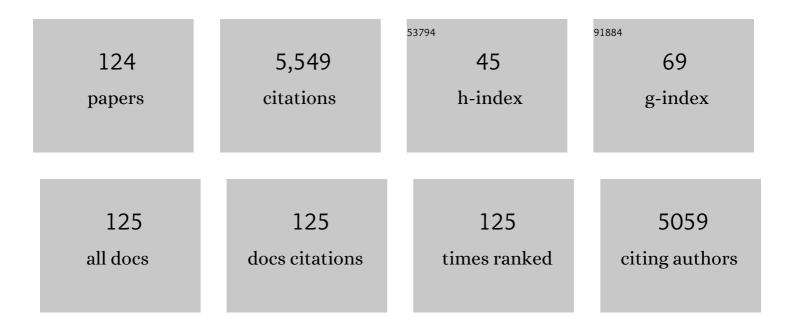
Charles J Werth

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Critical Review of Pd-Based Catalytic Treatment of Priority Contaminants in Water. Environmental Science & Technology, 2012, 46, 3655-3670.	10.0	373
2	Evaluation of the Effects of Porous Media Structure on Mixing-Controlled Reactions Using Pore-Scale Modeling and Micromodel Experiments. Environmental Science & Technology, 2008, 42, 3185-3193.	10.0	192
3	A review of non-invasive imaging methods and applications in contaminant hydrogeology research. Journal of Contaminant Hydrology, 2010, 113, 1-24.	3.3	174
4	Effects of Natural Water lons and Humic Acid on Catalytic Nitrate Reduction Kinetics Using an Alumina Supported Pdâ^'Cu Catalyst. Environmental Science & Technology, 2006, 40, 3075-3081.	10.0	153
5	Enhanced mixing and reaction through flow focusing in heterogeneous porous media. Water Resources Research, 2006, 42, .	4.2	137
6	Impacts of Geochemical Reactions on Geologic Carbon Sequestration. Environmental Science & Technology, 2013, 47, 3-8.	10.0	133
7	Poreâ€scale simulation of mixingâ€induced calcium carbonate precipitation and dissolution in a microfluidic pore network. Water Resources Research, 2012, 48, .	4.2	126
8	Pore-Scale Study of Transverse Mixing Induced CaCO ₃ Precipitation and Permeability Reduction in a Model Subsurface Sedimentary System. Environmental Science & Technology, 2010, 44, 7833-7838.	10.0	123
9	Effects of Temperature on Trichloroethylene Desorption from Silica Gel and Natural Sediments. 2. Kinetics. Environmental Science & Technology, 1997, 31, 697-703.	10.0	101
10	Pore-Scale Simulations of Gas Displacing Liquid in a Homogeneous Pore Network Using the Lattice Boltzmann Method. Transport in Porous Media, 2013, 99, 555-580.	2.6	101
11	Analysis of pore-scale nonaqueous phase liquid dissolution in etched silicon pore networks. Water Resources Research, 2003, 39, .	4.2	98
12	Enhanced Activity and Selectivity of Carbon Nanofiber Supported Pd Catalysts for Nitrite Reduction. Environmental Science & Technology, 2012, 46, 2847-2855.	10.0	98
13	PdAu Alloy Nanoparticle Catalysts: Effective Candidates for Nitrite Reduction in Water. ACS Catalysis, 2017, 7, 3268-3276.	11.2	89
14	Catalytic Nitrate and Nitrite Reduction with Pdâ^'Cu/PVP Colloids in Water: Composition, Structure, and Reactivity Correlations. Journal of Physical Chemistry C, 2009, 113, 8177-8185.	3.1	88
15	Evaluation of a hybrid ion exchange-catalyst treatment technology for nitrate removal from drinking water. Water Research, 2016, 96, 177-187.	11.3	84
16	Effects of grain-scale mass transfer on the transport of volatile organics through sediments: 1. Model development. Water Resources Research, 1997, 33, 2713-2726.	4.2	83
17	Evaluating Competitive Sorption Mechanisms of Volatile Organic Compounds in Soils and Sediments Using Polymers and Zeolites. Environmental Science & Technology, 2001, 35, 568-574.	10.0	83
18	Elucidation of Nitrate Reduction Mechanisms on a Pdâ€In Bimetallic Catalyst using Isotope Labeled Nitrogen Species. ChemCatChem, 2013, 5, 313-321.	3.7	83

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19	Regeneration of Sulfur-Fouled Bimetallic Pd-Based Catalysts. Environmental Science & Technology, 2007, 41, 5491-5497.	10.0	82
20	Environmental risk analysis of hazardous material rail transportation. Journal of Hazardous Materials, 2014, 264, 560-569.	12.4	82
21	Palladium Nanoparticles Encapsulated in Core–Shell Silica: A Structured Hydrogenation Catalyst with Enhanced Activity for Reduction of Oxyanion Water Pollutants. ACS Catalysis, 2014, 4, 3551-3559.	11.2	79
22	A Magnetic Resonance Imaging Study of Dense Nonaqueous Phase Liquid Dissolution from Angular Porous Media. Environmental Science & Technology, 2002, 36, 3310-3317.	10.0	76
23	Structure Sensitivity Study of Waterborne Contaminant Hydrogenation Using Shape- and Size-Controlled Pd Nanoparticles. ACS Catalysis, 2013, 3, 453-463.	11.2	74
24	Poreâ€scale simulation of dispersion and reaction along a transverse mixing zone in twoâ€dimensional porous media. Water Resources Research, 2007, 43, .	4.2	73
25	Performance and life cycle environmental benefits of recycling spent ion exchange brines by catalytic treatment of nitrate. Water Research, 2015, 80, 267-280.	11.3	71
26	Effects of grain-scale mass transfer on the transport of volatile organics through sediments: 2. Column results. Water Resources Research, 1997, 33, 2727-2740.	4.2	70
27	Cu <i>_x</i> Ir _{1–<i>x</i>} Nanoalloy Catalysts Achieve Near 100% Selectivity for Aqueous Nitrite Reduction to NH ₃ . ACS Catalysis, 2020, 10, 7915-7921.	11.2	69
28	Effects of Pore-Scale Heterogeneity and Transverse Mixing on Bacterial Growth in Porous Media. Environmental Science & Technology, 2010, 44, 3085-3092.	10.0	67
29	Comparative Assessment of the Environmental Sustainability of Existing and Emerging Perchlorate Treatment Technologies for Drinking Water. Environmental Science & Technology, 2013, 47, 4644-4652.	10.0	67
30	Mechanisms for Abiotic Dechlorination of Trichloroethene by Ferrous Minerals under Oxic and Anoxic Conditions in Natural Sediments. Environmental Science & Technology, 2018, 52, 13747-13755.	10.0	64
31	PdAg Alloy Nanocatalysts: Toward Economically Viable Nitrite Reduction in Drinking Water. ACS Catalysis, 2020, 10, 7979-7989.	11.2	64
32	Comparison of continuum and pore-scale models of nutrient biodegradation under transverse mixing conditions. Advances in Water Resources, 2007, 30, 1421-1431.	3.8	63
33	Effects of Temperature on Trichloroethylene Desorption from Silica Gel and Natural Sediments. 1. Isotherms. Environmental Science & Technology, 1997, 31, 689-696.	10.0	62
34	Application of a Re–Pd bimetallic catalyst for treatment of perchlorate in waste ion-exchange regenerant brine. Water Research, 2013, 47, 91-101.	11.3	62
35	Mixing-Limited Reactions in Porous Media. Transport in Porous Media, 2019, 130, 157-182.	2.6	61
36	An improved pore-scale biofilm model and comparison with a microfluidic flow cell experiment. Water Resources Research, 2013, 49, 8370-8382.	4.2	57

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37	Highly active Pd–In/mesoporous alumina catalyst for nitrate reduction. Journal of Hazardous Materials, 2015, 286, 425-431.	12.4	57
38	Pore-scale modeling of dissolution from variably distributed nonaqueous phase liquid blobs. Water Resources Research, 2001, 37, 2951-2963.	4.2	54
39	Critical Review: DNA Aptasensors, Are They Ready for Monitoring Organic Pollutants in Natural and Treated Water Sources?. Environmental Science & Technology, 2018, 52, 8989-9007.	10.0	53
40	Evaluation of simplified mass transfer models to simulate the impacts of source zone architecture on nonaqueous phase liquid dissolution in heterogeneous porous media. Journal of Contaminant Hydrology, 2008, 102, 49-60.	3.3	52
41	Pore-Scale Analysis of Anaerobic Halorespiring Bacterial Growth along the Transverse Mixing Zone of an Etched Silicon Pore Network. Environmental Science & Technology, 2003, 37, 5617-5624.	10.0	50
42	Geobiology reveals how human kidney stones dissolve in vivo. Scientific Reports, 2018, 8, 13731.	3.3	50
43	Intracellular versus extracellular accumulation of Hexavalent chromium reduction products by Geobacter sulfurreducens PCA. Environmental Pollution, 2018, 240, 485-492.	7.5	50
44	Characterization of NAPL Source Zone Architecture and Dissolution Kinetics in Heterogeneous Porous Media Using Magnetic Resonance Imaging. Environmental Science & Technology, 2007, 41, 3672-3678.	10.0	49
45	The Selectivity and Sustainability of a Pd–In/γ-Al2O3 Catalyst in a Packed-Bed Reactor: The Effect of Solution Composition. Catalysis Letters, 2009, 130, 56-62.	2.6	49
46	Selective Aptamers for Detection of Estradiol and Ethynylestradiol in Natural Waters. Environmental Science & Technology, 2015, 49, 9905-9913.	10.0	48
47	Visualization and Modeling of Polystyrol Colloid Transport in a Silicon Micromodel. Vadose Zone Journal, 2004, 3, 434-443.	2.2	47
48	Bioinspired Complex-Nanoparticle Hybrid Catalyst System for Aqueous Perchlorate Reduction: Rhenium Speciation and Its Influence on Catalyst Activity. ACS Catalysis, 2015, 5, 511-522.	11.2	45
49	Effects of Mineral Surface Properties on Supercritical CO ₂ Wettability in a Siliciclastic Reservoir. Energy & Fuels, 2017, 31, 5275-5285.	5.1	41
50	Modeling sorption isotherms of volatile organic chemical mixtures in model and natural solids. Environmental Toxicology and Chemistry, 2002, 21, 1377-1383.	4.3	40
51	Visualization of colloid transport through heterogeneous porous media using magnetic resonance imaging. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2005, 265, 2-10.	4.7	39
52	Poreâ€scale evaluation of uranyl phosphate precipitation in a model groundwater system. Water Resources Research, 2013, 49, 874-890.	4.2	38
53	The Role of Condensed Carbonaceous Materials on the Sorption of Hydrophobic Organic Contaminants in Subsurface Sediments. Environmental Science & Technology, 2008, 42, 1458-1464.	10.0	37
54	Metabolism-Induced CaCO ₃ Biomineralization During Reactive Transport in a Micromodel: Implications for Porosity Alteration. Environmental Science & Technology, 2015, 49, 12094-12104.	10.0	36

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55	Real rock-microfluidic flow cell: A test bed for real-time in situ analysis of flow, transport, and reaction in a subsurface reactive transport environment. Journal of Contaminant Hydrology, 2017, 204, 28-39.	3.3	36
56	Influence of Mg2+ on CaCO3 precipitation during subsurface reactive transport in a homogeneous silicon-etched pore network. Geochimica Et Cosmochimica Acta, 2014, 135, 321-335.	3.9	35
57	Nanowires of <i>Geobacter sulfurreducens</i> Require Redox Cofactors to Reduce Metals in Pore Spaces Too Small for Cell Passage. Environmental Science & Technology, 2017, 51, 11660-11668.	10.0	34
58	Slow Desorption Mechanisms of Volatile Organic Chemical Mixtures in Soil and Sediment Micropores. Environmental Science & Technology, 2004, 38, 440-448.	10.0	33
59	Estimation of Interfacial Tension between Organic Liquid Mixtures and Water. Environmental Science & Technology, 2009, 43, 7754-7761.	10.0	33
60	Using dispersivity values to quantify the effects of pore-scale flow focusing on enhanced reaction along a transverse mixing zone. Advances in Water Resources, 2010, 33, 525-535.	3.8	33
61	Enhancement of Oxyanion and Diatrizoate Reduction Kinetics Using Selected Azo Dyes on Pd-Based Catalysts. Environmental Science & Technology, 2010, 44, 1773-1779.	10.0	33
62	A hybrid poreâ€scale and continuumâ€scale model for solute diffusion, reaction, and biofilm development in porous media. Water Resources Research, 2015, 51, 1846-1859.	4.2	33
63	A review of geochemical–mechanical impacts in geological carbon storage reservoirs. , 2019, 9, 474-504.		32
64	Factors Impeding Replacement of Ion Exchange with (Electro)Catalytic Treatment for Nitrate Removal from Drinking Water. ACS ES&T Engineering, 2021, 1, 6-20.	7.6	32
65	Scalable subsurface inverse modeling of huge data sets with an application to tracer concentration breakthrough data from magnetic resonance imaging. Water Resources Research, 2016, 52, 5213-5231.	4.2	30
66	Geochemical and geomechanical alteration of siliciclastic reservoir rock by supercritical CO2-saturated brine formed during geological carbon sequestration. International Journal of Greenhouse Gas Control, 2019, 88, 251-260.	4.6	29
67	An environmental screening model to assess the consequences to soil and groundwater from railroad-tank-car spills of light non-aqueous phase liquids. Journal of Hazardous Materials, 2009, 165, 332-344.	12.4	28
68	Chitin and corncobs as electron donor sources for the reductive dechlorination of tetrachloroethene. Water Research, 2006, 40, 2125-2134.	11.3	27
69	Configuration Control in the Synthesis of Homo- and Heteroleptic Bis(oxazolinylphenolato/thiazolinylphenolato) Chelate Ligand Complexes of Oxorhenium(V): Isomer Effect on Ancillary Ligand Exchange Dynamics and Implications for Perchlorate Reduction Catalysis. Inorganic Chemistry, 2016, 55, 2597-2611.	4.0	26
70	Diffusion-Based Recycling of Flavins Allows <i>Shewanella oneidensis</i> MR-1 To Yield Energy from Metal Reduction Across Physical Separations. Environmental Science & amp; Technology, 2019, 53, 3480-3487.	10.0	26
71	Modeling the Influence of Water Content on Soil Vapor Extraction. Vadose Zone Journal, 2003, 2, 368-381.	2.2	23
72	Numerical simulation of water flow in three dimensional heterogeneous porous media observed in a magnetic resonance imaging experiment. Water Resources Research, 2008, 44, .	4.2	23

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73	Mechanism and Mitigation of the Decomposition of an Oxorhenium Complex-Based Heterogeneous Catalyst for Perchlorate Reduction in Water. Environmental Science & Technology, 2015, 49, 12932-12940.	10.0	22
74	Structural Evaluation of Slow Desorbing Sites in Model and Natural Solids Using Temperature Stepped Desorption Profiles. 1. Model Development. Environmental Science & Technology, 2000, 34, 2959-2965.	10.0	21
75	Evaluation of Methods To Obtain Geosorbent Fractions Enriched in Carbonaceous Materials That Affect Hydrophobic Organic Chemical Sorption. Environmental Science & Technology, 2005, 39, 3279-3288.	10.0	21
76	A New Bioinspired Perchlorate Reduction Catalyst with Significantly Enhanced Stability via Rational Tuning of Rhenium Coordination Chemistry and Heterogeneous Reaction Pathway. Environmental Science & Technology, 2016, 50, 5874-5881.	10.0	21
77	Modeling the effects of concentration history on the slow desorption of trichloroethene from a soil at 100% relative humidity. Journal of Contaminant Hydrology, 2002, 54, 307-327.	3.3	20
78	Modeling \$\$hbox {CO}_2\$\$-Induced Alterations in Mt. Simon Sandstone via Nanomechanics. Rock Mechanics and Rock Engineering, 2019, 52, 1353-1375.	5.4	20
79	Binary Desorption Isotherms of TCE and PCE from Silica Gel and Natural Solids. Environmental Science & Technology, 2000, 34, 4341-4347.	10.0	19
80	Immobilization of Selenite via Two Parallel Pathways during In Situ Bioremediation. Environmental Science & Technology, 2015, 49, 4543-4550.	10.0	19
81	Reactive alteration of a Mt. Simon Sandstone due to CO2-rich brine displacement. Geochimica Et Cosmochimica Acta, 2020, 271, 227-247.	3.9	19
82	Surfactant Adsorption on Shale Samples: Experiments and an Additive Model. Energy & Fuels, 2020, 34, 5436-5443.	5.1	19
83	Impact of nonaqueous phase liquid (NAPL) source zone architecture on mass removal mechanisms in strongly layered heterogeneous porous media during soil vapor extraction. Journal of Contaminant Hydrology, 2008, 100, 58-71.	3.3	18
84	Numerical and experimental investigation of DNAPL removal mechanisms in a layered porous medium by means of soil vapor extraction. Journal of Contaminant Hydrology, 2009, 109, 1-13.	3.3	18
85	Environmental Impacts of Replacing Slickwater with Low/No-Water Fracturing Fluids for Shale Gas Recovery. ACS Sustainable Chemistry and Engineering, 2018, 6, 7515-7524.	6.7	18
86	Evaluation of Different Polymeric Organic Materials for Creating Conditions That Favor Reductive Processes in Groundwater. Bioremediation Journal, 2001, 5, 169-181.	2.0	17
87	Potential contributions of asphalt and coal tar to black carbon quantification in urban dust, soils, and sediments. Geochimica Et Cosmochimica Acta, 2010, 74, 6830-6840.	3.9	17
88	Contributions of biotic and abiotic pathways to anaerobic trichloroethene transformation in low permeability source zones. Journal of Contaminant Hydrology, 2019, 224, 103480.	3.3	17
89	Motility of <i>Shewanella oneidensis</i> MR-1 Allows for Nitrate Reduction in the Toxic Region of a Ciprofloxacin Concentration Gradient in a Microfluidic Reactor. Environmental Science & Technology, 2019, 53, 2778-2787.	10.0	16
90	Catalytic Denitrification in a Trickle Bed Reactor: Ion Exchange Waste Brine Treatment. Journal - American Water Works Association, 2017, 109, E129.	0.3	15

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91	Web-based interactive simulation of groundwater pollutant fate and transport. Computer Applications in Engineering Education, 2004, 12, 75-83.	3.4	14
92	Catalytic Nitrate Removal in a Trickle Bed Reactor: Direct Drinking Water Treatment. Journal - American Water Works Association, 2017, 109, .	0.3	14
93	Structural Evaluation of Slow Desorbing Sites in Model and Natural Solids Using Temperature Stepped Desorption Profiles. 2. Column Results. Environmental Science & Technology, 2000, 34, 2966-2972.	10.0	13
94	Abiotic dechlorination of chlorinated ethenes in natural clayey soils: Impacts of mineralogy and temperature. Journal of Contaminant Hydrology, 2017, 206, 10-17.	3.3	13
95	Counter-Diffusion of Isotopically Labeled Trichloroethylene in Silica Gel and Geosorbent Micropores: Column Results. Environmental Science & Technology, 1999, 33, 730-736.	10.0	12
96	Effect of soil moisture dynamics on dense nonaqueous phase liquid (DNAPL) spill zone architecture in heterogeneous porous media. Journal of Contaminant Hydrology, 2007, 90, 159-183.	3.3	12
97	Ligand Design for Isomer-Selective Oxorhenium(V) Complex Synthesis. Inorganic Chemistry, 2017, 56, 1757-1769.	4.0	12
98	Aqueous N2O Reduction with H2 Over Pd-Based Catalyst: Mechanistic Insights From Experiment and Simulation. Topics in Catalysis, 2012, 55, 300-312.	2.8	11
99	Adaptation of Delftia acidovorans for degradation of 2,4-dichlorophenoxyacetate in a microfluidic porous medium. Biodegradation, 2014, 25, 595-604.	3.0	11
100	Adaptive Evolution of <i>Escherichia coli</i> to Ciprofloxacin in Controlled Stress Environments: Contrasting Patterns of Resistance in Spatially Varying versus Uniformly Mixed Concentration Conditions. Environmental Science & Technology, 2019, 53, 7996-8005.	10.0	11
101	CO2 induced changes in Mount Simon sandstone: Understanding links to post CO2 injection monitoring, seismicity, and reservoir integrity. International Journal of Greenhouse Gas Control, 2020, 100, 103109.	4.6	11
102	Surface and Interfacial Properties of Nonaqueousâ€Phase Liquid Mixtures Released to the Subsurface at the Hanford Site. Vadose Zone Journal, 2009, 8, 343-351.	2.2	10
103	An Incompressible, Depth-Averaged Lattice Boltzmann Method for Liquid Flow in Microfluidic Devices with Variable Aperture. Computation, 2015, 3, 600-615.	2.0	10
104	Towards predicting DNAPL source zone formation to improve plume assessment: Using robust laboratory and numerical experiments to evaluate the relevance of retention curve characteristics. Journal of Hazardous Materials, 2021, 407, 124741.	12.4	10
105	Counter-Diffusion of Isotopically Labeled Trichloroethylene in Silica Gel and Geosorbent Micropores:Â Model Development. Environmental Science & Technology, 1999, 33, 2178-2185.	10.0	9
106	Scalable Reactor Design for Electrocatalytic Nitrite Reduction with Minimal Mass Transfer Limitations. ACS ES&T Engineering, 2021, 1, 204-215.	7.6	8
107	Using MODFLOW and RT3D to simulate diffusion and reaction without discretizing low permeability zones. Journal of Contaminant Hydrology, 2021, 239, 103777.	3.3	8
108	Quantification of Uncertainties from Image Processing and Analysis in Laboratory-Scale DNAPL Release Studies Evaluated by Reflective Optical Imaging. Water (Switzerland), 2019, 11, 2274.	2.7	7

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109	The role of chemotaxis and efflux pumps on nitrate reduction in the toxic regions of a ciprofloxacin concentration gradient. ISME Journal, 2021, 15, 2920-2932.	9.8	7
110	Impact of antibiotic concentration gradients on nitrate reduction and antibiotic resistance in a microfluidic gradient chamber. Science of the Total Environment, 2021, 779, 146503.	8.0	7
111	Visualization and Modeling of Polystyrol Colloid Transport in a Silicon Micromodel. Vadose Zone Journal, 2004, 3, 434-443.	2.2	6
112	Oxidative Regeneration of Sulfide-fouled Catalysts for Water Treatment. Catalysis Letters, 2009, 132, 174-181.	2.6	5
113	Modeling the Influence of Water Content on Soil Vapor Extraction. Vadose Zone Journal, 2003, 2, 368-381.	2.2	5
114	NAPL Source Zone Depletion Model and Its Application to Railroadâ€Tank ar Spills. Ground Water, 2012, 50, 627-632.	1.3	4
115	Abiotic dechlorination in the presence of ferrous minerals. Journal of Contaminant Hydrology, 2021, 241, 103839.	3.3	4
116	Contamination Assessment and Siteâ€Management Tool (CAST): A Browserâ€Based Tool for Site Assessment. Ground Water, 2021, , .	1.3	4
117	Heterogeneous Catalytic Reduction for Water Purification: Nanoscale Effects on Catalytic Activity, Selectivity, and Sustainability. , 2009, , 269-279.		3
118	A New Geometric Method Based on Two-Dimensional Transmission Electron Microscopy for Analysis of Interior versus Exterior Pd Loading on Hollow Carbon Nanofibers. Journal of Physical Chemistry Letters, 2011, 2, 1082-1087.	4.6	3
119	Surfactant inhibition mechanisms of carbonate mineral dissolution in shale. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2021, 625, 126857.	4.7	3
120	Structural Changes of Bimetallic PdX/Cu (1-X) Nanocatalysts Developed for Nitrate Reduction of Drinking Water. Materials Research Society Symposia Proceedings, 2005, 876, 1.	0.1	2
121	Geochemically induced shear slip in artificially fractured dolomite- and clay-cemented sandstone. International Journal of Greenhouse Gas Control, 2021, 111, 103448.	4.6	2
122	Advanced Geomechanical Model to Predict the Impact of CO2-Induced Microstructural Alterations on the Cohesive-Frictional Behavior of Mt. Simon Sandstone. Minerals (Basel, Switzerland), 2021, 11, 38.	2.0	1
123	Heterogeneous Catalytic Reduction for Water Purification. , 2014, , 339-349.		0
124	Modeling the Influence of Water Content on Soil Vapor Extraction. Vadose Zone Journal, 2003, 2, 368.	2.2	0