Sigurdur R Gislason

List of Publications by Year
in descending order

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60 papers	5,454 citations	94433 37 h-index	128289 60 g-index
61 all docs	61 docs citations	61 times ranked	4157 citing authors

#	Article	IF	Citations
1	Rapid carbon mineralization for permanent disposal of anthropogenic carbon dioxide emissions. Science, 2016, 352, 1312-1314.	12.6	565
2	The mechanism, rates and consequences of basaltic glass dissolution: I. An experimental study of the dissolution rates of basaltic glass as a function of aqueous Al, Si and oxalic acid concentration at 25Â°C and pH = 3 and 11. Geochimica Et Cosmochimica Acta, 2001, 65, 3671-3681.	3.9	408
3	Mechanism, rates, and consequences of basaltic glass dissolution: II. An experimental study of the dissolution rates of basaltic glass as a function of pH and temperature. Geochimica Et Cosmochimica Acta, 2003, 67, 3817-3832.	3.9	390
4	The dissolution rates of natural glasses as a function of their composition at pH 4 and 10.6, and temperatures from 25 to 74Â°C. Geochimica Et Cosmochimica Acta, 2004, 68, 4843-4858.	3.9	321
5	Direct evidence of the feedback between climate and weathering. Earth and Planetary Science Letters, 2009, 277, 213-222.	4.4	310
6	Meteoric water-basalt interactions. I: A laboratory study. Geochimica Et Cosmochimica Acta, 1987, 51, 2827-2840.	3.9	207
7	Carbon Storage in Basalt. Science, 2014, 344, 373-374.	12.6	202
8	The effect of crystallinity on dissolution rates and CO2 consumption capacity of silicates. Geochimica Et Cosmochimica Acta, 2006, 70, 858-870.	3.9	178
9	An experimental study of crystalline basalt dissolution from 2 â©½ pH â©½ 11 and temperatures from 5 to 75 Â°C. Geochimica Et Cosmochimica Acta, 2011, 75, 5496-5509.	3.9	158
10	Seafloor weathering controls on atmospheric CO2 and global climate. Geochimica Et Cosmochimica Acta, 1997, 61, 965-973.	3.9	157
11	Meteoric water-basalt interactions. II: A field study in N.E. Iceland. Geochimica Et Cosmochimica Acta, 1987, 51, 2841-2855.	3.9	134
12	The 1991 eruption of Hekla, Iceland. Bulletin of Volcanology, 1992, 54, 238-246.	3.0	127
13	Dissolution of primary basaltic minerals in natural waters: saturation state and kinetics. Chemical Geology, 1993, 105, 117-135.	3.3	117
14	Olivine dissolution rates: A critical review. Chemical Geology, 2018, 500, 1-19.	3.3	114
15	Role of river-suspended material in the global carbon cycle. Geology, 2006, 34, 49.	4.4	103
16	The effect of fluoride on the dissolution rates of natural glasses at pH 4 and 25Â°C. Geochimica Et Cosmochimica Acta, 2004, 68, 4571-4582.	3.9	96
17	The geology and water chemistry of the Hellisheidi, SW-Iceland carbon storage site. International Journal of Greenhouse Gas Control, 2013, 12, 399-418.	4.6	96
18	Solving the carbon-dioxide buoyancy challenge: The design and field testing of a dissolved CO2 injection system. International Journal of Greenhouse Gas Control, 2015, 37, 213-219.	4.6	96

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19	The chemistry and saturation states of subsurface fluids during the in situ mineralisation of CO2 and H2S at the CarbFix site in SW-Iceland. International Journal of Greenhouse Gas Control, 2017, 58, 87-102.	4.6	93
20	Kinetic and thermodynamic properties of moganite, a novel silica polymorph. Geochimica Et Cosmochimica Acta, 1997, 61, 1193-1204.	3.9	92
21	Dissolution of basalts and peridotite in seawater, in the presence of ligands, and CO2: Implications for mineral sequestration of carbon dioxide. Geochimica Et Cosmochimica Acta, 2011, 75, 5510-5525.	3.9	92
22	Trace element degassing and enrichment in the eruptive plume of the 2000 eruption of Hekla volcano, Iceland. Geochimica Et Cosmochimica Acta, 2006, 70, 461-479.	3.9	90
23	CO2 storage potential of basaltic rocks in Iceland and the oceanic ridges. Energy Procedia, 2014, 63, 4585-4600.	1.8	82
24	An experimental study of basaltic glassâ€“H2Oâ€“CO2 interaction at 22 and 50Â°C: Implications for subsurface storage of CO2. Geochimica Et Cosmochimica Acta, 2014, 126, 123-145.	3.9	72
25	Reaction path modelling of in-situ mineralisation of CO2 at the CarbFix site at Hellisheidi, SW-Iceland. Geochimica Et Cosmochimica Acta, 2018, 220, 348-366.	3.9	72
26	Experimental determination of plagioclase dissolution rates as a function of its composition and pH at 22Â°C. Geochimica Et Cosmochimica Acta, 2014, 139, 154-172.	3.9	69
27	The role of riverine particulate material on the global cycles of the elements. Applied Geochemistry, 2011, 26, S365-S369.	3.0	62
28	The effect of hydrothermal spring weathering processes and primary productivity on lithium isotopes: Lake Myvatn, Iceland. Chemical Geology, 2016, 445, 4-13.	3.3	62
29	A diverse ecosystem response to volcanic aerosols. Chemical Geology, 2006, 231, 57-66.	3.3	56
30	The effect of volcanic eruptions on the chemistry of surface waters: The 1991 and 2000 eruptions of Mt. Hekla, Iceland. Journal of Volcanology and Geothermal Research, 2007, 164, 293-316.	2.1	54
31	Rapid solubility and mineral storage of CO2 in basalt. Energy Procedia, 2014, 63, 4561-4574.	1.8	52
32	A brief history of CarbFix: Challenges and victories of the projectâ€™s pilot phase. Energy Procedia, 2018, 146, 103-114.	1.8	52
33	Experimental meteoric water-basalt interactions: Characterization and interpretation of alteration products. Geochimica Et Cosmochimica Acta, 1993, 57, 1459-1471.	3.9	49
34	Do carbonate precipitates affect dissolution kinetics?. Chemical Geology, 2013, 337-338, 56-66.	3.3	47
35	CO2 Storage Potential of Basaltic Rocks Offshore Iceland. Energy Procedia, 2016, 86, 371-380.	1.8	43
36	The erosion and suspended matter/seawater interaction during and after the 1996 outburst flood from the VatnajÃ¶kull Glacier, Iceland. Earth and Planetary Science Letters, 2005, 237, 433-452.	4.4	41

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37	The role of silicate surfaces on calcite precipitation kinetics. Geochimica Et Cosmochimica Acta, 2014, 135, 231-250.	3.9	40
38	Riverine particulate material dissolution in seawater and its implications for the global cycles of the elements. Comptes Rendus - Geoscience, 2012, 344, 646-651.	1.2	39
39	Experimental determination of rhyolitic glass dissolution rates at 40â€“200Â°C and 2<pH<10.1. Geochimica Et Cosmochimica Acta, 2013, 100, 251-263.	3.9	37
40	Molybdenum isotope behaviour in groundwaters and terrestrial hydrothermal systems, Iceland. Earth and Planetary Science Letters, 2018, 486, 108-118.	4.4	37
41	The influence of weathering process on riverine osmium isotopes in a basaltic terrain. Earth and Planetary Science Letters, 2006, 243, 732-748.	4.4	34
42	Does the presence of heterotrophic bacterium Pseudomonas reactans affect basaltic glass dissolution rates?. Chemical Geology, 2012, 296-297, 1-18.	3.3	30
43	Pedogenesis and weathering rates of a Histic Andosol in Iceland: Field and experimental soil solution study. Geoderma, 2008, 144, 572-592.	5.1	28
44	An experimental study of basaltâ€“seawaterâ€“CO2 interaction at 130ÂÂ°C. Geochimica Et Cosmochimica Acta, 2021, 308, 21-41.	3.9	28
45	Using stable Mg isotope signatures to assess the fate of magnesium during the in situ mineralisation of CO2 and H2S at the CarbFix site in SW-Iceland. Geochimica Et Cosmochimica Acta, 2019, 245, 542-555.	3.9	27
46	The impact of sampling techniques on soil pore water carbon measurements of an Icelandic Histic Andosol. Science of the Total Environment, 2006, 369, 203-219.	8.0	24
47	Major impact of volcanic gases on the chemical composition of precipitation in Iceland during the 2014â€“2015 Holuhraun eruption. Journal of Geophysical Research D: Atmospheres, 2017, 122, 1971-1982.	3.3	24
48	The geology and hydrology of the CarbFix2 site, SW-Iceland. Energy Procedia, 2018, 146, 146-157.	1.8	21
49	Experimental observations of CO2-water-basaltic glass interaction in a large column reactor experiment at 50â€Â°C. International Journal of Greenhouse Gas Control, 2019, 89, 9-19.	4.6	18
50	The chemistry and element fluxes of the July 2011 MÃºlakvÃsl and KaldakvÃsl glacial floods, Iceland. Journal of Volcanology and Geothermal Research, 2014, 273, 41-57.	2.1	16
51	The chemical composition of rivers and snow affected by the 2014/2015 BÃ¡rÃ°arbunga eruption, Iceland. Journal of Volcanology and Geothermal Research, 2016, 316, 101-119.	2.1	16
52	Regulation of Arsenic Mobility on Basaltic Glass Surfaces by Speciation and pH. Environmental Science & Technology, 2008, 42, 8816-8821.	10.0	14
53	A field and reactive transport model study of arsenic in a basaltic rock aquifer. Applied Geochemistry, 2011, 26, 553-564.	3.0	13
54	Continental weathering and terrestrial (oxyhydr)oxide export: Comparing glacial and non-glacial catchments in Iceland. Chemical Geology, 2017, 462, 55-66.	3.3	13

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55	The effect of soil solution chemistry on the weathering rate of a Histic Andosol. Journal of Geochemical Exploration, 2006, 88, 321-324.	3.2	9
56	The effect of the 2002 glacial flood on dissolved and suspended chemical fluxes in the SkaftÃ¡ river, Iceland. Journal of Volcanology and Geothermal Research, 2015, 301, 253-276.	2.1	8
57	Pollution from the 2014â€“15 BÃ¡rÃ°arbunga eruption monitored by snow cores from the VatnajÃ¶kull glacier, Iceland. Journal of Volcanology and Geothermal Research, 2017, 347, 371-396.	2.1	6
58	Hydrothermal and Cold Spring Water and Primary Productivity Effects on Magnesium Isotopes: Lake Myvatn, Iceland. Frontiers in Earth Science, 2020, 8, .	1.8	4
59	Suspended basaltic glassâ€“seawater interactions. Journal of Geochemical Exploration, 2006, 88, 332-335.	3.2	3
60	Acceptance of the 2018 C.C. Patterson Award to Sigurdur R. Gislason. Geochimica Et Cosmochimica Acta, 2019, 246, 591-593.	3.9	1