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	Highly Breathable Chemically Protective MOFâ€Fiber Catalysts. Advanced Functional Materials, 2022, 32, 2108004.	7.8	19
2	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
3	Environmentally Benign Biosynthesis of Hierarchical MOF/Bacterial Cellulose Composite Sponge for Nerve Agent Protection. Angewandte Chemie - International Edition, 2022, 61, .	7.2	28
4	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
5	Graphene Oxide and Metalâ€"Organic Framework-Based Breathable Barrier Membranes for Toxic Vapors. ACS Applied Materials & Interfaces, 2022, 14, 31321-31331.	4.0	12
6	<scp>Metalâ€"organic framework polymer</scp> composite enhancement via acyl chloride modification. Polymer International, 2021, 70, 783-789.	1.6	11
7	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
8	Fibre-based composites from the integration of metalâ€"organic frameworks and polymers. Nature Reviews Materials, 2021, 6, 605-621.	23.3	128
9	Strong, Ductile MOFâ€"Poly(urethane urea) Composites. Chemistry of Materials, 2021, 33, 3164-3171.	3.2	25
10	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
11	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
12	Near-instantaneous catalytic hydrolysis of organophosphorus nerve agents with zirconium-based MOF/hydrogel composites. Chem Catalysis, 2021, 1, 721-733.	2.9	49
13	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
14	Protective Fabrics: Metal-Organic Framework Textiles for Rapid Photocatalytic Sulfur Mustard Simulant Detoxification. Matter, 2020, 2, 404-415.	5.0	92
15	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
16	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
17	Bentâ€Butâ€Notâ€Broken: Reactive Metalâ€Organic Framework Composites from Elastomeric Phaseâ€Inverted Polymers. Advanced Functional Materials, 2020, 30, 2005517.	7.8	14
18	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

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19	Graphene Oxide-Based Membrane as a Protective Barrier against Toxic Vapors and Gases. ACS Applied Materials & Interfaces, 2020, 12, 11094-11103.	4.0	25
20	High-Throughput Screening of MOFs for Breakdown of V-Series Nerve Agents. ACS Applied Materials & Interfaces, 2020, 12, 14672-14677.	4.0	21
21	A Flexible Interpenetrated Zirconiumâ€Based Metalâ€“Organic Framework with High Affinity toward Ammonia. ChemSusChem, 2020, 13, 1710-1714.	3.6	36
22	Nanomaterial Development, Characterization, and Integration Strategies for Chemical Warfare Defense. ACS Applied Materials & Interfaces, 2020, 12, 14629-14630.	4.0	1
23	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
24	Degradation and Detection of the Nerve Agent VX by a Chromophore-Functionalized Zirconium MOF. Chemistry of Materials, 2019, 31, 7417-7424.	3.2	39
25	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
26	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
27	Multivariate CuBTC Metalâ€“Organic Framework with Enhanced Selectivity, Stability, Compatibility, and Processability. Chemistry of Materials, 2019, 31, 8459-8465.	3.2	24
28	Waterâ€Stable Chemicalâ€Protective Textiles via Euhedral Surfaceâ€Oriented 2D Cuâ€“TCPP Metalâ€Organic Frameworks. Small, 2019, 15, e1805133.	5.2	72
29	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
30	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
31	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
32	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
33	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
34	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
35	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
36	High-throughput screening of solid-state catalysts for nerve agent degradation. Chemical Communications, 2018, 54, 5768-5771.	2.2	55

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37	Advancements in MOF characterization for enhanced MALDI sensing. , 2018, , .		0
38	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
39	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
40	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
41	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
42	A Microporous Amic Acid Polymer for Enhanced Ammonia Capture. ACS Applied Materials & Interfaces, 2017, 9, 33504-33510.	4.0	31
43	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
44	Optimizing Toxic Chemical Removal through Defectâ€Induced UiOâ€66â€NH₂ Metalâ€“Organic Framework. Chemistry - A European Journal, 2017, 23, 15913-15916.	1.7	70
45	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
46	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
47	Sensing of NO2 with zirconium hydroxide via frequency-dependent electrical impedance spectroscopy. Dalton Transactions, 2017, 46, 10791-10797.	1.6	1
48	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
49	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
50	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
51	Extraordinary NO₂ Removal by the Metalâ€“Organic Framework UiOâ€66â€NH₂. Angewandte Chemie, 2016, 128, 6343-6346.	1.6	25
52	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
53	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
54	Diffusion of CO₂ in Large Crystals of Cu-BTC MOF. Journal of the American Chemical Society, 2016, 138, 11449-11452.	6.6	84

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55	Ultraâ€Fast Degradation of Chemical Warfare Agents Using MOFâ€“Nanofiber Kebabs. Angewandte Chemie, 2016, 128, 13418-13422.	1.6	50
56	Ultraâ€Fast Degradation of Chemical Warfare Agents Using MOFâ€“Nanofiber Kebabs. Angewandte Chemie - International Edition, 2016, 55, 13224-13228.	7.2	179
57	Structural Impact on Dielectric Properties of Zirconia. Journal of Physical Chemistry C, 2016, 120, 26834-26840.	1.5	21
58	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
59	Sorption of Ammonia in Mesoporous-Silica Ionic Liquid Composites. Industrial & Engineering Chemistry Research, 2016, 55, 12191-12204.	1.8	29
60	Extraordinary NO₂ Removal by the Metalâ€“Organic Framework UiOâ€66â€NH₂. Angewandte Chemie - International Edition, 2016, 55, 6235-6238.	7.2	160
61	Enhanced aging properties of HKUST-1 in hydrophobic mixed-matrix membranes for ammonia adsorption. Chemical Science, 2016, 7, 2711-2716.	3.7	145
62	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
63	Manganese Oxide Nanoarchitectures as Broad-Spectrum Sorbents for Toxic Gases. ACS Applied Materials & Interfaces, 2016, 8, 1184-1193.	4.0	32
64	Hierarchical Pore Development by Plasma Etching of Zrâ€Based Metalâ€“Organic Frameworks. Chemistry - A European Journal, 2015, 21, 18029-18032.	1.7	36
65	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
66	Destruction of chemical warfare agents using metalâ€“organic frameworks. Nature Materials, 2015, 14, 512-516.	13.3	790
67	Removal of chlorine gas by an amine functionalized metalâ€“organic framework via electrophilic aromatic substitution. Chemical Communications, 2015, 51, 12474-12477.	2.2	66
68	Modification of Fibers with Nanostructures Using Reactive Dye Chemistry. Industrial & Engineering Chemistry Research, 2015, 54, 3821-3827.	1.8	32
69	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
70	Multifunctional Purification and Sensing of Toxic Hydride Gases by CuBTC Metalâ€“Organic Framework. Industrial & Engineering Chemistry Research, 2015, 54, 3626-3633.	1.8	48
71	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
72	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

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73	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
74	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
75	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
76	Detoxification of chemical warfare agents by CuBTC. Journal of Porous Materials, 2014, 21, 121-126.	1.3	70
77	Metalâ€"Organic Frameworks for Air Purification of Toxic Chemicals. Chemical Reviews, 2014, 114, 5695-5727.	23.0	825
78	Photoluminescence of zirconium hydroxide: Origin of a chemisorption-induced â€˜red-stretchâ€™. Chemical Physics Letters, 2014, 592, 297-301.	1.2	5
79	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
80	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
81	Metalâ€"Organic Frameworks for Oxygen Storage. Angewandte Chemie - International Edition, 2014, 53, 14092-14095.	7.2	106
82	Engineering UiO-66-NH₂ for Toxic Gas Removal. Industrial & Engineering Chemistry Research, 2014, 53, 701-707.	1.8	127
83	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
84	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
85	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
86	Zirconium Hydroxideâ€"Metalâ€"Organic Framework Composites for Toxic Chemical Removal. Industrial & Engineering Chemistry Research, 2013, 52, 5462-5469.	1.8	37
87	Removal of airborne toxic chemicals by porous organic polymers containing metalâ€"catecholates. Chemical Communications, 2013, 49, 2995.	2.2	39
88	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
89	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
90	Mass Transfer and Adsorption Equilibrium for Low Volatility Alkanes in BPL Activated Carbon. Langmuir, 2013, 29, 2935-2945.	1.6	14

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91	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
92	Porphyrin-embedded organosilicate materials for ammonia adsorption. Journal of Porphyrins and Phthalocyanines, 2012, 16, 1252-1260.	0.4	5
93	Organoalkoxysilane-Grafted Silica Composites for Acidic and Basic Gas Adsorption. Langmuir, 2012, 28, 17450-17456.	1.6	20
94	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
95	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
96	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
97	Adsorption of Ammonia by Sulfuric Acid Treated Zirconium Hydroxide. Langmuir, 2012, 28, 10478-10487.	1.6	42
98	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
99	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
100	Functionalized organosilicate materials for irritant gas removal. Chemical Engineering Science, 2012, 68, 376-382.	1.9	24
101	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
102	Metal-catalyzed graphitic nanostructures as sorbents for vapor-phase ammonia. Journal of Materials Chemistry, 2011, 21, 3477.	6.7	18
103	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
104	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
105	Active carbon filter health condition detection with piezoelectric wafer active sensors. , 2011, , .		0
106	Surface hydroxyl concentration on Zr(OH)4 quantified by 1H MAS NMR. Chemical Physics Letters, 2011, 511, 384-388.	1.2	38
107	MOF-74 building unit has a direct impact on toxic gas adsorption. Chemical Engineering Science, 2011, 66, 163-170.	1.9	522
108	Effects of water on the removal of methyl bromide using triethylene diamine impregnated carbon. Carbon, 2010, 48, 81-88.	5.4	22

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109	Selective-combustion purification of bulk carbonaceous solids to produce graphitic nanostructures. Carbon, 2010, 48, 501-508.	5.4	26
110	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
111	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
112	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
113	Enhanced Cyanogen Chloride Removal by the Reactive Zirconium Hydroxide Substrate. Industrial & Engineering Chemistry Research, 2010, 49, 11182-11187.	1.8	41
114	In situ sensing of adsorbed water in activated carbon using impedance measurements. Carbon, 2009, 47, 2442-2447.	5.4	3
115	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
116	Catalytic Removal of Ethylene Oxide from Contaminated Airstreams by Alkali-Treated H-ZSM-5. ACS Symposium Series, 2009, , 235-248.	0.5	0
117	Zirconium Hydroxide as a Reactive Substrate for the Removal of Sulfur Dioxide. Industrial & Engineering Chemistry Research, 2009, 48, 1694-1698.	1.8	46
118	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
119	Hâ^'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
120	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
121	Environmentally Benign Biosynthesis of Hierarchical MOF/Bacterial Cellulose Composite Sponge for Nerve Agent Protection. Angewandte Chemie, 0, , .	1.6	0