Stephan Klemme

List of Publications by Year
in descending order

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128	5,711	87888 38	79698 73
papers	citations	h-index	g-index

129	129	129	4695
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Trace element partitioning between apatite and silicate melts. Geochimica Et Cosmochimica Acta, 2006, 70, 4513-4527.	3.9	400
2	Experimental constraints on major and trace element partitioning during partial melting of eclogite. Geochimica Et Cosmochimica Acta, 2002, 66, 3109-3123.	3.9	391
3	Partitioning of trace elements between rutile and silicate melts: Implications for subduction zones. Geochimica Et Cosmochimica Acta, 2005, 69, 2361-2371.	3.9	334
4	The partitioning of trace elements between ilmenite, ulvospinel, armalcolite and silicate melts with implications for the early differentiation of the moon. Chemical Geology, 2006, 234, 251-263.	3.3	268
5	The near-solidus transition from garnet lherzolite to spinel lherzolite. Contributions To Mineralogy and Petrology, 2000, 138, 237-248.	3.1	250
6	Effect of melt composition on the partitioning of trace elements between titanite and silicate melt. Geochimica Et Cosmochimica Acta, 2005, 69, 695-709.	3.9	227
7	Rutile crystals as potential trace element and isotope mineral standards for microanalysis. Chemical Geology, 2009, 261, 346-369.	3.3	208
8	The influence of Cr on the garnetâ€“spinel transition in the Earth's mantle: experiments in the system MgOâ€“Cr2O3â€“SiO2 and thermodynamic modelling. Lithos, 2004, 77, 639-646.	1.4	197
9	Experimentally determined trace and minor element partitioning between clinopyroxene and carbonatite melt under upper mantle conditions. Earth and Planetary Science Letters, 1995, 133, 439-448.	4.4	180
10	Extremely high solubility of rutile in chloride and fluoride-bearing metamorphic fluids: An experimental investigation. Geology, 2010, 38, 323-326.	4.4	172
11	Distribution of halogens between fluid and apatite during fluid-mediated replacement processes. Geochimica Et Cosmochimica Acta, 2015, 170, 225-246.	3.9	120
12	Trace-element partitioning between apatite and carbonatite melt. American Mineralogist, 2003, 88, 639-646.	1.9	118
13	1s2p Resonant Inelastic X-ray Scattering of Iron Oxides. Journal of Physical Chemistry B, 2005, 109, 20751-20762.	2.6	108
14	Nbâ€“Ta fractionation by partial melting at the titaniteâ€“rutile transition. Contributions To Mineralogy and Petrology, 2011, 161, 35-45.	3.1	104
15	Evaporation of moderately volatile elements from silicate melts: experiments and theory. Geochimica Et Cosmochimica Acta, 2019, 260, 204-231.	3.9	102
16	Zircon saturation in silicate melts: a new and improved model for aluminous and alkaline melts. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	99
17	Experimental constraints on mantle metasomatism caused by silicate and carbonate melts. Lithos, 2017, 282-283, 173-186.	1.4	94
18	Fluorine in nominally fluorine-free mantle minerals: Experimental partitioning of F between olivine, orthopyroxene and silicate melts with implications for magmatic processes. Earth and Planetary Science Letters, 2012, 337-338, 1-9.	4.4	87

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19	Garnet and spinel in fertile and depleted mantle: insights from thermodynamic modelling. Contributions To Mineralogy and Petrology, 2013, 166, 411-421.	3.1	86
20	Rare earth element partitioning between titanite and silicate melts: Henryâ€™s law revisited. Geochimica Et Cosmochimica Acta, 2006, 70, 4997-5012.	3.9	79
21	The heat capacity of MgCr₂O₄, FeCr₂O₄, and Cr₂O₃at low temperatures and derived thermodynamic properties. American Mineralogist, 2000, 85, 1686-1693.	1.9	74
22	Thermodynamic properties of nickel chromite (NiCr 2 O 4) based on adiabatic calorimetry at low temperatures. Physics and Chemistry of Minerals, 2002, 29, 663-667.	0.8	62
23	Trace element partitioning between orthopyroxene and anhydrous silicate melt on the lherzolite solidus from 1.1 to 3.2ÂGPa and 1,230 to 1,535Â°C in the model system Na2Oâ€“CaOâ€“MgOâ€“Al2O3â€“SiO2. Contributions To Mineralogy and Petrology, 2009, 157, 473-490.	3.1	62
24	The stability of Feâ€“Ni carbides in the Earth's mantle: Evidence for a low Feâ€“Niâ€“C melt fraction in the deep mantle. Earth and Planetary Science Letters, 2014, 388, 211-221.	4.4	62
25	The effect of Cr on the solubility of Al in orthopyroxene: experiments and thermodynamic modelling. Contributions To Mineralogy and Petrology, 2000, 140, 84-98.	3.1	61
26	Heterogeneous distribution of phosphorus in olivine from otherwise well-equilibrated spinel peridotite xenoliths and its implications for the mantle geochemistry of lithium. Contributions To Mineralogy and Petrology, 2009, 158, 485-504.	3.1	61
27	Trace-element partitioning and boron isotope fractionation between white mica and tourmaline. Canadian Mineralogist, 2011, 49, 165-176.	1.0	58
28	Hydrogen incorporation in orthopyroxene: interaction of different trivalent cations. Contributions To Mineralogy and Petrology, 2005, 150, 473-485.	3.1	57
29	Attenuation and scattering tomography of the deep plumbing system of Mount St. Helens. Journal of Geophysical Research: Solid Earth, 2014, 119, 8223-8238.	3.4	55
30	Experimental determination of trace element partition coefficients between spinel and silicate melt: the influence of chemical composition and oxygen fugacity. Contributions To Mineralogy and Petrology, 2015, 169, 1.	3.1	51
31	Evidence for fluoride melts in Earth's mantle formed by liquid immiscibility. Geology, 2004, 32, 441.	4.4	48
32	The reaction MgCr 2 O 4 + SiO 2 = Cr 2 O 3 + MgSiO 3 and the free energy of formation of magnesiochromite (MgCr 2 O 4). Contributions To Mineralogy and Petrology, 1997, 130, 59-65.	3.1	45
33	High-pressure high-temperature tailoring of High Entropy Alloys for extreme environments. Journal of Alloys and Compounds, 2018, 738, 491-500.	5.5	45
34	Low temperature neutron diffraction study of MgCr₂O₄spinel. Journal of Physics Condensed Matter, 2008, 20, 104238.	1.8	44
35	Thermodynamic modelling of Cr-bearing garnets with implications for diamond inclusions and peridotite xenoliths. Lithos, 2009, 112, 986-991.	1.4	43
36	Synthesis and Preliminary Characterisation of New Silicate, Phosphate and Titanite Reference Glasses. Geostandards and Geoanalytical Research, 2008, 32, 39-54.	1.9	42

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37	An experimental investigation of the stability of majoritic garnet in the Earthâ€™s mantle and an improved majorite geobarometer. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	42
38	Thermal history of Northwest Africa 5073â€“â€“A coarseâ€grained Stannernâ€trend eucrite containing cmâ€sized pyroxenes and large zircon grains. Meteoritics and Planetary Science, 2011, 46, 1754-1773.	1.6	38
39	Thermo-elastic behavior of grossular garnet at high pressures and temperatures. American Mineralogist, 2017, 102, 851-859.	1.9	38
40	Trace element partitioning between perovskite and kimberlite to carbonatite melt: New experimental constraints. Chemical Geology, 2013, 353, 132-139.	3.3	37
41	Mg isotope systematics during magmatic processes: Inter-mineral fractionation in mafic to ultramafic Hawaiian xenoliths. Geochimica Et Cosmochimica Acta, 2018, 226, 192-205.	3.9	37
42	Tetragonal low-temperature phase of MgCr2O4. Powder Diffraction, 2002, 17, 230-233.	0.2	34
43	Trace element partitioning between baddeleyite and carbonatite melt at high pressures and high temperatures. Chemical Geology, 2003, 199, 233-242.	3.3	32
44	The role of F-clinohumite in volatile recycling processes in subduction zones. Geology, 2017, 45, 443-446.	4.4	30
45	Syngenetic inclusions of yimengite in diamond from Sese kimberlite (Zimbabwe) â€” evidence for metasomatic conditions of growth. Lithos, 2004, 77, 181-192.	1.4	28
46	XANES study of the oxidation state of Cr in lower mantle phases: Periclase and magnesium silicate perovskite. American Mineralogist, 2007, 92, 966-972.	1.9	28
47	Evidence for a sulfur-undersaturated lunar interior from the solubility of sulfur in lunar melts and sulfide-silicate partitioning of siderophile elements. Geochimica Et Cosmochimica Acta, 2018, 231, 130-156.	3.9	28
48	Thorium partitioning in Greek industrial bauxite investigated by synchrotron radiation and laser-ablation techniques. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 3067-3073.	1.4	27
49	Thermodynamic properties of hercynite (FeAl₂O₄) based on adiabatic calorimetry at low temperatures. American Mineralogist, 2003, 88, 68-72.	1.9	26
50	Thermodynamic properties of uvarovite garnet (Ca3Cr2Si3O12). American Mineralogist, 2005, 90, 663-666.	1.9	26
51	Lithospheric diamond formation as a consequence of methane-rich volatile flooding: An example from diamondiferous eclogite xenoliths of the Karelian craton (Finland). Geochimica Et Cosmochimica Acta, 2017, 206, 312-342.	3.9	23
52	The influence of composition on the local structure around yttrium in quenched silicate melts â€” Insights from EXAFS. Chemical Geology, 2013, 346, 3-13.	3.3	22
53	LA-ICP-MS analyses of Fe-rich alloys: quantification of matrix effects for 193Ânm excimer laser systems. Journal of Analytical Atomic Spectrometry, 2019, 34, 222-231.	3.0	22
54	Metal-silicate partitioning systematics of siderophile elements at reducing conditions: A new experimental database. Icarus, 2020, 335, 113391.	2.5	22

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55	Low-temperature heat capacities of MgAl2O4 and spinels of the MgCr2O4â€“MgAl2O4 solid solution. Physics and Chemistry of Minerals, 2007, 34, 59-72.	0.8	21
56	A possible high-temperature origin of the Moon and its geochemical consequences. Earth and Planetary Science Letters, 2020, 538, 116222.	4.4	21
57	IR spectroscopy of synthetic glasses with Mercury surface composition: Analogs for remote sensing. Icarus, 2017, 296, 123-138.	2.5	19
58	The storage capacity of fluorine in olivine and pyroxene under upper mantle conditions. Geochimica Et Cosmochimica Acta, 2017, 208, 160-170.	3.9	19
59	The effect of fluorine on the stability of wadsleyite: Implications for the nature and depths of the transition zone in the Earth's mantle. Earth and Planetary Science Letters, 2018, 482, 236-244.	4.4	19
60	Low-temperature heat capacity of magnesioferrite (MgFe2O4). Physics and Chemistry of Minerals, 2005, 32, 374-378.	0.8	18
61	Fluorine partitioning between eclogitic garnet, clinopyroxene, and melt at upper mantle conditions. Chemical Geology, 2016, 437, 88-97.	3.3	18
62	New thermodynamic data for CoTiO3, NiTiO3 and CoCO3 based on low-temperature calorimetric measurements. Chemistry Central Journal, 2011, 5, 54.	2.6	17
63	Halogens in the Earthâ€™s Mantle: What We Know and What We Donâ€™t. Springer Geochemistry, 2018, , 847-869.	0.1	17
64	Gem Corundum Deposits of Greece: Geology, Mineralogy and Genesis. Minerals (Basel, Switzerland), 2019, 9, 49.	2.0	16
65	Mid-infrared spectroscopy of planetary analogs: A database for planetary remote sensing. Icarus, 2019, 324, 86-103.	2.5	16
66	Mineralogy of the Earth: Phase Transitions and Mineralogy of the Upper Mantle. , 2015, , 7-31.		15
67	Significant depletion of volatile elements in the mantle of asteroid Vesta due to core formation. Icarus, 2019, 317, 669-681.	2.5	15
68	Experimental constraints on the stability of baddeleyite and zircon in carbonate- and silicate-carbonate melts. American Mineralogist, 2017, 102, 860-866.	1.9	14
69	Trace Elements in Magnetite from the Pagoni Rachi Porphyry Prospect, NE Greece: Implications for Ore Genesis and Exploration. Minerals (Basel, Switzerland), 2019, 9, 725.	2.0	14
70	An experimental assessment of the potential of sulfide saturation of the source regions of eucrites and angrites: Implications for asteroidal models of core formation, late accretion and volatile element depletions. Geochimica Et Cosmochimica Acta, 2020, 269, 39-62.	3.9	14
71	Trace element partitioning between sulfide-, metal- and silicate melts at highly reduced conditions: Insights into the distribution of volatile elements during core formation in reduced bodies. Icarus, 2020, 335, 113408.	2.5	14
72	The entropy of zinc chromite (ZnCr2O4). Mineralogical Magazine, 2004, 68, 515-522.	1.4	14

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73	The thermal equation of state of FeTiO3 ilmenite based on in situ X-ray diffraction at high pressures and temperatures. American Mineralogist, 2010, 95, 1708-1716.	1.9	13
74	Empirical and experimental constraints on Fe-Ti oxide-melt titanium isotope fractionation factors. Geochimica Et Cosmochimica Acta, 2022, 326, 253-272.	3.9	13
75	Origin of carbonatitesâ€"liquid immiscibility caught in the act. Nature Communications, 2022, 13, .	12.8	13
76	TOF-SIMS and electron microprobe investigations of zoned magmatic orthopyroxenes: First results of trace and minor element analysis with implications for diffusion modeling. American Mineralogist, 2012, 97, 532-542.	1.9	12
77	Application of thermodynamic modelling to natural mantle xenoliths: examples of density variations and pressureâ€"temperature evolution of the lithospheric mantle. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	12
78	Depletion of potassium and sodium in mantles of Mars, Moon and Vesta by core formation. Scientific Reports, 2018, 8, 7053.	3.3	12
79	Experimental constraints on metal transport in fumarolic gases. Journal of Volcanology and Geothermal Research, 2020, 400, 106929.	2.1	12
80	Mineralogical Study of the Advanced Argillic Alteration Zone at the Konos Hill Moâ€"Cuâ€"Reâ€"Au Porphyry Prospect, NE Greece. Minerals (Basel, Switzerland), 2018, 8, 479.	2.0	11
81	On the Color and Genesis of Prase (Green Quartz) and Amethyst from the Island of Serifos, Cyclades, Greece. Minerals (Basel, Switzerland), 2018, 8, 487.	2.0	11
82	The potential of phosphorus in clinopyroxene as a geospeedometer: Examples from mantle xenoliths. Geochimica Et Cosmochimica Acta, 2019, 266, 307-331.	3.9	11
83	An Improved Electron Microprobe Method for the Analysis of Halogens in Natural Silicate Glasses. Microscopy and Microanalysis, 2020, 26, 857-866.	0.4	11
84	Tuning of Structure, Morphology and Magnetism in Postperovskite Oxide Solid Solutions. Chemistry of Materials, 2011, 23, 114-121.	6.7	10
85	Thermodynamic and magnetic properties of knorringite garnet (Mg3Cr2Si3O12) based on low-temperature calorimetry and magnetic susceptibility measurements. Physics and Chemistry of Minerals, 2014, 41, 341-346.	0.8	10
86	Electrophoretic deposition of alumina, yttria, yttrium aluminium garnet and lutetium aluminium garnet. Journal of Materials Science, 2014, 49, 6975-6985.	3.7	10
87	An experimental assessment of the chalcophile behavior of F, Cl, Br and I: Implications for the fate of halogens during planetary accretion and the formation of magmatic ore deposits. Geochimica Et Cosmochimica Acta, 2020, 273, 275-290.	3.9	10
88	Addressing matrix effects for 193 nm excimer LA-ICP-MS analyses of Fe-rich sulfides and a new predictive model. Journal of Analytical Atomic Spectrometry, 2020, 35, 498-509.	3.0	10
89	Experimental constraints on the evolution of iron and phosphorus-rich melts: experiments in the system CaO-MgO-Fe2O3-P2O5-SiO2-H2O-CO2. Journal of Mineralogical and Petrological Sciences, 2010, 105, 1-8.	0.9	9
90	Phosphorus zoning as a recorder of crystal growth kinetics: application to second-generation olivine in mantle xenoliths from the Cima Volcanic Field. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	9

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91	Reflectance spectra of synthetic Fe-free ortho- and clinoenstatites in the UV/VIS/IR and implications for remote sensing detection of Fe-free pyroxenes on planetary surfaces. Planetary and Space Science, 2018, 159, 43-55.	1.7	9
92	Mid-infrared reflectance spectroscopy of synthetic glass analogs for Mercury surface studies. Icarus, 2021, 361, 114363.	2.5	9
93	Multi-Stage Introduction of Precious and Critical Metals in Pyrite: A Case Study from the Konos Hill and Pagoni Rachi Porphyry/Epithermal Prospects, NE Greece. Minerals (Basel, Switzerland), 2020, 10, 784.	2.0	8
94	Experimental Investigation of Apollo 16 â€œRusty Rockâ€•Alteration by a Lunar Fumarolic Gas. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006609.	3.6	8
95	Sulfides and hollows formed on Mercury's surface by reactions with reducing S-rich gases. Earth and Planetary Science Letters, 2022, 593, 117647.	4.4	8
96	The heat capacities and thermodynamic properties of NiAl2O4 and CoAl2O4 measured by adiabatic calorimetry from T=(4 to 400)K. Journal of Chemical Thermodynamics, 2009, 41, 842-848.	2.0	7
97	Mineral Surface Rearrangement at High Temperatures: Implications for Extraterrestrial Mineral Grain Reactivity. ACS Earth and Space Chemistry, 2017, 1, 113-121.	2.7	7
98	Decomposition of single-source precursors under high-temperature high-pressure to access osmiumâ€“platinum refractory alloys. Journal of Alloys and Compounds, 2020, 813, 152121.	5.5	7
99	The Fate of Sulfur and Chalcophile Elements During Crystallization of the Lunar Magma Ocean. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006328.	3.6	7
100	Constraining the presence of amphibole and mica in metasomatized mantle sources through halogen partitioning experiments. Lithos, 2021, 380-381, 105859.	1.4	7
101	Experimentally determined trace element partition coefficients between hibonite, melilite, spinel, and silicate melts. Data in Brief, 2018, 21, 2447-2463.	1.0	6
102	Geophysical source conditions for basaltic lava from Santorini volcano based on geochemical modeling. Lithos, 2018, 316-317, 295-303.	1.4	6
103	Trace element mapping of high-pressure, high-temperature experimental samples with laser ablation ICP time-of-flight mass spectrometry â€“ Illuminating melt-rock reactions in the lithospheric mantle. Lithos, 2020, 352-353, 105282.	1.4	6
104	Titanium-rich metasomatism in the lithospheric mantle beneath the Arkhangelsk Diamond Province, Russia: insights from ilmenite-bearing xenoliths and HPâ€“HT reaction experiments. Contributions To Mineralogy and Petrology, 2021, 176, 1.	3.1	6
105	Recycling process and proto-kimberlite melt metasomatism in the lithosphere-asthenosphere boundary beneath the Amazonian Craton recorded by garnet xenocrysts and mantle xenoliths from the Carolina kimberlite. Geoscience Frontiers, 2022, 13, 101429.	8.4	6
106	High-pressure Raman studies and heat capacity measurements on the MgSiO3 analogue CaIr0.5Pt0.5O3. Physics and Chemistry of Minerals, 2011, 38, 631-637.	0.8	5
107	Process-related isotope variability in oceanic basalts revealed by high-precision Sr isotope ratios in olivine-hosted melt inclusions. Chemical Geology, 2019, 524, 1-10.	3.3	5
108	The brecciated texture of polymict eucrites: Petrographic investigations of unequilibrated meteorites from the Antarctic Yamato collection. Meteoritics and Planetary Science, 2020, 55, 558-574.	1.6	5

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109	Highly reduced accretion of the Earth by large impactors? Evidence from elemental partitioning between sulfide liquids and silicate melts at highly reduced conditions. Geochimica Et Cosmochimica Acta, 2020, 286, 248-268.	3.9	5
110	Clarifying source assemblages and metasomatic agents for basaltic rocks in eastern Australia using olivine phenocryst compositions. Lithos, 2021, 390-391, 106122.	1.4	5
111	First zunyite-bearing lithocap in Greece: The case of Konos Hill Mo-Re-Cu-Au porphyry system. . , 0, , .		5
112	Synthesis of trace element bearing single crystals of Chlor-Apatite (Ca5(PO4)3Cl) using the flux growth method. Chemistry Central Journal, 2013, 7, 56.	2.6	4
113	Ferric-ferrous iron ratios of experimental majoritic garnet and clinopyroxene as a function of oxygen fugacity. American Mineralogist, 2020, 105, 1866-1874.	1.9	4
114	Trace element partitioning between pyrochlore, microlite, fersmite and silicate melts. Geochemical Transactions, 2020, 21, 9.	0.7	4
115	Santorini volcano as a potential Martian analogue: The Balos Cove Basalts. Icarus, 2019, 325, 128-140.	2.5	3
116	A hydrothermal apparatus for x-ray absorption spectroscopy of hydrothermal fluids at DESY. Review of Scientific Instruments, 2021, 92, 063903.	1.3	3
117	The stability of antigorite in subduction zones revisited: the effect of F on antigorite stability and its breakdown reactions at high pressures and high temperatures, with implications for the geochemical cycles of halogens. Contributions To Mineralogy and Petrology, 2022, 177, .	3.1	3
118	Evidence for fluoride melts in Earth's mantle formed by liquid immiscibility: Comment and Reply: REPLY. Geology, 2005, 33, e77-e77.	4.4	2
119	Origin and redox conditions of the RosÃ¡rio-6 alnÃ¶ite of southern Brazil: Implications for the state of the mantle during Gondwana breakup. Lithos, 2020, 376-377, 105751.	1.4	2
120	How do secondary iron enrichments form within basaltic eucrites? An experimental approach. Meteoritics and Planetary Science, 2021, 56, 911.	1.6	2
121	Partial melting and subduction-related metasomatism recorded by geochemical and isotope (He-Ne-Ar-Sr-Nd) compositions of spinel lherzolite xenoliths from Coyhaique, Chilean Patagonia. Gondwana Research, 2021, 98, 257-276.	6.0	2
122	Analysis of the CHARM Cuâ€alloy reference materials using excimer nsâ€LAâ€ICPâ€MS: assessment of matrix effects and applicability to artefact provenancing. Archaeometry, 0, , .	1.3	2
123	Chlorine isotope behavior in subduction zone settings revealed by olivine-hosted melt inclusions from the Central America Volcanic Arc. Earth and Planetary Science Letters, 2022, 581, 117414.	4.4	2
124	Synthesis of Large Amounts of Volatile Element-Bearing Silicate Glasses Using a Two-Stage Melting Process. ACS Earth and Space Chemistry, 2022, 6, 1108-1114.	2.7	2
125	Experimental constraints on the long-lived radiogenic isotope evolution of the Moon. Geochimica Et Cosmochimica Acta, 2022, 326, 119-148.	3.9	2
126	Whole-rock trace element analyses via LA-ICP-MS in glasses produced by sodium borate flux fusion. Brazilian Journal of Geology, 2021, 51, .	0.7	1

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127	Rare-earth modified amorphous carbon films: Effects of erbium and gadolinium on the structural evolution and mechanical properties. Diamond and Related Materials, 2022, 123, 108898.	3.9	1
128	Experimental investigation of Ru isotope fractionation between metal, silicate and sulfide melts. Chemical Geology, 2021, 580, 120384.	3.3	0