

Martin A A Schoonen

List of Publications by Year in descending order

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123
papers

10,730
citations

41344

49
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30922

102
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docs citations

124
times ranked

12698
citing authors

#	ARTICLE	IF	CITATIONS
1	The absolute energy positions of conduction and valence bands of selected semiconducting minerals. <i>American Mineralogist</i> , 2000, 85, 543-556.	1.9	3,160
2	The Structure of Ferrihydrite, a Nanocrystalline Material. <i>Science</i> , 2007, 316, 1726-1729.	12.6	754
3	Reactions forming pyrite and marcasite from solution: II. Via FeS precursors below 100°C. <i>Geochimica Et Cosmochimica Acta</i> , 1991, 55, 1505-1514.	3.9	323
4	Removal of dissolved oxygen from water: A comparison of four common techniques. <i>Talanta</i> , 1994, 41, 211-215.	5.5	250
5	Reactions forming pyrite and marcasite from solution: I. Nucleation of FeS ₂ below 100°C. <i>Geochimica Et Cosmochimica Acta</i> , 1991, 55, 1495-1504.	3.9	242
6	Surface Charge Development on Transition Metal Sulfides: An Electrokinetic Study. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 633-642.	3.9	201
7	A mechanism for the production of hydroxyl radical at surface defect sites on pyrite. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 935-939.	3.9	201
8	Acid-sulfate weathering of synthetic Martian basalt: The acid fog model revisited. <i>Journal of Geophysical Research</i> , 2004, 109, .	3.3	199
9	Role of hydrogen peroxide and hydroxyl radical in pyrite oxidation by molecular oxygen. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 4971-4987.	3.9	173
10	Metal Speciation and Its Role in Bioaccessibility and Bioavailability. <i>Reviews in Mineralogy and Geochemistry</i> , 2006, 64, 59-113.	4.8	158
11	The stability of thiosulfate in the presence of pyrite in low-temperature aqueous solutions. <i>Geochimica Et Cosmochimica Acta</i> , 1995, 59, 4605-4622.	3.9	146
12	Mineral-Induced Formation of Reactive Oxygen Species. <i>Reviews in Mineralogy and Geochemistry</i> , 2006, 64, 179-221.	4.8	146
13	Pyrite-Induced Hydrogen Peroxide Formation as a Driving Force in the Evolution of Photosynthetic Organisms on an Early Earth. <i>Astrobiology</i> , 2001, 1, 283-288.	3.0	142
14	Mechanisms of pyrite and marcasite formation from solution: III. Hydrothermal processes. <i>Geochimica Et Cosmochimica Acta</i> , 1991, 55, 3491-3504.	3.9	141
15	Surface structural controls on compositional zoning of SO ₂ and SeO ₂ in synthetic calcite single crystals. <i>Geochimica Et Cosmochimica Acta</i> , 1994, 58, 2087-2098.	3.9	133
16	Similarities in 2- and 6-Line Ferrihydrite Based on Pair Distribution Function Analysis of X-ray Total Scattering. <i>Chemistry of Materials</i> , 2007, 19, 1489-1496.	6.7	131
17	Magnetic properties of hydrothermally synthesized greigite (Fe ₃ S ₄)-II. High- and low-temperature characteristics. <i>Geophysical Journal International</i> , 2000, 141, 809-819.	2.4	123
18	Pyrite-induced hydroxyl radical formation and its effect on nucleic acids. <i>Geochemical Transactions</i> , 2006, 7, 3.	0.7	121

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19	Sulfur geochemistry of hydrothermal waters in Yellowstone National Park: I. the origin of thiosulfate in hot spring waters. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 3729-3743.	3.9	116
20	An introduction to geocatalysis. <i>Journal of Geochemical Exploration</i> , 1998, 62, 201-215.	3.2	106
21	Comparison of fluorescence-based techniques for the quantification of particle-induced hydroxyl radicals. <i>Particle and Fibre Toxicology</i> , 2008, 5, 2.	6.2	96
22	An approximation of the second dissociation constant for H ₂ S. <i>Geochimica Et Cosmochimica Acta</i> , 1988, 52, 649-654.	3.9	91
23	Abiotic ammonium formation in the presence of Ni-Fe metals and alloys and its implications for the Hadean nitrogen cycle. <i>Geochemical Transactions</i> , 2008, 9, 5.	0.7	91
24	Reactivity of the (100) Plane of Pyrite in Oxidizing Gaseous and Aqueous Environments: Effects of Surface Imperfections. <i>Environmental Science & Technology</i> , 1998, 32, 3743-3748.	10.0	90
25	Energetics and kinetics of the prebiotic synthesis of simple organic acids and amino acids with the FeS-H ₂ S/FeS ₂ redox couple as reductant. <i>Origins of Life and Evolution of Biospheres</i> , 1999, 29, 5-32.	1.9	87
26	Mechanisms of sedimentary pyrite formation. , 2004, , .		87
27	Nitrogen Reduction Under Hydrothermal Vent Conditions: Implications for the Prebiotic Synthesis of C-H-O-N Compounds. <i>Astrobiology</i> , 2001, 1, 133-142.	3.0	86
28	Short- to Medium-Range Atomic Order and Crystallite Size of the Initial FeS Precipitate from Pair Distribution Function Analysis. <i>Chemistry of Materials</i> , 2005, 17, 6246-6255.	6.7	83
29	Mineral-Assisted Pathways in Prebiotic Synthesis: Photoelectrochemical Reduction of Carbon(+IV) by Manganese Sulfide. <i>Journal of the American Chemical Society</i> , 2004, 126, 11247-11253.	13.7	81
30	Gold sorption onto pyrite and goethite: A radiotracer study. <i>Geochimica Et Cosmochimica Acta</i> , 1992, 56, 1801-1814.	3.9	74
31	Chemistry of Iron Sulfides in Sedimentary Environments. <i>ACS Symposium Series</i> , 1995, , 168-193.	0.5	74
32	Sorption of iodine on minerals investigated by X-ray absorption near edge structure (XANES) and 125I tracer sorption experiments. <i>Applied Geochemistry</i> , 1998, 13, 127-141.	3.0	73
33	Thermal chemistry of H ₂ S and H ₂ O on the (100) plane of pyrite; unique reactivity of defect sites. <i>American Mineralogist</i> , 1998, 83, 1246-1255.	1.9	73
34	Peptide- and Long-Chain Polyamine- Induced Synthesis of Micro- and Nanostructured Titanium Phosphate and Protein Encapsulation. <i>Chemistry of Materials</i> , 2006, 18, 4592-4599.	6.7	73
35	Production of hydrogen peroxide in Martian and lunar soils. <i>Earth and Planetary Science Letters</i> , 2007, 255, 41-52.	4.4	73
36	Structure sensitivity of pyrite oxidation; comparison of the (100) and (111) planes. <i>American Mineralogist</i> , 1998, 83, 1353-1356.	1.9	73

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37	Sulfur geochemistry of hydrothermal waters in Yellowstone National Park, Wyoming, USA. II. Formation and decomposition of thiosulfate and polythionate in Cinder Pool. <i>Journal of Volcanology and Geothermal Research</i> , 2000, 97, 407-423.	2.1	69
38	Effects of surface imperfections on the binding of CH ₃ OH and H ₂ O on FeS ₂ (100): using adsorbed Xe as a probe of mineral surface structure. <i>Surface Science</i> , 1997, 391, 109-124.	1.9	67
39	Magnetic properties of hydrothermally synthesized greigite (Fe ₃ S ₄)-I. Rock magnetic parameters at room temperature. <i>Geophysical Journal International</i> , 1996, 126, 360-368.	2.4	64
40	RNA decomposition by pyrite-induced radicals and possible role of lipids during the emergence of life. <i>Earth and Planetary Science Letters</i> , 2004, 225, 271-278.	4.4	64
41	XPS and LEED study of a single-crystal surface of pyrite. <i>American Mineralogist</i> , 1996, 81, 261-264.	1.9	62
42	Quantifying hydrogen peroxide in iron-containing solutions using leuco crystal violet. <i>Geochemical Transactions</i> , 2005, 6, 1.	0.7	62
43	Origin of Oxygen in Sulfate during Pyrite Oxidation with Water and Dissolved Oxygen: An In Situ Horizontal Attenuated Total Reflectance Infrared Spectroscopy Isotope Study. <i>Environmental Science & Technology</i> , 2004, 38, 5604-5606.	10.0	57
44	Role of pyrite in formation of hydroxyl radicals in coal: possible implications for human health. <i>Particle and Fibre Toxicology</i> , 2006, 3, 16.	6.2	56
45	Photodriven reduction and oxidation reactions on colloidal semiconductor particles: Implications for prebiotic synthesis. <i>Journal of Photochemistry and Photobiology A: Chemistry</i> , 2007, 185, 301-311.	3.9	56
46	Calculation of the point of zero charge of metal oxides between 0 and 350°C. <i>Geochimica Et Cosmochimica Acta</i> , 1994, 58, 2845-2851.	3.9	53
47	Structure and Charge Hopping Dynamics in Green Rust. <i>Journal of Physical Chemistry C</i> , 2007, 111, 11414-11423.	3.1	53
48	Oxidation of {100} and {111} surfaces of pyrite: Effects of preparation method. <i>American Mineralogist</i> , 2000, 85, 623-626.	1.9	52
49	Experimental epithermal alteration of synthetic Los Angeles meteorite: Implications for the origin of Martian soils and identification of hydrothermal sites on Mars. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	52
50	Aqueous Geochemical and Surface Science Investigation of the Effect of Phosphate on Pyrite Oxidation. <i>Environmental Science & Technology</i> , 2001, 35, 2252-2257.	10.0	51
51	An electrokinetic study of synthetic greigite and pyrrhotite. <i>Geochimica Et Cosmochimica Acta</i> , 1994, 58, 4147-4153.	3.9	50
52	Reactive oxygen species at the oxide/water interface: Formation mechanisms and implications for prebiotic chemistry and the origin of life. <i>Earth and Planetary Science Letters</i> , 2013, 363, 156-167.	4.4	50
53	S and O (SO ₄) isotopes, simultaneous modeling, and environmental significance of the Nijar messinian gypsum, Spain. <i>Geochimica Et Cosmochimica Acta</i> , 2001, 65, 3081-3092.	3.9	49
54	A vibrational spectroscopic study of the oxidation of pyrite by molecular oxygen. <i>Geochimica Et Cosmochimica Acta</i> , 2004, 68, 1807-1813.	3.9	49

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55	Determination of sodium, chloride and sulfate in dolomites: a new technique to constrain the composition of dolomitizing fluids. <i>Chemical Geology</i> , 1993, 107, 97-109.	3.3	47
56	Sulfate Incorporation into Sedimentary Carbonates. <i>ACS Symposium Series</i> , 1995, , 332-345.	0.5	46
57	Photoemission of Adsorbed Xenon, X-ray Photoelectron Spectroscopy, and Temperature-Programmed Desorption Studies of H ₂ O on FeS ₂ (100). <i>Langmuir</i> , 1998, 14, 1361-1366.	3.5	44
58	Investigating Sorption on Iron ^{III} Oxyhydroxide Soil Minerals by Solid-State NMR Spectroscopy: A ⁶ Li MAS NMR Study of Adsorption and Absorption on Goethite. <i>Journal of Physical Chemistry B</i> , 2005, 109, 18310-18315.	2.6	44
59	Suppression of pyrite oxidation in acidic aqueous environments using lipids having two hydrophobic tails. <i>Journal of Environmental Management</i> , 2003, 7, 969-974.	1.7	43
60	Mechanistic Aspects of Pyrite Oxidation in an Oxidizing Gaseous Environment: An in Situ HATR-IR Isotope Study. <i>Environmental Science & Technology</i> , 2005, 39, 7576-7584.	10.0	43
61	Evaluating the use of 3'-(p-Aminophenyl) fluorescein for determining the formation of highly reactive oxygen species in particle suspensions. <i>Geochemical Transactions</i> , 2009, 10, 8.	0.7	40
62	Pyrite surface interaction with selected organic aqueous species under anoxic conditions. <i>Geochemical Transactions</i> , 2000, 1, 1.	0.7	38
63	Using Yeast RNA as a Probe for Generation of Hydroxyl Radicals by Earth Materials. <i>Environmental Science & Technology</i> , 2006, 40, 2838-2843.	10.0	38
64	Effect of Phospholipid on Pyrite Oxidation and Microbial Communities under Simulated Acid Mine Drainage (AMD) Conditions. <i>Environmental Science & Technology</i> , 2015, 49, 7701-7708.	10.0	38
65	Adenine oxidation by pyrite-generated hydroxyl radicals. <i>Geochemical Transactions</i> , 2010, 11, 2.	0.7	35
66	Pyrite and phosphate in anoxia and an origin-of-life hypothesis. <i>Earth and Planetary Science Letters</i> , 1999, 171, 1-5.	4.4	34
67	Kinetics of Triscarbonato Uranyl Reduction by Aqueous Ferrous Iron: A Theoretical Study. <i>Journal of Physical Chemistry A</i> , 2006, 110, 9691-9701.	2.5	34
68	Reduction of Nitrite and Nitrate to Ammonium on Pyrite. <i>Origins of Life and Evolution of Biospheres</i> , 2012, 42, 275-294.	1.9	34
69	Pyrite-driven reactive oxygen species formation in simulated lung fluid: implications for coal workers' pneumoconiosis. <i>Environmental Geochemistry and Health</i> , 2012, 34, 527-538.	3.4	34
70	Hydrothermal Synthesis of Pure β -Phase Manganese(II) Sulfide without the Use of Organic Reagents. <i>Chemistry of Materials</i> , 2006, 18, 1726-1736.	6.7	33
71	Pyrite oxidation inhibition by a cross-linked lipid coating. <i>Geochemical Transactions</i> , 2003, 4, 1.	0.7	31
72	Ferrihydrite phase transformation in the presence of aqueous sulfide and supercritical CO ₂ . <i>Chemical Geology</i> , 2010, 271, 26-30.	3.3	31

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73	Localized Sulfate-Reducing Zones in a Coastal Plain Aquifer. <i>Ground Water</i> , 1999, 37, 505-516.	1.3	29
74	Adsorption of Phospholipids on Pyrite and Their Effect on Surface Oxidation. <i>Langmuir</i> , 2003, 19, 8787-8792.	3.5	29
75	Minor and trace element analyses on gypsum: an experimental study. <i>Chemical Geology</i> , 1997, 142, 1-10.	3.3	28
76	Thiosulfate oxidation: Catalysis of synthetic sphalerite doped with transition metals. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 4701-4710.	3.9	27
77	Removal of crystal violet from aqueous solutions using coal. <i>Journal of Colloid and Interface Science</i> , 2014, 422, 1-8.	9.4	27
78	Effects of phospholipid on pyrite oxidation in the presence of autotrophic and heterotrophic bacteria. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 4111-4123.	3.9	26
79	CO ₂ Sequestration through Mineral Carbonation of Iron Oxyhydroxides. <i>Environmental Science & Technology</i> , 2011, 45, 10422-10428.	10.0	26
80	Reduction of Nitrite and Nitrate on Nano-dimensioned FeS. <i>Origins of Life and Evolution of Biospheres</i> , 2013, 43, 305-322.	1.9	26
81	Hematite reactivity with supercritical CO ₂ and aqueous sulfide. <i>Chemical Geology</i> , 2011, 283, 210-217.	3.3	25
82	Precipitation from supersaturated aluminate solutions. III. Influence of alkali ions with special reference to Li ⁺ . <i>Journal of Colloid and Interface Science</i> , 1985, 103, 493-507.	9.4	24
83	Geochemical modeling of iron, sulfur, oxygen and carbon in a coastal plain aquifer. <i>Journal of Hydrology</i> , 2000, 237, 147-168.	5.4	24
84	Sulfur geochemistry of hydrothermal waters in Yellowstone National Park, Wyoming, USA. III. An anion-exchange resin technique for sampling and preservation of sulfoxyanions in natural waters. <i>Geochemical Transactions</i> , 2003, 4, 1.	0.7	24
85	A vibrational spectroscopic study of the oxidation of pyrite by ferric iron. <i>American Mineralogist</i> , 2004, 88, 1318-1323.	1.9	22
86	² H MAS NMR Studies of Deuterated Goethite ($\hat{1}\pm$ -FeOOD). <i>Journal of Physical Chemistry B</i> , 2004, 108, 6938-6940.	2.6	22
87	Titanium and Iron in Lung of a Soldier With Nonspecific Interstitial Pneumonitis and Bronchiolitis After Returning From Iraq. <i>Journal of Occupational and Environmental Medicine</i> , 2012, 54, 1-2.	1.7	22
88	Inflammatory stress response in A549 cells as a result of exposure to coal: Evidence for the role of pyrite in coal workers' pneumoconiosis pathogenesis. <i>Chemosphere</i> , 2013, 93, 1216-1221.	8.2	20
89	Structural and Sr ²⁺ -Ion Exchange Studies of Gallosilicate TsG-1. <i>Chemistry of Materials</i> , 2000, 12, 1597-1603.	6.7	19
90	Sorption/desorption of radioactive contaminants by sediment from the Kara Sea. <i>Science of the Total Environment</i> , 1997, 202, 5-24.	8.0	18

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91	Metal-sulfide mineral ores, Fenton chemistry and disease – Particle induced inflammatory stress response in lung cells. <i>International Journal of Hygiene and Environmental Health</i> , 2015, 218, 19-27.	4.3	17
92	Staging Life in an Early Warm –Seltzer–™ Ocean. <i>Elements</i> , 2016, 12, 395-400.	0.5	17
93	Non-linear hydroxyl radical formation rate in dispersions containing mixtures of pyrite and chalcopyrite particles. <i>Geochimica Et Cosmochimica Acta</i> , 2017, 206, 364-378.	3.9	17
94	Physical Structures of Lipid Layers on Pyrite. <i>Environmental Science & Technology</i> , 2006, 40, 1511-1515.	10.0	16
95	A novel vertical attenuated total reflectance photochemical flow-through reaction cell for Fourier transform infrared spectroscopy. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2003, 59, 1103-1106.	3.9	15
96	Reactivity of sandstones under conditions relevant to geosequestration: 1. Hematite-bearing sandstone exposed to supercritical carbon dioxide commingled with aqueous sulfite or sulfide solutions. <i>Chemical Geology</i> , 2012, 296-297, 96-102.	3.3	15
97	Phenylalanine as a hydroxyl radical-specific probe in pyrite slurries. <i>Geochemical Transactions</i> , 2012, 13, 3.	0.7	15
98	Measurement of OH* Generation by Pulverized Minerals Using Electron Spin Resonance Spectroscopy and Implications for the Reactivity of Planetary Regolith. <i>GeoHealth</i> , 2019, 3, 28-42.	4.0	15
99	Reactive Oxygen Species (ROS) generation by lunar simulants. <i>Acta Astronautica</i> , 2016, 122, 196-208.	3.2	14
100	Precipitation from supersaturated aluminate solutions. IV. Influence of citrate ions. <i>Journal of Colloid and Interface Science</i> , 1985, 106, 175-185.	9.4	13
101	The effect of pyrite on <i>Escherichia coli</i> in water: proof-of-concept for the elimination of waterborne bacteria by reactive minerals. <i>Journal of Water and Health</i> , 2015, 13, 42-53.	2.6	13
102	Super-oxidation of silicon nanoclusters: magnetism and reactive oxygen species at the surface. <i>Nanoscale</i> , 2016, 8, 18616-18620.	5.6	13
103	The role of Iraqi dust in inducing lung injury in United States soldiers – An interdisciplinary study. <i>GeoHealth</i> , 2017, 1, 237-246.	4.0	12
104	The effect of adsorbed lipid on pyrite oxidation under biotic conditions. <i>Geochemical Transactions</i> , 2006, 7, 8.	0.7	11
105	Quantification of particle-induced inflammatory stress response: a novel approach for toxicity testing of earth materials. <i>Geochemical Transactions</i> , 2012, 13, 4.	0.7	11
106	Reduction of N ₂ by Fe ²⁺ via Homogeneous and Heterogeneous Reactions Part 2: The Role of Metal Binding in Activating N ₂ for Reduction; a Requirement for Both Pre-biotic and Biological Mechanisms. <i>Origins of Life and Evolution of Biospheres</i> , 2008, 38, 195-209.	1.9	10
107	Variations of the oxygen isotope fractionation between NaCO ³ and water due to the presence of NaCl at 100–300°C. <i>Chemical Geology</i> , 1994, 116, 305-315.	3.3	9
108	Epitaxial overgrowths of marcasite on pyrite from the Tunnel and Reservoir Project, Chicago, Illinois, USA: Implications for marcasite growth. <i>Geochimica Et Cosmochimica Acta</i> , 1995, 59, 343-346.	3.9	9

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109	Evaluating experimental artifacts in hydrothermal prebiotic synthesis experiments. <i>Origins of Life and Evolution of Biospheres</i> , 2003, 33, 117-127.	1.9	8
110	The Emergent Field of Medical Mineralogy and Geochemistry. <i>Reviews in Mineralogy and Geochemistry</i> , 2006, 64, 1-4.	4.8	8
111	7. Mineral-Induced Formation of Reactive Oxygen Species. , 2006, , 179-222.		8
112	Characterization of the structure and the surface reactivity of a marcasite thin film. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 807-812.	3.9	7
113	The origin of high sulfate concentrations in a coastal plain aquifer, Long Island, New York. <i>Applied Geochemistry</i> , 2004, 19, 343-358.	3.0	7
114	Ferrous Iron Reduction of Superoxide, A Proton-Coupled Electron-Transfer Four-Point Test. <i>Journal of Physical Chemistry A</i> , 2009, 113, 1020-1025.	2.5	7
115	Behavior of bromide, chloride, and phosphate during low-temperature aqueous Fe(II) oxidation processes on Mars. <i>Journal of Geophysical Research E: Planets</i> , 2014, 119, 998-1012.	3.6	7
116	Comment on "Aluminum hydroxide solubility in aqueous solutions containing fluoride ions at 50°C" by Bernard Sanjuan and Gil Michard. <i>Geochimica Et Cosmochimica Acta</i> , 1990, 54, 2883-2886.	3.9	6
117	Reduction of N ₂ by Fe ²⁺ via Homogeneous and Heterogeneous Reactions. <i>Origins of Life and Evolution of Biospheres</i> , 2008, 38, 127-137.	1.9	6
118	Green Rust Reduction of Chromium Part 2: Comparison of Heterogeneous and Homogeneous Chromate Reduction. <i>Journal of Physical Chemistry C</i> , 2010, 114, 16408-16415.	3.1	4
119	Olivine Dissolution in Simulated Lung and Gastric Fluid as an Analog to the Behavior of Lunar Particulate Matter Inside the Human Respiratory and Gastrointestinal Systems. <i>GeoHealth</i> , 2021, 5, e2021GH000491.	4.0	4
120	The role of structured water in the calibration and interpretation of theoretical IR spectra. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2006, 65, 324-332.	3.9	2
121	Sulfur geochemistry of hydrothermal waters in Yellowstone National Park, Wyoming, USA. III. An anion-exchange resin technique for sampling and preservation of sulfoxyanions in natural waters. <i>Geochemical Transactions</i> , 2003, 4, 12.	0.7	2
122	Sulfur Cycle. <i>Encyclopedia of Earth Sciences Series</i> , 2016, , 1-4.	0.1	0
123	Sulfur Cycle. <i>Encyclopedia of Earth Sciences Series</i> , 2018, , 1399-1401.	0.1	0