3.2	104
21	Band Tailing and Deep Defect States in CH₃NH₃Pb(I_{1â€“x}Br_x)₃ Perovskites As Revealed by Sub-Bandgap Photocurrent. ACS Energy Letters, 2017, 2, 709-715.	8.8	102
22	Moâ€Doped BiVO₄ Photoanodes Synthesized by Reactive Sputtering. ChemSusChem, 2015, 8, 1066-1071.	3.6	100
23	Potential-Sensing Electrochemical AFM Shows CoPi as a Hole Collector and Oxygen Evolution Catalyst on BiVO₄ Water-Splitting Photoanodes. ACS Energy Letters, 2018, 3, 2286-2291.	8.8	96
24	Shaping the beating heart of artificial photosynthesis: oxygenic metal oxide nano-clusters. Energy and Environmental Science, 2012, 5, 5592.	15.6	93
25	Knitting the Catalytic Pattern of Artificial Photosynthesis to a Hybrid Graphene Nanotexture. ACS Nano, 2013, 7, 811-817.	7.3	93
26	Si photocathode with Ag-supported dendritic Cu catalyst for CO₂reduction. Energy and Environmental Science, 2019, 12, 1068-1077.	15.6	93
27	Selfâ€Assembling Decacyclene Triimides Prepared through a Regioselective Hextuple Friedelâ€“Crafts Carbamylation. Angewandte Chemie - International Edition, 2013, 52, 1446-1451.	7.2	89
28	Investigation and mitigation of degradation mechanisms in Cu2O photoelectrodes for CO2 reduction to ethylene. Nature Energy, 2021, 6, 1124-1132.	19.8	85
29	Nanoscale imaging of charge carrier transport in water splitting photoanodes. Nature Communications, 2018, 9, 2597.	5.8	76
30	Synthesis and Characterization of Nucleobaseâ€'Carbon Nanotube Hybrids. Journal of the American Chemical Society, 2009, 131, 13555-13562.	6.6	71
31	Enhanced cellular internalization and gene silencing with a series of cationic dendronâ€multiwalled carbon nanotube:siRNA complexes. FASEB Journal, 2010, 24, 4354-4365.	0.2	71
32	Carbon Nanotubes Carrying Cellâ€Adhesion Peptides do not Interfere with Neuronal Functionality. Advanced Materials, 2009, 21, 2903-2908.	11.1	67
33	Composition-Dependent Functionality of Copper Vanadate Photoanodes. ACS Applied Materials & Interfaces, 2018, 10, 10627-10633.	4.0	65
34	Cation-Dependent Light-Induced Halide Demixing in Hybrid Organicâ€“Inorganic Perovskites. Nano Letters, 2018, 18, 3473-3480.	4.5	65
35	Tailored Functionalization of Carbon Nanotubes for Electrocatalytic Water Splitting and Sustainable Energy Applications. ChemSusChem, 2011, 4, 1447-1451.	3.6	64
36	Effects of Defects on Band Structure and Excitons in WS₂ Revealed by Nanoscale Photoemission Spectroscopy. ACS Nano, 2019, 13, 1284-1291.	7.3	64

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37	Development of solar fuels photoanodes through combinatorial integration of Niâ€“Laâ€“Coâ€“Ce oxide catalysts on BiVO₄. Energy and Environmental Science, 2016, 9, 565-580.	15.6	61
38	Design of Cationic Multiwalled Carbon Nanotubes as Efficient siRNA Vectors for Lung Cancer Xenograft Eradication. Bioconjugate Chemistry, 2015, 26, 1370-1379.	1.8	58
39	Decacyclene Triimides: Paving the Road to Universal Nonâ€Fullerene Acceptors for Organic Photovoltaics. Advanced Energy Materials, 2014, 4, 1301007.	10.2	57
40	Carbon Nanotube Scaffolds Instruct Human Dendritic Cells: Modulating Immune Responses by Contacts at the Nanoscale. Nano Letters, 2013, 13, 6098-6105.	4.5	54
41	Adhesion to Carbon Nanotube Conductive Scaffolds Forces Action-Potential Appearance in Immature Rat Spinal Neurons. PLoS ONE, 2013, 8, e73621.	1.1	53
42	Formation of Efficient Catalytic Silver Nanoparticles on Carbon Nanotubes by Adenine Functionalization. Angewandte Chemie - International Edition, 2011, 50, 9893-9897.	7.2	51
43	Development of a photoelectrochemically self-improving Si/GaN photocathode for efficient and durable H2 production. Nature Materials, 2021, 20, 1130-1135.	13.3	49
44	Potentiometric titration as a straightforward method to assess the number of functional groups on shortened carbon nanotubes. Carbon, 2010, 48, 2447-2454.	5.4	48
45	Microwaveâ€Assisted Functionalization of Carbon Nanostructures in Ionic Liquids. Chemistry - A European Journal, 2009, 15, 12837-12845.	1.7	47
46	Electronic Structure and Performance Bottlenecks of CuFeO₂ Photocathodes. Chemistry of Materials, 2019, 31, 2524-2534.	3.2	43
47	Carbon Nanotubeâ€“Nucleobase Hybrids: Nanorings from Uracilâ€Modified Singleâ€Walled Carbon Nanotubes. Chemistry - A European Journal, 2011, 17, 6772-6780.	1.7	41
48	Heterogenized Pyridine-Substituted Cobalt(II) Phthalocyanine Yields Reduction of CO₂ by Tuning the Electron Affinity of the Co Center. ACS Applied Materials & Interfaces, 2020, 12, 5251-5258.	4.0	41
49	CO ₂ reduction on pure Cu produces only H ₂ after subsurface O is depleted: Theory and experiment. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	41
50	Multiwalled Carbonâ€Nanotubeâ€Functionalized Microelectrode Arrays Fabricated by Microcontact Printing: Platform for Studying Chemical and Electrical Neuronal Signaling. Small, 2011, 7, 524-530.	5.2	39
51	Polyamine functionalized carbon nanotubes: synthesis, characterization, cytotoxicity and siRNA binding. Journal of Materials Chemistry, 2011, 21, 4850.	6.7	38
52	Correlating Oxidation State and Surface Area to Activity from Operando Studies of Copper CO Electroreduction Catalysts in a Gas-Fed Device. ACS Catalysis, 2020, 10, 8000-8011.	5.5	37
53	Discovery of Feâ€“Ce Oxide/BiVO₄ Photoanodes through Combinatorial Exploration of Niâ€“Feâ€“Coâ€“Ce Oxide Coatings. ACS Applied Materials & Interfaces, 2016, 8, 23696-23705.	4.0	35
54	Fabrication and optical characterization of polystyrene opal templates for the synthesis of scalable, nanoporous (photo)electrocatalytic materials by electrodeposition. Journal of Materials Chemistry A, 2017, 5, 11601-11614.	5.2	32

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55	Highâ€Efficiency Panchromatic Hybrid Schottky Solar Cells. Advanced Materials, 2013, 25, 256-260.	11.1	29
56	Approaching 100% Selectivity at Low Potential on Ag for Electrochemical CO₂ Reduction to CO Using a Surface Additive. ACS Catalysis, 2021, 11, 9034-9042.	5.5	29
57	The case for data science in experimental chemistry: examples and recommendations. Nature Reviews Chemistry, 2022, 6, 357-370.	13.8	29
58	Interface engineering for light-driven water oxidation: unravelling the passivating and catalytic mechanism in BiVO₄ overlayers. Sustainable Energy and Fuels, 2019, 3, 127-135.	2.5	28
59	Long-term stability studies of a semiconductor photoelectrode in three-electrode configuration. Journal of Materials Chemistry A, 2019, 7, 27612-27619.	5.2	28
60	Quantification of the loss mechanisms in emerging water splitting photoanodes through empirical extraction of the spatial charge collection efficiency. Energy and Environmental Science, 2018, 11, 904-913.	15.6	24
61	Dendron-functionalized multiwalled carbon nanotubes incorporating polyoxometalates for water-splitting catalysis. Pure and Applied Chemistry, 2011, 83, 1529-1542.	0.9	23
62	Determining Atomic-Scale Structure and Composition of Organo-Lead Halide Perovskites by Combining High-Resolution X-ray Absorption Spectroscopy and First-Principles Calculations. ACS Energy Letters, 2017, 2, 1183-1189.	8.8	23
63	The role of the CeO₂/BiVO₄ interface in optimized Feâ€“Ce oxide coatings for solar fuels photoanodes. Journal of Materials Chemistry A, 2016, 4, 14356-14363.	5.2	19
64	Luminescent Blooming of Dendronic Carbon Nanotubes through Ionâ€Pairing Interactions with an Eu^{III} Complex. Chemistry - A European Journal, 2012, 18, 5889-5897.	1.7	18
65	Operando Observation of Chemical Transformations of Iridium Oxide During Photoelectrochemical Water Oxidation. ACS Applied Energy Materials, 2019, 2, 1371-1379.	2.5	18
66	Photoinduced Charge Carrier Dynamics and Electron Injection Efficiencies in Au Nanoparticle-Sensitized TiO₂ Determined with Picosecond Time-Resolved X-ray Photoelectron Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 5476-5481.	2.1	18
67	Very High Refractive Index Transition Metal Dichalcogenide Photonic Conformal Coatings by Conversion of ALD Metal Oxides. Scientific Reports, 2019, 9, 2768.	1.6	16
68	Aluminum Metalâ€“Organic Framework Triggers Carbon Dioxide Reduction Activity. ACS Applied Energy Materials, 2020, 3, 1286-1291.	2.5	13
69	Revealing Nanoscale Chemical Heterogeneities in Polycrystalline Moâ€BiVO₄ Thin Films. Small, 2020, 16, e2001600.	5.2	12
70	Photoaddition of Fluphenazine to Nucleophiles in Peptides and Proteins. Possible Cause of Immune Side Effects. Chemical Research in Toxicology, 2007, 20, 1470-1476.	1.7	11
71	Disentangling the Role of Surface Chemical Interactions on Interfacial Charge Transport at BiVO₄ Photoanodes. ACS Applied Materials & Interfaces, 2018, 10, 35129-35136.	4.0	9
72	Catalyst: Qubits from the Bottom Up. CheM, 2020, 6, 795-798.	5.8	9

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73	Chalkboard 2 - How to Make Clean Hydrogen. Electrochemical Society Interface, 2021, 30, 49-56.	0.3	9
74	Emergent Degradation Phenomena Demonstrated on Resilient, Flexible, and Scalable Integrated Photoelectrochemical Cells. Advanced Energy Materials, 2020, 10, 2002706.	10.2	8
75	Disentangling interfacial energetics. Nature Energy, 2018, 3, 6-7.	19.8	5
76	Balancing Surface Passivation and Catalysis with Integrated BiVO4/(Feâ€“Ce)Ox Photoanodes in pH 9 Borate Electrolyte. ACS Applied Energy Materials, 2018, , .	2.5	2
77	Solar to fuel: Recent developments in conversion of sunlight into high value chemicals. APL Materials, 2020, 8, .	2.2	2
78	Nanoscale Heterogeneities and Compositionâ€“Reactivity Relationships in Copper Vanadate Photoanodes. ACS Applied Materials & Interfaces, 2021, 13, 23575-23583.	4.0	1
79	Nanoscale Confinement of Photo-Injected Electrons at Hybrid Interfaces. Journal of Physical Chemistry Letters, 2021, 12, 11951-11959.	2.1	1