

# Michel cha Pichavant

## List of Publications by Year in descending order

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121  
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8,396  
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34105

52  
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129  
docs citations

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4482  
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#	ARTICLE	IF	CITATIONS
1	Evidence for mantle metasomatism by hydrous silicic melts derived from subducted oceanic crust. <i>Nature</i> , 2001, 410, 197-200.	27.8	446
2	Fluid immiscibility in natural processes: Use and misuse of fluid inclusion data. <i>Chemical Geology</i> , 1982, 37, 29-48.	3.3	358
3	Experimental Crystallization of Leucogranite Magmas. <i>Journal of Petrology</i> , 1995, 36, 663-705.	2.8	305
4	Carbonatite Melts and Electrical Conductivity in the Asthenosphere. <i>Science</i> , 2008, 322, 1363-1365.	12.6	271
5	Apatite solubility in peraluminous liquids: Experimental data and an extension of the Harrison-Watson model. <i>Geochimica Et Cosmochimica Acta</i> , 1992, 56, 3855-3861.	3.9	202
6	Physical conditions, structure, and dynamics of a zoned magma chamber: Mount Pelée (Martinique). <i>Journal of Geophysical Research</i> , 1998, 103, 23937-23949.	3.3	187
7	Effects of $O_2$ and $H_2O$ on andesite phase relations between 2 and 4 kbar. <i>Journal of Geophysical Research</i> , 1999, 104, 29453-29470.	3.3	185
8	Redox control of sulfur degassing in silicic magmas. <i>Journal of Geophysical Research</i> , 1998, 103, 23937-23949.	3.3	183
9	An experimental study of the effect of boron on a water saturated haplogranite at 1 Kbar vapour pressure. <i>Contributions To Mineralogy and Petrology</i> , 1981, 76, 430-439.	3.1	179
10	Phase equilibrium constraints on the viscosity of silicic magmas: 1. Volcanic-plutonic comparison. <i>Journal of Geophysical Research</i> , 1998, 103, 27257-27266.	3.3	170
11	Crystallization of primitive basaltic magmas at crustal pressures and genesis of the calc-alkaline igneous suite: experimental evidence from St Vincent, Lesser Antilles arc. <i>Contributions To Mineralogy and Petrology</i> , 2007, 154, 535-558.	3.1	167
12	Amphibole as an archivist of magmatic crystallization conditions: problems, potential, and implications for inferring magma storage prior to the paroxysmal 2010 eruption of Mount Merapi, Indonesia. <i>Contributions To Mineralogy and Petrology</i> , 2014, 167, 1.	3.1	167
13	The combined effects of $fO_2$ and melt composition on $SnO_2$ solubility and tin diffusivity in haplogranitic melts. <i>Geochimica Et Cosmochimica Acta</i> , 1996, 60, 4965-4976.	3.9	163
14	Experimental Crystallization of a High-K Arc Basalt: the Golden Pumice, Stromboli Volcano (Italy). <i>Journal of Petrology</i> , 2006, 47, 1317-1343.	2.8	163
15	Petrological and Experimental Constraints on the Pre-eruption Conditions of Holocene Dacite from Volcan San Pedro (36°S, Chilean Andes) and the Importance of Sulphur in Silicic Subduction-related Magmas. <i>Journal of Petrology</i> , 2004, 45, 855-881.	2.8	158
16	Magma storage conditions and control of eruption regime in silicic volcanoes: experimental evidence from Mt. Pelée. <i>Earth and Planetary Science Letters</i> , 1998, 156, 89-99.	4.4	141
17	Petrogenesis of tourmaline granites and topaz granites; the contribution of experimental data. <i>Physics of the Earth and Planetary Interiors</i> , 1984, 35, 31-50.	1.9	140
18	The Miocene-Pliocene Macusani Volcanics, SE Peru. <i>Contributions To Mineralogy and Petrology</i> , 1988, 100, 325-338.	3.1	140

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19	The Solubility of Sulphur in Hydrous Rhyolitic Melts. <i>Journal of Petrology</i> , 2004, 45, 2171-2196.	2.8	135
20	Fluid immiscibility in natural processes: Use and misuse of fluid inclusion data. <i>Chemical Geology</i> , 1982, 37, 1-27.	3.3	134
21	Upward migration of Vesuvius magma chamber over the past 20,000 years. <i>Nature</i> , 2008, 455, 216-219.	27.8	131
22	Limestone assimilation by basaltic magmas: an experimental re-assessment and application to Italian volcanoes. <i>Contributions To Mineralogy and Petrology</i> , 2008, 155, 719-738.	3.1	129
23	The effect of on the solubility, diffusion, and speciation of tin in haplogranitic melt at 850Å°C and 2 kbar. <i>Geochimica Et Cosmochimica Acta</i> , 1995, 59, 1579-1588.	3.9	121
24	Gold solubility and speciation in hydrothermal solutions: experimental study of the stability of hydrosulphide complex of gold (AuHSÅ) at 350 to 450Å°C and 500 bars. <i>Geochimica Et Cosmochimica Acta</i> , 1998, 62, 2931-2947.	3.9	115
25	The Miocene-Pliocene Macusani Volcanics, SE Peru. <i>Contributions To Mineralogy and Petrology</i> , 1988, 100, 300-324.	3.1	110
26	Experimental Constraints on the Formation of Silicic Magmas. <i>Elements</i> , 2016, 12, 109-114.	0.5	107
27	The effect of water and fO <sub>2</sub> on the ferric-ferrous ratio of silicic melts. <i>Chemical Geology</i> , 2001, 174, 255-273.	3.3	101
28	Viscosity of Himalayan leucogranites: Implications for mechanisms of granitic magma ascent. <i>Journal of Geophysical Research</i> , 1996, 101, 27691-27699.	3.3	98
29	The redox geodynamics linking basalts and their mantle sources through space and time. <i>Chemical Geology</i> , 2015, 418, 217-233.	3.3	95
30	Thermobarometry and granite genesis: the Hercynian low-P, high-T Velay anatectic dome (French) Tj ETQqO 0 0 rgBT /Overlock 10 Tf 50	3.4	89
31	Occurrence and Origin of Andalusite in Peraluminous Felsic Igneous Rocks. <i>Journal of Petrology</i> , 2005, 46, 441-472.	2.8	89
32	Equilibration Scales in Silicic to Intermediate Magmas Implications for Experimental Studies. <i>Journal of Petrology</i> , 2007, 48, 1955-1972.	2.8	89
33	Limestone assimilation and the origin of CO <sub>2</sub> emissions at the Alban Hills (Central Italy): Constraints from experimental petrology. <i>Journal of Volcanology and Geothermal Research</i> , 2007, 166, 91-105.	2.1	88
34	The H <sub>2</sub> O solubility of alkali basaltic melts: an experimental study. <i>Contributions To Mineralogy and Petrology</i> , 2011, 162, 133-151.	3.1	87
35	Influence of glass polymerisation and oxidation on micro-Raman water analysis in alumino-silicate glasses. <i>Geochimica Et Cosmochimica Acta</i> , 2009, 73, 197-217.	3.9	86
36	Role of non-mantle CO <sub>2</sub> in the dynamics of volcano degassing: The Mount Vesuvius example. <i>Geology</i> , 2009, 37, 319-322.	4.4	85

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37	On the conditions of magma mixing and its bearing on andesite production in the crust. <i>Nature Communications</i> , 2014, 5, 5607.	12.8	77
38	Conditions for the growth of a long-lived shallow crustal magma chamber below Mount Pelee volcano (Martinique, Lesser Antilles Arc). <i>Journal of Geophysical Research</i> , 2008, 113, .	3.3	73
39	Phase Equilibrium Constraints on Pre-eruptive Conditions of Recent Felsic Explosive Volcanism at Pantelleria Island, Italy. <i>Journal of Petrology</i> , 2010, 51, 2245-2276.	2.8	73
40	Experimental constraints on volatile abundances in arc magmas and their implications for degassing processes. <i>Geological Society Special Publication</i> , 2003, 213, 23-52.	1.3	72
41	Generation of CO <sub>2</sub> -rich melts during basalt magma ascent and degassing. <i>Contributions To Mineralogy and Petrology</i> , 2013, 166, 545-561.	3.1	72
42	Experimental Constraints on the Deep Magma Feeding System at Stromboli Volcano, Italy. <i>Journal of Petrology</i> , 2009, 50, 601-624.	2.8	71
43	The carbon dioxide solubility in alkali basalts: an experimental study. <i>Contributions To Mineralogy and Petrology</i> , 2011, 162, 153-168.	3.1	66
44	Ion microprobe determination of water in silicate glasses: methods and applications. <i>Chemical Geology</i> , 1995, 125, 19-28.	3.3	63
45	Fragmentation of foamed silicic melts: an experimental study. <i>Earth and Planetary Science Letters</i> , 2000, 178, 47-58.	4.4	62
46	Basalt-inherited microlites in silicic magmas: Evidence from Mount Pelée (Martinique, French West) <small>Tj ETQq0 0 0 rgBT /Overlock 10 Tf</small>	4.4	62
47	Structural characterization of water-bearing silicate and aluminosilicate glasses by high-resolution solid-state NMR. <i>Chemical Geology</i> , 2001, 174, 291-305.	3.3	60
48	Phase relations and compositional dependence of H <sub>2</sub> O solubility in quartz-feldspar melts. <i>Chemical Geology</i> , 1992, 96, 303-319.	3.3	59
49	Experimental determination of activities of FeO and Fe <sub>2</sub> O <sub>3</sub> components in hydrous silicic melts under oxidizing conditions. <i>Geochimica Et Cosmochimica Acta</i> , 2003, 67, 4389-4409.	3.9	58
50	THE PERALKALINE TIN-MINERALIZED MADEIRA CRYOLITE ALBITE-RICH GRANITE OF PITINGA, AMAZONIAN CRATON, BRAZIL: PETROGRAPHY, MINERALOGY AND CRYSTALLIZATION PROCESSES. <i>Canadian Mineralogist</i> , 2009, 47, 1301-1327.	1.0	58
51	Evidence for present-day leucogranite pluton growth in Tibet. <i>Geology</i> , 2004, 32, 801.	4.4	56
52	Textures, water content and degassing of silicic andesites from recent plinian and dome-forming eruptions at Mount Pelée volcano (Martinique, Lesser Antilles arc). <i>Journal of Volcanology and Geothermal Research</i> , 2000, 96, 191-206.	2.1	53
53	Prostaglandin <sub>2</sub> affects the differentiation and functions of human dendritic cells: impact on the T <sub>H</sub> 1 cell response. <i>European Journal of Immunology</i> , 2005, 35, 1491-1500.	2.9	53
54	Methodological re-evaluation of the electrical conductivity of silicate melts. <i>American Mineralogist</i> , 2010, 95, 284-291.	1.9	52

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55	Differentiation Conditions of a Basaltic Magma from Santorini, and its Bearing on the Production of Andesite in Arc Settings. <i>Journal of Petrology</i> , 2015, 56, 765-794.	2.8	51
56	Gold solubility in arc magmas: Experimental determination of the effect of sulfur at 1000 Å°C and 0.4 GPa. <i>Geochimica Et Cosmochimica Acta</i> , 2012, 84, 560-592.	3.9	49
57	Trace element geochemistry of the 1991 Mt. Pinatubo silicic melts, Philippines: Implications for ore-forming potential of adakitic magmatism. <i>Geochimica Et Cosmochimica Acta</i> , 2006, 70, 3702-3716.	3.9	48
58	Trachyte Phase Relations and Implication for Magma Storage Conditions in the Chaîne des Puys (French Massif Central). <i>Journal of Petrology</i> , 2013, 54, 1071-1107.	2.8	47
59	Controls on gold solubility in arc magmas: An experimental study at 1000Å°C and 4kbar. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 2165-2189.	3.9	45
60	Amorphous Materials: Properties, Structure, and Durability: Arsenic enrichment in hydrous peraluminous melts: Insights from femtosecond laser ablation-inductively coupled plasma-quadrupole mass spectrometry, and in situ X-ray absorption fine structure spectroscopy. <i>American Mineralogist</i> , 2010, 95, 1095-1104.	1.9	43
61	Isotopic equilibration during partial melting: an experimental test of the behaviour of Sr. <i>Earth and Planetary Science Letters</i> , 1996, 144, 109-121.	4.4	42
62	Petrological and experimental evidence for differentiation of water-rich magmas beneath St. Kitts, Lesser Antilles. <i>Contributions To Mineralogy and Petrology</i> , 2017, 172, 98.	3.1	42
63	The rheological transition in plagioclase-bearing magmas. <i>Journal of Geophysical Research: Solid Earth</i> , 2013, 118, 1363-1377.	3.4	39
64	Constraints from Phase Equilibrium Experiments on Pre-eruptive Storage Conditions in Mixed Magma Systems: a Case Study on Crystal-rich Basaltic Andesites from Mount Merapi, Indonesia. <i>Journal of Petrology</i> , 2016, 57, 535-560.	2.8	39
65	Time-dependent changes of the electrical conductivity of basaltic melts with redox state. <i>Geochimica Et Cosmochimica Acta</i> , 2010, 74, 1653-1671.	3.9	37
66	Nature and Evolution of Primitive Vesuvius Magmas: an Experimental Study. <i>Journal of Petrology</i> , 2014, 55, 2281-2310.	2.8	37
67	Experimental fragmentation of crystal- and vesicle-bearing silicic melts. <i>Bulletin of Volcanology</i> , 2001, 63, 398-405.	3.0	36
68	Kinetics of iron oxidation-reduction in hydrous silicic melts. <i>American Mineralogist</i> , 2002, 87, 829-837.	1.9	36
69	High-temperature Raman spectroscopy of silicate and aluminosilicate hydrous glasses: Implications for water speciation. <i>Chemical Geology</i> , 1996, 128, 25-39.	3.3	35
70	Water solubility in silica and quartzofeldspathic melts. <i>American Mineralogist</i> , 2000, 85, 682-686.	1.9	35
71	In situ bubble vesiculation in silicic magmas. <i>American Mineralogist</i> , 2011, 96, 111-124.	1.9	33
72	Magmatic fractionation and the magmatic-hydrothermal transition in rare metal granites: Evidence from Argemela (Central Portugal). <i>Geochimica Et Cosmochimica Acta</i> , 2020, 289, 130-157.	3.9	33

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73	Effect of excess aluminium on phase relations in the system Qz-Ab-Or: experimental investigation at 2 kbar and reduced H <sub>2</sub> O-activity. <i>European Journal of Mineralogy</i> , 1992, 4, 137-152.	1.3	33
74	Solution mechanisms of phosphorus in quenched hydrous and anhydrous granitic glass as a function of peraluminosity. <i>Geochimica Et Cosmochimica Acta</i> , 1997, 61, 3913-3926.	3.9	32
75	STRUCTURAL ENVIRONMENTS AROUND MOLYBDENUM IN SILICATE GLASSES AND MELTS. II. EFFECT OF TEMPERATURE, PRESSURE, H <sub>2</sub> O, HALOGENS AND SULFUR. <i>Canadian Mineralogist</i> , 2006, 44, 755-773.	1.0	32
76	Structure of the Plumbing System at Tungurahua Volcano, Ecuador: Insights from Phase Equilibrium Experiments on July–August 2006 Eruption Products. <i>Journal of Petrology</i> , 2017, 58, 1249-1278.	2.8	32
77	Generation Conditions of Dacite and Rhyodacite via the Crystallization of an Andesitic Magma. Implications for the Plumbing System at Santorini (Greece) and the Origin of Tholeiitic or Calc-alkaline Differentiation Trends in Arc Magmas. <i>Journal of Petrology</i> , 2016, 57, 1887-1920.	2.8	31
78	Morphology of Zirconia Synthesized Hydrothermally from Zirconium Oxychloride. <i>Journal of the American Ceramic Society</i> , 1992, 75, 2515-2519.	3.8	30
79	Constraints on dacite magma degassing and regime of the June 15, 1991, climactic eruption of Mount Pinatubo (Philippines): New data on melt and crystal inclusions in quartz. <i>Journal of Volcanology and Geothermal Research</i> , 2005, 145, 35-67.	2.1	29
80	Volcano-stratigraphy and <sup>40</sup> Ar/ <sup>39</sup> Ar geochronology of the Macusani ignimbrite field: monitor of the Miocene geodynamic evolution of the Andes of southeast Peru. <i>Tectonophysics</i> , 1992, 205, 307-327.	2.2	26
81	The influence of H <sub>2</sub> O-H <sub>2</sub> fluids and redox conditions on melting temperatures in the haplogranite system. <i>Contributions To Mineralogy and Petrology</i> , 1997, 126, 386-400.	3.1	26
82	Experimental simulation of bubble nucleation and magma ascent in basaltic systems: Implications for Stromboli volcano. <i>American Mineralogist</i> , 2016, 101, 1967-1985.	1.9	26
83	Homogeneous bubble nucleation in H <sub>2</sub> O- and H <sub>2</sub> O-CO <sub>2</sub> -bearing basaltic melts: Results of high temperature decompression experiments. <i>Journal of Volcanology and Geothermal Research</i> , 2016, 327, 604-621.	2.1	25
84	Petrography, mineralogy and geochemistry of a primitive pumice from Stromboli: implications for the deep feeding system. <i>European Journal of Mineralogy</i> , 2011, 23, 499-517.	1.3	24
85	The solubility of sulfur in hydrous basaltic melts. <i>Chemical Geology</i> , 2015, 418, 104-116.	3.3	23
86	The effect of temperature and bulk composition on the solution mechanism of phosphorus in peraluminous haplogranitic magma. <i>American Mineralogist</i> , 1999, 84, 1336-1345.	1.9	23
87	Effects of experimental reheating of natural basaltic ash at different temperatures and redox conditions. <i>Contributions To Mineralogy and Petrology</i> , 2013, 165, 863-883.	3.1	22
88	The Influence of Redox State On Mica Crystallization In Leucogranitic and Pegmatitic Liquids. <i>Canadian Mineralogist</i> , 2016, 54, 559-581.	1.0	22
89	From magmatic to hydrothermal Sn-Li-(Nb-Ta-W) mineralization: The Argemela area (central Portugal). <i>Ore Geology Reviews</i> , 2020, 116, 103215.	2.7	22
90	Rare elements enrichment in crustal peraluminous magmas: insights from partial melting experiments. <i>Contributions To Mineralogy and Petrology</i> , 2021, 176, 1.	3.1	22

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91	Chemical transfer during redox exchanges between H <sub>2</sub> and Fe-bearing silicate melts. American Mineralogist, 2003, 88, 308-315.	1.9	21
92	Water solubility in haplogranitic melts coexisting with H <sub>2</sub> O-H <sub>2</sub> fluids. Contributions To Mineralogy and Petrology, 1999, 136, 213-224.	3.1	20
93	Peraluminous granites: the effect of alumina on melt composition and coexisting minerals. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 1992, 83, 409-416.	0.3	18
94	Control of redox state and Sr isotopic composition of granitic magmas: a critical evaluation of the role of source rocks. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 1996, 87, 321-329.	0.3	18
95	Chapter 8. EXPERIMENTAL STUDIES OF BORON IN GRANITIC MELTS. , 1996, , 331-386.		18
96	Determination of the Liquidus Temperatures of Ashes from the Biomass Gazification for Fuel Production by Thermodynamical and Experimental Approaches. Energy & Fuels, 2009, 23, 6231-6241.	5.1	17
97	Phase equilibrium constraints on the viscosity of silicic magmas II: implications for mafic-silicic mixing processes. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 2000, 91, 61-72.	0.3	16
98	Melting of fluorphlogopite-plagioclase pairs at 1 atmosphere. European Journal of Mineralogy, 2000, 12, 315-328.	1.3	16
99	Kinetics of melting of fluorphlogopite-quartz pairs at 1 atmosphere. European Journal of Mineralogy, 1999, 11, 637-654.	1.3	15
100	Storage conditions of the mafic and silicic magmas at Cotopaxi, Ecuador. Journal of Volcanology and Geothermal Research, 2018, 354, 74-86.	2.1	14
101	Melt inclusions track melt evolution and degassing of Etnean magmas in the last 15 ka. Lithos, 2019, 324-325, 716-732.	1.4	14
102	Petrogenesis of a two-mica ignimbrite suite: the Macusani Volcanics, SE Peru. Earth and Environmental Science Transactions of the Royal Society of Edinburgh, 1988, 79, 197-207.	0.3	13
103	Melting kinetics of granitic powder aggregates at 1175°C, 1 atm. European Journal of Mineralogy, 2005, 17, 387-398.	1.3	13
104	A Raman calibration for the quantification of SO <sub>4</sub> <sup>2-</sup> groups dissolved in silicate glasses: Application to natural melt inclusions. American Mineralogist, 2017, 102, 2065-2076.	1.9	13
105	Petrological and experimental constraints on magma storage for large pumiceous eruptions in Dominica island (Lesser Antilles). Bulletin of Volcanology, 2019, 81, 1.	3.0	13
106	Synthesis of fluorphlogopite single crystals. Applications to experimental studies. European Journal of Mineralogy, 1995, 7, 1381-1388.	1.3	13
107	A thermodynamic model for hydrous silicate melts in the system NaAlSi <sub>3</sub> O <sub>8</sub> -KAlSi <sub>3</sub> O <sub>8</sub> -Si <sub>4</sub> O <sub>8</sub> -H <sub>2</sub> O. Chemical Geology, 2001, 174, 103-114.	3.3	12
108	Role of fO <sub>2</sub> on fluid saturation in oceanic basalt. Nature, 2004, 430, 1-1.	27.8	11

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109	Dynamic Crystallization of a Haplogranitic Melt: Application to Pegmatites. <i>Journal of Petrology</i> , 2020, 61, .	2.8	11
110	Biotite resorption in dacite lavas from northeastern Algeria. <i>European Journal of Mineralogy</i> , 1996, 8, 625-638.	1.3	11
111	Effect of anorthite on granite phase relations: Experimental data and models. <i>Comptes Rendus - Geoscience</i> , 2019, 351, 540-550.	1.2	10
112	Sulphur behaviour and redox conditions in etnean magmas during magma differentiation and degassing. <i>Journal of Petrology</i> , 0, , .	2.8	10
113	In situstudy of magmatic processes: a new experimental approach. <i>High Pressure Research</i> , 2006, 26, 243-250.	1.2	9
114	Origin of primitive ultra-calcic arc melts at crustal conditions â€” Experimental evidence on the La Sommata basalt, Vulcano, Aeolian Islands. <i>Journal of Volcanology and Geothermal Research</i> , 2016, 321, 85-101.	2.1	8
115	Fe pre-enrichment: A new method to counteract iron loss in experiments on basaltic melts. <i>American Mineralogist</i> , 2015, 100, 2106-2111.	1.9	7
116	Timescales and mechanisms of paroxysm initiation at Stromboli volcano, Aeolian Islands, Italy. <i>Bulletin of Volcanology</i> , 2022, 84, 1.	3.0	7
117	Two-mica rhyolitic tephra in the East Pisco Basin (Peru): new age and dispersion constraints for the eruptions of the Eastern Cordillera of Central Andes. <i>Bulletin of Volcanology</i> , 2020, 82, 1.	3.0	2
118	Rheology and microstructure of experimentally deformed plagioclase suspensions. <i>Geology</i> , 2011, 39, 747-750.	4.4	1
119	Syn-Eruptive Conditions of the AD 1530 Sub-Plinian Eruption of La Soufrière of Guadeloupe (Lesser) Tj ETQq1 1 0.784314 rgBT /Overlo 1.8	1.8	1
120	Control of redox state and Sr isotopic composition of granitic magmas: a critical evaluation of the role of source rocks. , 1996, , .		0
121	A fresh look at crystals in the Bishop Tuff. <i>American Mineralogist</i> , 2013, 98, 529-529.	1.9	0