

# Wilson A Crichton

## List of Publications by Year in descending order

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127  
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3,945  
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144013

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132  
docs citations

132  
times ranked

4127  
citing authors

#	ARTICLE	IF	CITATIONS
1	New High-Pressure and High-Temperature CaCO <sub>3</sub> Polymorph. ACS Earth and Space Chemistry, 2022, 6, 1506-1513.	2.7	14
2	An Unexpected Cubic Symmetry in Group IV Alloys Prepared Using Pressure and Temperature. Angewandte Chemie - International Edition, 2021, 60, 9009-9014.	13.8	5
3	Unconventional Route to High-Pressure and -Temperature Synthesis of GeSn Solid Solutions. Journal of the American Chemical Society, 2021, 143, 7920-7924.	13.7	3
4	Decomposition of single-source precursors under high-temperature high-pressure to access osmium-platinum refractory alloys. Journal of Alloys and Compounds, 2020, 813, 152121.	5.5	7
5	Na <sub>3</sub> FeH <sub>7</sub> and Na <sub>3</sub> CoH <sub>6</sub> : Hydrogen-Rich First-Row Transition Metal Hydrides from High Pressure Synthesis. Inorganic Chemistry, 2020, 59, 16467-16473.	4.0	12
6	Na-Ni-H Phase Formation at High Pressures and High Temperatures: Hydrido Complexes [NiH <sub>5</sub> ] <sub>3</sub> Versus the Perovskite NaNiH <sub>3</sub> . ACS Omega, 2020, 5, 8730-8743.	3.5	7
7	Thermoelastic equation of state and melting of Mg metal at high pressure and high temperature. Journal of Applied Physics, 2020, 127, 055903.	2.5	7
8	Exploring the Mg-Cr-H System at High Pressure and Temperature via in Situ Synchrotron Diffraction. Inorganic Chemistry, 2019, 58, 11043-11050.	4.0	6
9	An internally consistent pressure calibration of geobarometers applicable to the Earth's upper mantle using in situ XRD. Geochimica Et Cosmochimica Acta, 2018, 222, 421-435.	3.9	7
10	High-pressure high-temperature tailoring of High Entropy Alloys for extreme environments. Journal of Alloys and Compounds, 2018, 738, 491-500.	5.5	45
11	Unraveling Hidden Mg-Mn-H Phase Relations at High Pressures and Temperatures by in Situ Synchrotron Diffraction. Inorganic Chemistry, 2018, 57, 1614-1622.	4.0	9
12	Nature of Hexagonal Silicon Forming via High-Pressure Synthesis: Nanostructured Hexagonal 4H Polytype. Nano Letters, 2018, 18, 5989-5995.	9.1	43
13	Phase relations and melting of nominally "dry" residual eclogites with variable CaO/Na <sub>2</sub> O from 3 to 5 GPa and 1250 to 1500 °C; implications for refertilisation of upwelling heterogeneous mantle. Lithos, 2018, 314-315, 506-519.	1.4	8
14	High-pressure high-temperature stability of hcp-Ir Os <sub>1-x</sub> (x=0.50 and 0.55) alloys. Journal of Alloys and Compounds, 2017, 700, 198-207.	5.5	11
15	Materials under pressure. MRS Bulletin, 2017, 42, 710-713.	3.5	5
16	Ir-Re binary alloys under extreme conditions and their electrocatalytic activity in methanol oxidation. Acta Materialia, 2017, 139, 236-243.	7.9	13
17	Centennialite, CaCu <sub>3</sub> (OH) <sub>6</sub> Cl <sub>2</sub> .nH <sub>2</sub> O, n ≈ 0.7, a new kapellasite-like species, and a reassessment of calumetite. Mineralogical Magazine, 2017, 81, 1105-1124.	1.4	6
18	Observation of Sb <sub>2</sub> S <sub>3</sub> -type post-post-perovskite in NaFeF <sub>3</sub> . Implications for ABX <sub>3</sub> and AX <sub>2</sub> X <sub>3</sub> systems at ultrahigh pressure. Mineralogical Magazine, 2016, 80, 659-674.	1.4	10

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19	Silicon Allotropy and Chemistry at Extreme Conditions. <i>Energy Procedia</i> , 2016, 92, 839-844.	1.8	5
20	Effect of pressure on the strength of olivine at room temperature. <i>Physics of the Earth and Planetary Interiors</i> , 2016, 259, 34-44.	1.9	15
21	High-temperature and high-pressure behavior of carbonates in the ternary diagram $\text{CaCO}_3\text{-MgCO}_3\text{-FeCO}_3$ . <i>American Mineralogist</i> , 2016, 101, 1423-1430.	1.9	22
22	Synthesis of Bulk BC8 Silicon Allotrope by Direct Transformation and Reduced-Pressure Chemical Pathways. <i>Inorganic Chemistry</i> , 2016, 55, 8943-8950.	4.0	25
23	An Alternative Route to Pentavalent Postperovskite. <i>Inorganic Chemistry</i> , 2016, 55, 5738-5740.	4.0	8
24	High-temperature equation of state of vanadium. <i>High Pressure Research</i> , 2016, 36, 16-22.	1.2	7
25	The large volume press facility at ID06 beamline of the European synchrotron radiation facility as a High Pressure-High Temperature deformation apparatus. <i>Review of Scientific Instruments</i> , 2015, 86, 085112.	1.3	35
26	Structural transition in $\text{KMnCrF}_6$ – a chemically ordered magnetic ferroelectric. <i>Journal of Materials Chemistry C</i> , 2015, 3, 4321-4332.	5.5	13
27	Puzzling calcite-III dimorphism: crystallography, high-pressure behavior, and pathway of single-crystal transitions. <i>Physics and Chemistry of Minerals</i> , 2015, 42, 29-43.	0.8	32
28	Synthesis and recovery of bulk $\text{Fe}_4\text{O}_5$ from magnetite, $\text{Fe}_3\text{O}_4$ . A member of a self-similar series of structures for the lower mantle and transition zone. <i>Mineralogical Magazine</i> , 2014, 78, 361-371.	1.4	22
29	Perovskite to Postperovskite Transition in $\text{NaFeF}_3$ . <i>Inorganic Chemistry</i> , 2014, 53, 12205-12214.	4.0	19
30	Evidence of interspersed co-existing $\text{CaCO}_3\text{-III}$ and $\text{CaCO}_3\text{-IIIb}$ structures in polycrystalline $\text{CaCO}_3$ at high pressure. <i>Mineralogical Magazine</i> , 2014, 78, 225-233.	1.4	30
31	High-Pressure and High-Temperature Stability of Antifluorite $\text{Mg}_2\text{C}$ by in Situ X-ray Diffraction and ab Initio Calculations. <i>Journal of Physical Chemistry C</i> , 2014, 118, 8128-8133.	3.1	26
32	Hot mantle geotherms stabilize calcic carbonatite magmas up to the surface. <i>Geology</i> , 2014, 42, 911-914.	4.4	21
33	Synthesis of $\hat{\Gamma}^2\text{-Mg}_2\text{C}_3$ : A Monoclinic High-Pressure Polymorph of Magnesium Sesquicarbide. <i>Inorganic Chemistry</i> , 2014, 53, 7020-7027.	4.0	40
34	Importance of Correlation Effects in hcp Iron Revealed by a Pressure-Induced Electronic Topological Transition. <i>Physical Review Letters</i> , 2013, 110, 117206.	7.8	58
35	Tetrapotassium pyrophosphates $\hat{\Gamma}^3$ - and $\hat{\Gamma}^1\text{-K}_4\text{P}_2\text{O}_7$ . <i>Powder Diffraction</i> , 2013, 28, 2-12.	0.2	6
36	Structures of dolomite at ultrahigh pressure and their influence on the deep carbon cycle. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 13509-13514.	7.1	89

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37	Second-order P6c2-P31c transition and structural crystallography of the cyclosilicate benitoite, BaTiSi3O9, at high pressure. American Mineralogist, 2012, 97, 1749-1763.	1.9	9
38	The high-pressure monazite-to-scheelite transformation in CaSeO4. Mineralogical Magazine, 2012, 76, 913-923.	1.4	8
39	Portable double-sided laser-heating system for Mössbauer spectroscopy and X-ray diffraction experiments at synchrotron facilities with diamond anvil cells. Review of Scientific Instruments, 2012, 83, 124501.	1.3	50
40	Phase transitions in hydroxide perovskites: a Raman spectroscopic study of stottite, FeGe(OH) <sub>6</sub> , to 21 GPa. Mineralogical Magazine, 2012, 76, 949-962.	1.4	12
41	Synthesis and structure of magnesium hydroxide fluoride, Mg(OH)F: a topological intermediate between brucite- and rutile-type structures. Mineralogical Magazine, 2012, 76, 25-36.	1.4	14
42	The crystal structure of barite, BaSO4, at high pressure. American Mineralogist, 2011, 96, 364-367.	1.9	17
43	Equivalence of the Boson Peak in Glasses to the Transverse Acoustic van Hove Singularity in Crystals. Physical Review Letters, 2011, 106, 225501.	7.8	234
44	Pressure-induced transformations in kaolinite. American Mineralogist, 2010, 95, 651-654.	1.9	25
45	Structure of $\text{GeO}_2$ at pressures up to 8.6 GPa. Physical Review B, 2010, 81, .		
46	Monazite structure from dehydrated CaSeO <sub>4</sub> ·2H <sub>2</sub> O. Mineralogical Magazine, 2010, 74, 127-139.	1.4	4
47	The structural behaviour of LaF3 at high pressures. Dalton Transactions, 2010, 39, 4302.	3.3	27
48	The isothermal equation of state of CaPtO3 post-perovskite to 40GPa. Physics of the Earth and Planetary Interiors, 2010, 182, 113-118.	1.9	12
49	Absence of pressure-induced amorphization in LiKSO <sub>4</sub> . Journal of Physics Condensed Matter, 2010, 22, 315401.	1.8	7
50	High pressure behavior of Ga-doped LaMnO <sub>3</sub> : a combined X-ray diffraction and optical spectroscopy study. Journal of Materials Chemistry, 2010, 20, 1304-1311.	6.7	20
51	High-pressure ferroelastic phase transition in aluminosilicate hollandite. Physical Review B, 2009, 80, .	3.2	13
52	Portable multi-anvil device for <i>in situ</i> angle-dispersive synchrotron diffraction measurements at high pressure and temperature. Journal of Synchrotron Radiation, 2009, 16, 513-523.	2.4	19
53	Advances and synergy of high-pressure sciences at synchrotron sources. Journal of Synchrotron Radiation, 2009, 16, 697-698.	2.4	4
54	High-pressure behavior of akermanite and gehlenite and phase stability of the normal structure in melilites. American Mineralogist, 2009, 94, 704-709.	1.9	20

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55	Response of Superconductivity and Crystal Structure of LiFeAs to Hydrostatic Pressure. Journal of the American Chemical Society, 2009, 131, 2986-2992.	13.7	49
56	Establishing the structure of GeS <sub>2</sub> at high pressures and temperatures: a combined approach using x-ray and neutron diffraction. Journal of Physics Condensed Matter, 2009, 21, 474217.	1.8	59
57	Structural similarities of 2-chlorophenol and 2-methylphenol. CrystEngComm, 2009, 11, 463-469.	2.6	14
58	High-Pressure Effect on $\text{PbTiO}_3$ : An Investigation by Raman and X-Ray Scattering up to 63 GPa. Physical Review Letters, 2008, 101, 237601.	7.8	95
59	Reaction of rhenium and carbon at high pressures and temperatures. Zeitschrift Fur Kristallographie - Crystalline Materials, 2008, 223, 492-501.	0.8	40
60	Phase separation, crystallization and polyamorphism in the Y <sub>2</sub> O <sub>3</sub> -Al <sub>2</sub> O <sub>3</sub> system. Journal of Physics Condensed Matter, 2008, 20, 205103.	1.8	40
61	Brochantite-2M2 from Pierre Plate Mine, Vizille. Powder Diffraction, 2008, 23, 246-250.	0.2	2
62	Structural Description of Pressure-Induced Amorphization in ZrW <sub>2</sub> O <sub>8</sub> . Physical Review Letters, 2007, 98, 225501.	7.8	65
63	FeO and MnO high-pressure phase diagrams: relations between structural and magnetic properties. Phase Transitions, 2007, 80, 1151-1163.	1.3	17
64	Equation of state and thermal expansivity of LiF and NaF. High Pressure Research, 2007, 27, 483-489.	1.2	43
65	Structural evolution of (Ca <sub>0.35</sub> Sr <sub>0.65</sub> )TiO <sub>3</sub> perovskite at high pressures. Journal of Solid State Chemistry, 2007, 180, 360-369.	2.9	7
66	Density of Vibrational States of a Hyperquenched Glass. Physical Review Letters, 2006, 96, 205502.	7.8	51
67	High-pressure x-ray and neutron powder diffraction study of PbWO <sub>4</sub> and BaWO <sub>4</sub> scheelites. Journal of Physics Condensed Matter, 2006, 18, 3017-3029.	1.8	29
68	Phase transitions and compressibility of NaMgF <sub>3</sub> (Neighborite) in perovskite- and perovskite-related structures. Geophysical Research Letters, 2006, 33, .	4.0	53
69	Compressibility of boron-doped diamond. High Pressure Research, 2006, 26, 79-85.	1.2	5
70	Novel behaviour and structure of new glasses of the type BaAl <sub>2</sub> O and BaAl <sub>2</sub> TiO produced by aerodynamic levitation and laser heating. Journal of Physics Condensed Matter, 2006, 18, L407-L414.	1.8	22
71	Amorphous silica-like carbon dioxide. Nature, 2006, 441, 857-860.	27.8	153
72	Effect of Densification on the Density of Vibrational States of Glasses. Physical Review Letters, 2006, 97, 135501.	7.8	99

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73	Pressure-induced phase transition in Mg <sub>0.8</sub> Fe <sub>0.2</sub> O ferropericlyase. <i>Physics and Chemistry of Minerals</i> , 2006, 33, 35-44.	0.8	24
74	Rietveld structure refinement of perovskite and post-perovskite phases of NaMgF <sub>3</sub> (Neighborite) at high pressures. <i>American Mineralogist</i> , 2006, 91, 1703-1706.	1.9	37
75	Trigonal distortion of ferropericlyase (Mg <sub>0.8</sub> Fe <sub>0.2</sub> )O at high pressures. <i>Doklady Physics</i> , 2005, 50, 343-345.	0.7	3
76	Alternating sequence of ring and chain structures in sulphur at high pressure and temperature. <i>Nature Materials</i> , 2005, 4, 550-552.	27.5	35
77	Development of a new state-of-the-art beamline optimized for monochromatic single-crystal and powder X-ray diffraction under extreme conditions at the ESRF. <i>Journal of Synchrotron Radiation</i> , 2005, 12, 659-664.	2.4	133
78	SrWO <sub>4</sub> at high pressures. <i>Physica Status Solidi (B): Basic Research</i> , 2005, 242, 2795-2802.	1.5	23
79	Methods and application of the Paris-Edinburgh Press to X-ray diffraction structure solution with large-volume samples at high pressures and temperatures. , 2005, , 353-369.		6
80	A high-pressure polytypic transformation in type-I chlorite. <i>American Mineralogist</i> , 2005, 90, 1139-1145.	1.9	11
81	Equations of state of dense hydrous magnesium silicates: results from single-crystal X-ray diffraction. <i>Mineralogical Magazine</i> , 2005, 69, 273-287.	1.4	7
82	Compression of the perovskite-related mineral bernalite Fe(OH) <sub>3</sub> to 9 GPa and a reappraisal of its structure. <i>Mineralogical Magazine</i> , 2005, 69, 309-315.	1.4	11
83	Beating the Miscibility Barrier between Iron Group Elements and Magnesium by High-Pressure Alloying. <i>Physical Review Letters</i> , 2005, 95, 245502.	7.8	65
84	High-pressure forms of lithium sulphate: Structural determination and computer simulation. <i>Physical Review B</i> , 2005, 72, .	3.2	13
85	Rubberlike Dynamics in Sulphur above the $\lambda$ -Transition Temperature. <i>Physical Review Letters</i> , 2005, 95, 255502.	7.8	22
86	Effects of high pressure and high temperature on cation ordering in magnesioferrite, MgFe <sub>2</sub> O <sub>4</sub> , using in situ synchrotron X-ray powder diffraction up to 1430 K and 6 GPa. <i>American Mineralogist</i> , 2005, 90, 1500-1505.	1.9	24
87	Double-sided laser heating system for in situ high pressure high temperature monochromatic x-ray diffraction at the esrf. <i>High Pressure Research</i> , 2005, 25, 71-83.	1.2	77
88	Diffraction studies of order-disorder at high pressures and temperatures. <i>Powder Diffraction</i> , 2005, 20, 80-86.	0.2	11
89	Decomposition of ferropericlyase (Mg <sub>0.80</sub> Fe <sub>0.20</sub> )O at high pressures and temperatures. <i>Journal of Alloys and Compounds</i> , 2005, 390, 41-45.	5.5	11
90	Kinetics of antigorite dehydration: A real-time X-ray diffraction study. <i>Earth and Planetary Science Letters</i> , 2005, 236, 899-913.	4.4	112

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91	Evidence for monazite-, barite-, and AgMnO <sub>4</sub> (distorted barite)-type structures of CaSO <sub>4</sub> at high pressure and temperature. <i>American Mineralogist</i> , 2005, 90, 22-27.	1.9	47
92	Aggregated diamond nanorods, the densest and least compressible form of carbon. <i>Applied Physics Letters</i> , 2005, 87, 083106.	3.3	96
93	Pressure-induced tricritical phase transition from the scheelite structure to the fergusonite structure in LiLuF <sub>4</sub> . <i>Journal of Physics Condensed Matter</i> , 2005, 17, 763-770.	1.8	20
94	Cation disorder in dolomite, CaMg(CO <sub>3</sub> ) <sub>2</sub> , and its influence on the aragonite + magnesite " dolomite reaction boundary. <i>American Mineralogist</i> , 2004, 89, 1142-1147.	1.9	76
95	Decomposition of LiGdF <sub>4</sub> scheelite at high pressures. <i>Journal of Physics Condensed Matter</i> , 2004, 16, 7779-7786.	1.8	22
96	Collimator for inelastic x-ray scattering experiments at high temperature and pressure conditions. <i>High Pressure Research</i> , 2004, 24, 463-469.	1.2	2
97	From Phase Identification to Structure Solution: X-Ray Crystallography at High Pressures. , 2004, , 113-130.		2
98	High-pressure dissociation of silver mercury iodide, Ag <sub>2</sub> HgI <sub>4</sub> . <i>Journal of Solid State Chemistry</i> , 2004, 177, 3715-3720.	2.9	5
99	X-ray study of the synthesis of boron oxides at high pressure: Phase diagram and equation of state. <i>Physical Review B</i> , 2004, 70, .	3.2	56
100	Reaction of iron and silica at core-mantle boundary conditions. <i>Physics of the Earth and Planetary Interiors</i> , 2004, 146, 243-247.	1.9	9
101	Potassium triyttrium decafluoride, KY <sub>3</sub> F <sub>10</sub> , synthesized at high pressures and high temperatures. <i>Solid State Sciences</i> , 2003, 5, 757-764.	3.2	16
102	The first bulk synthesis of ReO <sub>3</sub> -type tungsten trioxide, WO <sub>3</sub> , from nanometric precursors. <i>Materials Research Bulletin</i> , 2003, 38, 289-296.	5.2	22
103	Structural Transformations in Cubic ZrMo <sub>2</sub> O <sub>8</sub> at High Pressures and High Temperatures.. <i>ChemInform</i> , 2003, 34, no.	0.0	0
104	Potassium Triyttrium Decafluoride, KY <sub>3</sub> F <sub>10</sub> , Synthesized at High Pressures and High Temperatures.. <i>ChemInform</i> , 2003, 34, no.	0.0	0
105	Iron-silica interaction at extreme conditions and the electrically conducting layer at the base of Earth's mantle. <i>Nature</i> , 2003, 422, 58-61.	27.8	108
106	COMBINED ENERGY DISPERSIVE XAS AND ANGLE DISPERSIVE XRD FOR HIGH PRESSURE STUDIES AT ID24, ESRF. <i>High Pressure Research</i> , 2003, 23, 301-305.	1.2	9
107	Scheelite CaWO <sub>4</sub> at high pressures. <i>Journal of Physics Condensed Matter</i> , 2003, 15, 7261-7270.	1.8	39
108	Phosphorus: New in situ powder data from large-volume apparatus. <i>Powder Diffraction</i> , 2003, 18, 155-158.	0.2	30

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109	Observation of the high-pressure Pmma phase in InAs: A combined X-ray absorption and diffraction study. <i>Europhysics Letters</i> , 2003, 61, 554-560.	2.0	15
110	Multichannel collimator for structural investigation of liquids and amorphous materials at high pressures and temperatures. <i>Review of Scientific Instruments</i> , 2002, 73, 3570-3574.	1.3	82
111	Compressibility to 7 GPa at 298 K of the protonated octahedral framework mineral burtite, CaSn(OH)6. <i>Mineralogical Magazine</i> , 2002, 66, 431-440.	1.4	8
112	Compressibility of clinocllore to 8 GPa at 298 K and a comparison with micas. <i>European Journal of Mineralogy</i> , 2002, 14, 561-565.	1.3	22
113	X-ray diffraction study of WO3 at high pressure. <i>Journal of Physics Condensed Matter</i> , 2002, 14, 6605-6617.	1.8	16
114	High Pressure X-Ray Absorption and Diffraction Study of InAs. <i>High Pressure Research</i> , 2002, 22, 331-335.	1.2	15
115	Kinetics of Diamond Crystallization from the Melt of the Fe-Ni-C System. <i>Journal of Physical Chemistry B</i> , 2002, 106, 6634-6637.	2.6	45
116	Noninvasive pressure and temperature estimation in large-volume apparatus by equation-of-state cross-calibration. <i>High Temperatures - High Pressures</i> , 2002, 34, 235-242.	0.3	46
117	Metastable NaYF4 fluorite at high pressures and high temperatures. <i>Solid State Sciences</i> , 2002, 4, 895-899.	3.2	46
118	Structural transformations in cubic ZrMo2O8 at high pressures and high temperatures. <i>Solid State Sciences</i> , 2002, 4, 1137-1141.	3.2	24
119	Thermal equations of state of dioctahedral micas on the join muscovite-paragonite. <i>Physics and Chemistry of Minerals</i> , 2002, 29, 538-544.	0.8	14
120	Metastable melting and pressure-induced amorphisation of GeSe2. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 314, 560-566.	2.6	7
121	A New Polymorph of ZrW2O8 Synthesized at High Pressures and High Temperatures. <i>Chemistry of Materials</i> , 2001, 13, 4255-4259.	6.7	47
122	Experimental verification of the Stokes-Einstein relation in liquid Fe-FeS at 5 GPa. <i>Molecular Physics</i> , 2001, 99, 773-777.	1.7	21
123	Breakdown of intermediate-range order in liquid GeSe2 at high pressure. <i>Nature</i> , 2001, 414, 622-625.	27.8	96
124	Evidence of eutectic crystallization and transient nucleation in Al89La6Ni5 amorphous alloy. <i>Applied Physics Letters</i> , 2001, 79, 743-745.	3.3	25
125	In situ measurement of viscosity of liquids in the Fe-FeS system at high pressures and temperatures. <i>American Mineralogist</i> , 2000, 85, 1838-1842.	1.9	101
126	Equations of state of magnesium silicates anhydrous B and superhydrous B. <i>Physics and Chemistry of Minerals</i> , 1999, 26, 570-575.	0.8	40



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127	Synthesis and structure of calumetite-like $\text{SrCu}_4(\text{OH})_8\text{Cl}_2 \cdot 3.5\text{H}_2\text{O}$ . Mineralogical Magazine, 0, , 1-15.	1.4	1