Gregory W Peterson

List of Publications by Year
in descending order

121 papers	9,860 citations	36271 51 h-index	36008 97 g-index
123 all docs	123 docs citations	123 times ranked	8533 citing authors

#	Article	IF	Citations
1	Metalâ€“Organic Frameworks for Air Purification of Toxic Chemicals. Chemical Reviews, 2014, 114, 5695-5727.	23.0	825
2	Destruction of chemical warfare agents using metalâ€“organic frameworks. Nature Materials, 2015, 14, 512-516.	13.3	790
3	Stability and degradation mechanisms of metalâ€“organic frameworks containing the Zr6O4(OH)4 secondary building unit. Journal of Materials Chemistry A, 2013, 1, 5642.	5.2	578
4	MOF-74 building unit has a direct impact on toxic gas adsorption. Chemical Engineering Science, 2011, 66, 163-170.	1.9	522
5	The effect of water adsorption on the structure of the carboxylate containing metalâ€“organic frameworks Cu-BTC, Mg-MOF-74, and UiO-66. Journal of Materials Chemistry A, 2013, 1, 11922.	5.2	466
6	Enhanced Stability of Cu-BTC MOF via Perfluorohexane Plasma-Enhanced Chemical Vapor Deposition. Journal of the American Chemical Society, 2012, 134, 1486-1489.	6.6	246
7	Ammonia Vapor Removal by Cu₃(BTC)₂ and Its Characterization by MAS NMR. Journal of Physical Chemistry C, 2009, 113, 13906-13917.	1.5	208
8	Evaluation of MOFs for air purification and air quality control applications: Ammonia removal from air. Chemical Engineering Science, 2015, 124, 118-124.	1.9	194
9	MOFabric: Electrospun Nanofiber Mats from PVDF/UiO-66-NH₂ for Chemical Protection and Decontamination. ACS Applied Materials & Interfaces, 2017, 9, 13632-13636.	4.0	187
10	Ultraâ€Fast Degradation of Chemical Warfare Agents Using MOFâ€“Nanofiber Kebabs. Angewandte Chemie - International Edition, 2016, 55, 13224-13228.	7.2	179
11	Catalytic â€œMOF-Clothâ€•Formed via Directed Supramolecular Assembly of UiO-66-NH₂ Crystals on Atomic Layer Deposition-Coated Textiles for Rapid Degradation of Chemical Warfare Agent Simulants. Chemistry of Materials, 2017, 29, 4894-4903.	3.2	177
12	Facile Conversion of Hydroxy Double Salts to Metalâ€“Organic Frameworks Using Metal Oxide Particles and Atomic Layer Deposition Thin-Film Templates. Journal of the American Chemical Society, 2015, 137, 13756-13759.	6.6	174
13	UiO-66-NH₂ Metalâ€“Organic Framework (MOF) Nucleation on TiO₂, ZnO, and Al₂O₃ Atomic Layer Deposition-Treated Polymer Fibers: Role of Metal Oxide on MOF Growth and Catalytic Hydrolysis of Chemical Warfare Agent Simulants. ACS Applied Materials & Interfaces, 2017, 9, 44847-44855.	4.0	163
14	Extraordinary NO₂ Removal by the Metalâ€“Organic Framework UiOâ€66â€NH₂. Angewandte Chemie - International Edition, 2016, 55, 6235-6238.	7.2	160
15	Tailoring the Pore Size and Functionality of UiO-Type Metalâ€“Organic Frameworks for Optimal Nerve Agent Destruction. Inorganic Chemistry, 2015, 54, 9684-9686.	1.9	157
16	Reactions of VX, GD, and HD with Zr(OH)₄: Near Instantaneous Decontamination of VX. Journal of Physical Chemistry C, 2012, 116, 11606-11614.	1.5	154
17	Scalable and Template-Free Aqueous Synthesis of Zirconium-Based Metalâ€“Organic Framework Coating on Textile Fiber. Journal of the American Chemical Society, 2019, 141, 15626-15633.	6.6	148
18	Enhanced aging properties of HKUST-1 in hydrophobic mixed-matrix membranes for ammonia adsorption. Chemical Science, 2016, 7, 2711-2716.	3.7	145

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19	Effects of pelletization pressure on the physical and chemical properties of the metalâ€“organic frameworks Cu3(BTC)2 and UiO-66. Microporous and Mesoporous Materials, 2013, 179, 48-53.	2.2	139
20	Cerium(IV) vs Zirconium(IV) Based Metalâ€“Organic Frameworks for Detoxification of a Nerve Agent. Chemistry of Materials, 2017, 29, 2672-2675.	3.2	135
21	Effective, Facile, and Selective Hydrolysis of the Chemical Warfare Agent VX Using Zr₆-Based Metalâ€“Organic Frameworks. Inorganic Chemistry, 2015, 54, 10829-10833.	1.9	132
22	Fibre-based composites from the integration of metalâ€“organic frameworks and polymers. Nature Reviews Materials, 2021, 6, 605-621.	23.3	128
23	Engineering UiO-66-NH₂ for Toxic Gas Removal. Industrial & Engineering Chemistry Research, 2014, 53, 701-707.	1.8	127
24	Metalâ€“Organic Frameworks for Oxygen Storage. Angewandte Chemie - International Edition, 2014, 53, 14092-14095.	7.2	106
25	Integration of Metalâ€“Organic Frameworks on Protective Layers for Destruction of Nerve Agents under Relevant Conditions. Journal of the American Chemical Society, 2019, 141, 20016-20021.	6.6	106
26	Conformal and highly adsorptive metalâ€“organic framework thin films via layer-by-layer growth on ALD-coated fiber mats. Journal of Materials Chemistry A, 2015, 3, 1458-1464.	5.2	100
27	Chemical Warfare Agents Detoxification Properties of Zirconium Metalâ€“Organic Frameworks by Synergistic Incorporation of Nucleophilic and Basic Sites. ACS Applied Materials & Interfaces, 2017, 9, 23967-23973.	4.0	100
28	Highly Adsorptive, MOFâ€Functionalized Nonwoven Fiber Mats for Hazardous Gas Capture Enabled by Atomic Layer Deposition. Advanced Materials Interfaces, 2014, 1, 1400040.	1.9	99
29	Interactions of Ammonia with the Surface of Microporous Carbon Impregnated with Transition Metal Chlorides. Journal of Physical Chemistry C, 2007, 111, 12705-12714.	1.5	96
30	Structural Diversity of Zirconium Metalâ€“Organic Frameworks and Effect on Adsorption of Toxic Chemicals. Journal of the American Chemical Society, 2020, 142, 21428-21438.	6.6	95
31	Detoxification of Chemical Warfare Agents Using a Zr₆â€Based Metalâ€“Organic Framework/Polymer Mixture. Chemistry - A European Journal, 2016, 22, 14864-14868.	1.7	93
32	Tuning the Morphology and Activity of Electrospun Polystyrene/UiO-66-NH₂ Metalâ€“Organic Framework Composites to Enhance Chemical Warfare Agent Removal. ACS Applied Materials & Interfaces, 2017, 9, 32248-32254.	4.0	93
33	Protective Fabrics: Metal-Organic Framework Textiles for Rapid Photocatalytic Sulfur Mustard Simulant Detoxification. Matter, 2020, 2, 404-415.	5.0	92
34	Highly effective ammonia removal in a series of BrÃ¸nsted acidic porous polymers: investigation of chemical and structural variations. Chemical Science, 2017, 8, 4399-4409.	3.7	89
35	Diffusion of CO₂ in Large Crystals of Cu-BTC MOF. Journal of the American Chemical Society, 2016, 138, 11449-11452.	6.6	84
36	Waterâ€Stable Chemicalâ€Protective Textiles via Euhedral Surfaceâ€Oriented 2D Cuâ€“TCPP Metalâ€Organic Frameworks. Small, 2019, 15, e1805133.	5.2	72

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37	Detoxification of chemical warfare agents by CuBTC. Journal of Porous Materials, 2014, 21, 121-126.	1.3	70
38	Optimizing Toxic Chemical Removal through Defectâ€Induced UiOâ€66â€NH₂ Metalâ€“Organic Framework. Chemistry - A European Journal, 2017, 23, 15913-15916.	1.7	70
39	Uncovering the Role of Metalâ€“Organic Framework Topology on the Capture and Reactivity of Chemical Warfare Agents. Chemistry of Materials, 2020, 32, 4609-4617.	3.2	70
40	Direct Surface Growth Of UIO-66-NH₂ on Polyacrylonitrile Nanofibers for Efficient Toxic Chemical Removal. Industrial & Engineering Chemistry Research, 2017, 56, 14502-14506.	1.8	69
41	Effect of Adsorbed Water and Surface Hydroxyls on the Hydrolysis of VX, GD, and HD on Titania Materials: The Development of Self-Decontaminating Paints. Industrial & Engineering Chemistry Research, 2012, 51, 3598-3603.	1.8	68
42	Scalable, room temperature, and water-based synthesis of functionalized zirconium-based metalâ€“organic frameworks for toxic chemical removal. CrystEngComm, 2019, 21, 2409-2415.	1.3	67
43	Removal of chlorine gas by an amine functionalized metalâ€“organic framework via electrophilic aromatic substitution. Chemical Communications, 2015, 51, 12474-12477.	2.2	66
44	Environmental Effects on Zirconium Hydroxide Nanoparticles and Chemical Warfare Agent Decomposition: Implications of Atmospheric Water and Carbon Dioxide. ACS Applied Materials & Interfaces, 2017, 9, 39747-39757.	4.0	64
45	Immobilized Regenerable Active Chlorine within a Zirconium-Based MOF Textile Composite to Eliminate Biological and Chemical Threats. Journal of the American Chemical Society, 2021, 143, 16777-16785.	6.6	64
46	The effect of oxidation on the surface chemistry of sulfur-containing carbons and their arsine adsorption capacity. Carbon, 2010, 48, 1779-1787.	5.4	62
47	Copper Benzenetricarboxylate Metalâ€“Organic Framework Nucleation Mechanisms on Metal Oxide Powders and Thin Films formed by Atomic Layer Deposition. ACS Applied Materials & Interfaces, 2016, 8, 9514-9522.	4.0	60
48	Ligand-Directed Reticular Synthesis of Catalytically Active Missing Zirconium-Based Metalâ€“Organic Frameworks. Journal of the American Chemical Society, 2019, 141, 12229-12235.	6.6	58
49	High-throughput screening of solid-state catalysts for nerve agent degradation. Chemical Communications, 2018, 54, 5768-5771.	2.2	55
50	Surface Chemistry and Morphology of Zirconia Polymorphs and the Influence on Sulfur Dioxide Removal. Journal of Physical Chemistry C, 2011, 115, 9644-9650.	1.5	53
51	Ultraâ€Fast Degradation of Chemical Warfare Agents Using MOFâ€“Nanofiber Kebabs. Angewandte Chemie, 2016, 128, 13418-13422.	1.6	50
52	Solid-Phase Detoxification of Chemical Warfare Agents using Zirconium-Based Metal Organic Frameworks and the Moisture Effects: Analyze via Digestion. ACS Applied Materials & Interfaces, 2019, 11, 21109-21116.	4.0	50
53	Near-instantaneous catalytic hydrolysis of organophosphorus nerve agents with zirconium-based MOF/hydrogel composites. Chem Catalysis, 2021, 1, 721-733.	2.9	49
54	Multifunctional Purification and Sensing of Toxic Hydride Gases by CuBTC Metalâ€“Organic Framework. Industrial & Engineering Chemistry Research, 2015, 54, 3626-3633.	1.8	48

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55	Zirconium Hydroxide as a Reactive Substrate for the Removal of Sulfur Dioxide. Industrial & Engineering Chemistry Research, 2009, 48, 1694-1698.	1.8	46
56	Removal of Chlorine Gases from Streams of Air Using Reactive Zirconium Hydroxide Based Filtration Media. Industrial & Engineering Chemistry Research, 2012, 51, 2675-2681.	1.8	42
57	Adsorption of Ammonia by Sulfuric Acid Treated Zirconium Hydroxide. Langmuir, 2012, 28, 10478-10487.	1.6	42
58	Enhanced Cyanogen Chloride Removal by the Reactive Zirconium Hydroxide Substrate. Industrial & Engineering Chemistry Research, 2010, 49, 11182-11187.	1.8	41
59	Removal of airborne toxic chemicals by porous organic polymers containing metalâ€“catecholates. Chemical Communications, 2013, 49, 2995.	2.2	39
60	Degradation and Detection of the Nerve Agent VX by a Chromophore-Functionalized Zirconium MOF. Chemistry of Materials, 2019, 31, 7417-7424.	3.2	39
61	Surface hydroxyl concentration on Zr(OH)4 quantified by 1H MAS NMR. Chemical Physics Letters, 2011, 511, 384-388.	1.2	38
62	Sulfur dioxide and nitrogen dioxide adsorption on zinc oxide and zirconium hydroxide nanoparticles and the effect on photoluminescence. Applied Surface Science, 2012, 258, 5778-5785.	3.1	38
63	Zirconium Hydroxideâ€“Metalâ€“Organic Framework Composites for Toxic Chemical Removal. Industrial & Engineering Chemistry Research, 2013, 52, 5462-5469.	1.8	37
64	Structureâ€“activity relationship of Au/ZrO2 catalyst on formation of hydroxyl groups and its influence on CO oxidation. Journal of Materials Chemistry A, 2013, 1, 6051.	5.2	36
65	Hierarchical Pore Development by Plasma Etching of Zrâ€Based Metalâ€“Organic Frameworks. Chemistry - A European Journal, 2015, 21, 18029-18032.	1.7	36
66	A Flexible Interpenetrated Zirconiumâ€Based Metalâ€“Organic Framework with High Affinity toward Ammonia. ChemSusChem, 2020, 13, 1710-1714.	3.6	36
67	MOFwich: Sandwiched Metalâ€“Organic Framework-Containing Mixed Matrix Composites for Chemical Warfare Agent Removal. ACS Applied Materials & Interfaces, 2018, 10, 6820-6824.	4.0	34
68	Modification of Fibers with Nanostructures Using Reactive Dye Chemistry. Industrial & Engineering Chemistry Research, 2015, 54, 3821-3827.	1.8	32
69	Manganese Oxide Nanoarchitectures as Broad-Spectrum Sorbents for Toxic Gases. ACS Applied Materials & Interfaces, 2016, 8, 1184-1193.	4.0	32
70	Catalytic Degradation of an Organophosphorus Agent at Znâ€“OH Sites in a Metalâ€“Organic Framework. Chemistry of Materials, 2020, 32, 6998-7004.	3.2	32
71	A Microporous Amic Acid Polymer for Enhanced Ammonia Capture. ACS Applied Materials & Interfaces, 2017, 9, 33504-33510.	4.0	31
72	Flexible SIS/HKUST-1 Mixed Matrix Composites as Protective Barriers against Chemical Warfare Agent Simulants. ACS Applied Materials & Interfaces, 2018, 10, 43080-43087.	4.0	31

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73	Role of TEDA as an Activated Carbon Impregnant for the Removal of Cyanogen Chloride from Air Streams: Synergistic Effect with Cu(II). Journal of Physical Chemistry C, 2010, 114, 20083-20090.	1.5	30
74	Sorption of Ammonia in Mesoporous-Silica Ionic Liquid Composites. Industrial & Engineering Chemistry Research, 2016, 55, 12191-12204.	1.8	29
75	Filtration of chlorine and hydrogen chloride gas by engineered UiO-66-NH2 metal-organic framework. Journal of Hazardous Materials, 2017, 332, 162-167.	6.5	28
76	Environmentally Benign Biosynthesis of Hierarchical MOF/Bacterial Cellulose Composite Sponge for Nerve Agent Protection. Angewandte Chemie - International Edition, 2022, 61, .	7.2	28
77	Selective-combustion purification of bulk carbonaceous solids to produce graphitic nanostructures. Carbon, 2010, 48, 501-508.	5.4	26
78	Extraordinary NO₂ Removal by the Metalâ€“Organic Framework UiOâ€66â€NH₂. Angewandte Chemie, 2016, 128, 6343-6346.	1.6	25
79	Graphene Oxide-Based Membrane as a Protective Barrier against Toxic Vapors and Gases. ACS Applied Materials & Interfaces, 2020, 12, 11094-11103.	4.0	25
80	Strong, Ductile MOFâ€“Poly(urethane urea) Composites. Chemistry of Materials, 2021, 33, 3164-3171.	3.2	25
81	Functionalized organosilicate materials for irritant gas removal. Chemical Engineering Science, 2012, 68, 376-382.	1.9	24
82	Multivariate CuBTC Metalâ€“Organic Framework with Enhanced Selectivity, Stability, Compatibility, and Processability. Chemistry of Materials, 2019, 31, 8459-8465.	3.2	24
83	Doubly Protective MOFâ€Photoâ€Fabrics: Facile Templateâ€Free Synthesis of PCNâ€222â€Textiles Enables Rapid Hydrolysis, Photoâ€Hydrolysis and Selective Oxidation of Multiple Chemical Warfare Agents and Simulants. Chemistry - A European Journal, 2021, 27, 1465-1472.	1.7	24
84	Effects of water on the removal of methyl bromide using triethylene diamine impregnated carbon. Carbon, 2010, 48, 81-88.	5.4	22
85	Evaluation of a robust, diimide-based, porous organic polymer (POP) as a high-capacity sorbent for representative chemical threats. Journal of Porous Materials, 2012, 19, 261-266.	1.3	22
86	Structural Impact on Dielectric Properties of Zirconia. Journal of Physical Chemistry C, 2016, 120, 26834-26840.	1.5	21
87	High-Throughput Screening of MOFs for Breakdown of V-Series Nerve Agents. ACS Applied Materials & Interfaces, 2020, 12, 14672-14677.	4.0	21
88	Organoalkoxysilane-Grafted Silica Composites for Acidic and Basic Gas Adsorption. Langmuir, 2012, 28, 17450-17456.	1.6	20
89	Highly Breathable Chemically Protective MOFâ€Fiber Catalysts. Advanced Functional Materials, 2022, 32, 2108004.	7.8	19
90	Metal-catalyzed graphitic nanostructures as sorbents for vapor-phase ammonia. Journal of Materials Chemistry, 2011, 21, 3477.	6.7	18

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91	Air, Water Vapor, and Aerosol Transport through Textiles with Surface Functional Coatings of Metal Oxides and Metalâ€“Organic Frameworks. ACS Applied Materials & Interfaces, 2019, 11, 24683-24690.	4.0	18
92	Mass Transfer and Adsorption Equilibrium for Low Volatility Alkanes in BPL Activated Carbon. Langmuir, 2013, 29, 2935-2945.	1.6	14
93	Bentâ€Butâ€Notâ€Broken: Reactive Metalâ€Organic Framework Composites from Elastomeric Phaseâ€Inverted Polymers. Advanced Functional Materials, 2020, 30, 2005517.	7.8	14
94	Detection of an explosive simulant via electrical impedance spectroscopy utilizing the UiO-66-NH₂ metalâ€“organic framework. Dalton Transactions, 2016, 45, 17113-17116.	1.6	13
95	Stretchable and Multi-Metalâ€“Organic Framework Fabrics Via High-Yield Rapid Sorption-Vapor Synthesis and Their Application in Chemical Warfare Agent Hydrolysis. ACS Applied Materials & Interfaces, 2021, 13, 31279-31284.	4.0	13
96	Interactions of Arsine with Nanoporous Carbons: Role of Heteroatoms in the Oxidation Process at Ambient Conditions. Journal of Physical Chemistry C, 2010, 114, 6527-6533.	1.5	12
97	Surface Chemistry of Sulfur Dioxide on Zr(OH)₄ Powder: The Role of Water. Journal of Physical Chemistry C, 2019, 123, 17205-17213.	1.5	12
98	Graphene Oxide and Metalâ€“Organic Framework-Based Breathable Barrier Membranes for Toxic Vapors. ACS Applied Materials & Interfaces, 2022, 14, 31321-31331.	4.0	12
99	Membrane-supported metal organic framework based nanopacked bed for protection against toxic vapors and gases. Separation and Purification Technology, 2020, 251, 117406.	3.9	11
100	<scp>Metalâ€“organic framework polymer</scp> composite enhancement via acyl chloride modification. Polymer International, 2021, 70, 783-789.	1.6	11
101	Hâˆ’ZSM-5 for the Removal of Ethylene Oxide:â€‰ Effects of Water on Filtration Performance. Industrial & Engineering Chemistry Research, 2008, 47, 185-191.	1.8	10
102	Reduced Chemical Warfare Agent Sorption in Polyurethane-Painted Surfaces via Plasma-Enhanced Chemical Vapor Deposition of Perfluoroalkanes. ACS Applied Materials & Interfaces, 2015, 7, 6402-6405.	4.0	10
103	Trifluoroethanol and19F Magic Angle Spinning Nuclear Magnetic Resonance as a Basic Surface Hydroxyl Reactivity Probe for Zirconium(IV) Hydroxide Structures. Langmuir, 2011, 27, 9458-9464.	1.6	9
104	Ambient Temperature Vapor Pressure and Adsorption Capacity for (Perfluorooctyl) Ethylene, 3-(Perfluorobutyl)propanol, Perfluorohexanoic Acid, Ethyl Perfluorooctanoate, and Perfluoro-3,6-dioxaheptanoic Acid. Journal of Chemical & Engineering Data, 2013, 58, 1806-1812.	1.0	9
105	Battling Chemical Weapons with Zirconium Hydroxide Nanoparticle Sorbent: Impact of Environmental Contaminants on Sarin Sequestration and Decomposition. Langmuir, 2021, 37, 6923-6934.	1.6	8
106	Green MOF-Fabrics: Benign, Scalable Sorption-Vapor Synthesis of Catalytic Composites to Protect against Phosphorus-Based Toxins. ACS Sustainable Chemistry and Engineering, 2022, 10, 2699-2707.	3.2	8
107	Preparation of Hydrophobic Metal-Organic Frameworks via Plasma Enhanced Chemical Vapor Deposition of Perfluoroalkanes for the Removal of Ammonia. Journal of Visualized Experiments, 2013, , .	0.2	7
108	Porphyrin-embedded organosilicate materials for ammonia adsorption. Journal of Porphyrins and Phthalocyanines, 2012, 16, 1252-1260.	0.4	5

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109	Photoluminescence of zirconium hydroxide: Origin of a chemisorption-induced â€˜red-stretchâ€™. Chemical Physics Letters, 2014, 592, 297-301.	1.2	5
110	Metalâ€“Organic Frameworks: Highly Adsorptive, MOFâ€Functionalized Nonwoven Fiber Mats for Hazardous Gas Capture Enabled by Atomic Layer Deposition (Adv. Mater. Interfaces 4/2014). Advanced Materials Interfaces, 2014, 1, .	1.9	5
111	Impact of zinc salt counterion on poly(ethylene oxide) solution viscosity, conductivity, and ability to generate electrospun MOF/nanofiber composites. Polymer, 2022, 252, 124816.	1.8	5
112	A fiber optic, ultraviolet light-emitting diode-based, two wavelength fluorometer for monitoring reactive adsorption. Review of Scientific Instruments, 2016, 87, 035121.	0.6	4
113	In situ sensing of adsorbed water in activated carbon using impedance measurements. Carbon, 2009, 47, 2442-2447.	5.4	3
114	Measurement of the impedance change of impregnated activated carbon during exposure to SO2 vapors at ambient temperatures. Carbon, 2009, 47, 3566-3573.	5.4	3
115	Bamboo-type carbon nanotube solids derived from low-cost epoxy resins and their potential application for air filtration. Journal of Nanoparticle Research, 2014, 16, 1.	0.8	2
116	Sensing of NO2 with zirconium hydroxide via frequency-dependent electrical impedance spectroscopy. Dalton Transactions, 2017, 46, 10791-10797.	1.6	1
117	Nanomaterial Development, Characterization, and Integration Strategies for Chemical Warfare Defense. ACS Applied Materials & Interfaces, 2020, 12, 14629-14630.	4.0	1
118	Catalytic Removal of Ethylene Oxide from Contaminated Airstreams by Alkali-Treated H-ZSM-5. ACS Symposium Series, 2009, , 235-248.	0.5	0
119	Active carbon filter health condition detection with piezoelectric wafer active sensors. , 2011, , .		0
120	Advancements in MOF characterization for enhanced MALDI sensing. , 2018, , .		0
121	Environmentally Benign Biosynthesis of Hierarchical MOF/Bacterial Cellulose Composite Sponge for Nerve Agent Protection. Angewandte Chemie, 0, , .	1.6	0