

# **Supporting Information:**

## **Machine Learning the Voltage of Electrode Materials in Metal-ion Batteries**

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## Parameter tuning for Li-only data set

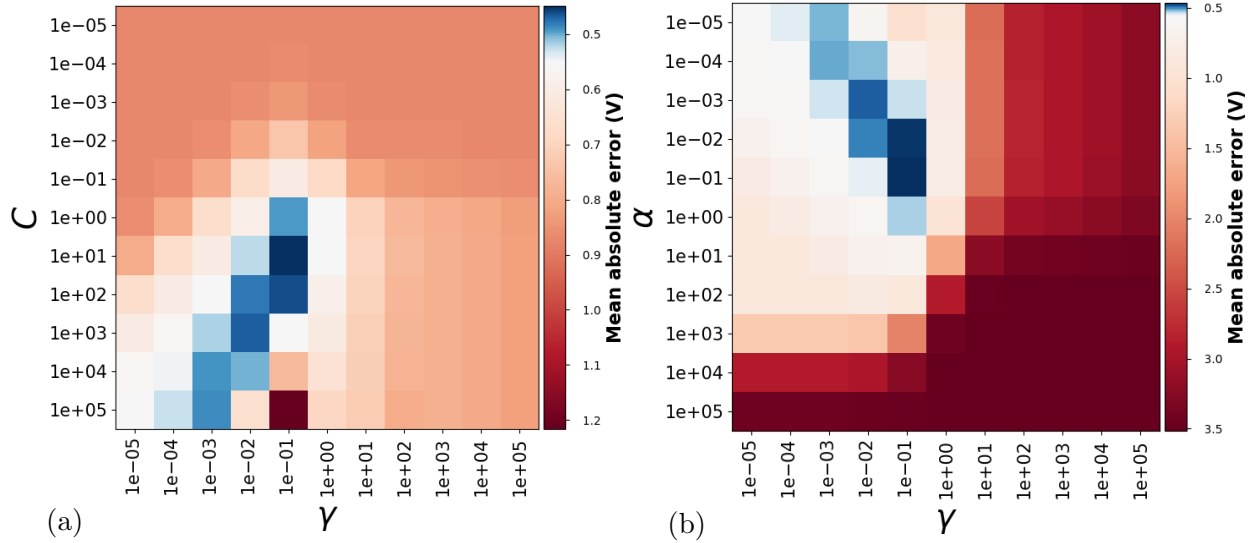


Figure S1: Color map showing the parameter tuning for (a) SVR and (b) KRR for Li-only data set. For SVR, we get  $C=10$  and  $\gamma=0.1$  same as for entire data. For KRR, we get  $\alpha=0.1$  and  $\gamma=0.1$ . For DNN, model optimized for entire data was used as it yielded optimal result.

## Scatter plots

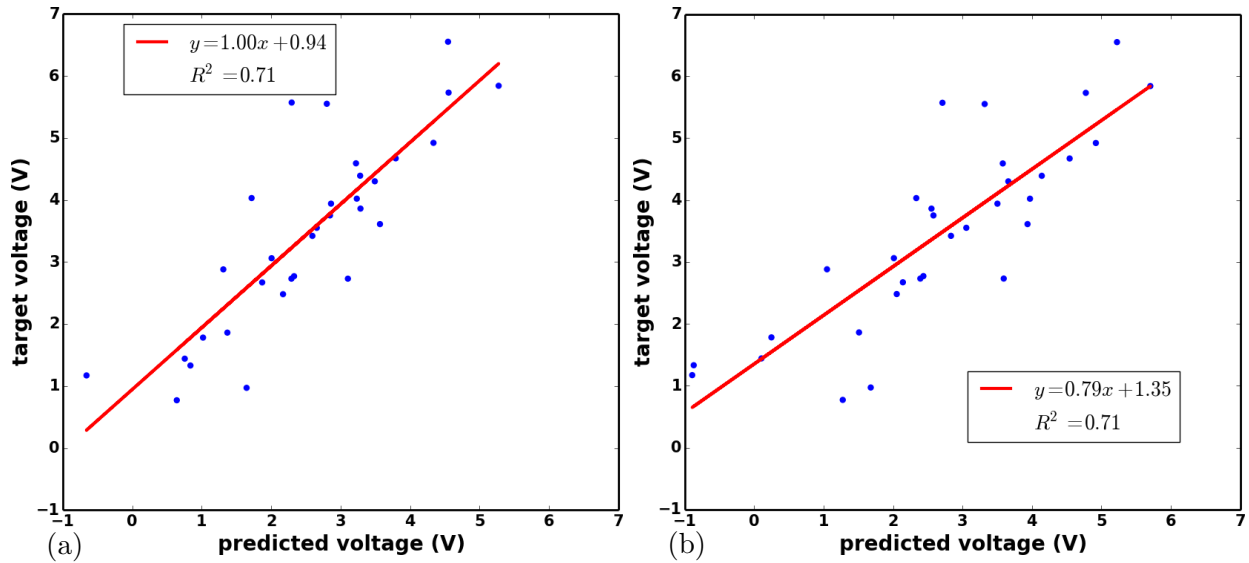


Figure S2: Scatter plot showing the target vs the predicted values (V) with different machine learning algorithms trained on entire data. (a) SVR on Na-set. (b) KRR on Na-set.

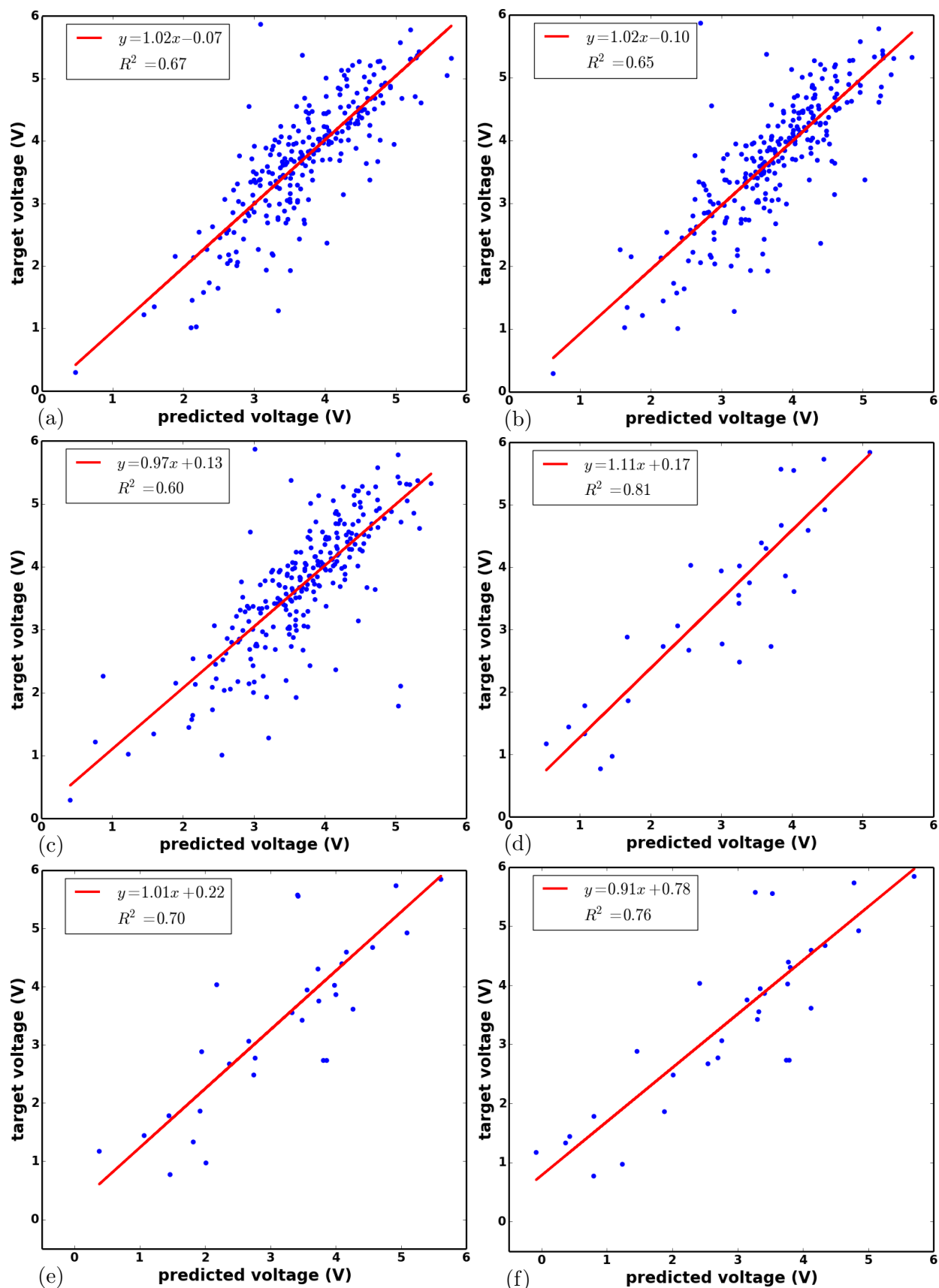


Figure S3: Scatter plot showing the target vs the predicted values (V) of voltage with different machine learning algorithms trained on Li-data. (a) DNN, (b) SVR, (c) KRR, each on H-set. (d) DNN, (e) SVR, (f) KRR each on Na-set. The equation of best fit ( $y = mx + c$ ) and  $R^2$  values for linear fit between the target and ML predicted values are given as well.

Table S1: Elemental Properties used to construct the feature vectors of chemical compounds. In the table, body centered cubic is abbreviated as BCC, ground state as GS, number as No., per atom as pa and Inorganic Crystal Structure Database as ICSD. The elemental properties are taken from the work of Ward et al.<sup>S1</sup>

Atomic volume	Is Mendeleev	GS band gap	Is f-block
Atomic number	ICSD volume	GS efflatcnt	No. of valence
Atomic weight	Polarizability	GS estBCClatcnt	No. of unfilled
Covalent radius	BCC energy diff	GS estFCClatcnt	No. of s valence
Oxidation states	BCC effective lattice constant	GS magnetic moment	No. of d unfilled
Boiling temperature	BCC fermi	GS volume pa	No. of d valence
Column number	BCC magnetic moment	Is metal	No. of f unfilled
Row number	BCC volume padiff	Is nonmetal	No. of f valence
First ionization energy	BCC volume pa.	Is metalloid	No. of p unfilled
Space group number	Heat capacity mass	Is alkali	No. of p valence
Density	Heat capacity molar	Is d-block	No. of s unfilled

To derive features to represent chemical compound from these atomic properties, we calculate weighted mean (Eq. (1)) and mean deviation of properties from weighted mean (Eq. (2)).

$$\overline{W} = \frac{n_i \times w_i + n_j \times w_j + \dots}{n_i + n_j + \dots} \quad (1)$$

$$\Delta W = \frac{n_i \times |w_i - \overline{W}| + n_j \times |w_j - \overline{W}| + \dots}{n_i + n_j + \dots} \quad (2)$$

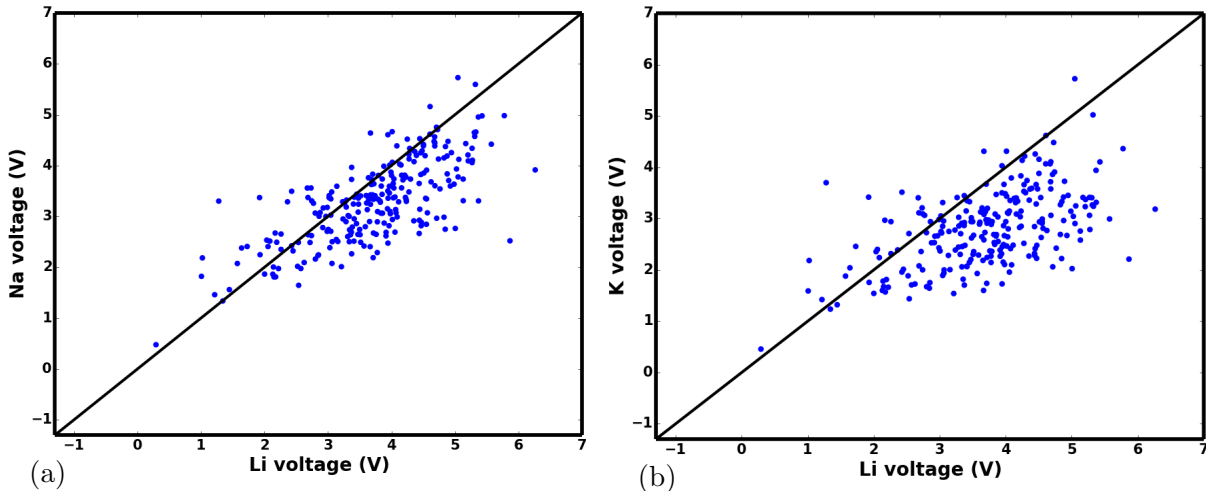


Figure S4: Scatter plots showing the ML-predicted voltage of (a) Na and (b) K-based electrodes with respect to DFT voltage of Li-based electrodes in the H-set of Li-only data. It should be compared with the scatter plots in the inset of Figure 7 in main text.

Table S2: Voltage (V) predicted with DNN, SVR and KRR along with DFT values reported by Zhang et al.<sup>S2</sup> for Na-set. Also, provided are the stoichiometries of electrode materials at high-ion concentration and low-ion concentration.

High-ion concentration	Low-ion concentration	DFT	DNN	KRR	SVR
NaCoO <sub>2</sub>	CoO <sub>2</sub>	3.75	3.40	3.14	3.74
NaFeO <sub>2</sub>	FeO <sub>2</sub>	3.86	3.91	3.41	4.00
NaVO <sub>2</sub>	VO <sub>2</sub>	2.67	2.54	2.55	2.37
NaNiO <sub>2</sub>	NiO <sub>2</sub>	2.73	3.71	3.79	3.86
NaTiS <sub>2</sub>	TiS <sub>2</sub>	1.86	1.69	1.88	1.92
Na(CuO) <sub>2</sub>	(CuO) <sub>2</sub>	2.77	3.01	2.70	2.76
NaTiF <sub>4</sub>	TiF <sub>4</sub>	2.73	2.18	3.75	3.81
NaVF <sub>4</sub>	VF <sub>4</sub>	4.30	3.63	3.81	3.73
NaFeF <sub>4</sub>	FeF <sub>4</sub>	6.55	4.92	5.00	4.81
NaCrF <sub>4</sub>	CrF <sub>4</sub>	5.73	4.45	4.78	4.92
NaMnF <sub>4</sub>	MnF <sub>4</sub>	5.84	5.10	5.70	5.61
NaAlSi	AlSi	1.33	1.07	0.37	1.82
NaAlSe <sub>2</sub>	AlSe <sub>2</sub>	2.48	3.26	2.01	2.74
Na <sub>2</sub> Ti <sub>2</sub> Sb <sub>2</sub> O	Ti <sub>2</sub> Sb <sub>2</sub> O	1.17	0.53	-0.08	0.38
NaZnP	ZnP	1.78	1.07	0.80	1.45
Na <sub>2</sub> GeTeO <sub>6</sub>	GeTeO <sub>6</sub>	5.55	4.03	3.53	3.42
NaSbO <sub>3</sub>	SbO <sub>3</sub>	5.57	3.85	3.27	3.42
NaSnP	SnP	0.97	1.46	1.24	2.01
NaBeAs	BeAs	1.44	0.84	0.43	1.07
Na <sub>2</sub> ZrSe <sub>3</sub>	ZrSe <sub>3</sub>	2.88	1.67	1.46	1.95
Na <sub>2</sub> CdSn	CdSn	0.77	1.29	0.80	1.46
Na <sub>3</sub> Co <sub>2</sub> SbO <sub>6</sub>	Co <sub>2</sub> SbO <sub>6</sub>	3.42	3.25	3.30	3.49
Na <sub>2</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	Cu(CO <sub>3</sub> ) <sub>2</sub>	4.39	3.57	3.78	4.09
Na <sub>2</sub> Mn <sub>3</sub> O <sub>7</sub>	Mn <sub>3</sub> O <sub>7</sub>	4.59	4.23	4.13	4.16
Na <sub>2</sub> Ti <sub>3</sub> O <sub>7</sub>	Ti <sub>3</sub> O <sub>7</sub>	4.03	2.57	2.42	2.18
Na <sub>2</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	Na <sub>1.5</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	3.94	3.00	3.35	3.56
Na <sub>1.5</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	Na <sub>1</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	4.03	3.26	3.77	3.98
Na <sub>1</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	Na <sub>0.5</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	4.67	3.85	4.34	4.56
Na <sub>0.5</sub> Cu(CO <sub>3</sub> ) <sub>2</sub>	Cu(CO <sub>3</sub> ) <sub>2</sub>	4.93	4.47	4.85	5.09
Na <sub>3</sub> Co <sub>2</sub> SbO <sub>6</sub>	Na <sub>2</sub> Co <sub>2</sub> SbO <sub>6</sub>	3.06	2.39	2.76	2.67
Na <sub>2</sub> Co <sub>2</sub> SbO <sub>6</sub>	Na <sub>1</sub> Co <sub>2</sub> SbO <sub>6</sub>	3.55	3.25	3.32	3.33
Na <sub>1</sub> Co <sub>2</sub> SbO <sub>6</sub>	Co <sub>2</sub> SbO <sub>6</sub>	3.63	4.03	4.12	4.26

# Proposed electrodes for Na- and K-ion batteries.

We screened the Li-based electrode materials as a possible candidate for Na and K-based electrodes. Here we list the ML-predicted voltages for Na and K-based electrodes with the corresponding DFT voltage for Li-electrodes. DFT voltage for Li-electrodes are taken from the Material Project database.<sup>S3,S4</sup> High-ion concentration and Low-ion concentration are the stoichiometries of the materials at higher and lower intercalation concentration of metal-ion. Crystal lattice type and the space group are also provided. In the stoichiometric formula, A is one of Li, Na, and K.

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A1.5MnCoO4	MnCoO4	triclinic	1	3.42	3.50	3.11
A0.87NbO3	NbO3	triclinic	1	5.15	3.20	2.44
A8Mn7V(PO4)12	Mn7V(PO4)12	triclinic	1	4.71	4.32	3.45
AP3(WO6)2	P3(WO6)2	trigonal	148	2.93	2.65	2.23
A3P3(WO6)2	AP3(WO6)2	trigonal	148	2.20	1.70	1.56
AP3W2O13	P3W2O13	monoclinic	14	3.29	3.28	2.70
AMoPO5	MoPO5	orthorhombic	33	3.15	2.76	2.36
A2TiMn3O8	TiMn3O8	trigonal	166	3.69	3.27	3.09
ACr(PO4)2	Cr(PO4)2	monoclinic	14	5.30	5.14	4.25
ACoSiO4	CoSiO4	monoclinic	7	4.46	4.08	3.60
A1.5CoSiO4	ACoSiO4	monoclinic	7	3.59	3.45	3.39
A1.5CoSiO4	CoSiO4	monoclinic	7	4.17	3.74	3.29
AMnCo3O8	MnCo3O8	trigonal	166	4.11	4.31	4.02
A2MnCo3O8	AMnCo3O8	trigonal	166	3.82	3.68	3.41
A3MnCo3O8	A2MnCo3O8	trigonal	166	3.55	2.99	3.37
ABiP2O7	BiP2O7	monoclinic	15	4.53	4.25	3.48
A10Ti3Mn5O16	A4Ti3Mn5O16	triclinic	1	2.00	1.97	1.84
A5Cr3NiO8	A2Cr3NiO8	cubic	212	2.86	2.39	2.68
A2ACaVP2O9	A2CaVP2O9	orthorhombic	33	1.32	2.09	1.82
ATi(PO3)4	Ti(PO3)4	orthorhombic	60	2.93	3.45	2.93
A6Cr3Co(PO4)6	Cr3Co(PO4)6	trigonal	146	4.44	3.76	2.96
A7Cr3Co(PO4)6	A6Cr3Co(PO4)6	trigonal	146	3.50	2.54	2.27
AMoP4O13	MoP4O13	triclinic	2	5.82	4.70	4.17
A2MoP4O13	AMoP4O13	triclinic	2	3.95	3.77	2.64
AMn2O4	MnO2	orthorhombic	36	3.66	3.62	2.98
A5Mn4O8	AMn2O4	orthorhombic	36	2.21	2.23	2.37
AVCrP2(O4F)2	VCrP2(O4F)2	triclinic	1	4.52	4.19	3.40

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2VCrP2(O4F)2	AVCrP2(O4F)2	triclinic	1	3.83	2.74	2.05
A3VCrP2(O4F)2	A2VCrP2(O4F)2	triclinic	1	1.81	1.90	1.65
A3Mn5Cr2O12	Mn5Cr2O12	monoclinic	5	3.43	3.39	3.05
A4Mn5Cr2O12	A3Mn5Cr2O12	monoclinic	5	3.13	2.59	2.80
A5Mn5Cr2O12	A4Mn5Cr2O12	monoclinic	5	2.63	2.24	2.62
ASiBi3O7	SiBi3O7	hexagonal	173	3.69	3.87	3.69
ASbPO5	SbPO5	triclinic	1	2.84	3.26	2.64
A2V4Si4O13	V4Si4O13	triclinic	2	2.19	2.24	2.01
ACr3(FeO4)2	Cr3(FeO4)2	trigonal	160	4.61	4.59	4.29
A2MnNi(PO4)2	MnNi(PO4)2	monoclinic	11	4.27	3.68	2.92
A8MnNi7O16	A6MnNi7O16	triclinic	2	3.66	3.20	2.94
A3Cr3FeO8	A2Cr3FeO8	trigonal	166	2.89	3.25	3.22
A5Cr3FeO8	A3Cr3FeO8	trigonal	166	1.58	2.15	2.47
ASn(PO3)4	Sn(PO3)4	monoclinic	15	3.21	3.89	3.53
AFe2O2F3	Fe2O2F3	triclinic	1	4.68	4.40	3.84
A2V(PO4)2	AV(PO4)2	triclinic	2	4.18	2.91	2.09
A3V(PO4)2	A2V(PO4)2	triclinic	2	3.18	1.97	1.58
APWO4	PWO4	orthorhombic	62	-0.19	1.30	1.26
ALa4CoO8	La4CoO8	tetragonal	141	3.69	3.67	3.54
ACo2NiO6	Co2NiO6	monoclinic	12	4.01	4.27	3.94
A3Co2NiO6	ACo2NiO6	monoclinic	12	3.69	3.29	3.15
A2TiNiO4	ATiNiO4	orthorhombic	74	3.66	2.39	2.16
A8NbO6	A7NbO6	triclinic	2	0.13	1.28	1.19
ASn(PO3)3	Sn(PO3)3	triclinic	2	4.13	3.45	3.16
A4Mn5V(PO4)6	Mn5V(PO4)6	triclinic	1	3.34	3.21	2.59
AMoP2O7	MoP2O7	monoclinic	4	3.32	3.14	2.58
A2CuSb(PO4)2	CuSb(PO4)2	monoclinic	11	3.10	3.03	2.46
ASn(PO3)3	Sn(PO3)3	orthorhombic	19	4.39	3.46	3.10
AP4WO12	P4WO12	monoclinic	4	3.07	3.52	2.87
A5AFe2P2(CO7)2	A5Fe2P2(CO7)2	triclinic	2	2.90	2.78	2.64
A2Cu(PO3)4	ACu(PO3)4	monoclinic	15	4.67	4.32	3.16
A4Cr(PO4)2	A3Cr(PO4)2	monoclinic	14	2.74	1.94	1.70
ATi(SiO3)2	Ti(SiO3)2	monoclinic	15	1.58	2.13	1.96
A0.83FeBO3	A0.67FeBO3	hexagonal	174	10.92	5.11	4.91
AFeBO3	A0.83FeBO3	hexagonal	174	3.82	4.93	4.76
A5Cr2Fe3O10	A4Cr2Fe3O10	triclinic	2	3.50	2.59	2.60
A4Ti(TeO4)3	A2Ti(TeO4)3	monoclinic	3	3.49	2.96	2.58
AVF5	VF5	monoclinic	14	4.56	4.45	3.48
ASn(PO3)4	Sn(PO3)4	monoclinic	9	2.95	3.89	3.53
A3La14(CuO7)4	La7(CuO7)2	monoclinic	12	3.54	3.22	3.07

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A6Fe9CoO20	A4Fe9CoO20	monoclinic	10	4.77	4.34	4.04
A10Fe9CoO20	A6Fe9CoO20	monoclinic	10	4.05	3.42	3.30
ATiPO4	TiPO4	orthorhombic	62	0.85	1.42	1.35
AMn(PO3)3	Mn(PO3)3	triclinic	2	5.01	4.28	3.49
A2CoP2O7	ACoP2O7	monoclinic	15	4.65	3.29	2.65
ASn(PO3)3	Sn(PO3)3	hexagonal	188	3.40	3.54	3.38
A8BiO6	A7BiO6	trigonal	148	1.78	1.84	1.55
ACuS2	CuS2	orthorhombic	58	1.78	2.03	2.04
A1.25FeO2	A0.5FeO2	monoclinic	9	2.97	3.07	2.92
A2FeO3	AFeO3	monoclinic	5	4.12	3.82	3.97
A4Cr2Fe5O12	A3Cr2Fe5O12	monoclinic	5	4.36	3.52	3.35
A5Cr2Fe5O12	A4Cr2Fe5O12	monoclinic	5	-0.42	2.96	3.00
A4Fe3CoO8	A2Fe3CoO8	monoclinic	12	3.80	3.45	3.32
ANi2P3O10	Ni2P3O10	monoclinic	11	5.15	4.67	4.11
A2V(PO4)2	AV(PO4)2	monoclinic	14	4.65	2.99	2.10
A3V(PO4)2	A2V(PO4)2	monoclinic	14	3.30	2.09	1.60
A0.5FeBO3	A0.25FeBO3	triclinic	1	3.05	3.27	2.91
A0.625FeBO3	A0.5FeBO3	triclinic	1	2.83	3.16	2.63
A0.67MnCoO4	MnCoO4	monoclinic	10	4.07	4.01	3.74
A1.33MnCoO4	A0.67MnCoO4	monoclinic	10	3.36	3.29	3.16
A2MnCoO4	A1.33MnCoO4	monoclinic	10	2.73	2.68	3.04
ACoP2O7	CoP2O7	triclinic	2	4.82	4.74	3.83
A2CoP2O7	ACoP2O7	triclinic	2	4.14	2.85	2.18
A2GaSb	GaSb	cubic	225	0.64	0.79	0.72
A3A5Mn5O9	A4A3Mn5O9	triclinic	1	1.58	1.48	1.49
A3A6Mn5O9	A3A5Mn5O9	triclinic	1	0.70	1.40	1.40
A8Mn3V(PO4)6	Mn3V(PO4)6	triclinic	1	4.05	3.62	2.88
ACr(PO3)5	Cr(PO3)5	monoclinic	14	5.84	5.41	4.80
A4TiMn5O12	TiMn5O12	monoclinic	12	3.13	3.28	3.00
AVF5	VF5	orthorhombic	64	4.28	4.43	3.43
A4CrTe(WO6)2	CrTe(WO6)2	triclinic	1	3.76	3.62	2.79
A6Co3Sb(PO4)6	ACo3Sb(PO4)6	triclinic	1	4.26	3.70	2.72
ASi6BiO14	Si6BiO14	orthorhombic	72	4.22	4.23	3.96
A4Ti3Nb2V3O16	Ti3Nb2V3O16	monoclinic	8	2.47	1.95	1.67
ABi	Bi	tetragonal	123	0.80	1.15	1.10
SrLa3MnO8	SrLa3MnO8	orthorhombic	63	4.51	3.51	3.38
ALa20Cu9O40	La20Cu9O40	triclinic	2	3.24	3.08	3.05
A2.25K2MnO4	A1.5K2MnO4	triclinic	1	2.17	2.16	2.18
K2A3MnO4	A2.25K2MnO4	triclinic	1	2.01	1.51	1.54
K4A7Mn2O8	K2A3MnO4	triclinic	1	0.63	1.33	1.34



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3Co3SbO8	Co3SbO8	triclinic	2	3.57	3.48	3.09
A2V(OF)2	AV(OF)2	monoclinic	11	3.20	2.53	2.24
ALa4MnO8	La4MnO8	orthorhombic	65	3.51	3.31	3.13
A0.5V(CO3)2	V(CO3)2	monoclinic	15	3.63	3.38	2.93
AV(CO3)2	A0.5V(CO3)2	monoclinic	15	3.55	2.59	2.20
AMnH4(SO5)2	MnH4(SO5)2	monoclinic	14	4.39	4.61	4.05
A2MnH4(SO5)2	AMnH4(SO5)2	monoclinic	14	4.28	3.49	2.79
AMoO2	MoO2	trigonal	166	2.45	2.63	2.63
ACu5P3O13	Cu5P3O13	triclinic	2	3.58	3.81	3.63
A5SbS4	A3SbS4	orthorhombic	59	1.53	1.65	1.42
A2CoGeO4	ACoGeO4	monoclinic	7	3.73	3.46	3.65
A6Ni5(P2O7)4	Ni5(P2O7)4	triclinic	2	4.91	4.29	3.17
A1.5V(CO3)2	AV(CO3)2	triclinic	1	2.93	2.27	2.08
A2V(CO3)2	A1.5V(CO3)2	triclinic	1	2.37	2.08	2.01
AFePHO5	FePHO5	triclinic	2	5.01	3.92	2.89
A2FePHO5	AFePHO5	triclinic	2	2.25	1.98	1.84
A4Mn5O9F	Mn5O9F	triclinic	1	3.37	3.15	2.91
A5Mn5O9F	A4Mn5O9F	triclinic	1	2.68	2.09	2.39
A3CuF5	A2CuF5	monoclinic	15	4.14	3.56	3.19
A9Sn3P8O29	A6Sn3P8O29	trigonal	165	1.89	2.66	2.80
ACuPO4	CuPO4	monoclinic	14	4.10	3.90	3.10
ASn6P7O24	Sn6P7O24	monoclinic	11	3.87	3.60	3.54
A1.5VSiO5	AVSiO5	orthorhombic	26	3.50	2.68	2.12
A2VSiO5	A1.5VSiO5	orthorhombic	26	3.25	2.36	1.99
ACu4(PO4)3	Cu4(PO4)3	monoclinic	15	3.99	4.01	3.74
A2.75Ti3NiO8	A2Ti3NiO8	trigonal	155	0.94	1.67	1.75
A3V4CuO12	AV4CuO12	monoclinic	5	3.77	3.05	2.39
A5Mn3O5F3	A3Mn3O5F3	triclinic	1	2.68	2.26	2.40
A3Bi(BO3)2	A2Bi(BO3)2	monoclinic	14	3.92	2.25	1.85
A4V2Cr3Sb3O16	V2Cr3Sb3O16	triclinic	1	2.77	2.75	2.30
A3Cr2(PO4)3	ACr2(PO4)3	monoclinic	12	4.53	3.23	2.46
ALa6Mn3O14	La6Mn3O14	monoclinic	7	3.26	3.36	3.28
A2Ni(CO3)2	ANi(CO3)2	monoclinic	14	4.71	3.32	2.99
A3MnFeCo(PO4)3	MnFeCo(PO4)3	monoclinic	6	3.81	3.32	2.70
ACr2P3O10	Cr2P3O10	monoclinic	11	3.19	3.29	2.77
A2FeF4	AFeF4	monoclinic	14	2.86	2.67	2.43
A2CuP2O7	ACuP2O7	monoclinic	14	4.60	3.47	2.69
A7Fe3Ni(PO4)6	A6Fe3Ni(PO4)6	trigonal	146	4.42	2.80	2.48
A2V(CO3)2	A0.5V(CO3)2	monoclinic	9	2.50	2.28	2.14
A5AMn2P2(CO7)2	A5Mn2P2(CO7)2	triclinic	1	3.42	2.99	2.84

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2NiP2O7	NiP2O7	monoclinic	4	4.98	4.57	3.47
AFe(SiO3)2	Fe(SiO3)2	monoclinic	15	4.95	4.32	3.83
AV2OF5	V2OF5	monoclinic	7	3.37	2.94	2.40
AV2OF5	V2OF5	triclinic	1	3.44	2.80	2.38
A5Ti2Ni5O12	A4Ti2Ni5O12	monoclinic	5	3.91	2.80	2.75
A1.5FeCoO4	AFeCoO4	triclinic	2	2.24	3.44	3.33
A2VF5	AVF5	monoclinic	14	3.72	2.73	1.84
A3VF5	A2VF5	monoclinic	14	2.01	1.62	1.41
A2SiNiO4	A1.5SiNiO4	orthorhombic	31	4.60	3.64	2.87
A6Co3Ni5O16	A4Co3Ni5O16	monoclinic	8	2.82	3.56	3.22
A2Co3NiO8	Co3NiO8	hexagonal	186	4.44	3.97	3.68
A3Co3NiO8	A2Co3NiO8	hexagonal	186	2.68	3.41	3.66
ANiAsO4	NiAsO4	orthorhombic	62	5.00	4.38	3.95
A4Co5SbO12	Co5SbO12	monoclinic	12	3.78	3.71	3.40
ACoSbO4	CoSbO4	orthorhombic	74	4.04	3.45	2.86
A7Fe3Co(PO4)6	A6Fe3Co(PO4)6	trigonal	146	3.55	2.73	2.47
A2CoSiO4	ACoSiO4	orthorhombic	62	3.78	3.14	3.08
A4FeCo3(PO4)4	FeCo3(PO4)4	monoclinic	6	4.09	3.50	2.82
A2Ni(CO3)2	A1.5Ni(CO3)2	triclinic	1	4.62	3.35	2.89
A10Ti2Fe3Ni3O16	A4Ti2Fe3Ni3O16	triclinic	1	2.88	2.46	2.42
A2Mn3SbO8	Mn3SbO8	trigonal	166	3.53	3.44	3.15
A3Mn3SbO8	A2Mn3SbO8	trigonal	166	2.81	2.39	2.70
A4Mn3SbO8	A3Mn3SbO8	trigonal	166	2.48	2.01	2.44
A4Mn3Cr3(SnO8)2	Mn3Cr3(SnO8)2	monoclinic	8	4.11	3.47	3.32
A3Cu(TeO3)4	Cu(TeO3)4	triclinic	1	3.47	3.60	3.19
AVSiO4	A0.5VSiO4	orthorhombic	63	3.39	2.31	1.92
A2Sn(PO3)4	ASn(PO3)4	tetragonal	125	3.91	3.73	3.27
ANi4(PO4)3	Ni4(PO4)3	tetragonal	122	4.54	4.51	4.23
A5Co2Ni3O10	A4Co2Ni3O10	monoclinic	10	3.51	3.18	3.31
ACu4(PO4)3	Cu4(PO4)3	triclinic	2	3.77	3.87	3.59
A3Co4NiO8	Co4NiO8	monoclinic	12	3.51	3.49	3.13
A7FeCo3(PO4)6	A6FeCo3(PO4)6	trigonal	146	2.92	2.84	2.51
A2Ni(CO3)2	ANi(CO3)2	triclinic	1	4.33	3.35	2.97
ACr2(PO4)3	Cr2(PO4)3	trigonal	148	4.97	4.74	4.18
A3Cr2(PO4)3	ACr2(PO4)3	trigonal	148	4.45	3.00	2.42
AV2(OF)3	V2(OF)3	triclinic	1	3.31	3.36	2.60
A2AlVO4	AlVO4	triclinic	2	2.82	2.10	1.79
AMnF4	MnF4	triclinic	1	5.66	5.12	4.25
A2Ni5(PO4)4	Ni5(PO4)4	triclinic	2	4.31	4.06	3.61
ACuPO4	CuPO4	orthorhombic	62	4.04	3.66	2.90

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2CuPO4	CuPO4	orthorhombic	62	3.14	3.03	2.46
A2NiP2O7	ANiP2O7	monoclinic	14	4.70	3.86	2.76
A2Fe2Si3O10	Fe2Si3O10	monoclinic	15	4.72	4.21	3.68
A4Fe2Si3O10	A2Fe2Si3O10	monoclinic	15	2.84	3.32	3.24
A2V3(OF)4	V3(OF)4	monoclinic	6	3.57	2.72	2.44
A2CrP2O7	ACrP2O7	monoclinic	12	4.39	2.53	1.98
A3Mn3(PO4)4	Mn3(PO4)4	monoclinic	4	4.89	4.20	3.50
A2FeSiO4	AFeSiO4	orthorhombic	33	2.92	2.89	2.96
A0.83MnBO3	A0.33MnBO3	triclinic	1	3.41	2.64	1.92
A5V5O9F	A4V5O9F	triclinic	1	1.66	1.60	1.42
AFe5(P2O7)4	Fe5(P2O7)4	triclinic	2	5.23	4.64	4.35
A6Fe5(P2O7)4	AFe5(P2O7)4	triclinic	2	3.27	3.01	2.33
ACoPO4	CoPO4	orthorhombic	62	3.95	3.53	2.85
A2FeP2O7	AFeP2O7	monoclinic	12	4.55	2.87	2.46
AMnP2O7	MnP2O7	monoclinic	4	4.60	4.47	3.73
A2MnP2O7	AMnP2O7	monoclinic	4	3.64	3.01	2.35
AV2OF5	V2OF5	monoclinic	5	2.99	2.93	2.39
ANiPO4	NiPO4	orthorhombic	63	4.71	4.12	3.29
A4MnV3(PO4)4	MnV3(PO4)4	monoclinic	6	2.77	2.24	1.88
A2Fe4OF8	Fe4OF8	monoclinic	9	3.33	3.14	2.65
A6Cr9(PO4)8	Cr9(PO4)8	triclinic	2	3.10	2.66	2.16
AV3OF11	V3OF11	triclinic	1	4.56	4.29	3.75
A3Fe(PO3)8	A2Fe(PO3)8	monoclinic	5	6.03	5.16	3.76
ACrPO4	CrPO4	monoclinic	14	3.33	2.81	2.33
AFeSiO4	A0.5FeSiO4	monoclinic	3	4.24	3.88	3.52
AFe2P3O13	Fe2P3O13	triclinic	2	4.33	5.51	4.95
A3V4O7F5	V4O7F5	triclinic	1	3.42	3.12	2.53
A5Mn9(P2O7)8	Mn9(P2O7)8	triclinic	2	5.05	4.48	3.91
A14Mn9(P2O7)8	A5Mn9(P2O7)8	triclinic	2	3.72	2.92	2.34
A5V6O5F19	V6O5F19	triclinic	1	4.31	3.94	2.99
A4FeP2O9	A3FeP2O9	monoclinic	12	4.62	3.28	2.78
A2VOF4	AVOF4	triclinic	1	4.48	3.11	2.36
A3VOF4	A2VOF4	triclinic	1	2.29	2.17	1.57
A1.25FeP2O7	FeP2O7	monoclinic	14	4.09	4.36	3.41
A2FeP2O7	FeP2O7	monoclinic	14	3.73	3.90	2.97
A2V(CO3)2	AV(CO3)2	monoclinic	14	2.52	2.08	2.08
AMnF4	MnF4	orthorhombic	55	5.85	5.16	4.41
A2MnF4	AMnF4	orthorhombic	55	3.91	3.05	2.32
A3Cr2(PO4)3	ACr2(PO4)3	monoclinic	5	4.86	3.19	2.42
AFe(PO3)3	Fe(PO3)3	triclinic	2	3.95	4.17	3.33

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ACoPO <sub>4</sub>	CoPO <sub>4</sub>	trigonal	146	4.24	3.28	2.77
A <sub>8</sub> MnO <sub>5</sub> F	A <sub>7</sub> MnO <sub>5</sub> F	triclinic	1	2.73	1.71	1.36
A <sub>4</sub> Fe <sub>3</sub> (OF <sub>3</sub> ) <sub>2</sub>	AFe <sub>3</sub> (OF <sub>3</sub> ) <sub>2</sub>	triclinic	2	3.05	2.32	1.96
ACr <sub>4</sub> (PO <sub>4</sub> ) <sub>3</sub>	Cr <sub>4</sub> (PO <sub>4</sub> ) <sub>3</sub>	triclinic	2	2.67	2.92	2.63
A <sub>4</sub> MnCr <sub>2</sub> Fe <sub>3</sub> (PO <sub>4</sub> ) <sub>6</sub>	MnCr <sub>2</sub> Fe <sub>3</sub> (PO <sub>4</sub> ) <sub>6</sub>	triclinic	1	2.93	3.03	2.50
AFe <sub>3</sub> (SiO <sub>4</sub> ) <sub>2</sub>	Fe <sub>3</sub> (SiO <sub>4</sub> ) <sub>2</sub>	triclinic	1	3.04	3.55	3.32
A <sub>2</sub> Fe <sub>3</sub> (SiO <sub>4</sub> ) <sub>2</sub>	AFe <sub>3</sub> (SiO <sub>4</sub> ) <sub>2</sub>	triclinic	1	2.69	3.03	2.94
ACrP <sub>2</sub> O <sub>7</sub>	CrP <sub>2</sub> O <sub>7</sub>	monoclinic	14	4.75	4.22	3.25
A <sub>3</sub> V <sub>4</sub> (OF <sub>3</sub> ) <sub>3</sub>	V <sub>4</sub> (OF <sub>3</sub> ) <sub>3</sub>	triclinic	1	2.74	2.69	2.32
A <sub>3</sub> Mn <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	AMn <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	14	4.37	3.76	3.02
A <sub>5</sub> Mn <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	A <sub>3</sub> Mn <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	14	3.40	2.67	2.18
A <sub>4</sub> Ti <sub>3</sub> Mn <sub>2</sub> Co <sub>3</sub> O <sub>16</sub>	Ti <sub>3</sub> Mn <sub>2</sub> Co <sub>3</sub> O <sub>16</sub>	monoclinic	8	3.92	3.49	3.16
A <sub>2</sub> FeNi(PO <sub>4</sub> ) <sub>2</sub>	FeNi(PO <sub>4</sub> ) <sub>2</sub>	monoclinic	11	4.18	3.64	2.84
AMn <sub>5</sub> O <sub>5</sub> F	Mn <sub>5</sub> O <sub>5</sub> F	trigonal	156	2.23	2.32	2.25
A <sub>1.5</sub> V <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	AV <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	15	4.11	3.09	2.20
A <sub>3</sub> V <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	A <sub>1.5</sub> V <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	15	3.55	2.26	1.76
A <sub>2</sub> SnP <sub>2</sub> O <sub>7</sub>	SnP <sub>2</sub> O <sub>7</sub>	triclinic	2	2.68	2.86	2.84
A <sub>3</sub> MnF <sub>5</sub>	A <sub>2</sub> MnF <sub>5</sub>	triclinic	2	3.51	2.82	2.16
A <sub>2</sub> Mn(PO <sub>3</sub> ) <sub>4</sub>	AMn(PO <sub>3</sub> ) <sub>4</sub>	tetragonal	125	5.43	4.26	3.30
A <sub>3</sub> MnF <sub>6</sub>	A <sub>2</sub> MnF <sub>6</sub>	monoclinic	12	3.86	3.80	2.91
A <sub>3</sub> Mn(PO <sub>4</sub> ) <sub>2</sub>	A <sub>2</sub> Mn(PO <sub>4</sub> ) <sub>2</sub>	monoclinic	11	4.45	3.13	2.39
A <sub>3</sub> Mn <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	Mn <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	monoclinic	5	4.78	4.21	3.50
ACrPO <sub>4</sub>	CrPO <sub>4</sub>	orthorhombic	43	3.02	2.32	1.87
AMn <sub>4</sub> (PO <sub>4</sub> ) <sub>3</sub>	Mn <sub>4</sub> (PO <sub>4</sub> ) <sub>3</sub>	orthorhombic	62	4.47	3.27	2.95
A <sub>2</sub> FeSiO <sub>4</sub>	AFeSiO <sub>4</sub>	orthorhombic	29	2.38	2.88	2.95
AMn <sub>5</sub> (P <sub>2</sub> O <sub>7</sub> ) <sub>4</sub>	Mn <sub>5</sub> (P <sub>2</sub> O <sub>7</sub> ) <sub>4</sub>	triclinic	2	4.52	4.61	4.35
A <sub>6</sub> Mn <sub>5</sub> (P <sub>2</sub> O <sub>7</sub> ) <sub>4</sub>	AMn <sub>5</sub> (P <sub>2</sub> O <sub>7</sub> ) <sub>4</sub>	triclinic	2	3.91	3.26	2.53
AV <sub>6</sub> O <sub>7</sub> F <sub>5</sub>	V <sub>6</sub> O <sub>7</sub> F <sub>5</sub>	triclinic	1	3.41	2.73	2.51
ACoPO <sub>4</sub>	A <sub>0.5</sub> CoPO <sub>4</sub>	tetragonal	82	4.34	3.08	2.51
AVOF <sub>3</sub>	VOF <sub>3</sub>	orthorhombic	33	4.42	3.81	2.95
AVOF <sub>3</sub>	VOF <sub>3</sub>	monoclinic	5	4.42	3.90	2.94
A <sub>4</sub> V <sub>5</sub> (P <sub>3</sub> O <sub>11</sub> ) <sub>2</sub>	V <sub>5</sub> (P <sub>3</sub> O <sub>11</sub> ) <sub>2</sub>	monoclinic	14	2.20	2.04	1.70
AFePO <sub>4</sub>	FePO <sub>4</sub>	triclinic	2	3.69	2.83	2.33
A <sub>0.5</sub> MnPO <sub>4</sub>	MnPO <sub>4</sub>	monoclinic	14	4.40	3.87	3.30
AMnPO <sub>4</sub>	A <sub>0.5</sub> MnPO <sub>4</sub>	monoclinic	14	4.26	2.74	2.32
AFePO <sub>4</sub>	FePO <sub>4</sub>	orthorhombic	33	3.07	2.81	2.24
AFePO <sub>4</sub>	FePO <sub>4</sub>	tetragonal	82	3.13	3.02	2.49
A <sub>2</sub> VP <sub>4</sub> O <sub>13</sub>	AVP <sub>4</sub> O <sub>13</sub>	triclinic	2	4.39	3.81	2.56
A <sub>3</sub> Fe <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	Fe <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	monoclinic	14	4.82	4.25	3.45
AV <sub>4</sub> OF <sub>11</sub>	V <sub>4</sub> OF <sub>11</sub>	triclinic	1	2.94	3.00	2.66

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A11V6O5F19	A5V6O5F19	triclinic	1	3.29	2.37	1.77
ACoPO4	CoPO4	monoclinic	14	4.04	3.68	2.94
A2MnP2O7	MnP2O7	triclinic	2	3.59	3.81	2.95
AMnPO4	MnPO4	monoclinic	9	4.26	3.35	2.74
AMnPO5	A0.5MnPO5	triclinic	2	4.56	3.96	3.06
A3FeOF3	A2FeOF3	triclinic	2	2.59	2.16	1.99
A5FeOF5	A4FeOF5	monoclinic	9	2.67	2.44	1.90
A8VCo3(PO4)6	AVCo3(PO4)6	trigonal	146	4.09	3.28	2.68
AVFe(P2O7)2	VFe(P2O7)2	triclinic	1	4.45	4.37	3.79
A6Cr3Fe(PO4)6	Cr3Fe(PO4)6	trigonal	146	4.41	3.63	2.87
A7Cr3Fe(PO4)6	A6Cr3Fe(PO4)6	trigonal	146	2.49	2.47	2.24
ASn2P3O10	Sn2P3O10	monoclinic	14	4.14	3.40	3.27
AMn(PO3)4	Mn(PO3)4	monoclinic	12	5.44	4.97	4.36
A9Cr3P8O29	A6Cr3P8O29	trigonal	165	4.77	2.91	2.25
ACoPO4	CoPO4	monoclinic	7	4.20	3.64	2.91
A2Fe2Si2O7	AFe2Si2O7	monoclinic	14	2.60	3.27	3.25
A3MnF6	A2MnF6	trigonal	164	4.18	4.06	3.06
A4MnF6	A3MnF6	trigonal	164	3.95	3.05	2.19
A3V3(PO4)4	V3(PO4)4	monoclinic	14	3.38	2.97	2.22
A3V3(PO4)4	V3(PO4)4	triclinic	1	4.34	2.92	2.20
ANiPO4	NiPO4	monoclinic	14	4.92	4.15	3.28
AV3OF11	V3OF11	monoclinic	7	3.85	4.13	3.67
A3Fe(PO4)2	A2Fe(PO4)2	monoclinic	14	4.34	2.98	2.69
A4Fe(PO4)2	A3Fe(PO4)2	monoclinic	14	3.49	2.44	2.31
AV4O5F7	V4O5F7	triclinic	1	3.36	3.80	3.27
A2Fe(Si2O5)3	AFe(Si2O5)3	orthorhombic	64	4.80	4.63	4.03
A3Fe(Si2O5)3	A2Fe(Si2O5)3	orthorhombic	64	4.37	4.35	3.63
A2SnP2O7	ASnP2O7	triclinic	2	3.45	2.57	2.58
A2MnPCO7	AMnPCO7	monoclinic	11	4.05	3.46	2.96
A3MnPCO7	A2MnPCO7	monoclinic	11	3.32	2.80	2.66
AVCrP2(HO5)2	VCrP2(HO5)2	triclinic	1	4.70	3.94	3.16
A2VCrP2(HO5)2	AVCrP2(HO5)2	triclinic	1	3.55	2.47	2.05
A3VCrP2(HO5)2	A2VCrP2(HO5)2	triclinic	1	1.33	1.83	1.74
AV2OF5	V2OF5	trigonal	143	3.43	2.89	2.51
AFe(PO3)4	Fe(PO3)4	orthorhombic	62	5.47	5.08	4.47
A2Fe(PO3)4	AFe(PO3)4	orthorhombic	62	3.90	3.98	2.94
A2V(CO3)2	AV(CO3)2	monoclinic	4	2.32	2.05	2.04
A2Co2(CO3)3	ACo2(CO3)3	triclinic	1	3.81	3.23	2.86
A0.5Co(CO3)2	A0.25Co(CO3)2	monoclinic	14	4.70	4.72	4.24
A2Co(CO3)2	A0.5Co(CO3)2	monoclinic	14	3.99	3.38	3.14

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2CoCO4	ACoCO4	monoclinic	14	3.39	2.86	3.26
A5CuF6	A3CuF6	monoclinic	12	3.49	3.05	2.62
A6CuF8	A5CuF6	cubic	225	4.21	3.03	2.38
A3Mn5OF11	Mn5OF11	triclinic	1	3.83	3.29	2.60
A2CuPO4	ACuPO4	monoclinic	14	3.03	2.32	2.32
A2Sn3(P2O7)2	Sn3(P2O7)2	monoclinic	14	2.27	3.31	3.25
ASn4(PO4)3	Sn4(PO4)3	hexagonal	173	3.76	3.66	3.68
A3FeF6	A2FeF6	trigonal	163	6.14	4.18	3.32
AFe3(OF3)2	Fe3(OF3)2	monoclinic	14	5.37	4.95	4.41
A4Mn(PO4)2	A3Mn(PO4)2	monoclinic	14	4.12	2.46	2.04
A4CrP2O9	A3CrP2O9	monoclinic	12	4.49	2.75	2.16
AFeSiO4	FeSiO4	trigonal	152	4.72	3.98	3.62
A2FeSiO4	AFeSiO4	trigonal	152	2.48	3.07	3.33
A0.75MnBO3	A0.25MnBO3	triclinic	1	3.41	2.85	2.11
A2MnBO4	AMnBO4	orthorhombic	62	2.66	2.26	1.91
ACoPO4	CoPO4	hexagonal	169	3.86	3.56	3.46
A2VO2F	A1.5VO2F	trigonal	164	2.92	1.77	1.58
A3VO3F	A2VO2F	triclinic	2	2.91	1.77	1.45
AFePO4	FePO4	orthorhombic	63	3.31	2.95	2.39
AFePO4	FePO4	monoclinic	7	3.20	3.13	2.62
ACr4P7O24	Cr4P7O24	triclinic	2	3.74	4.29	3.97
A3Cr4P9O32	Cr4P9O32	tetragonal	114	5.12	5.10	4.49
A7Cr4P9O32	A3Cr4P9O32	tetragonal	114	4.58	3.69	2.85
A5Fe7O3F13	Fe7O3F13	triclinic	1	3.44	2.83	2.23
A2CrP2O7	ACrP2O7	monoclinic	14	3.46	2.54	1.99
A2Mn3(P2O7)2	Mn3(P2O7)2	monoclinic	14	4.03	3.66	3.03
A2Mn3(PO4)4	AMn3(P2O7)2	monoclinic	6	4.70	3.74	3.03
A3Mn3(PO4)4	A2Mn3(PO4)4	monoclinic	6	4.57	3.57	2.87
A5Mn3(PO4)4	A3Mn3(PO4)4	monoclinic	6	3.99	2.86	2.36
AFe3(P3O10)2	Fe3(P3O10)2	orthorhombic	20	4.44	4.60	4.21
A6Fe9(PO4)8	Fe9(PO4)8	triclinic	2	3.50	2.80	2.34
AFeP2O7	FeP2O7	triclinic	2	5.40	4.44	3.42
AV6O7F5	V6O7F5	monoclinic	3	2.03	2.53	2.36
AFeP2O7	FeP2O7	monoclinic	14	4.91	4.57	3.68
A2FeP2O7	AFeP2O7	monoclinic	14	3.09	2.88	2.47
AVOF3	VOF3	monoclinic	7	4.22	3.90	2.95
A2VOF3	AVOF3	monoclinic	7	3.07	2.17	1.68
AMnPO4	MnPO4	triclinic	2	4.04	3.17	2.65
A0.33MnPO4	MnPO4	monoclinic	15	4.03	4.04	3.66
A0.5MnPO4	A0.33MnPO4	monoclinic	15	3.38	3.49	2.87

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A0.67MnPO4	A0.5MnPO4	monoclinic	15	3.13	3.11	2.59
AMnBO3	A0.5MnBO3	monoclinic	9	3.44	2.49	1.88
A2MnV2(PO4)3	MnV2(PO4)3	monoclinic	5	2.39	2.55	2.11
A7FeO5F	A6FeO5F	triclinic	1	3.13	2.71	1.99
A8FeO5F	A7FeO5F	triclinic	1	3.01	2.05	1.46
AMn2P3O10	Mn2P3O10	monoclinic	11	4.38	3.81	3.26
A4V4(OF3)3	A3V4(OF3)3	triclinic	1	2.04	1.87	1.57
A4Mn2VNi3(PO4)6	Mn2VNi3(PO4)6	triclinic	1	4.00	3.60	2.82
A0.67MnBO3	A0.33MnBO3	triclinic	1	3.39	2.91	2.16
AFe2(PO4)3	Fe2(PO4)3	orthorhombic	60	5.14	5.10	4.51
A2Fe2(PO4)3	AFe2(PO4)3	orthorhombic	60	5.03	4.17	3.14
A3Fe2(PO4)3	A2Fe2(PO4)3	orthorhombic	60	4.56	3.26	2.63
A4Fe2(PO4)3	A3Fe2(PO4)3	orthorhombic	60	2.22	2.77	2.33
AV4OF11	V4OF11	monoclinic	5	2.99	3.01	2.65
AMnP2O7	MnP2O7	triclinic	1	4.83	4.43	3.57
A2MnP2O7	AMnP2O7	triclinic	1	3.69	2.67	2.19
A2MnP2O7	AMnP2O7	monoclinic	14	4.09	3.06	2.41
AVP2O7	VP2O7	monoclinic	15	3.92	3.40	2.43
AVPO5	VPO5	monoclinic	14	4.00	3.43	2.59
A3FePO5	A2FePO5	orthorhombic	33	2.74	2.16	2.03
AFe5P3O13	Fe5P3O13	triclinic	2	2.80	3.06	2.77
A5VO4F	A4VO4F	monoclinic	4	1.27	1.64	1.47
A6VO4F	A5VO4F	monoclinic	4	0.47	1.33	1.27
AMnPO4	MnPO4	orthorhombic	43	3.76	3.23	2.59
AMnPO4	MnPO4	monoclinic	7	4.11	3.34	2.73
AVP2O7	VP2O7	monoclinic	5	3.87	3.34	2.37
AVP2O7	VP2O7	monoclinic	14	3.60	3.39	2.42
AVPO5	VPO5	orthorhombic	33	3.66	3.26	2.45
A2MnFe(PO4)2	MnFe(PO4)2	orthorhombic	26	3.62	2.91	2.36
A3MnV3O8	A2MnV3O8	trigonal	166	2.31	2.33	2.34
A2V2F7	AV2F7	orthorhombic	33	2.36	1.83	1.51
A4MnFe3(PO4)4	MnFe3(PO4)4	monoclinic	7	3.51	3.12	2.62
A2CrNi(PO4)2	CrNi(PO4)2	monoclinic	11	3.68	3.37	2.64
A4Cr3Co5O16	Cr3Co5O16	triclinic	1	3.78	3.88	3.43
AMnAlO3	MnAlO3	triclinic	2	2.52	3.13	3.00
A0.5CoO2	CoO2	trigonal	164	3.24	3.98	3.58
A2CoO2	A0.5CoO2	trigonal	164	2.59	2.21	2.32
A0.67KNb2PO8	KNb2PO8	trigonal	146	1.99	1.68	1.62
A4Mn5Co(PO4)6	Mn5Co(PO4)6	triclinic	1	3.76	3.53	2.86
A8WO6	A6WO6	trigonal	148	1.17	1.32	1.27

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3MnV4O12	MnV4O12	monoclinic	5	3.60	3.20	2.57
AVF3	VF3	trigonal	161	2.37	2.04	1.73
A0.5VF3	VF3	orthorhombic	62	2.62	2.35	1.87
AVF3	A0.5VF3	orthorhombic	62	1.96	1.52	1.38
A1.75Ca2Nb3O10	A1Ca2Nb3O10	triclinic	1	1.98	2.26	2.13
Ba4AY2Cu5O14	Ba4Y2Cu5O14	monoclinic	8	3.64	3.28	3.28
A1VPO4F	VPO4F	triclinic	1	3.79	3.02	2.26
A2VPO4F	A1VPO4F	triclinic	1	1.83	1.60	1.49
A4Mn5Te3O16	Mn5Te3O16	triclinic	1	3.20	3.36	3.03
A0.5NiO2	NiO2	cubic	212	4.38	4.13	3.65
A1NiO2	A0.5NiO2	cubic	212	3.32	2.93	2.87
A1.25NiO2	A1NiO2	cubic	212	1.45	2.42	2.99
K2AMnPCO7	K2MnPCO7	monoclinic	11	2.62	2.79	2.76
A2Mn3FeO8	Mn3FeO8	triclinic	1	3.91	3.78	3.24
A3Mn3FeO8	A2Mn3FeO8	triclinic	1	1.37	2.80	2.94
AV2O5	V2O5	orthorhombic	62	3.05	3.08	2.42
AMgSnAu	MgSnAu	cubic	216	0.30	0.76	0.74
AFe(GeO3)2	Fe(GeO3)2	monoclinic	14	5.16	4.74	4.46
AMn(CO3)2	Mn(CO3)2	trigonal	148	4.24	4.11	3.80
A2Co(PO3)4	ACo(PO3)4	triclinic	2	5.64	4.03	2.75
A2A2V3P2O13	A2V3P2O13	monoclinic	14	2.66	2.53	2.24
A3Co(PO4)2	A2Co(PO4)2	monoclinic	14	4.87	3.28	2.77
A4Co(PO4)2	A3Co(PO4)2	monoclinic	14	4.33	2.58	2.34
ALa4Ti3O12	La4Ti3O12	triclinic	2	2.30	1.91	1.81
AMo(PO4)2	Mo(PO4)2	orthorhombic	19	4.06	3.71	3.00
ASb(PO3)4	Sb(PO3)4	monoclinic	14	5.00	4.45	3.85
AMo(PO4)2	Mo(PO4)2	monoclinic	14	4.05	3.91	3.17
A2Mo(PO4)2	AMo(PO4)2	monoclinic	4	3.57	2.85	2.39
ACr3O8	Cr3O8	orthorhombic	58	4.73	4.46	4.05
A4NbFe3O8	A3NbFe3O8	monoclinic	12	2.75	2.31	2.60
AVF4	VF4	monoclinic	14	4.33	3.63	2.62
A10V5Cr3O16	A4V5Cr3O16	monoclinic	8	1.55	1.79	1.58
A4Al3Cr3(SbO8)2	Al3Cr3(SbO8)2	monoclinic	8	4.50	3.76	3.40
A3CoO3	A2.5CoO3	triclinic	1	3.25	2.34	2.35
A3.5CoO3	A3CoO3	triclinic	1	1.21	1.83	1.75
A3V5O12	V5O12	monoclinic	5	3.44	2.99	2.34
A5V5O12	A3V5O12	monoclinic	5	2.79	2.19	2.14
A6V5O12	A5V5O12	monoclinic	5	2.61	1.90	1.76
A7V5O12	A6V5O12	monoclinic	5	2.51	1.70	1.55
A10Ti3Co3(NiO8)2	A4Ti3Co3(NiO8)2	triclinic	1	2.59	2.26	2.23



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
AMo(PO <sub>3</sub> ) <sub>4</sub>	Mo(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	14	4.16	4.10	3.43
A4CrNi <sub>5</sub> (PO <sub>4</sub> ) <sub>6</sub>	CrNi <sub>5</sub> (PO <sub>4</sub> ) <sub>6</sub>	triclinic	1	4.30	4.04	3.31
A <sub>5</sub> Mn <sub>7</sub> Fe <sub>3</sub> O <sub>20</sub>	Mn <sub>7</sub> Fe <sub>3</sub> O <sub>20</sub>	triclinic	1	4.31	3.80	3.27
ABa <sub>4</sub> Bi <sub>3</sub> O <sub>11</sub>	Ba <sub>4</sub> Bi <sub>3</sub> O <sub>11</sub>	orthorhombic	38	2.96	2.75	2.65
A <sub>4</sub> Mn <sub>2</sub> Co <sub>3</sub> Te <sub>3</sub> O <sub>16</sub>	Mn <sub>2</sub> Co <sub>3</sub> Te <sub>3</sub> O <sub>16</sub>	triclinic	1	3.50	3.46	3.14
A <sub>1.15</sub> MnAs	AMnAs	tetragonal	99	-0.62	0.50	0.60
A <sub>4</sub> TiMn <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	TiMn <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	monoclinic	6	2.61	2.61	2.22
A <sub>2</sub> Mo(PO <sub>3</sub> ) <sub>5</sub>	Mo(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	11	4.89	4.31	3.32
A <sub>0.5</sub> CoO <sub>2</sub>	CoO <sub>2</sub>	triclinic	1	4.46	3.93	3.47
A <sub>1</sub> CoO <sub>2</sub>	A <sub>0.5</sub> CoO <sub>2</sub>	triclinic	1	2.81	2.82	2.98
A <sub>1.25</sub> CoO <sub>2</sub>	A <sub>1</sub> CoO <sub>2</sub>	triclinic	1	1.27	2.27	2.67
AMnVO <sub>4</sub>	MnVO <sub>4</sub>	orthorhombic	63	3.57	2.87	2.53
A <sub>0.5</sub> CoO <sub>2</sub>	CoO <sub>2</sub>	hexagonal	186	3.98	3.97	3.75
A <sub>1.25</sub> CoO <sub>2</sub>	A <sub>0.5</sub> CoO <sub>2</sub>	hexagonal	186	2.56	3.04	3.57
A <sub>8</sub> Ni(O <sub>2</sub> F) <sub>2</sub>	A <sub>7</sub> Ni(O <sub>2</sub> F) <sub>2</sub>	triclinic	2	2.42	1.87	1.38
A <sub>5</sub> V <sub>3</sub> Cr <sub>2</sub> O <sub>10</sub>	A <sub>3</sub> V <sub>3</sub> Cr <sub>2</sub> O <sub>10</sub>	triclinic	2	2.72	1.97	1.69
ACr <sub>3</sub> Ni(SO <sub>4</sub> ) <sub>6</sub>	Cr <sub>3</sub> Ni(SO <sub>4</sub> ) <sub>6</sub>	triclinic	1	4.84	4.04	3.75
A <sub>2</sub> Cr <sub>3</sub> Ni(SO <sub>4</sub> ) <sub>6</sub>	A <sub>1</sub> Cr <sub>3</sub> Ni(SO <sub>4</sub> ) <sub>6</sub>	triclinic	1	2.63	3.56	2.98
A <sub>2</sub> Cr(CoO <sub>3</sub> ) <sub>2</sub>	Cr(CoO <sub>3</sub> ) <sub>2</sub>	orthorhombic	64	3.82	3.48	3.10
AMg(Fe <sub>5</sub> O <sub>8</sub> ) <sub>2</sub>	Mg(Fe <sub>5</sub> O <sub>8</sub> ) <sub>2</sub>	trigonal	160	2.32	5.46	5.29
A <sub>3</sub> Mn <sub>5</sub> FeO <sub>12</sub>	Mn <sub>5</sub> FeO <sub>12</sub>	monoclinic	15	4.21	3.75	3.26
ANiBO <sub>3</sub>	A <sub>0.67</sub> NiBO <sub>3</sub>	hexagonal	174	4.71	4.50	4.08
AMo(PO <sub>3</sub> ) <sub>4</sub>	Mo(PO <sub>3</sub> ) <sub>4</sub>	orthorhombic	60	4.44	3.91	3.30
AV <sub>5</sub> F <sub>11</sub>	V <sub>5</sub> F <sub>11</sub>	monoclinic	14	2.36	1.64	1.53
A <sub>3</sub> Cr <sub>3</sub> CoO <sub>8</sub>	A <sub>2</sub> Cr <sub>3</sub> CoO <sub>8</sub>	trigonal	166	4.01	3.18	3.26
A <sub>3</sub> MnFe <sub>3</sub> O <sub>8</sub>	A <sub>2</sub> MnFe <sub>3</sub> O <sub>8</sub>	hexagonal	186	3.55	3.90	4.24
A <sub>4</sub> Fe <sub>3</sub> Co <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	Fe <sub>3</sub> Co <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	monoclinic	8	4.12	4.04	3.73
A <sub>2</sub> MnV <sub>5</sub> O <sub>12</sub>	MnV <sub>5</sub> O <sub>12</sub>	monoclinic	5	2.44	2.86	2.49
A <sub>6</sub> Cr <sub>2</sub> O <sub>7</sub>	A <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	monoclinic	14	2.94	2.53	2.61
AMnVO <sub>4</sub>	MnVO <sub>4</sub>	monoclinic	15	3.21	2.97	2.60
A <sub>2</sub> MnVO <sub>4</sub>	AMnVO <sub>4</sub>	monoclinic	15	2.48	2.15	2.24
A <sub>2</sub> V <sub>2</sub> CrO <sub>6</sub>	A <sub>1</sub> V <sub>2</sub> CrO <sub>6</sub>	monoclinic	12	2.98	2.40	2.30
A <sub>3</sub> V <sub>2</sub> CrO <sub>6</sub>	A <sub>2</sub> V <sub>2</sub> CrO <sub>6</sub>	monoclinic	12	2.66	1.89	1.68
AMn(CO <sub>3</sub> ) <sub>2</sub>	A <sub>0.5</sub> Mn(CO <sub>3</sub> ) <sub>2</sub>	orthorhombic	43	4.43	3.95	3.18
A <sub>2</sub> Mn(CO <sub>3</sub> ) <sub>2</sub>	AMn(CO <sub>3</sub> ) <sub>2</sub>	orthorhombic	43	3.88	3.11	2.69
A <sub>5</sub> Co <sub>2</sub> Cu <sub>3</sub> O <sub>10</sub>	A <sub>3</sub> Co <sub>2</sub> Cu <sub>3</sub> O <sub>10</sub>	triclinic	2	3.59	3.16	3.14
A <sub>2</sub> Mn <sub>3</sub> TeO <sub>8</sub>	Mn <sub>3</sub> TeO <sub>8</sub>	hexagonal	186	3.67	3.41	3.29
A <sub>2</sub> VPO <sub>4</sub> F	AVPO <sub>4</sub> F	orthorhombic	62	2.55	1.64	1.41
A <sub>2</sub> V <sub>2</sub> F <sub>7</sub>	AV <sub>2</sub> F <sub>7</sub>	monoclinic	15	2.33	1.98	1.59
A <sub>4</sub> Ti <sub>3</sub> CrO <sub>8</sub>	A <sub>3</sub> Ti <sub>3</sub> CrO <sub>8</sub>	trigonal	166	1.26	1.34	1.37

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A0.5NiO2	NiO2	trigonal	166	4.07	4.09	3.74
A0.8NiO2	A0.5NiO2	trigonal	166	3.66	3.45	3.08
A0.9NiO2	A0.8NiO2	trigonal	166	3.61	3.33	3.23
ANiO2	A0.9NiO2	trigonal	166	3.20	3.16	3.25
A2NiO2	ANiO2	trigonal	166	2.20	1.97	2.45
A2Cr2CoO6	ACr2CoO6	monoclinic	12	4.00	3.52	3.40
A3Cr2CoO6	A2Cr2CoO6	monoclinic	12	3.13	2.78	2.96
A0.5WO3	WO3	orthorhombic	71	2.23	2.54	1.80
AV3F10	V3F10	monoclinic	7	4.31	3.27	2.70
A3Ti3Fe(PO4)6	Ti3Fe(PO4)6	triclinic	1	4.52	3.40	2.68
A0.4NiO2	NiO2	trigonal	164	4.03	4.27	3.87
ANiO2	A0.4NiO2	trigonal	164	3.52	3.24	3.00
A2NiO2	ANiO2	trigonal	164	2.71	1.96	2.44
A6Fe5NiO12	A4Fe5NiO12	monoclinic	12	4.48	3.34	3.35
A2VPCO7	AVPCO7	monoclinic	11	3.54	2.40	2.09
A3VPCO7	A2VPCO7	monoclinic	11	1.94	1.94	1.94
A2Co3TeO8	Co3TeO8	trigonal	166	3.71	3.73	3.42
A2VF4	VF4	monoclinic	14	3.21	2.86	2.00
A0.5V9O22	V9O22	monoclinic	6	3.66	3.51	3.42
A2.5V9O22	A0.5V9O22	monoclinic	6	3.50	3.16	2.70
A3MnP2HO8	A2MnP2HO8	monoclinic	4	3.16	2.55	1.97
AMo2(PO4)3	Mo2(PO4)3	orthorhombic	57	2.83	2.99	2.67
AMoO2	MoO2	orthorhombic	58	1.65	2.13	2.06
ACrS2	CrS2	trigonal	164	2.38	2.27	2.26
AMn(SiO3)2	Mn(SiO3)2	monoclinic	5	4.09	4.03	3.65
A2Mn(SiO3)2	AMn(SiO3)2	monoclinic	5	2.34	3.28	2.93
ASnPHO5	SnPHO5	triclinic	2	2.36	2.77	2.74
A4Ti2Mn3Cr3O16	Ti2Mn3Cr3O16	triclinic	1	3.99	3.48	3.09
ANi(PO3)3	Ni(PO3)3	orthorhombic	57	5.07	4.95	4.24
A2AFe(Si2O5)3	A2Fe(Si2O5)3	orthorhombic	64	5.51	4.45	4.21
A2TiVO5	ATiVO5	tetragonal	129	3.27	2.32	2.04
AP(WO4)2	P(WO4)2	monoclinic	4	2.30	2.74	2.04
A4Mn2Si3O10	A2Mn2Si3O10	monoclinic	15	3.38	3.19	2.93
ALa2MoO6	La2MoO6	monoclinic	14	2.58	2.91	2.93
ACo2(SO4)3	Co2(SO4)3	orthorhombic	60	4.70	4.52	4.05
A2Co2(SO4)3	ACo2(SO4)3	orthorhombic	60	4.55	3.88	3.30
A5V3CrO8	A2V3CrO8	monoclinic	9	1.50	1.75	1.56
A4Mn2CrNi3(PO4)6	Mn2CrNi3(PO4)6	triclinic	1	4.10	3.73	2.96
A2Mn3SnO8	Mn3SnO8	tetragonal	96	3.85	3.45	3.27
A8TiMn3(PO4)6	TiMn3(PO4)6	triclinic	1	4.12	3.53	2.84

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A9TiMn3(PO4)6	A8TiMn3(PO4)6	triclinic	1	0.72	1.83	1.62
A3V5Cr2O12	A2V5Cr2O12	monoclinic	5	2.45	2.33	2.12
A4V5Cr2O12	A3V5Cr2O12	monoclinic	5	2.15	1.99	1.79
A5V5Cr2O12	A4V5Cr2O12	monoclinic	5	1.63	1.69	1.54
A6NbFe5O12	A4NbFe5O12	monoclinic	8	2.52	2.65	2.82
ACo2P5O16	Co2P5O16	monoclinic	13	5.09	5.17	4.70
A3Co2P5O16	ACo2P5O16	monoclinic	13	4.10	4.03	2.98
A2CrCSO7	ACrCSO7	monoclinic	11	2.42	2.52	2.44
AVF4	VF4	orthorhombic	62	3.97	3.57	2.55
A3Co3(PO4)4	Co3(PO4)4	monoclinic	4	5.55	4.53	3.68
ABi(PO3)4	Bi(PO3)4	orthorhombic	20	4.94	4.69	4.08
A4Mn3Sn3(TeO8)2	Mn3Sn3(TeO8)2	monoclinic	8	3.29	3.29	3.31
A0.67CoO2	A0.5CoO2	hexagonal	186	3.46	3.67	3.93
ACoO2	A0.67CoO2	hexagonal	186	1.93	3.24	3.74
A4Ni3TeO8	A2Ni3TeO8	trigonal	166	3.62	2.75	3.05
A4V3Cr3(TeO8)2	V3Cr3(TeO8)2	triclinic	1	3.18	3.14	2.76
A2MnCO5	A1.5MnCO5	orthorhombic	55	4.81	3.59	3.24
ACr3O8	Cr3O8	monoclinic	12	4.71	4.66	4.36
A3CuSbO5	A2CuSbO5	triclinic	1	3.58	2.45	2.48
ACa9Mn(PO4)7	Ca9Mn(PO4)7	trigonal	161	3.56	3.41	3.30
A4Ti3Mn3(SbO8)2	Ti3Mn3(SbO8)2	monoclinic	8	3.18	2.70	2.39
A1.5V3O8	AV3O8	monoclinic	11	3.19	2.91	2.11
A4V3O8	A1.5V3O8	monoclinic	11	2.82	2.32	2.34
A2Co3(P2O7)2	Co3(P2O7)2	monoclinic	14	4.45	3.95	3.25
A3Fe2NiO6	A2Fe2NiO6	monoclinic	12	5.06	3.27	3.38
AMn2F5	Mn2F5	monoclinic	15	4.35	3.68	3.12
ANb2(PO4)3	Nb2(PO4)3	monoclinic	15	1.48	1.90	1.65
A2Nb2(PO4)3	ANb2(PO4)3	monoclinic	15	1.24	1.52	1.43
A4Mn5CuO12	Mn5CuO12	monoclinic	5	3.40	3.52	3.04
A4V7O12	A3V7O12	monoclinic	5	2.63	1.85	1.58
A5V7O12	A4V7O12	monoclinic	5	1.49	1.59	1.44
A4V3P8O29	A3V3P8O29	trigonal	165	4.73	3.68	2.86
A6V3P8O29	A4V3P8O29	trigonal	165	4.47	3.06	2.36
A8V3P8O29	A6V3P8O29	trigonal	165	4.16	2.54	1.93
A9V3P8O29	A8V3P8O29	trigonal	165	3.13	2.30	1.75
ACu2(SO4)3	Cu2(SO4)3	monoclinic	14	4.64	4.51	4.04
A2Cu2(SO4)3	ACu2(SO4)3	monoclinic	14	4.41	3.84	2.95
A3Cu2(SO4)3	A2Cu2(SO4)3	monoclinic	14	3.52	3.31	2.74
A2Ni2(SO4)3	Ni2(SO4)3	orthorhombic	61	5.27	4.64	3.81
A2A3CoO4	A2A2CoO4	orthorhombic	58	2.77	2.56	1.86

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3Bi2(PO4)3	ABi2(PO4)3	monoclinic	15	4.70	3.53	2.79
AP2WO8	P2WO8	monoclinic	14	3.73	3.44	2.55
A5Mn5(CoO6)2	A3Mn5(CoO6)2	monoclinic	5	2.85	2.44	2.72
A3Mn4CoO8	Mn4CoO8	monoclinic	12	2.98	2.84	2.81
A3Bi2P5O18	ABi2P5O18	triclinic	2	5.36	4.43	3.27
A5Bi2P5O18	A3Bi2P5O18	triclinic	2	4.64	3.34	2.38
AMoP2O7	MoP2O7	monoclinic	15	3.42	3.20	2.64
A3FeSiCO7	A2FeSiCO7	monoclinic	11	4.44	3.55	3.27
ANi(PO3)4	Ni(PO3)4	orthorhombic	62	5.65	5.54	4.95
A2Ni(PO3)4	ANi(PO3)4	orthorhombic	62	5.64	4.59	3.32
A5AFe2P2(CO7)2	A5Fe2P2(CO7)2	monoclinic	7	2.99	3.17	3.06
A0.73VO2	A0.36VO2	triclinic	2	2.79	2.31	2.02
ATi3Nb(CuO4)3	Ti3Nb(CuO4)3	triclinic	1	3.32	3.46	3.21
AP3W2O13	P3W2O13	triclinic	2	3.30	3.47	2.90
A2TiMn3O8	TiMn3O8	monoclinic	9	3.57	3.41	3.06
A3TiMn3O8	A2TiMn3O8	monoclinic	9	2.33	2.47	2.66
A4Mn3Cr5O16	Mn3Cr5O16	triclinic	1	4.10	3.81	3.29
A10Mn3Cr5O16	A4Mn3Cr5O16	triclinic	1	2.12	2.16	2.05
A4Mn3Fe3(TeO8)2	Mn3Fe3(TeO8)2	monoclinic	8	3.54	3.77	3.49
A3Ti(FeO2)4	Ti(FeO2)4	monoclinic	12	2.73	3.28	2.86
A5Fe3O8	A3Fe3O8	triclinic	1	3.84	3.29	3.48
BaACaVP2O9	BaCaVP2O9	monoclinic	14	1.99	2.04	1.92
A2Mn3NbO8	Mn3NbO8	monoclinic	9	3.82	3.10	2.83
A0.5TiS2	TiS2	cubic	227	1.90	1.87	1.80
ATiS2	A0.5TiS2	cubic	227	1.66	1.54	1.48
A2Co3WO8	Co3WO8	monoclinic	9	4.14	3.62	3.22
ASb(PO3)4	Sb(PO3)4	monoclinic	4	4.42	4.40	3.79
ANi(SO4)2	Ni(SO4)2	triclinic	1	5.31	5.24	4.37
AFe3(SnS4)2	Fe3(SnS4)2	orthorhombic	44	2.03	2.12	2.13
A2CrO3	CrO3	orthorhombic	36	3.49	3.32	2.93
A4TiV3O10	ATiV3O10	tetragonal	115	3.07	2.62	2.42
A3Sb(PO4)2	A1Sb(PO4)2	monoclinic	11	3.42	2.88	2.25
AMo2P3O13	Mo2P3O13	monoclinic	4	3.48	3.76	3.28
AVFeO4	VFeO4	orthorhombic	63	3.00	3.05	2.71
A1.5FeCoO4	AFeCoO4	monoclinic	14	2.77	3.76	3.70
A2FeCO4	A1.5FeCoO4	monoclinic	14	2.66	2.95	3.56
A3Mn(CoO2)4	Mn(CoO2)4	monoclinic	12	3.15	3.33	3.08
A2Mn2CoO6	Mn2CoO6	monoclinic	12	3.57	3.57	3.15
A3Mn2CoO6	A2Mn2CoO6	monoclinic	12	2.72	2.53	2.96
A0.5MnF3	MnF3	monoclinic	5	4.57	4.46	3.93

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2Mn3CoO8	Mn3CoO8	trigonal	166	4.08	3.67	3.19
A5Ti3O8	A4Ti3O8	trigonal	166	1.93	1.43	1.40
A0.5MnF3	MnF3	orthorhombic	62	4.61	4.49	3.94
AMnF3	A0.5MnF3	orthorhombic	62	3.76	3.06	2.38
A6Ti3Cr(PO4)6	Ti3Cr(PO4)6	triclinic	1	3.10	2.65	2.10
A0.8NiO2	A0.6NiO2	triclinic	2	3.90	3.52	2.87
ANiO2	A0.8NiO2	triclinic	2	3.75	3.32	2.96
A5Fe5O12	A3Fe5O12	triclinic	1	4.58	3.74	3.68
A6Fe5O12	A5Fe5O12	triclinic	1	4.05	3.42	3.43
A4Mn3Cr3(CoO8)2	Mn3Cr3(CoO8)2	triclinic	1	3.96	3.76	3.27
A10Mn3Cr3(CoO8)2	A4Mn3Cr3(CoO8)2	triclinic	1	2.49	2.24	2.34
AMn2F7	Mn2F7	monoclinic	14	5.46	5.10	4.54
A4Mn3(BO3)4	A3Mn3(BO3)4	monoclinic	7	3.61	2.55	1.94
A5Fe2Cu3O10	A4Fe2Cu3O10	triclinic	2	3.98	3.11	3.39
ABi(PO3)4	Bi(PO3)4	orthorhombic	60	5.65	4.92	4.34
A3V(FeO3)2	A2V(FeO3)2	monoclinic	12	5.20	2.60	2.77
A0.33KNb2O5	KNb2O5	monoclinic	7	1.39	1.40	1.39
A2Co3(SeO3)4	Co3(SeO3)4	monoclinic	14	4.29	4.17	3.85
A4Ti3V5O16	Ti3V5O16	triclinic	1	3.16	2.63	2.17
ANi(SO4)2	Ni(SO4)2	orthorhombic	61	6.48	5.31	4.45
A2Ni(SO4)2	ANi(SO4)2	orthorhombic	61	5.14	4.04	3.13
A3V4FeO12	V4FeO12	monoclinic	5	3.56	3.22	2.72
ANi(PO3)3	Ni(PO3)3	trigonal	146	4.94	4.66	3.96
ACu2(SO4)3	Cu2(SO4)3	trigonal	148	4.48	4.23	3.77
A3Cu2(SO4)3	ACu2(SO4)3	trigonal	148	3.87	3.37	2.96
ACoP2O7	CoP2O7	monoclinic	14	5.47	4.84	4.00
ASb2(PO4)3	Sb2(PO4)3	monoclinic	14	3.57	3.96	3.59
A3Sb2(PO4)3	ASb2(PO4)3	monoclinic	14	3.23	2.85	2.23
A3Mo(PO3)8	A2Mo(PO3)8	monoclinic	5	5.86	4.61	3.27
Cs2AMnO4	Cs2MnO4	orthorhombic	36	3.22	3.11	2.94
AFeH12(SO7)2	FeH12(SO7)2	monoclinic	4	4.11	4.71	4.37
A5Mn(CO3)4	A3Mn(CO3)4	monoclinic	14	4.28	3.23	2.93
A0.5NiS	NiS	trigonal	164	1.89	1.68	1.66
A2MnV4CuO12	MnV4CuO12	monoclinic	5	2.78	3.07	2.70
A2FeH8(SO6)2	A1FeH8(SO6)2	monoclinic	14	3.15	3.61	3.02
A5Mn2Cu3O10	A4Mn2Cu3O10	triclinic	2	3.91	2.77	3.01
A2Mn3SnO8	Mn3SnO8	trigonal	166	3.72	3.16	3.18
AFeMoClO4	FeMoClO4	monoclinic	11	3.35	3.31	3.21
A2Mo(PO4)2	A1Mo(PO4)2	monoclinic	4	3.85	2.85	2.39
A4MgNi3O8	A2MgNi3O8	trigonal	166	3.66	3.20	3.12

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2V3NiO8	V3NiO8	monoclinic	8	2.83	2.89	2.49
A2PWCO7	APWCO7	monoclinic	11	2.14	1.67	1.74
A3PWCO7	A2PWCO7	monoclinic	11	0.41	1.57	1.73
A4CoO3	A3.5CoO3	monoclinic	9	2.57	1.64	1.50
ACo3(P3O10)2	Co3(P3O10)2	orthorhombic	20	4.63	5.05	4.65
A8La4TiNb7O28	A5La4TiNb7O28	monoclinic	8	1.92	1.50	1.49
A10Fe3Co2Ni3O16	A4Fe3Co2Ni3O16	triclinic	1	3.03	2.72	2.84
A8Mn(O2F)2	A7Mn(O2F)2	triclinic	2	1.43	1.50	1.31
ABi(PO3)4	Bi(PO3)4	monoclinic	14	5.24	4.94	4.37
A2Cr3SbO8	Cr3SbO8	hexagonal	186	4.30	3.79	3.71
AMn2F7	Mn2F7	triclinic	2	5.58	5.12	4.45
A2Mn2F7	AMn2F7	triclinic	2	4.46	3.74	3.00
A2VF4	A1VF4	tetragonal	139	2.11	1.99	1.56
A1.25NiO2	A0.5NiO2	monoclinic	9	3.02	3.14	2.99
A6V3Ni(PO4)6	V3Ni(PO4)6	triclinic	1	3.85	3.47	2.54
AV(SiO3)2	V(SiO3)2	monoclinic	15	3.31	2.86	2.44
A2.75U(WO5)2	A2U(WO5)2	monoclinic	3	2.35	2.54	2.37
A3.5Mn5Cr3O16	Mn5Cr3O16	triclinic	1	4.55	3.79	3.29
A2MnSiO4	A1.5MnSiO4	orthorhombic	62	4.19	3.21	2.77
A4Mn5P6WO24	Mn5P6WO24	triclinic	1	3.09	2.95	2.43
AP4WO12	P4WO12	monoclinic	12	3.32	3.57	2.91
A4Mn3Ni(PO4)4	Mn3Ni(PO4)4	monoclinic	6	4.06	3.50	2.80
A2Fe3Co7O20	Fe3Co7O20	monoclinic	10	4.41	4.72	4.43
A6Fe3Co7O20	A2Fe3Co7O20	monoclinic	10	4.09	4.00	3.58
A10Fe3Co7O20	A6Fe3Co7O20	monoclinic	10	3.50	3.20	3.32
A4MnCr3O8	A2MnCr3O8	monoclinic	12	3.31	2.66	2.68
A4Cu(PO4)2	A3Cu(PO4)2	monoclinic	7	4.14	2.63	2.28
A5Cu(PO4)2	A4Cu(PO4)2	monoclinic	7	3.37	2.17	1.94
A0.5Mo3S4	Mo3S4	triclinic	1	1.86	1.88	1.84
A1.75Mo3S4	A0.5Mo3S4	triclinic	1	1.76	1.57	1.51
A2Mo3S4	A1.75Mo3S4	triclinic	1	1.69	1.43	1.36
A5Cr3FeO8	A2Cr3FeO8	triclinic	1	2.46	2.14	1.99
A8FeCo3O8	A4FeCo3O8	triclinic	1	1.76	1.63	1.86
A0.33MnO2	MnO2	monoclinic	12	3.50	3.99	3.52
A0.67MnO2	A0.33MnO2	monoclinic	12	3.17	2.85	2.91
AMnO2	A0.67MnO2	monoclinic	12	3.03	2.29	2.76
A4Mn3V(PO4)4	Mn3V(PO4)4	monoclinic	6	3.48	2.86	2.34
AMoP2O7	MoP2O7	triclinic	2	4.16	3.24	2.68
A4Cr3GaO8	A3Cr3GaO8	triclinic	2	3.85	2.67	2.33
ASbP2O7	SbP2O7	orthorhombic	33	3.02	3.21	2.62

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2Mn2Cr3O12	Mn2Cr3O12	orthorhombic	60	4.05	3.95	3.59
A2Mn2CrO6	Mn2CrO6	orthorhombic	64	3.42	3.18	2.80
ATiO2	TiO2	tetragonal	141	1.43	1.63	1.46
A3Mn4CrO8	Mn4CrO8	monoclinic	12	2.84	2.85	2.70
A2FeO2	A1.6FeO2	orthorhombic	71	2.82	1.64	1.71
A3Cr(PO4)2	A2Cr(PO4)2	monoclinic	15	4.44	2.59	2.04
A3Cr(FeO3)2	A2Cr(FeO3)2	monoclinic	12	4.34	2.96	3.07
ATi2(PO4)3	Ti2(PO4)3	triclinic	1	4.86	3.10	2.49
A3Ti2(PO4)3	ATi2(PO4)3	triclinic	1	1.54	1.77	1.55
ASb2P5O16	Sb2P5O16	monoclinic	7	3.40	3.96	3.60
A2Cr3(NiO6)2	Cr3(NiO6)2	monoclinic	14	4.93	4.32	3.98
A3Cr3(NiO6)2	A2Cr3(NiO6)2	monoclinic	14	2.43	3.74	3.29
A2Cr3TeO8	Cr3TeO8	hexagonal	186	3.55	3.78	3.72
A3Cr(Si2O5)3	A2Cr(Si2O5)3	orthorhombic	64	3.49	3.82	3.19
A2MnCo3O8	MnCo3O8	trigonal	166	3.93	3.87	3.43
A3SbO3	ASbO3	cubic	198	1.84	1.74	1.65
ACr(SiO3)2	Cr(SiO3)2	monoclinic	14	4.46	3.82	3.32
A4Mn3Cr3(SbO8)2	Mn3Cr3(SbO8)2	monoclinic	8	3.94	3.53	3.29
ABiP2O7	BiP2O7	monoclinic	4	4.78	4.21	3.44
ACo(SiO3)2	Co(SiO3)2	monoclinic	15	4.82	4.36	3.99
A4CrCo3(PO4)4	CrCo3(PO4)4	monoclinic	6	3.85	3.31	2.65
AMoP4O13	MoP4O13	orthorhombic	19	5.63	4.56	3.82
A4Ti5Mn3O16	Ti5Mn3O16	monoclinic	8	3.56	2.99	2.58
ABiP2O7	BiP2O7	monoclinic	14	4.55	4.24	3.48
A2CoP2O7	ACoP2O7	monoclinic	14	4.13	3.28	2.64
A4Cu3Sb(PO4)4	Cu3Sb(PO4)4	monoclinic	6	3.65	3.46	2.76
A2TiMn3O8	TiMn3O8	triclinic	1	3.45	3.48	3.08
A3TiMn3O8	A2TiMn3O8	triclinic	1	3.14	2.51	2.60
A4TiMn3O8	A3TiMn3O8	triclinic	1	2.58	2.12	2.24
A2Cr2(SO4)3	Cr2(SO4)3	orthorhombic	60	2.85	2.99	2.56
A2A3FeO4	A2FeO4	orthorhombic	58	3.39	3.20	2.57
A2VCrO4	A1.33VCrO4	monoclinic	10	2.79	1.96	1.80
A3Fe2CuO6	A2Fe2CuO6	monoclinic	12	4.40	3.47	3.62
A3Fe3CuO8	A2Fe3CuO8	trigonal	166	4.11	3.70	3.92
A4Fe3CuO8	A3Fe3CuO8	trigonal	166	3.62	3.31	3.66
A4Sn2P4H3O16	ASn2P4H3O16	triclinic	1	2.55	2.72	2.63
A4Ti3Mn3(TeO8)2	Ti3Mn3(TeO8)2	monoclinic	8	3.24	3.11	2.88
A3TiV3O8	ATiV3O8	monoclinic	12	2.87	2.02	1.80
A4TiV3O8	A3TiV3O8	monoclinic	12	1.80	1.47	1.39
A5AFe6(SiO3)12	A5Fe6(SiO3)12	monoclinic	5	4.86	4.55	4.44

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A1.5VP2HO8	VP2HO8	monoclinic	4	3.91	3.77	2.73
A2V3CoO8	V3CoO8	monoclinic	8	2.74	2.80	2.56
A2Mn5(Si2O7)2	Mn5(Si2O7)2	triclinic	2	3.35	3.37	3.07
ACrPHO5	CrPHO5	triclinic	2	4.66	3.74	2.68
A7Ti11O24	A4Ti11O24	monoclinic	12	2.50	1.48	1.42
ALa4CoO8	La4CoO8	orthorhombic	65	3.66	3.45	3.28
A2V5CuO12	V5CuO12	monoclinic	5	2.60	2.99	2.66
A2VF5	AVF5	orthorhombic	62	3.97	2.79	1.86
A3VF5	A2VF5	orthorhombic	62	2.01	1.65	1.40
A2CrFeO4	A1.33CrFeO4	monoclinic	10	3.89	2.82	2.97
A3MnBAsO7	A2MnBAsO7	monoclinic	11	3.51	2.75	2.22
ASbS2	SbS2	tetragonal	141	3.05	3.10	2.81
AMnH8(SO6)2	MnH8(SO6)2	triclinic	1	4.31	4.73	4.31
A2CoSiO4	A1.5CoSiO4	monoclinic	14	3.99	3.14	3.36
A6MnO4	A5MnO4	tetragonal	137	1.99	1.43	1.38
A14Ni9(P2O7)8	Ni9(P2O7)8	triclinic	2	4.81	4.33	3.12
ACo2C2O7	Co2C2O7	monoclinic	9	4.43	3.74	3.48
A2MnF4	AMnF4	tetragonal	111	3.33	3.13	2.61
ACuPO4	CuPO4	trigonal	146	4.61	3.78	3.05
A2CoSiO4	ACoSiO4	orthorhombic	29	3.15	3.03	2.97
ANiP2O7	NiP2O7	monoclinic	14	5.13	5.17	4.28
ASnPO4	SnPO4	orthorhombic	33	3.14	2.90	2.90
A5V2P5O18	A3V2P5O18	triclinic	2	4.25	2.27	1.71
AFe(PO3)4	Fe(PO3)4	orthorhombic	60	6.05	5.07	4.45
ACrP2O7	CrP2O7	monoclinic	4	4.82	4.17	3.19
A2CrP2O7	ACrP2O7	monoclinic	4	1.98	2.49	1.94
ANiPO4	NiPO4	trigonal	146	4.88	3.91	3.17
A1.5Mn2(PO4)3	AMn2(PO4)3	triclinic	2	5.04	4.27	3.21
AMn2P3O11	Mn2P3O11	monoclinic	5	4.31	4.42	3.91
ACrPO4	A0.5CrPO4	triclinic	2	2.95	2.11	1.76
A3Ni2(PO4)3	ANi2(PO4)3	monoclinic	12	4.84	4.51	3.32
A8FeO6	A6FeO6	triclinic	2	3.16	2.60	1.90
A2MnCrO4	A1.33MnCrO4	tetragonal	119	3.24	2.57	2.91
AP4WO13	P4WO13	triclinic	2	5.23	4.47	3.75
A2P4WO13	AP4WO13	triclinic	2	3.41	3.34	2.25
A3Ti(NiO3)2	A2Ti(NiO3)2	monoclinic	12	3.68	2.72	2.77
A2FeCo3O8	FeCo3O8	monoclinic	9	3.84	4.17	3.77
A2P8W3O29	P8W3O29	trigonal	165	5.06	4.06	3.54
A9P8W3O29	A2P8W3O29	trigonal	165	3.19	2.42	2.00
A4Ti3Cr3(SbO8)2	Ti3Cr3(SbO8)2	monoclinic	8	3.07	2.52	2.12



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A5Co2Ni3O10	A4Co2Ni3O10	triclinic	2	4.22	3.03	2.99
A2CrFeO4	ACrFeO4	orthorhombic	74	3.45	2.61	2.67
A4Sn(PO3)6	A2Sn(PO3)6	triclinic	1	3.91	3.28	2.56
AV(SO4)2	V(SO4)2	triclinic	1	4.66	3.95	3.24
A4MnCu3(PO4)4	MnCu3(PO4)4	monoclinic	6	4.15	3.77	2.97
A3A3Mn2P2(CO7)2	A3Mn2P2(CO7)2	triclinic	1	3.51	2.99	2.75
A14MgCo13O28	A2MgCo13O28	triclinic	2	3.71	3.19	3.00
A2FeF4	AFeF4	orthorhombic	33	3.41	2.64	2.14
A2MnO3	A1.66MnO3	monoclinic	12	4.62	2.93	2.96
AV(CO3)2	A0.5V(CO3)2	triclinic	2	2.99	2.69	2.25
A2V(Si2O5)3	AV(Si2O5)3	orthorhombic	64	3.46	3.60	3.09
A3V(Si2O5)3	A2V(Si2O5)3	orthorhombic	64	2.38	3.42	2.76
AP4WO12	P4WO12	monoclinic	15	3.39	3.59	2.93
A2Cu(PO3)4	ACu(PO3)4	orthorhombic	62	5.41	4.20	3.10
A4MnNi3(PO4)4	MnNi3(PO4)4	monoclinic	6	4.62	3.87	3.05
A4Fe3Co5O16	Fe3Co5O16	monoclinic	10	3.98	4.25	3.81
A8Fe3Co5O16	A4Fe3Co5O16	monoclinic	10	3.92	3.30	3.32
A6Mn5Ni3O16	A4Mn5Ni3O16	monoclinic	8	3.17	2.95	2.99
A5Ni2(PO4)3	A3Ni2(PO4)3	monoclinic	4	4.34	3.04	2.43
A1.5MnCrO4	A0.5MnCrO4	triclinic	2	3.44	3.03	2.79
A2MnCrO4	A1.5MnCrO4	triclinic	2	3.20	2.22	2.44
A2V(PO4)2	AV(PO4)2	monoclinic	15	4.20	2.99	2.10
A3V(PO4)2	A2V(PO4)2	monoclinic	15	3.40	2.09	1.60
A2P5WO15	P5WO15	monoclinic	11	4.27	3.90	2.89
AMg2Mn3O8	Mg2Mn3O8	trigonal	160	3.76	3.41	3.06
A4CrFe3O8	A3CrFe3O8	trigonal	166	3.75	3.10	3.21
ATiP2O7	TiP2O7	monoclinic	14	1.58	2.38	1.81
A2CoSiO4	ACoSiO4	orthorhombic	33	3.63	3.04	2.98
ACr2(PO4)3	Cr2(PO4)3	monoclinic	14	4.94	4.77	4.19
A3Cr2(PO4)3	ACr2(PO4)3	monoclinic	14	4.48	3.24	2.47
Ba8ANb7O24	Ba8Nb7O24	trigonal	156	1.94	2.14	2.13
AV(PO3)4	V(PO3)4	monoclinic	4	4.22	4.15	3.36
A4NbV3O8	A3NbV3O8	monoclinic	12	1.62	1.45	1.37
A6Bi3P8O29	A3Bi3P8O29	trigonal	165	4.88	4.02	3.25
A9Bi3P8O29	A6Bi3P8O29	trigonal	165	4.37	3.20	2.60
AMoP2O7	MoP2O7	monoclinic	14	3.13	3.19	2.63
A2VO2	A0.5VO2	trigonal	164	1.12	1.48	1.39
A2Co3(SiO4)2	ACo3(SiO4)2	triclinic	1	3.65	2.96	2.78
A2MnSiO4	AMnSiO4	orthorhombic	33	3.13	3.03	2.72
A3Mn(NiO3)2	A2Mn(NiO3)2	monoclinic	12	3.64	2.95	3.07

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A4Co3Ni3(TeO8)2	Co3Ni3(TeO8)2	monoclinic	8	4.29	3.92	3.57
A2Mn2NiO6	Mn2NiO6	monoclinic	12	3.65	3.62	3.11
A3Mn2NiO6	A2Mn2NiO6	monoclinic	12	3.04	2.50	2.95
A1.5FeO3	AFeO3	monoclinic	12	4.32	4.10	4.23
A2FeO3	A1.5FeO3	monoclinic	12	2.97	3.71	3.88
A3Fe2Co3O10	Fe2Co3O10	monoclinic	6	4.12	4.14	3.68
A5Fe2Co3O10	A3Fe2Co3O10	monoclinic	6	3.39	3.23	3.32
A3Mn4NiO8	Mn4NiO8	monoclinic	12	3.25	2.88	2.75
A2MnNiO4	AMnNiO4	orthorhombic	74	3.22	2.85	2.92
A2Ni3(P2O7)2	Ni3(P2O7)2	monoclinic	14	5.03	4.51	3.80
KAMnO2	A0.5KMnO2	orthorhombic	66	1.84	1.52	1.51
A3FeSiO5	A2.25FeSiO5	orthorhombic	33	4.64	3.58	3.24
AMnP2O7	MnP2O7	monoclinic	14	4.32	4.48	3.76
ACoPO4	A0.5CoPO4	orthorhombic	29	4.43	2.73	2.22
AFePO4	FePO4	hexagonal	180	2.86	3.69	3.58
AMnPO4	MnPO4	orthorhombic	63	3.73	3.31	2.70
A3V4P9O32	V4P9O32	tetragonal	114	4.94	4.36	3.76
A7V4P9O32	A3V4P9O32	tetragonal	114	3.54	2.92	2.18
A0.67MnPO4	MnPO4	monoclinic	5	3.60	3.67	3.05
ANiP2O7	NiP2O7	monoclinic	5	5.29	5.16	4.27
AMn5O3F5	Mn5O3F5	monoclinic	8	2.74	2.88	2.57
AMn7O7F	Mn7O7F	trigonal	156	2.24	2.54	2.36
AMn(PO3)4	Mn(PO3)4	monoclinic	9	5.59	4.96	4.35
ACr2P3O13	Cr2P3O13	monoclinic	14	4.68	5.21	4.69
ACr4(PO4)3	Cr4(PO4)3	monoclinic	15	2.23	3.03	2.78
A2Mn(PO3)4	AMn(PO3)4	orthorhombic	62	4.96	3.93	2.89
A2CuPO4	ACuPO4	trigonal	152	3.29	2.23	2.29
AVFeP2(HO5)2	VFeP2(HO5)2	triclinic	1	4.58	3.99	3.27
A3VFeP2(HO5)2	AVFeP2(HO5)2	triclinic	1	2.80	2.13	1.93
A2Mn(PO4)2	AMn(PO4)2	monoclinic	15	5.10	4.02	3.12
AV3O5F3	V3O5F3	monoclinic	9	3.97	3.26	2.67
A2MgCr3Se3(SO8)3	MgCr3Se3(SO8)3	triclinic	1	3.68	4.13	3.78
A6Mn5SbO12	Mn5SbO12	monoclinic	12	3.13	2.95	2.84
A2V2(SO4)3	V2(SO4)3	orthorhombic	60	2.69	2.88	2.50
A2Fe2Ni(PO4)3	Fe2Ni(PO4)3	monoclinic	5	3.48	3.78	3.12
A4TiMn2Ni3(PO4)6	TiMn2Ni3(PO4)6	triclinic	1	4.14	3.47	2.68
ANiP2O7	NiP2O7	triclinic	2	5.36	5.01	4.11
AV2(PO4)3	V2(PO4)3	triclinic	2	4.21	4.02	3.37
A2V2(PO4)3	AV2(PO4)3	triclinic	2	3.33	2.86	2.08
A3V2(PO4)3	A2V2(PO4)3	triclinic	2	3.33	2.04	1.66

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A4V2(PO4)3	A3V2(PO4)3	triclinic	2	1.84	1.70	1.51
A2.5Cu3(P2O7)2	Cu3(P2O7)2	triclinic	2	4.57	3.92	3.01
APWO5	PWO5	triclinic	2	2.62	2.57	1.98
AMn3(OF3)2	Mn3(OF3)2	monoclinic	14	5.00	4.63	4.08
ACoPO4F	CoPO4F	triclinic	1	5.21	4.66	3.62
A2CoPO4F	ACoPO4F	triclinic	1	3.82	2.45	2.06
AFeCuS2	FeCuS2	trigonal	156	1.81	1.59	1.62
ALa4MnO8	La4MnO8	tetragonal	141	3.55	3.38	3.32
A0.5NiCO4	NiCO4	monoclinic	14	3.65	4.44	4.16
A3Sn2(PO4)3	ASn2(PO4)3	trigonal	148	2.29	2.78	2.98
ABiF5	BiF5	tetragonal	87	5.53	5.14	4.12
A2BiF5	ABiF5	tetragonal	87	5.13	4.03	3.03
ANi(PS3)2	Ni(PS3)2	triclinic	1	2.71	2.73	2.68
A2Ni(PS3)2	ANi(PS3)2	triclinic	1	2.26	2.35	2.41
A4V3Co(PO4)4	V3Co(PO4)4	monoclinic	6	2.53	2.23	1.89
A6VF8	A5VF8	cubic	225	2.14	1.91	1.59
AMnF4	MnF4	monoclinic	15	5.96	5.10	4.34
A2MnF4	AMnF4	monoclinic	15	3.83	3.00	2.42
ACuF3	A0.5CuF3	triclinic	2	4.39	3.92	3.17
AVCO4	A0.5VCO4	monoclinic	14	3.57	2.14	2.11
ASn2P3O10	Sn2P3O10	monoclinic	15	4.57	3.40	3.27
A6V3Cr(PO4)6	V3Cr(PO4)6	triclinic	1	3.47	3.14	2.36
AMn(PO3)4	Mn(PO3)4	monoclinic	14	5.48	4.98	4.36
A2Mn(PO3)4	AMn(PO3)4	monoclinic	14	3.70	3.96	2.89
ASnPO4	SnPO4	monoclinic	14	4.43	3.27	3.28
A3MnF6	A2MnF6	monoclinic	9	4.31	3.79	2.90
AV3(P3O10)2	V3(P3O10)2	orthorhombic	20	3.12	3.02	2.66
AV3(O2F)2	V3(O2F)2	triclinic	1	2.74	2.55	2.33
AFe(PO3)4	Fe(PO3)4	monoclinic	15	5.77	5.09	4.44
A2FeSiO4	AFeSiO4	orthorhombic	31	3.09	2.89	2.96
A4V3OF11	V3OF11	triclinic	2	3.93	3.40	2.60
ACrPO4	CrPO4	orthorhombic	62	2.64	2.42	1.95
A2FeSiO4	AFeSiO4	orthorhombic	62	3.05	2.99	3.05
A3Fe(PO4)2	A2Fe(PO4)2	monoclinic	11	4.99	2.96	2.67
AFe2P3O10	Fe2P3O10	monoclinic	11	3.75	3.58	3.07
A3Fe2(PO4)3	AFe2(PO4)3	monoclinic	12	4.77	3.71	2.99
A6MnV3(PO4)6	MnV3(PO4)6	trigonal	146	3.77	3.27	2.67
A4Mn5(P3O11)2	Mn5(P3O11)2	monoclinic	14	3.70	3.52	2.90
AFe2(PO4)3	Fe2(PO4)3	triclinic	2	5.00	4.98	4.42
A2Fe2(PO4)3	AFe2(PO4)3	triclinic	2	4.79	4.01	2.94

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3Fe2(PO4)3	A2Fe2(PO4)3	triclinic	2	4.77	2.94	2.28
A4Fe2(PO4)3	A3Fe2(PO4)3	triclinic	2	2.67	2.33	1.97
A4MnF7	A3MnF7	cubic	216	4.45	3.64	2.70
A2Mn(PO4)2	AMn(PO4)2	monoclinic	14	4.93	4.02	3.12
A3Mn(PO4)2	A2Mn(PO4)2	monoclinic	14	4.21	3.14	2.41
A5FeO3F	A4FeO3F	orthorhombic	40	1.51	1.83	1.41
AMn2PO5	Mn2PO5	orthorhombic	33	2.41	2.72	2.38
A6Mn3(PO4)4	A3Mn3(PO4)4	triclinic	1	3.06	2.39	2.11
AMn4(PO4)3	Mn4(PO4)3	monoclinic	9	3.34	3.40	3.03
AMnP2O7	MnP2O7	monoclinic	11	5.29	4.48	3.75
AMnP2O7	MnP2O7	triclinic	2	4.30	4.43	3.57
A2MnP2O7	AMnP2O7	triclinic	2	3.80	2.67	2.19
AMnPO4	MnPO4	orthorhombic	33	3.75	3.18	2.54
AVPO4	VPO4	orthorhombic	63	2.25	1.87	1.60
A0.88MnBO3	A0.5MnBO3	triclinic	1	3.37	2.43	1.77
AMn2P5O16	Mn2P5O16	monoclinic	13	4.49	4.80	4.35
A3Mn2P5O16	AMn2P5O16	monoclinic	13	3.85	3.71	2.84
A3Fe(PO4)2	A2Fe(PO4)2	monoclinic	12	4.57	2.97	2.67
ACrPO5	CrPO5	triclinic	2	4.51	4.22	3.30
AA2MnPCO7	AMnPCO7	triclinic	2	3.61	3.18	2.84
A7Fe4P9O32	A3Fe4P9O32	tetragonal	114	4.93	4.08	3.12
AVO2F	VO2F	orthorhombic	62	3.66	2.99	2.54
AFeP2O7	FeP2O7	monoclinic	4	5.15	4.52	3.62
A2FeP2O7	AFeP2O7	monoclinic	4	2.95	2.82	2.42
AVPO5	VPO5	orthorhombic	31	3.64	3.26	2.44
A2VPO5	AVPO5	orthorhombic	31	2.49	1.77	1.48
A2InSn	AInSn	cubic	225	0.67	1.08	1.15
A5Mn5(SeO3)8	Mn5(SeO3)8	triclinic	2	4.16	3.97	3.56
A4Mn3V2Co3O16	Mn3V2Co3O16	monoclinic	8	3.59	3.41	2.94
A6Mn3Sn(PO4)6	Mn3Sn(PO4)6	triclinic	1	4.13	3.54	3.09
A4V3Co3(TeO8)2	V3Co3(TeO8)2	triclinic	1	3.77	3.15	2.72
A2CoNi(PO4)2	CoNi(PO4)2	monoclinic	11	4.58	3.90	3.06
A2ACuP2O7	A2CuP2O7	monoclinic	14	2.10	2.50	2.25
SrA4La15(CoO8)4	SrLa15(CoO8)4	monoclinic	5	3.64	3.48	3.33
A3La7(FeO8)2	La7(FeO8)2	monoclinic	8	3.96	3.64	3.46
A4Mn3V2Cr3O16	Mn3V2Cr3O16	triclinic	1	3.71	3.36	2.88
A3VO3F	AVO3F	triclinic	2	3.01	2.72	2.38
AV6P7O24	V6P7O24	monoclinic	11	2.31	2.09	1.91
ACrF4	CrF4	monoclinic	15	5.32	4.46	3.48
A2NiH12(SO7)2	ANiH12(SO7)2	monoclinic	14	4.86	4.21	3.44

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A11Ni13O24	A7Ni13O24	monoclinic	12	3.70	3.39	3.07
RbAV(PO4)2	RbV(PO4)2	monoclinic	14	2.98	2.18	2.02
AWO2	WO2	trigonal	166	1.70	1.34	1.27
A5Mn3V2O10	Mn3V2O10	triclinic	2	3.11	2.69	2.58
A4Mn3Fe(PO4)4	Mn3Fe(PO4)4	monoclinic	8	3.72	3.26	2.65
A4Mn3Co3(CuO8)2	Mn3Co3(CuO8)2	monoclinic	8	4.09	3.89	3.46
A2Sn(SO4)2	Sn(SO4)2	orthorhombic	61	3.31	3.31	2.96
A4Mn5Fe(PO4)6	Mn5Fe(PO4)6	triclinic	1	3.49	3.45	2.79
A20Co21O40	Co21O40	triclinic	1	3.62	3.30	3.05
ANi9O10	Ni9O10	triclinic	2	4.27	3.99	3.79
A4NbTe2WO12	ANbTe2WO12	triclinic	1	3.06	2.82	2.38
A3MnV2O6	A2MnV2O6	monoclinic	12	2.67	2.00	1.97
A4MnV3O8	MnV3O8	triclinic	1	2.35	2.51	2.38
A0.33CuCO3	CuCO3	triclinic	1	3.69	3.61	3.39
A0.67CuCO3	A0.33CuCO3	triclinic	1	3.38	3.12	2.92
ACuCO3	A0.67CuCO3	triclinic	1	2.84	2.79	2.91
A4MnFe3(PO4)4	MnFe3(PO4)4	orthorhombic	31	3.51	2.87	2.31
A9Cr19O48	Cr19O48	triclinic	1	4.23	4.44	3.96
A4CrNi3(PO4)4	CrNi3(PO4)4	monoclinic	6	4.14	3.76	2.86
AMo(PO3)4	Mo(PO3)4	monoclinic	15	4.51	4.11	3.44
A3Nb4ZnO12	A2Nb4ZnO12	triclinic	1	1.78	2.32	2.04
A2Mn3(SeO3)4	Mn3(SeO3)4	triclinic	2	3.85	3.82	3.51
A4Mn3Co3(SbO8)2	Mn3Co3(SbO8)2	monoclinic	8	4.08	3.58	3.29
A4Mn3Sn(PO4)4	Mn3Sn(PO4)4	monoclinic	6	3.22	2.94	2.81
A6Mn2C4SO16	A4Mn2C4SO16	cubic	203	3.91	3.25	3.20
A2CuCSO7	ACuCSO7	monoclinic	11	4.12	3.32	2.92
A5Fe3(SnO5)2	A3Fe3(SnO5)2	triclinic	2	2.59	3.10	3.49
A4Ni3SbO8	A3Ni3SbO8	trigonal	166	4.09	2.67	2.91
A8Mn7Co(PO4)12	Mn7Co(PO4)12	triclinic	1	4.82	4.49	3.61
ASb(PO3)4	Sb(PO3)4	monoclinic	12	4.78	4.44	3.84
A3MnV4O12	MnV4O12	triclinic	1	3.59	3.19	2.62
A2MnCo(PO4)2	MnCo(PO4)2	monoclinic	11	4.04	3.48	2.80
A4Cr3CoO8	A2Cr3CoO8	triclinic	2	3.62	2.63	2.42
A6FeS4	A5FeS4	tetragonal	137	1.40	1.62	1.47
K2A3FeO4	A0.75K2FeO4	triclinic	1	3.08	2.71	2.48
A3.25K2FeO4	K2A3FeO4	triclinic	1	-1.93	1.51	1.50
ANi9S10	Ni9S10	triclinic	2	1.43	1.93	1.92
AFe(SeO3)2	Fe(SeO3)2	tetragonal	122	5.06	4.66	4.33
ACuPO4F	CuPO4F	triclinic	2	5.12	4.65	3.62
A3Co2(PO4)3	ACo2(PO4)3	monoclinic	4	4.85	4.08	3.14

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A5Co2(PO4)3	A3Co2(PO4)3	monoclinic	4	3.61	2.66	2.45
A3Sb	Sb	hexagonal	194	0.93	1.19	1.10
AFeF3	FeF3	monoclinic	9	3.37	3.33	2.75
AV2NiO6	V2NiO6	monoclinic	15	2.33	3.18	2.77
A5Fe2Ni5O12	A4Fe2Ni5O12	monoclinic	5	4.02	3.39	3.23
A10Fe3Ni7O20	A8Fe3Ni7O20	monoclinic	10	3.62	3.24	3.34
A3Fe3NiO8	A2Fe3NiO8	trigonal	166	4.58	3.64	3.78
A4Fe3NiO8	A3Fe3NiO8	trigonal	166	3.49	3.21	3.47
A2NiPO4F	A1.5NiPO4F	orthorhombic	62	4.89	3.17	2.29
A2NiPCO7	ANiPCO7	monoclinic	11	4.71	3.92	3.21
A3NiPCO7	A2NiPCO7	monoclinic	11	4.32	3.16	2.83
AWF6	WF6	monoclinic	14	3.59	3.75	2.92
A2FeAsCO7	AFeAsCO7	monoclinic	11	4.54	3.64	3.16
A3FeAsCO7	A2FeAsCO7	monoclinic	11	2.91	2.88	3.05
A2CuPCO7	ACuPCO7	monoclinic	11	4.57	3.59	3.10
A3TiCo3O8	A2TiCo3O8	hexagonal	186	2.90	3.33	3.70
AFe(SO4)2	Fe(SO4)2	triclinic	1	5.37	4.68	4.06
A2Fe(SO4)2	AFe(SO4)2	orthorhombic	61	3.82	3.93	3.31
A12Mn11Fe(PO4)12	Mn11Fe(PO4)12	monoclinic	6	3.79	3.31	2.69
AMnPO4F	MnPO4F	triclinic	1	4.74	4.32	3.51
A2MnPO4F	AMnPO4F	triclinic	1	3.38	2.53	2.11
A2Fe2(SO4)3	Fe2(SO4)3	orthorhombic	60	3.58	4.02	3.58
SrAVPO6	SrVPO6	monoclinic	14	2.54	2.26	2.15
A0.5WO2	WO2	cubic	227	1.46	1.50	1.42
A8Mn7Fe(PO4)12	Mn7Fe(PO4)12	triclinic	1	4.88	4.46	3.60
A7Ni9O16	A5Ni9O16	triclinic	2	4.16	3.40	2.79
AV2F7	V2F7	orthorhombic	74	3.88	3.32	2.63
A2V2F7	AV2F7	orthorhombic	74	1.80	2.03	1.60
A2MnFe(PO4)2	MnFe(PO4)2	monoclinic	11	3.62	3.19	2.63
A5Co7O12	Co7O12	monoclinic	5	3.59	3.47	3.17
A4Mn2Fe(BO3)4	A3Mn2Fe(BO3)4	monoclinic	7	2.83	2.68	2.12
ACuCO3	A0.5CuCO3	triclinic	2	2.96	2.84	2.87
A2NiSnO4	ANiSnO4	orthorhombic	74	3.37	2.98	3.17
A3Ti6Co3O16	Ti6Co3O16	monoclinic	4	3.39	2.87	2.47
A3TiCo3O8	TiCo3O8	monoclinic	12	3.72	3.49	3.25
A4TiCo3O8	A3TiCo3O8	monoclinic	12	3.24	2.57	2.90
A2NbCo3O8	NbCo3O8	hexagonal	186	4.05	3.56	3.50
A6MnCr3(PO4)6	MnCr3(PO4)6	triclinic	1	4.32	3.82	2.80
A2CrPO4F	ACrPO4F	orthorhombic	62	2.88	2.07	1.58
A8Mg3Si16(Cu3O16)3	Mg3Si16(Cu3O16)3	triclinic	2	3.60	3.68	3.23

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2MgSi4(CuO6)2	MgSi4(CuO6)2	triclinic	2	3.65	3.69	3.22
Rb2AV(PO4)2	Rb2V(PO4)2	orthorhombic	19	1.24	1.44	1.40
KA(WO3)6	K(WO3)6	monoclinic	8	1.63	2.43	2.24
A3VSi4(HO6)2	AVSi4(HO6)2	triclinic	2	3.38	3.11	2.57
A4Mn2V5O12	A3Mn2V5O12	monoclinic	5	2.74	2.06	1.95
A5Mn2V5O12	A4Mn2V5O12	monoclinic	5	2.29	1.83	1.68
AFe2(SO4)3	Fe2(SO4)3	trigonal	167	3.12	3.80	3.54
A2Cu(WO4)2	A1.5Cu(WO4)2	triclinic	2	4.35	3.43	2.76
A2VGeO5	AVGeO5	tetragonal	129	3.28	2.81	2.66
A4Mn3Fe(PO4)4	Mn3Fe(PO4)4	monoclinic	6	3.72	3.25	2.64
ACrPO4F	CrPO4F	orthorhombic	33	4.37	3.57	2.66
A1.33LaNb4O12	ALaNb4O12	monoclinic	12	1.46	1.75	1.67
A2NiSnO4	ANiSnO4	monoclinic	10	3.80	3.10	3.34
A2Mn2P2O7F2	Mn2P2O7F2	orthorhombic	60	3.49	3.68	3.04
ALa2Ti2CrO9	La2Ti2CrO9	monoclinic	4	3.56	2.43	2.32
A2MnCr(PO4)2	MnCr(PO4)2	monoclinic	11	3.27	2.94	2.44
AYMo3O8	YMo3O8	trigonal	156	2.83	2.76	2.69
A17Ni11O28	A12Ni11O28	triclinic	2	3.72	3.32	3.22
Ba4A6Ti19O44	Ba4A4Ti19O44	triclinic	1	1.93	1.59	1.53
A3CrF6	A2CrF6	monoclinic	14	4.61	3.24	2.16
A4CrF6	A3CrF6	monoclinic	14	2.24	2.16	1.57
A4Mn3WO8	A3Mn3WO8	trigonal	166	2.08	2.06	2.40
AV(GeO3)2	V(GeO3)2	monoclinic	14	3.40	3.54	3.14
ATi2Ni(PO5)2	Ti2Ni(PO5)2	monoclinic	14	1.78	2.53	2.12
A3Mn(FeO3)2	A2Mn(FeO3)2	monoclinic	12	3.12	3.02	3.21
A6Mn(FeO3)2	A3Mn(FeO3)2	monoclinic	12	1.44	1.74	2.07
A4Nb(TeO4)3	ANb(TeO4)3	triclinic	1	3.15	3.03	2.53
A2Mn2FeO6	Mn2FeO6	monoclinic	12	3.81	3.68	3.32
A3Mn2FeO6	A2Mn2FeO6	monoclinic	12	1.39	2.56	3.01
Rb5Asi2NiO8	Rb5Si2NiO8	monoclinic	15	3.41	3.11	3.08
A6Mn15O32	Mn15O32	triclinic	2	4.33	4.18	3.60
A10Fe3Co3(NiO8)2	A4Fe3Co3(NiO8)2	triclinic	1	2.93	2.66	2.81
ASb(PO3)4	Sb(PO3)4	orthorhombic	60	4.77	4.41	3.86
AFe3O4	Fe3O4	monoclinic	10	3.67	3.79	3.38
A10Ti2Mn3Ni3O16	A4Ti2Mn3Ni3O16	triclinic	1	2.46	2.39	2.40
A4Co5Te3O16	Co5Te3O16	triclinic	1	3.45	3.57	3.22
ACr(PO3)3	Cr(PO3)3	orthorhombic	19	2.86	3.57	2.86
A6Co5(P2O7)4	Co5(P2O7)4	triclinic	2	4.44	3.86	2.82
A3TiFe3O8	A2TiFe3O8	hexagonal	186	3.46	3.95	4.21
AMn(Si2O5)2	Mn(Si2O5)2	tetragonal	130	5.17	4.87	4.58

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
AZn(FeO <sub>2</sub> ) <sub>4</sub>	Zn(FeO <sub>2</sub> ) <sub>4</sub>	trigonal	160	6.61	5.08	4.74
A <sub>3</sub> Fe(CuO <sub>3</sub> ) <sub>2</sub>	A <sub>2</sub> Fe(CuO <sub>3</sub> ) <sub>2</sub>	monoclinic	12	4.03	3.36	3.56
ASbPHO <sub>5</sub>	SbPHO <sub>5</sub>	triclinic	2	2.81	2.61	2.13
A <sub>2</sub> ZrFe(PO <sub>4</sub> ) <sub>3</sub>	ZrFe(PO <sub>4</sub> ) <sub>3</sub>	orthorhombic	33	5.00	3.03	2.45
A <sub>2</sub> Mn <sub>2</sub> F <sub>7</sub>	AMn <sub>2</sub> F <sub>7</sub>	monoclinic	4	4.59	3.77	3.06
AFePO <sub>4</sub> F	FePO <sub>4</sub> F	orthorhombic	33	4.91	4.21	3.27
ACrO <sub>2</sub>	A <sub>0.67</sub> CrO <sub>2</sub>	tetragonal	141	3.63	2.81	2.66
A <sub>4</sub> Ti <sub>3</sub> Mn <sub>2</sub> Cr <sub>3</sub> O <sub>16</sub>	Ti <sub>3</sub> Mn <sub>2</sub> Cr <sub>3</sub> O <sub>16</sub>	monoclinic	8	3.90	3.38	3.06
A <sub>2</sub> Ti <sub>3</sub> VO <sub>8</sub>	Ti <sub>3</sub> VO <sub>8</sub>	hexagonal	186	2.71	3.06	3.05
ABi(PO <sub>3</sub> ) <sub>4</sub>	Bi(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	15	5.67	4.94	4.37
A <sub>2</sub> Ti <sub>3</sub> VO <sub>8</sub>	ATi <sub>3</sub> VO <sub>8</sub>	trigonal	166	1.97	1.61	1.56
A <sub>3</sub> Ti <sub>3</sub> VO <sub>8</sub>	A <sub>2</sub> Ti <sub>3</sub> VO <sub>8</sub>	trigonal	166	1.83	1.41	1.42
A <sub>4</sub> Ti <sub>3</sub> VO <sub>8</sub>	A <sub>3</sub> Ti <sub>3</sub> VO <sub>8</sub>	trigonal	166	1.65	1.31	1.31
A <sub>3</sub> Mn <sub>4</sub> FeO <sub>8</sub>	Mn <sub>4</sub> FeO <sub>8</sub>	monoclinic	12	3.28	2.95	2.89
A <sub>5</sub> Mn <sub>5</sub> (FeO <sub>6</sub> ) <sub>2</sub>	A <sub>3</sub> Mn <sub>5</sub> (FeO <sub>6</sub> ) <sub>2</sub>	monoclinic	5	3.48	2.50	2.79
A <sub>2</sub> VSn(PO <sub>4</sub> ) <sub>2</sub>	VSn(PO <sub>4</sub> ) <sub>2</sub>	monoclinic	11	2.61	2.56	2.45
A <sub>2</sub> CoCu(PO <sub>4</sub> ) <sub>2</sub>	CoCu(PO <sub>4</sub> ) <sub>2</sub>	triclinic	1	4.12	3.55	2.76
A <sub>2.5</sub> CoCu(PO <sub>4</sub> ) <sub>2</sub>	A <sub>2</sub> CoCu(PO <sub>4</sub> ) <sub>2</sub>	triclinic	1	2.63	2.20	2.04
A <sub>2</sub> FeS <sub>2</sub>	AFeS <sub>2</sub>	trigonal	156	1.35	1.54	1.67
A <sub>2</sub> Mn <sub>2</sub> Co(PO <sub>4</sub> ) <sub>3</sub>	Mn <sub>2</sub> Co(PO <sub>4</sub> ) <sub>3</sub>	monoclinic	5	3.80	3.72	3.08
AV <sub>2</sub> O <sub>5</sub>	V <sub>2</sub> O <sub>5</sub>	orthorhombic	63	3.21	3.08	2.42
ACo(PO <sub>3</sub> ) <sub>4</sub>	Co(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	15	5.92	5.31	4.69
ACo(PO <sub>3</sub> ) <sub>4</sub>	Co(PO <sub>3</sub> ) <sub>4</sub>	orthorhombic	60	6.23	5.32	4.70
A <sub>4</sub> Mn <sub>3</sub> Fe <sub>3</sub> (CoO <sub>8</sub> ) <sub>2</sub>	Mn <sub>3</sub> Fe <sub>3</sub> (CoO <sub>8</sub> ) <sub>2</sub>	monoclinic	8	4.24	4.08	3.64
A <sub>8</sub> TiMn <sub>7</sub> (PO <sub>4</sub> ) <sub>12</sub>	TiMn <sub>7</sub> (PO <sub>4</sub> ) <sub>12</sub>	triclinic	1	4.80	4.28	3.46
A <sub>2</sub> Co(PO <sub>3</sub> ) <sub>5</sub>	ACo(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	11	5.41	4.86	3.59
A <sub>2</sub> AVPO <sub>6</sub>	A <sub>2</sub> VPO <sub>6</sub>	monoclinic	14	2.10	2.15	1.91
A <sub>4</sub> Mn <sub>5</sub> SnO <sub>12</sub>	Mn <sub>5</sub> SnO <sub>12</sub>	monoclinic	12	3.20	3.18	3.06
Ba <sub>2</sub> AVP <sub>2</sub> O <sub>9</sub>	Ba <sub>2</sub> VP <sub>2</sub> O <sub>9</sub>	monoclinic	9	1.24	1.88	1.84
A <sub>3</sub> Sb	Sb	cubic	225	0.95	1.05	0.93
A <sub>2</sub> Mo(PO <sub>4</sub> ) <sub>2</sub>	AMo(PO <sub>4</sub> ) <sub>2</sub>	monoclinic	9	3.73	2.86	2.41
AVF <sub>4</sub>	VF <sub>4</sub>	orthorhombic	74	4.14	3.58	2.62
A <sub>2</sub> VF <sub>4</sub>	AVF <sub>4</sub>	orthorhombic	74	2.55	1.70	1.43
A <sub>3.5</sub> CoO <sub>3</sub>	A <sub>2</sub> CoO <sub>3</sub>	tetragonal	118	2.33	2.28	2.64
AFeF <sub>3</sub>	A <sub>0.5</sub> FeF <sub>3</sub>	orthorhombic	62	2.69	2.77	2.23
A <sub>3</sub> VCr <sub>3</sub> O <sub>8</sub>	VCr <sub>3</sub> O <sub>8</sub>	triclinic	2	3.40	3.21	2.74
A <sub>4</sub> VCr <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> VCr <sub>3</sub> O <sub>8</sub>	triclinic	2	2.79	2.00	1.79
A <sub>4</sub> Mn <sub>3</sub> Nb <sub>2</sub> Fe <sub>3</sub> O <sub>16</sub>	Mn <sub>3</sub> Nb <sub>2</sub> Fe <sub>3</sub> O <sub>16</sub>	monoclinic	8	3.95	3.40	3.13
A <sub>4</sub> TiNi <sub>5</sub> (PO <sub>4</sub> ) <sub>6</sub>	TiNi <sub>5</sub> (PO <sub>4</sub> ) <sub>6</sub>	triclinic	1	4.12	3.79	3.01
A <sub>4</sub> Nb <sub>3</sub> TeO <sub>12</sub>	A <sub>3</sub> Nb <sub>3</sub> TeO <sub>12</sub>	triclinic	1	2.70	2.31	2.14



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3V(TeO3)4	V(TeO3)4	triclinic	1	3.48	3.21	2.77
A3V(TeO3)4	AV(TeO3)4	triclinic	1	3.36	2.85	2.38
ACo(PO3)3	Co(PO3)3	orthorhombic	19	4.73	4.36	3.67
A4Co3CuO8	ACo3CuO8	trigonal	166	3.19	3.12	3.23
A4Mn3Cu3(TeO8)2	Mn3Cu3(TeO8)2	monoclinic	8	3.97	3.72	3.31
A2Mn3FeO8	Mn3FeO8	tetragonal	96	4.39	3.85	3.41
ATiPO4F	TiPO4F	triclinic	1	2.02	2.02	1.69
A2TiPO4F	ATiPO4F	triclinic	1	0.25	1.35	1.31
AMnPO4F	A0.5MnPO4F	monoclinic	14	4.65	3.91	3.12
A1.5MnPO4F	AMnPO4F	monoclinic	14	3.90	3.15	2.49
A2MnPO4F	A1.5MnPO4F	monoclinic	14	3.66	2.60	2.06
A2V2Sn(PO4)3	V2Sn(PO4)3	monoclinic	5	2.56	2.43	2.25
A4Mn3Co(PO4)4	Mn3Co(PO4)4	monoclinic	6	3.93	3.38	2.75
A5MnV3O8	A2MnV3O8	cubic	212	1.74	1.80	1.85
A3MnFe3O8	A2MnFe3O8	monoclinic	12	4.61	3.67	3.60
A4MnFe3O8	A3MnFe3O8	monoclinic	12	2.75	3.08	3.23
A2Mn3FeO8	Mn3FeO8	trigonal	166	4.24	3.75	3.32
A4MnFe3(PO4)4	MnFe3(PO4)4	monoclinic	6	3.51	3.12	2.61
A3Mn3TeO8	Mn3TeO8	trigonal	166	3.19	3.04	3.03
A2V2F7	AV2F7	triclinic	2	2.58	1.96	1.63
A2Fe2S3	A1.5Fe2S3	monoclinic	14	0.96	1.47	1.62
A0.13LaVO4	LaVO4	triclinic	1	-0.40	2.00	1.98
A4Mn5(FeO6)2	A2Mn5(FeO6)2	monoclinic	4	3.25	2.88	2.98
A6Mn3Nb(PO4)6	Mn3Nb(PO4)6	triclinic	1	3.91	3.50	2.78
A3Cr(BO3)2	A2.25Cr(BO3)2	monoclinic	14	3.89	2.07	1.60
AV6F13	V6F13	triclinic	2	1.55	1.64	1.56
ATi4Mn(PO4)6	Ti4Mn(PO4)6	trigonal	148	2.26	2.68	2.43
A0.67NiO2	NiO2	monoclinic	9	3.88	4.00	3.56
ACo(PO3)4	Co(PO3)4	monoclinic	4	5.40	5.29	4.65
A2MnFeO4	AMnFeO4	orthorhombic	74	2.62	2.78	3.01
ACo(SO4)2	Co(SO4)2	triclinic	1	5.39	4.92	4.16
A0.5CoO2	CoO2	triclinic	2	4.46	3.93	3.47
A0.75CoO2	A0.5CoO2	triclinic	2	2.45	3.26	3.16
A10V3Cr5O16	A4V3Cr5O16	triclinic	1	1.56	1.78	1.65
A4Mn2Fe3P6WO24	Mn2Fe3P6WO24	triclinic	1	2.40	2.73	2.34
AVF4	VF4	monoclinic	15	4.27	3.64	2.63
A4Mn3Sb(PO4)4	Mn3Sb(PO4)4	monoclinic	6	3.12	2.84	2.33
A0.5NiS2	NiS2	cubic	227	1.83	1.81	1.82
A13Mg(Ni6O13)2	A6Mg(Ni6O13)2	triclinic	2	3.72	3.45	2.90
ANb(PO3)4	Nb(PO3)4	triclinic	2	2.72	3.08	2.49

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
AFe <sub>2</sub> C <sub>2</sub> O <sub>7</sub>	Fe <sub>2</sub> C <sub>2</sub> O <sub>7</sub>	monoclinic	9	3.14	3.48	3.28
A <sub>2</sub> TiVO <sub>4</sub>	ATiVO <sub>4</sub>	triclinic	2	1.87	1.45	1.34
A <sub>2</sub> Mn <sub>7</sub> F <sub>18</sub>	Mn <sub>7</sub> F <sub>18</sub>	triclinic	2	3.93	4.05	3.60
ABi <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	Bi <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	trigonal	148	4.66	4.55	4.06
A <sub>3</sub> Bi <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	ABi <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	trigonal	148	4.41	3.36	2.78
A <sub>8</sub> Ti <sub>16</sub> CuS <sub>32</sub>	Ti <sub>16</sub> CuS <sub>32</sub>	triclinic	1	1.93	1.84	1.69
A <sub>3</sub> Mo <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	Mo <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	triclinic	1	4.08	3.03	2.52
ACr(PO <sub>3</sub> ) <sub>4</sub>	Cr(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	15	5.64	4.87	4.18
A <sub>10</sub> Mn <sub>3</sub> Cr <sub>3</sub> (FeO <sub>8</sub> ) <sub>2</sub>	A <sub>4</sub> Mn <sub>3</sub> Cr <sub>3</sub> (FeO <sub>8</sub> ) <sub>2</sub>	triclinic	1	2.16	2.22	2.30
A <sub>0.5</sub> FeO <sub>2</sub>	FeO <sub>2</sub>	cubic	227	4.73	4.66	4.16
AFeO <sub>2</sub>	A <sub>0.5</sub> FeO <sub>2</sub>	cubic	227	3.71	3.39	3.54
ANi(PO <sub>3</sub> ) <sub>4</sub>	Ni(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	15	6.09	5.52	4.93
A <sub>5</sub> Cr <sub>3</sub> NiO <sub>8</sub>	A <sub>2</sub> Cr <sub>3</sub> NiO <sub>8</sub>	orthorhombic	36	2.83	2.07	1.96
A <sub>4</sub> CrNi <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> CrNi <sub>3</sub> O <sub>8</sub>	trigonal	166	3.50	2.89	3.22
AMnCoO <sub>4</sub>	MnCoO <sub>4</sub>	monoclinic	15	4.17	3.86	3.41
A <sub>2</sub> MnCoO <sub>4</sub>	AMnCoO <sub>4</sub>	monoclinic	15	2.61	2.70	3.07
A <sub>4</sub> VGa <sub>3</sub> O <sub>8</sub>	A <sub>2</sub> VGa <sub>3</sub> O <sub>8</sub>	triclinic	1	2.86	2.51	2.38
A <sub>2</sub> Cu(HO) <sub>4</sub>	ACu(HO) <sub>4</sub>	orthorhombic	33	2.89	2.73	2.58
APr(WO <sub>4</sub> ) <sub>2</sub>	Pr(WO <sub>4</sub> ) <sub>2</sub>	triclinic	2	4.95	4.61	4.19
A <sub>6</sub> Cu <sub>2</sub> C <sub>4</sub> SO <sub>16</sub>	A <sub>4u</sub> 2C <sub>4</sub> SO <sub>16</sub>	cubic	203	4.05	3.59	3.43
ACr(GeO <sub>3</sub> ) <sub>2</sub>	Cr(GeO <sub>3</sub> ) <sub>2</sub>	monoclinic	14	4.75	4.26	3.96
A <sub>6</sub> Co <sub>2</sub> C <sub>4</sub> SO <sub>16</sub>	A <sub>4</sub> Co <sub>2</sub> C <sub>4</sub> SO <sub>16</sub>	cubic	203	3.52	3.46	3.45
A <sub>4</sub> La <sub>5</sub> Ti <sub>6</sub> Nb <sub>2</sub> O <sub>26</sub>	A <sub>3</sub> La <sub>5</sub> Ti <sub>6</sub> Nb <sub>2</sub> O <sub>26</sub>	orthorhombic	65	1.95	1.58	1.52
A <sub>2</sub> Mn(SO <sub>4</sub> ) <sub>2</sub>	AMn(SO <sub>4</sub> ) <sub>2</sub>	orthorhombic	61	4.44	3.76	3.05
A <sub>9</sub> Mn <sub>21</sub> O <sub>40</sub>	Mn <sub>21</sub> O <sub>40</sub>	triclinic	1	3.86	3.65	3.02
A <sub>4</sub> Fe <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> Fe <sub>3</sub> O <sub>8</sub>	trigonal	166	3.11	3.84	4.11
AVF <sub>4</sub>	VF <sub>4</sub>	orthorhombic	33	4.38	3.42	2.40
A <sub>2</sub> VF <sub>4</sub>	AVF <sub>4</sub>	orthorhombic	33	2.00	1.59	1.38
AMn <sub>2</sub> F <sub>7</sub>	Mn <sub>2</sub> F <sub>7</sub>	monoclinic	9	5.50	5.09	4.54
A <sub>4</sub> Fe <sub>5</sub> Sb(PO <sub>4</sub> ) <sub>6</sub>	Fe <sub>5</sub> Sb(PO <sub>4</sub> ) <sub>6</sub>	triclinic	1	2.21	2.80	2.32
A <sub>3</sub> Ti <sub>2</sub> Fe <sub>3</sub> O <sub>10</sub>	A <sub>2</sub> Ti <sub>2</sub> Fe <sub>3</sub> O <sub>10</sub>	triclinic	2	3.92	2.92	2.80
A <sub>4</sub> Ti <sub>2</sub> Fe <sub>3</sub> O <sub>10</sub>	A <sub>3</sub> Ti <sub>2</sub> Fe <sub>3</sub> O <sub>10</sub>	triclinic	2	2.64	2.38	2.51
A <sub>5</sub> Ti <sub>2</sub> Fe <sub>3</sub> O <sub>10</sub>	A <sub>4</sub> Ti <sub>2</sub> Fe <sub>3</sub> O <sub>10</sub>	triclinic	2	2.47	1.99	2.23
A <sub>4</sub> VNi <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	VNi <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	monoclinic	6	3.96	3.52	2.61
A <sub>0.64</sub> NbS <sub>2</sub>	NbS <sub>2</sub>	hexagonal	194	2.38	2.44	2.49
A <sub>0.71</sub> NbS <sub>2</sub>	A <sub>0.64</sub> NbS <sub>2</sub>	hexagonal	194	2.09	1.99	1.94
ANbS <sub>2</sub>	A <sub>0.71</sub> NbS <sub>2</sub>	hexagonal	194	1.75	1.81	1.71
ATiS <sub>2</sub>	TiS <sub>2</sub>	trigonal	164	1.88	1.68	1.53
A <sub>4</sub> V <sub>3</sub> (FeO <sub>5</sub> ) <sub>2</sub>	A <sub>3</sub> V <sub>3</sub> (FeO <sub>5</sub> ) <sub>2</sub>	triclinic	2	2.71	2.31	2.34
A <sub>5</sub> V <sub>3</sub> (FeO <sub>5</sub> ) <sub>2</sub>	A <sub>4</sub> V <sub>3</sub> (FeO <sub>5</sub> ) <sub>2</sub>	triclinic	2	2.10	2.00	2.07

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A4Ti3Mn3Cr2O16	Ti3Mn3Cr2O16	monoclinic	8	3.80	3.34	3.06
AMn3F10	Mn3F10	monoclinic	12	5.89	5.25	4.69
A2Mn3F10	AMn3F10	monoclinic	12	3.96	4.22	3.46
ACoP2O7	CoP2O7	monoclinic	15	5.25	4.84	4.00
AVH2OF5	A0.5VH2OF5	monoclinic	15	4.52	3.95	3.04
A2VH2OF5	AVH2OF5	monoclinic	15	3.59	2.95	2.47
AMo(PO3)5	Mo(PO3)5	monoclinic	14	5.61	4.70	4.19
A4MnCo3(PO4)4	MnCo3(PO4)4	monoclinic	6	4.17	3.57	2.83
A2MnFeO4	A0.67MnFeO4	monoclinic	10	3.44	3.07	3.17
AMn(CO3)2	A0.5Mn(CO3)2	monoclinic	4	4.37	3.73	3.20
A1.5Mn(CO3)2	AMn(CO3)2	monoclinic	4	3.15	3.24	2.85
A0.63CoO2	CoO2	triclinic	1	3.83	3.77	3.24
A4CrCo5O12	CrCo5O12	monoclinic	12	3.79	3.78	3.39
ALa3Ti4O12	La3Ti4O12	monoclinic	8	1.16	1.67	1.63
A2V3O7	V3O7	trigonal	159	3.25	2.90	2.61
A2Mn3CuO8	Mn3CuO8	trigonal	166	4.26	3.81	3.18
A2CoSn(PO4)2	CoSn(PO4)2	monoclinic	11	2.55	3.08	3.07
A3Co2(PO4)3	A1Co2(PO4)3	triclinic	2	4.66	3.89	2.84
A4Co2(PO4)3	A3Co2(PO4)3	triclinic	2	3.67	2.55	2.14
A3Mo(PO4)2	A2Mo(PO4)2	monoclinic	12	3.14	2.26	1.99
A4Co3Sn(PO4)4	Co3Sn(PO4)4	monoclinic	6	3.35	3.16	2.95
A2MnSnO4	AMnSnO4	orthorhombic	74	2.07	2.80	3.07
A2CoH8(SO6)2	ACoH8(SO6)2	monoclinic	14	4.46	3.74	3.04
A4ZrNb(TeO6)2	A3ZrNb(TeO6)2	triclinic	1	2.71	2.39	2.12
AFe23O32	Fe23O32	trigonal	166	12.16	6.13	6.06
A2Bi2(SO4)3	Bi2(SO4)3	monoclinic	15	2.13	2.61	2.28
A2SbSO4F3	SbSO4F3	orthorhombic	19	4.30	3.80	3.21
A5VCr3O8	A2VCr3O8	hexagonal	186	1.80	2.47	3.09
A5Fe(Ni2O5)2	A3Fe(Ni2O5)2	trigonal	166	3.71	3.00	3.23
A1.6CoO2	A1.2CoO2	triclinic	2	2.34	1.83	2.22
A2Co3(P2O7)2	Co3(P2O7)2	triclinic	2	4.45	3.75	2.91
Sr3A3Cu3(PO4)4	Sr3Cu3(PO4)4	monoclinic	7	2.38	2.59	2.55
AVF4	VF4	orthorhombic	60	4.26	3.56	2.54
ABi2(SO4)3	Bi2(SO4)3	monoclinic	14	1.45	2.46	2.23
A2Mn5(CuO6)2	AMn5(CuO6)2	monoclinic	4	3.35	3.48	3.01
A3Mn5(CuO6)2	A2Mn5(CuO6)2	monoclinic	4	3.11	3.11	2.92
A4Mn5(CuO6)2	A3Mn5(CuO6)2	monoclinic	4	2.98	2.71	2.92
A3FePCO7	A2FePCO7	triclinic	2	2.73	2.52	2.65
A2Mn2(SO4)3	Mn2(SO4)3	monoclinic	15	4.61	4.18	3.45
A2VSiCO7	AVSiCO7	monoclinic	11	3.68	2.66	2.33

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3VSiCO7	A2VSiCO7	monoclinic	11	3.00	2.22	2.21
AScMo3O8	ScMo3O8	trigonal	156	2.38	2.79	2.69
A2Mn2(SO4)3	Mn2(SO4)3	orthorhombic	60	4.38	4.14	3.45
A0.55NiO2	A0.36NiO2	triclinic	1	3.80	3.86	3.18
A0.73NiO2	A0.55NiO2	triclinic	1	3.66	3.59	2.87
A2TiFe2O5	ATiFe2O5	triclinic	1	2.56	2.22	2.22
A2Ti3(BiO3)4	Ti3(BiO3)4	orthorhombic	41	-0.33	1.47	1.41
AFeAs2O7	FeAs2O7	monoclinic	5	5.44	5.24	4.81
ACoBO3	CoBO3	monoclinic	9	3.70	3.34	2.77
A3Ti(CoO3)2	Ti(CoO3)2	monoclinic	12	3.51	3.19	3.09
ASb(SO4)2	Sb(SO4)2	monoclinic	7	4.47	3.62	3.04
A5Ni3(SnO5)2	A4Ni3(SnO5)2	triclinic	2	4.02	2.87	3.17
ACrPO4F	CrPO4F	triclinic	1	4.82	3.90	2.86
A2CrPO4F	ACrPO4F	triclinic	1	1.98	1.85	1.66
A6V3P6WO24	V3P6WO24	triclinic	1	2.84	2.70	2.14
A2SrVP2O9	A2SrVP2O9	orthorhombic	33	1.44	1.84	1.67
A3Ni(PO4)2	A2Ni(PO4)2	monoclinic	14	4.83	3.60	2.68
AVF5	VF5	tetragonal	85	4.53	4.35	3.39
A5Mn(Ni2O5)2	A4Mn(Ni2O5)2	triclinic	2	3.70	3.09	2.96
A3Co3(PO4)4	Co3(PO4)4	monoclinic	14	4.89	4.53	3.69
ABi(PO3)4	Bi(PO3)4	monoclinic	12	5.53	4.93	4.36
A4Cr3Co3(TeO8)2	Cr3Co3(TeO8)2	monoclinic	8	3.86	3.85	3.60
A1.5FeNiO4	AFeNiO4	triclinic	2	3.45	3.47	3.13
A4Mn5Cr(PO4)6	Mn5Cr(PO4)6	triclinic	1	3.48	3.38	2.70
A10Mn2V3Cr3O16	A4Mn2V3Cr3O16	triclinic	1	2.00	1.90	1.81
A8Mn3Cr(PO4)6	Mn3Cr(PO4)6	triclinic	1	4.30	3.74	2.98
A4Mn3Cr3(WO8)2	Mn3Cr3(WO8)2	monoclinic	8	3.41	3.40	3.08
A0.5VS2	VS2	orthorhombic	74	1.87	2.05	2.04
AFe(CO3)2	A0.5Fe(CO3)2	monoclinic	14	4.53	3.83	3.30
A2Fe(CO3)2	AFe(CO3)2	monoclinic	14	3.55	3.03	3.12
A2Sb(PO3)5	Sb(PO3)5	monoclinic	11	4.93	4.55	3.68
AMnO2	MnO2	orthorhombic	59	3.28	2.98	2.78
A2CrSn(PO4)2	CrSn(PO4)2	monoclinic	11	2.56	3.06	2.97
AV2CoO6	V2CoO6	triclinic	1	3.35	3.16	2.76
ACr(PO3)4	Cr(PO3)4	monoclinic	12	5.33	4.85	4.16
A9Ti12NbO30	A7Ti12NbO30	trigonal	146	2.01	1.48	1.49
A4Sb(TeO4)3	ASb(TeO4)3	triclinic	1	3.22	3.30	2.74
A2Ti3NbO8	Ti3NbO8	hexagonal	186	1.86	3.12	3.11
AV(PO3)4	V(PO3)4	monoclinic	15	5.01	4.21	3.43
A7CuO4	A6CuO4	tetragonal	137	1.62	1.55	1.35

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A7CrO6	A6CrO6	hexagonal	185	3.07	3.09	3.04
A8CrO6	A7CrO6	hexagonal	185	2.98	2.71	2.72
A2FePCO7	AFePCO7	monoclinic	11	4.62	3.42	3.11
A3FePCO7	A2FePCO7	monoclinic	11	2.93	2.88	2.98
A5CoO4	A4.25CoO4	orthorhombic	58	2.73	2.38	1.67
AVF4	VF4	orthorhombic	31	3.85	3.41	2.39
A2SbP(OF3)2	SbP(OF3)2	triclinic	1	3.20	3.63	2.81
ACr(SO4)2	Cr(SO4)2	triclinic	1	5.31	4.14	3.45
A10Cr2Fe3Co3O16	A4Cr2Fe3Co3O16	monoclinic	8	2.85	2.74	2.79
A6V2C4SO16	A4V2C4SO16	cubic	203	2.55	2.42	2.57
A3Mn3O8	A2.5Mn3O8	trigonal	166	4.68	3.42	3.42
A4Mn3O8	A3Mn3O8	trigonal	166	3.75	3.05	3.37
A3Ti(BO3)2	A2Ti(BO3)2	monoclinic	14	1.14	1.28	1.27
A4Mn3CuNi2(PO4)6	Mn3CuNi2(PO4)6	triclinic	1	3.61	3.76	2.98
A14Co9(P2O7)8	A5Co9(P2O7)8	triclinic	2	4.36	3.16	2.34
A3Mn5O8	Mn5O8	trigonal	166	2.85	2.69	2.72
A4Mn7O12	AMn7O12	monoclinic	5	3.02	2.69	2.72
A5Mn7O12	A4Mn7O12	monoclinic	5	2.52	2.13	2.53
A5V2Fe3O10	A3V2Fe3O10	triclinic	2	2.53	2.33	2.43
ANiF3	NiF3	trigonal	148	5.87	4.88	3.98
AMo2(PO4)3	Mo2(PO4)3	monoclinic	14	3.66	3.40	3.02
A3Mo2(PO4)3	AMo2(PO4)3	monoclinic	14	3.01	2.59	2.22
A3Al2FeO6	AAl2FeO6	monoclinic	12	4.15	3.87	3.71
A2Ti2VO6	ATi2VO6	triclinic	2	1.75	1.51	1.40
AMn7O12	Mn7O12	cubic	204	3.38	3.68	3.49
A0.5CrS2	CrS2	cubic	227	2.48	2.34	2.37
A5CrS4	A2CrS4	orthorhombic	71	1.90	1.65	1.50
A4Ti3Co3(TeO8)2	Ti3Co3(TeO8)2	monoclinic	8	3.60	3.40	3.17
A3AMnBPO7	A3MnBPO7	monoclinic	11	1.79	1.85	1.67
A3V3(FeO6)2	A2V3(FeO6)2	monoclinic	14	4.37	3.09	2.78
A2V3FeO8	V3FeO8	monoclinic	8	1.67	2.84	2.64
ASb(PO3)4	Sb(PO3)4	monoclinic	15	5.00	4.46	3.86
A2TiV2O6	ATiV2O6	monoclinic	12	2.69	1.84	1.68
A3TiV2O6	A2TiV2O6	monoclinic	12	1.65	1.44	1.38
A2FeF4	AFeF4	monoclinic	15	3.24	2.68	2.43
A1.5VFeO4	AVFeO4	monoclinic	12	1.76	2.67	2.85
A2VFeO4	A1.5VFeO4	monoclinic	12	0.69	2.30	2.53
A8Fe7O15	A6Fe7O15	monoclinic	12	4.43	3.38	3.38
AP2WO7	P2WO7	monoclinic	14	4.08	2.40	1.80
A3Sb2(PO4)3	Sb2(PO4)3	trigonal	148	3.28	2.97	2.50

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3Mn(CoO3)2	Mn(CoO3)2	monoclinic	12	3.47	3.37	3.18
AMo3P3O16	Mo3P3O16	triclinic	2	3.76	3.93	3.65
A2Ti13O22	Ti13O22	orthorhombic	64	0.85	1.30	1.25
Ba4ANb3O12	Ba4Nb3O12	hexagonal	186	4.62	3.56	3.56
AMn2OF3	Mn2OF3	orthorhombic	62	2.97	2.83	2.43
A9Nb7V12O48	ANb7V12O48	triclinic	1	3.03	3.03	2.49
A6Fe3Sb(PO4)6	Fe3Sb(PO4)6	triclinic	1	3.92	3.67	2.79
A2Cr2(SO4)3	Cr2(SO4)3	monoclinic	15	2.74	3.13	2.65
A4Mn3O8	A3Mn3O8	triclinic	1	3.78	3.02	3.30
A5.5Mn3O8	A4Mn3O8	triclinic	1	2.32	2.60	2.82
ASbP2O7	SbP2O7	monoclinic	14	4.87	3.60	3.00
A3Cr(PO4)2	A2Cr(PO4)2	monoclinic	14	4.52	2.58	2.04
A2Mn2Fe(PO4)3	Mn2Fe(PO4)3	monoclinic	5	3.70	3.59	2.91
A0.5MnS2	MnS2	cubic	227	1.91	1.95	1.91
A9Co15O28	Co15O28	triclinic	2	3.48	3.62	3.14
A13Co15O28	A9Co15O28	triclinic	2	3.04	2.72	2.90
K2AVPO6	K2VPO6	monoclinic	14	1.88	1.94	1.84
A2Mn3VO8	Mn3VO8	orthorhombic	36	3.57	3.16	2.63
A2Sn2(SO4)3	Sn2(SO4)3	orthorhombic	60	3.21	2.82	2.64
ACo(PO3)3	Co(PO3)3	orthorhombic	57	4.03	4.57	3.89
A8NbS6	A7NbS6	trigonal	148	1.74	1.46	1.32
A6Mn5O12	A5Mn5O12	monoclinic	12	3.40	2.72	3.00
A7Mn5O12	A6Mn5O12	monoclinic	12	3.01	2.52	2.76
A2VCrO4	AVCrO4	triclinic	2	2.72	2.04	1.83
A5V2Fe5O12	A4V2Fe5O12	monoclinic	5	2.81	2.52	2.62
Ba14AY7(Cu10O21)2	Ba14Y7(Cu10O21)2	triclinic	1	3.07	2.83	2.82
A4V2SiGeO10	A2V2SiGeO10	orthorhombic	49	3.45	2.43	2.30
A2MnFe(PO4)2	MnFe(PO4)2	monoclinic	6	3.62	3.17	2.61
A13Nb14ZnO42	A12Nb14ZnO42	triclinic	1	1.71	1.78	1.63
A5Cu(HO2)2	A4.5Cu(HO2)2	orthorhombic	62	2.89	2.14	1.66
ACr(CO3)2	A0.5Cr(CO3)2	monoclinic	14	4.53	3.51	2.94
A2Cr(CO3)2	ACr(CO3)2	monoclinic	14	2.47	2.59	2.54
A4Ti3Co3(SbO8)2	Ti3Co3(SbO8)2	monoclinic	8	3.81	2.98	2.63
A2CoCSO7	ACoCSO7	monoclinic	11	4.09	3.37	3.10
A4CrP2(O4F)2	A3.33CrP2(O4F)2	trigonal	143	4.65	3.26	2.44
A5CrP2(O4F)2	A4CrP2(O4F)2	trigonal	143	4.41	2.69	2.13
A4MnSn3(PO4)4	MnSn3(PO4)4	monoclinic	6	2.84	3.04	3.05
A4Mn5Sn(PO4)6	Mn5Sn(PO4)6	triclinic	1	3.37	3.09	2.81
AV3Zn2O8	V3Zn2O8	trigonal	166	3.15	3.03	2.80
A6La3Nb2O12	A5La3Nb2O12	cubic	199	0.36	1.51	1.53

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2Ni(PO3)5	ANi(PO3)5	monoclinic	7	5.96	5.07	3.73
A4MoP2O9	A3MoP2O9	monoclinic	12	3.32	2.46	2.15
ACu(PO3)3	Cu(PO3)3	orthorhombic	19	5.12	4.44	3.66
A2Cu(PO3)3	ACu(PO3)3	orthorhombic	19	2.19	3.00	2.23
A3Cr(PO3)8	A2Cr(PO3)8	monoclinic	5	6.09	4.99	3.56
A3Mn2CrO6	Mn2CrO6	monoclinic	12	3.38	3.10	2.99
A6Nb3P8O29	A3Nb3P8O29	trigonal	165	2.15	2.16	1.76
A9Nb3P8O29	A6Nb3P8O29	trigonal	165	1.81	1.69	1.53
AVF4	VF4	trigonal	148	4.09	3.55	2.77
A2VF4	AVF4	trigonal	148	2.41	1.76	1.49
AMnPHO5	MnPHO5	triclinic	2	4.29	3.92	3.15
A2MnPHO5	AMnPHO5	triclinic	2	2.75	2.25	2.04
A1.25CrO2	A0.5CrO2	orthorhombic	36	2.10	1.74	1.61
A2Mn3F8	Mn3F8	hexagonal	186	4.27	3.87	3.59
AMo2P3O11	Mo2P3O11	monoclinic	5	2.78	2.98	2.64
ANi2(SO4)3	Ni2(SO4)3	monoclinic	15	5.59	4.94	4.35
A2Ni2(SO4)3	ANi2(SO4)3	monoclinic	15	4.83	4.11	3.01
AMo2P3O13	Mo2P3O13	monoclinic	14	3.85	3.77	3.28
A9AFe10(SiO3)20	A9Fe10(SiO3)20	triclinic	1	4.74	4.10	4.03
A4Fe7O12	A3Fe7O12	monoclinic	5	5.22	3.91	3.56
A5Fe7O12	A4Fe7O12	monoclinic	5	2.81	3.35	3.16
AP2WO7	P2WO7	monoclinic	4	2.44	2.35	1.76
AMn2Si2O7	Mn2Si2O7	monoclinic	9	2.98	3.77	3.49
AMnF3	MnF3	hexagonal	182	4.22	3.97	3.63
A0.33FeO2	FeO2	tetragonal	141	4.06	4.91	4.56
AFeO2	A0.33FeO2	tetragonal	141	3.87	3.51	3.40
A8Ti15O32	A4Ti15O32	trigonal	160	2.64	1.57	1.52
ABi2(PO4)3	Bi2(PO4)3	monoclinic	14	4.74	4.67	4.21
A3Bi2(PO4)3	ABi2(PO4)3	monoclinic	14	4.44	3.53	2.79
ABi3(PO5)2	Bi3(PO5)2	triclinic	1	4.73	4.14	3.64
A4Mn3CrCo2(PO4)6	Mn3CrCo2(PO4)6	triclinic	1	3.62	3.40	2.72
A2Cr(Si2O5)2	Cr(Si2O5)2	triclinic	2	2.99	3.30	2.85
ANi(PO3)4	Ni(PO3)4	orthorhombic	60	5.82	5.54	4.95
A4Cr3NiO8	A3Cr3NiO8	monoclinic	10	3.72	2.71	2.79
A2MnCo3O8	MnCo3O8	hexagonal	186	3.96	3.86	3.63
A0.33MnO2	MnO2	monoclinic	15	3.84	3.99	3.52
A0.42MnO2	A0.33MnO2	monoclinic	15	3.83	3.41	2.93
A0.5MnO2	A0.42MnO2	monoclinic	15	3.41	3.10	2.94
AMnO2	A0.5MnO2	monoclinic	15	2.81	2.42	2.77
A1.25MnO2	AMnO2	monoclinic	15	0.54	1.96	2.41

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A1.5MnO2	A1.25MnO2	monoclinic	15	-0.54	1.71	2.04
A2CrWO6	CrWO6	trigonal	146	4.25	3.61	2.97
A5Mn3(FeO5)2	A3Mn3(FeO5)2	triclinic	2	3.25	2.58	2.82
A4NiSn3(PO4)4	NiSn3(PO4)4	monoclinic	6	2.85	3.08	3.08
A2Mn2Ni(PO4)3	Mn2Ni(PO4)3	monoclinic	5	3.68	3.86	3.18
A4Ti3Fe3(SbO8)2	Ti3Fe3(SbO8)2	triclinic	1	3.30	2.74	2.36
AVS2	VS2	trigonal	164	1.79	1.92	1.84
AFe(CO3)2	Fe(CO3)2	trigonal	148	4.93	4.09	3.68
ACoPHO5	CoPHO5	triclinic	2	4.67	4.23	3.20
A0.67VO2	VO2	trigonal	166	2.93	2.64	2.63
AVO2	A0.67VO2	trigonal	166	2.87	1.90	1.70
A6Cr3P6WO24	Cr3P6WO24	triclinic	1	3.43	3.25	2.41
A3TiV3O8	A2TiV3O8	hexagonal	186	1.87	2.52	2.71
A2CoCuO4	ACoCuO4	orthorhombic	74	3.63	3.03	3.10
AV3Fe2CuO12	V3Fe2CuO12	triclinic	2	4.28	3.71	3.54
A1.5V3Fe2CuO12	AV3Fe2CuO12	triclinic	2	2.43	3.50	2.94
AV2O5	V2O5	orthorhombic	59	2.93	3.08	2.42
ANi(PO3)3	Ni(PO3)3	orthorhombic	19	5.73	4.76	4.05
A5V5(FeO6)2	A4V5(FeO6)2	monoclinic	5	2.41	1.90	1.94
A4Mn2P4H3O16	A2Mn2P4H3O16	triclinic	1	4.38	3.05	2.38
ALa4FeO8	La4FeO8	orthorhombic	65	3.14	3.50	3.34
ALa3Ti3CrO12	La3Ti3CrO12	triclinic	1	1.45	1.97	1.86
A4Mn3Cr(PO4)4	Mn3Cr(PO4)4	triclinic	1	3.55	2.91	2.41
A5Mn3Cr(PO4)4	A4Mn3Cr(PO4)4	triclinic	1	-0.30	1.73	1.72
A9Co13O28	A4Co13O28	triclinic	2	3.93	3.68	3.14
A14Co13O28	A9Co13O28	triclinic	2	3.55	2.90	3.13
A4Mn2Cr3Co3O16	Mn2Cr3Co3O16	monoclinic	8	3.95	3.82	3.51
A13Mn2O9	A12Mn2O9	trigonal	147	1.86	1.40	1.32
A14Mn2O9	A13Mn2O9	trigonal	147	1.83	1.31	1.27
A3Ti(BO3)2	A2Ti(BO3)2	triclinic	2	1.05	1.26	1.25
A3Mn(BO3)2	A2Mn(BO3)2	monoclinic	14	3.75	2.09	1.79
AMn2NiO6	Mn2NiO6	orthorhombic	64	4.25	4.01	3.57
A2Mn2NiO6	AMn2NiO6	orthorhombic	64	3.54	3.21	2.89
AV(SiO3)2	V(SiO3)2	orthorhombic	61	3.33	2.80	2.33
A4Ni5Te(PO4)6	Ni5Te(PO4)6	triclinic	1	3.95	3.84	3.22
ANi6O7	Ni6O7	triclinic	2	3.76	3.87	3.63
A2Mn2FeO6	Mn2FeO6	orthorhombic	64	3.57	3.45	3.13
A1.25KTi2(PO5)2	AKTi2(PO5)2	triclinic	1	0.42	1.49	1.45
AMn2OF3	Mn2OF3	trigonal	164	3.05	2.94	2.59
A4Mn3Cr2Sb3O16	Mn3Cr2Sb3O16	monoclinic	8	3.36	3.43	3.07



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ABi(PdO <sub>2</sub> ) <sub>2</sub>	Bi(PdO <sub>2</sub> ) <sub>2</sub>	tetragonal	129	4.13	4.00	3.62
A <sub>3</sub> Cr(CO <sub>3</sub> ) <sub>3</sub>	A <sub>2</sub> Cr(CO <sub>3</sub> ) <sub>3</sub>	orthorhombic	40	4.18	2.91	2.57
A <sub>4</sub> Fe <sub>3</sub> Co <sub>3</sub> (SbO <sub>8</sub> ) <sub>2</sub>	Fe <sub>3</sub> Co <sub>3</sub> (SbO <sub>8</sub> ) <sub>2</sub>	monoclinic	8	4.39	3.99	3.68
A <sub>4</sub> Fe <sub>5</sub> P <sub>6</sub> WO <sub>24</sub>	Fe <sub>5</sub> P <sub>6</sub> WO <sub>24</sub>	triclinic	1	2.43	2.76	2.31
A <sub>3</sub> Ni <sub>2</sub> SnO <sub>6</sub>	A <sub>2</sub> Ni <sub>2</sub> SnO <sub>6</sub>	monoclinic	12	3.69	3.10	3.29
A <sub>3</sub> MnSiCO <sub>7</sub>	A <sub>2</sub> MnSiCO <sub>7</sub>	monoclinic	11	3.66	3.24	3.04
A <sub>4</sub> Co <sub>3</sub> Ni(PO <sub>4</sub> ) <sub>4</sub>	Co <sub>3</sub> Ni(PO <sub>4</sub> ) <sub>4</sub>	monoclinic	6	4.44	3.78	2.95
AMnCSO <sub>7</sub>	MnCSO <sub>7</sub>	monoclinic	11	4.91	4.28	3.57
A <sub>2</sub> MnCSO <sub>7</sub>	AMnCSO <sub>7</sub>	monoclinic	11	3.65	3.27	2.83
AMnO <sub>2</sub>	MnO <sub>2</sub>	monoclinic	9	3.07	3.05	2.97
A <sub>5</sub> AMn <sub>2</sub> O <sub>8</sub>	A <sub>5</sub> Mn <sub>2</sub> O <sub>8</sub>	orthorhombic	62	4.06	3.72	3.48
A <sub>2.25</sub> K <sub>2</sub> CrO <sub>4</sub>	A <sub>0.75</sub> K <sub>2</sub> CrO <sub>4</sub>	monoclinic	14	1.70	1.95	1.91
K <sub>2</sub> A <sub>3</sub> CrO <sub>4</sub>	A <sub>2.25</sub> K <sub>2</sub> CrO <sub>4</sub>	monoclinic	14	1.28	1.33	1.35
A <sub>5</sub> Mn <sub>3</sub> Cr <sub>2</sub> O <sub>10</sub>	A <sub>4</sub> Mn <sub>3</sub> Cr <sub>2</sub> O <sub>10</sub>	triclinic	1	3.40	2.17	2.44
A <sub>5</sub> CoO <sub>4</sub>	A <sub>4</sub> CoO <sub>4</sub>	orthorhombic	61	2.78	2.47	1.77
A <sub>4</sub> Cr <sub>3</sub> CuO <sub>8</sub>	A <sub>2</sub> Cr <sub>3</sub> CuO <sub>8</sub>	trigonal	166	3.57	2.73	3.03
ACo <sub>3</sub> P <sub>3</sub> O <sub>11</sub>	Co <sub>3</sub> P <sub>3</sub> O <sub>11</sub>	monoclinic	14	4.10	3.87	3.43
A <sub>3</sub> FeNi <sub>3</sub> O <sub>8</sub>	A <sub>2</sub> FeNi <sub>3</sub> O <sub>8</sub>	monoclinic	9	3.19	3.58	3.24
A <sub>5</sub> FeNi <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> FeNi <sub>3</sub> O <sub>8</sub>	monoclinic	9	2.93	2.93	3.10
A <sub>3</sub> FeNi <sub>3</sub> O <sub>8</sub>	A <sub>2</sub> FeNi <sub>3</sub> O <sub>8</sub>	triclinic	2	3.64	3.49	2.95
A <sub>4</sub> FeNi <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> FeNi <sub>3</sub> O <sub>8</sub>	triclinic	2	3.62	3.13	3.03
AVAsO <sub>5</sub>	VAsO <sub>5</sub>	orthorhombic	62	3.83	3.75	3.05
A <sub>4</sub> VTe(WO <sub>6</sub> ) <sub>2</sub>	AVTe(WO <sub>6</sub> ) <sub>2</sub>	triclinic	1	3.18	2.76	2.27
ANiPO <sub>4</sub> F	NiPO <sub>4</sub> F	triclinic	1	5.31	4.96	3.91
A <sub>2</sub> NiPO <sub>4</sub> F	ANiPO <sub>4</sub> F	triclinic	1	4.57	2.88	2.18
A <sub>2</sub> CrPCO <sub>7</sub>	A <sub>1.5</sub> CrPCO <sub>7</sub>	monoclinic	11	4.75	2.92	2.53
A <sub>3</sub> CrPCO <sub>7</sub>	A <sub>2</sub> CrPCO <sub>7</sub>	monoclinic	11	1.99	2.29	2.38
ACoBO <sub>3</sub>	A <sub>0.5</sub> CoBO <sub>3</sub>	triclinic	2	3.77	2.55	2.00
A <sub>4</sub> Ti <sub>2</sub> Co <sub>3</sub> O <sub>10</sub>	ATi <sub>2</sub> Co <sub>3</sub> O <sub>10</sub>	triclinic	1	3.59	2.98	2.73
A <sub>5</sub> Ti <sub>2</sub> Co <sub>3</sub> O <sub>10</sub>	A <sub>4</sub> Ti <sub>2</sub> Co <sub>3</sub> O <sub>10</sub>	triclinic	1	3.11	2.11	2.29
A <sub>2</sub> Co <sub>3</sub> BiO <sub>8</sub>	Co <sub>3</sub> BiO <sub>8</sub>	trigonal	166	4.37	3.64	3.22
A <sub>2</sub> MnSiO <sub>4</sub>	AMnSiO <sub>4</sub>	monoclinic	14	3.44	3.01	2.95
A <sub>2</sub> Co(SiO <sub>3</sub> ) <sub>2</sub>	ACo(SiO <sub>3</sub> ) <sub>2</sub>	orthorhombic	43	3.64	3.53	3.08
ATi(PO <sub>3</sub> ) <sub>4</sub>	Ti(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	15	2.68	3.61	2.92
A <sub>2</sub> CoP <sub>2</sub> O <sub>7</sub>	ACoP <sub>2</sub> O <sub>7</sub>	triclinic	1	4.05	2.84	2.18
A <sub>2</sub> MnCuO <sub>4</sub>	AMnCuO <sub>4</sub>	monoclinic	15	3.02	2.78	3.05
A <sub>2</sub> V <sub>6</sub> O <sub>13</sub>	V <sub>6</sub> O <sub>13</sub>	triclinic	1	2.71	3.01	2.68
A <sub>3.25</sub> V <sub>6</sub> O <sub>13</sub>	A <sub>2</sub> V <sub>6</sub> O <sub>13</sub>	triclinic	1	2.33	2.58	2.19
A <sub>1.33</sub> TiVO <sub>4</sub>	A <sub>0.67</sub> TiVO <sub>4</sub>	triclinic	2	2.41	1.64	1.49
A <sub>2</sub> TiVO <sub>4</sub>	A <sub>1.33</sub> TiVO <sub>4</sub>	triclinic	2	1.83	1.39	1.31

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A0.5CuO	CuO	tetragonal	137	3.07	3.36	3.09
A0.5VO2	VO2	trigonal	160	3.43	2.72	2.56
A0.69VO2	A0.5VO2	trigonal	160	2.33	2.20	2.12
A1.06VO2	A0.69VO2	trigonal	160	2.12	1.79	1.62
A1.25VO2	A1.06VO2	trigonal	160	0.08	1.49	1.42
AVP2HO8	A0.5VP2HO8	monoclinic	4	4.48	3.69	2.62
A2VP2HO8	AVP2HO8	monoclinic	4	3.89	2.58	1.90
A1.5Mn2FeO6	Mn2FeO6	triclinic	2	4.53	3.82	3.29
A4TiFe3O8	A3TiFe3O8	monoclinic	12	2.43	2.60	2.81
A5NiO4	A4.5NiO4	triclinic	1	3.89	2.21	1.65
A5.88NiO4	A5NiO4	triclinic	1	2.19	1.61	1.36
A5A4Ti5O14	A5A3Ti5O14	triclinic	1	0.98	1.40	1.33
A2.5FePCO7	A2FePCO7	monoclinic	7	2.83	3.10	3.05
A4V(TeO4)3	AV(TeO4)3	monoclinic	3	3.60	3.09	2.52
A0.33CuCO3	CuCO3	hexagonal	174	3.85	3.66	3.54
A0.67CuCO3	A0.33CuCO3	hexagonal	174	3.31	3.27	3.45
ACuCO3	A0.67CuCO3	hexagonal	174	2.73	3.16	3.56
A6NbCr3(PO4)6	NbCr3(PO4)6	triclinic	1	3.43	3.07	2.31
A9Mn7Cr12O48	Mn7Cr12O48	triclinic	1	4.27	4.32	3.81
A3Fe(SbO3)4	Fe(SbO3)4	triclinic	1	3.74	3.32	2.83
AWCl6	WCl6	trigonal	146	2.65	2.80	2.64
A2V(PO4)2	AV(PO4)2	monoclinic	12	4.15	2.98	2.09
A3V(PO4)2	A2V(PO4)2	monoclinic	12	3.70	2.08	1.59
A5.25FeO4	A4.5FeO4	tetragonal	137	3.06	2.15	1.87
A6FeO4	A5.25FeO4	tetragonal	137	1.41	1.61	1.47
A3.5Mn7O16	A3Mn7O16	trigonal	160	4.56	3.78	3.28
A4V2P4H3O16	V2P4H3O16	triclinic	1	3.70	3.19	2.26
AMn(SiO3)2	Mn(SiO3)2	orthorhombic	61	4.55	4.01	3.59
ACr(PO3)4	Cr(PO3)4	orthorhombic	60	6.00	4.77	4.05
A8Mn7Cr(PO4)12	Mn7Cr(PO4)12	triclinic	1	4.80	4.40	3.54
A4MnCr3(PO4)4	MnCr3(PO4)4	monoclinic	6	2.97	2.84	2.35
Ba2ATi11O24	Ba2Ti11O24	triclinic	1	2.41	1.77	1.66
A3Mn2V3O12	Mn2V3O12	monoclinic	14	4.19	3.45	2.76
A4Mn2V3O12	A3Mn2V3O12	monoclinic	14	3.23	2.54	2.42
A3Co3TeO8	Co3TeO8	trigonal	166	3.75	3.41	3.29
A4Co3TeO8	A3Co3TeO8	trigonal	166	2.41	2.72	3.35
A0.6CrO2	CrO2	trigonal	166	4.14	3.88	3.51
A0.75CrO2	A0.6CrO2	trigonal	166	3.99	3.17	3.06
ACrO2	A0.75CrO2	trigonal	166	3.71	2.55	2.50
ANiO2	A0.58NiO2	monoclinic	12	3.64	3.39	3.09

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ACr(PO <sub>3</sub> ) <sub>3</sub>	Cr(PO <sub>3</sub> ) <sub>3</sub>	triclinic	2	3.60	3.88	3.08
Ba <sub>6</sub> A <sub>2</sub> Ta <sub>9</sub> Ti <sub>7</sub> O <sub>42</sub>	Ba <sub>6</sub> Ta <sub>9</sub> Ti <sub>7</sub> O <sub>42</sub>	monoclinic	8	1.12	1.38	1.37
Sr <sub>3</sub> A <sub>2</sub> Nb <sub>4</sub> O <sub>13</sub>	Sr <sub>3</sub> Nb <sub>4</sub> O <sub>13</sub>	tetragonal	139	2.33	2.27	2.20
A <sub>2</sub> Ti(PO <sub>3</sub> ) <sub>5</sub>	ATi(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	7	3.74	3.33	2.29
ASi <sub>6</sub> Bi <sub>9</sub> O <sub>26</sub>	Si <sub>6</sub> Bi <sub>9</sub> O <sub>26</sub>	trigonal	143	4.43	4.32	4.20
A <sub>2</sub> Cu(PO <sub>3</sub> ) <sub>4</sub>	ACu(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	9	4.39	4.31	3.12
ANi <sub>3</sub> O <sub>4</sub>	Ni <sub>3</sub> O <sub>4</sub>	orthorhombic	65	3.36	3.57	3.29
A <sub>10</sub> Mn <sub>3</sub> V <sub>5</sub> O <sub>16</sub>	A <sub>4</sub> Mn <sub>3</sub> V <sub>5</sub> O <sub>16</sub>	triclinic	1	1.77	1.87	1.76
A <sub>4</sub> Mn <sub>3</sub> VO <sub>8</sub>	Mn <sub>3</sub> VO <sub>8</sub>	trigonal	148	3.14	2.81	2.81
AVBO <sub>4</sub>	VBO <sub>4</sub>	tetragonal	82	2.78	2.84	2.15
A <sub>2</sub> MnFe(PO <sub>4</sub> ) <sub>2</sub>	MnFe(PO <sub>4</sub> ) <sub>2</sub>	orthorhombic	31	3.61	2.93	2.39
A <sub>4</sub> Ti <sub>2</sub> Mn <sub>3</sub> Fe <sub>3</sub> O <sub>16</sub>	Ti <sub>2</sub> Mn <sub>3</sub> Fe <sub>3</sub> O <sub>16</sub>	triclinic	1	4.23	3.65	3.23
A <sub>8</sub> FeNi <sub>9</sub> O <sub>20</sub>	A <sub>6</sub> FeNi <sub>9</sub> O <sub>20</sub>	triclinic	2	3.83	3.47	2.91
A <sub>10</sub> FeNi <sub>9</sub> O <sub>20</sub>	A <sub>8</sub> FeNi <sub>9</sub> O <sub>20</sub>	triclinic	2	3.59	3.22	3.01
Ba <sub>6</sub> A <sub>2</sub> Ti <sub>7</sub> (Sb <sub>3</sub> O <sub>14</sub> ) <sub>3</sub>	Ba <sub>6</sub> Ti <sub>7</sub> (Sb <sub>3</sub> O <sub>14</sub> ) <sub>3</sub>	monoclinic	8	1.47	1.98	1.95
AACu(PO <sub>3</sub> ) <sub>3</sub>	ACu(PO <sub>3</sub> ) <sub>3</sub>	orthorhombic	19	2.37	3.03	2.61
A <sub>4</sub> TiCo <sub>5</sub> O <sub>12</sub>	TiCo <sub>5</sub> O <sub>12</sub>	monoclinic	12	3.80	3.64	3.28
RbAVPO <sub>5</sub>	RbVPO <sub>5</sub>	orthorhombic	19	1.41	1.52	1.45
A <sub>7</sub> Ti <sub>12</sub> Fe <sub>5</sub> O <sub>32</sub>	Ti <sub>12</sub> Fe <sub>5</sub> O <sub>32</sub>	trigonal	146	3.29	2.76	2.60
A <sub>8</sub> VNi <sub>3</sub> (PO <sub>4</sub> ) <sub>6</sub>	A <sub>6</sub> VNi <sub>3</sub> (PO <sub>4</sub> ) <sub>6</sub>	trigonal	146	4.18	2.63	2.22
A <sub>2</sub> TiMnO <sub>4</sub>	ATiMnO <sub>4</sub>	orthorhombic	74	2.29	1.91	1.72
ASi <sub>2</sub> BiO <sub>6</sub>	Si <sub>2</sub> BiO <sub>6</sub>	monoclinic	15	4.04	3.74	3.35
A <sub>2</sub> V(PO <sub>3</sub> ) <sub>5</sub>	V(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	11	5.04	4.35	3.25
A <sub>0.38</sub> TiO <sub>2</sub>	TiO <sub>2</sub>	cubic	227	2.94	2.64	2.32
A <sub>0.44</sub> TiO <sub>2</sub>	A <sub>0.38</sub> TiO <sub>2</sub>	cubic	227	2.35	1.87	1.83
A <sub>0.5</sub> TiO <sub>2</sub>	A <sub>0.44</sub> TiO <sub>2</sub>	cubic	227	2.27	1.72	1.75
ATiO <sub>2</sub>	A <sub>0.5</sub> TiO <sub>2</sub>	cubic	227	0.90	1.46	1.41
A <sub>2</sub> Cr <sub>3</sub> (CoO <sub>6</sub> ) <sub>2</sub>	Cr <sub>3</sub> (CoO <sub>6</sub> ) <sub>2</sub>	monoclinic	14	4.27	4.31	4.03
A <sub>3</sub> Cr <sub>3</sub> (CoO <sub>6</sub> ) <sub>2</sub>	A <sub>2</sub> Cr <sub>3</sub> (CoO <sub>6</sub> ) <sub>2</sub>	monoclinic	14	2.43	3.78	3.46
A <sub>4</sub> Sb(TeO <sub>4</sub> ) <sub>3</sub>	ASb(TeO <sub>4</sub> ) <sub>3</sub>	monoclinic	3	3.23	3.38	2.98
ACr(PO <sub>3</sub> ) <sub>4</sub>	Cr(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	4	5.17	4.80	4.12
A <sub>9</sub> Ti <sub>7</sub> Nb <sub>5</sub> O <sub>30</sub>	A <sub>7</sub> Ti <sub>7</sub> Nb <sub>5</sub> O <sub>30</sub>	trigonal	143	1.67	1.52	1.53
A <sub>2</sub> FeF <sub>4</sub>	AFeF <sub>4</sub>	orthorhombic	65	2.18	2.83	2.31
AMgCr <sub>3</sub> (SO <sub>4</sub> ) <sub>6</sub>	MgCr <sub>3</sub> (SO <sub>4</sub> ) <sub>6</sub>	triclinic	1	4.66	3.98	3.62
A <sub>2</sub> MgCr <sub>3</sub> (SO <sub>4</sub> ) <sub>6</sub>	AMgCr <sub>3</sub> (SO <sub>4</sub> ) <sub>6</sub>	triclinic	1	2.69	3.45	2.91
A <sub>4</sub> Mn <sub>3</sub> Co <sub>2</sub> Te <sub>3</sub> O <sub>16</sub>	Mn <sub>3</sub> Co <sub>2</sub> Te <sub>3</sub> O <sub>16</sub>	triclinic	1	3.37	3.43	3.10
A <sub>4</sub> Mn <sub>3</sub> Co <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	Mn <sub>3</sub> Co <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	triclinic	1	3.51	3.55	3.18
A <sub>4</sub> Cr <sub>3</sub> FeO <sub>8</sub>	A <sub>2</sub> Cr <sub>3</sub> FeO <sub>8</sub>	triclinic	2	3.16	2.54	2.36
AFeCo <sub>3</sub> O <sub>8</sub>	FeCo <sub>3</sub> O <sub>8</sub>	trigonal	166	4.76	4.67	4.36
A <sub>2</sub> FeCo <sub>3</sub> O <sub>8</sub>	AFeCo <sub>3</sub> O <sub>8</sub>	trigonal	166	3.18	4.10	3.66

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3FeCo3O8	A2FeCo3O8	trigonal	166	2.31	3.42	3.62
A3Sn(BO3)2	A2Sn(BO3)2	triclinic	2	2.32	2.23	2.17
A3Nb4VO12	Nb4VO12	triclinic	1	2.39	2.29	1.87
AMn(CO3)2	Mn(CO3)2	monoclinic	14	4.20	4.00	3.62
A2Mn(CO3)2	AMn(CO3)2	monoclinic	14	3.51	3.05	2.85
ACo2(SO4)3	Co2(SO4)3	trigonal	167	4.19	4.07	3.59
A1.29V2O5	V2O5	monoclinic	13	3.29	3.11	2.39
A4MnV3O8	A2MnV3O8	monoclinic	12	2.22	2.10	1.99
A4Mn3FeO8	A3Mn3FeO8	trigonal	166	2.46	2.52	2.97
KAMnPCO7	KMnPCO7	monoclinic	4	3.88	3.21	3.00
KA2MnPCO7	KAMnPCO7	monoclinic	4	2.56	2.68	2.68
AFeAs	A0.95FeAs	tetragonal	129	0.91	0.56	0.63
A2AMnPCO7	A2MnPCO7	triclinic	1	3.23	2.91	2.71
A2TiVO4	ATiVO4	orthorhombic	74	1.39	1.40	1.32
A3CrO3	A2CrO3	trigonal	163	1.96	1.61	1.68
A2MnNiO4	A1.33MnNiO4	monoclinic	10	2.63	2.68	3.03
A1.5MnCrO4	A0.5MnCrO4	monoclinic	15	3.54	3.10	3.06
A2MnCrO4	A1.5MnCrO4	monoclinic	15	3.34	2.37	2.69
ACr(CoO3)2	Cr(CoO3)2	monoclinic	12	4.22	4.09	3.91
A3Cr(CoO3)2	ACr(CoO3)2	monoclinic	12	3.65	3.03	3.12
A3V2F9	AV2F9	trigonal	165	4.04	3.14	2.33
A4V2F9	A3V2F9	trigonal	165	2.60	2.07	1.58
A2V4CrCuO12	V4CrCuO12	monoclinic	5	2.60	3.10	2.73
A4Ti3Nb2Cr3O16	Ti3Nb2Cr3O16	monoclinic	8	2.58	2.37	1.94
A2TiCrO4	ATiCrO4	orthorhombic	74	1.01	1.46	1.43
A6Ni2C4SO16	A4Ni2C4SO16	cubic	203	4.81	3.43	3.30
ACo(WO4)2	Co(WO4)2	triclinic	2	5.07	4.29	3.78
A2Co(WO4)2	ACo(WO4)2	triclinic	2	4.17	3.40	2.68
A3Ti6Zn3O16	A2Ti6Zn3O16	monoclinic	4	1.66	2.42	2.09
A2SbAu	ASbAu	cubic	216	1.19	0.44	0.40
A10Co4O9	A8.5Co4O9	triclinic	1	2.42	1.49	1.68
A10.5Co4O9	A10Co4O9	triclinic	1	-0.38	1.46	1.59
ACo(PO3)3	Co(PO3)3	triclinic	2	4.78	4.53	3.71
A0.5CuCO3	CuCO3	triclinic	2	4.02	3.45	3.16
A5AFe2P2(CO7)2	A5Fe2P2(CO7)2	monoclinic	4	2.93	3.16	3.04
A8Mn7Ni(PO4)12	Mn7Ni(PO4)12	triclinic	1	4.92	4.52	3.63
A3Mn3NiO8	A2Mn3NiO8	monoclinic	9	2.01	2.78	2.99
A5FeO4	A4.5FeO4	monoclinic	14	3.41	2.25	1.77
A5MnCr3O8	A2MnCr3O8	tetragonal	96	2.21	2.33	2.35
A5Ti2V5O12	A4Ti2V5O12	monoclinic	5	1.85	1.38	1.31

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A0.5KTiAsO5	KTiAsO5	orthorhombic	33	0.85	1.42	1.39
A2FeCuO4	AFeCuO4	orthorhombic	74	3.26	3.15	3.31
A2NiSn(PO4)2	NiSn(PO4)2	monoclinic	11	2.53	3.02	2.96
A2MnFe2(PO4)3	MnFe2(PO4)3	monoclinic	5	3.29	3.51	2.92
A4V2SiGeO10	A2V2SiGeO10	tetragonal	115	3.33	2.71	2.52
ASn2(SO4)3	Sn2(SO4)3	trigonal	167	1.87	2.37	2.36
A4Nb(TeO4)3	ANb(TeO4)3	monoclinic	3	3.13	2.91	2.51
A8Mn13Fe3O32	Mn13Fe3O32	triclinic	2	3.90	3.75	3.20
A2Cr3WO8	Cr3WO8	hexagonal	186	3.53	3.64	3.55
A4Co5(P3O11)2	Co5(P3O11)2	monoclinic	14	4.11	3.84	3.08
A2NiCSO7	ANiCSO7	monoclinic	11	4.38	3.66	2.92
A2Ti2V3O10	ATi2V3O10	triclinic	2	2.76	2.40	1.93
A3Ti2V3O10	A2Ti2V3O10	triclinic	2	2.65	1.80	1.56
A5Ti2V3O10	A3Ti2V3O10	triclinic	2	1.84	1.46	1.35
A5VP2(O4F)2	A4VP2(O4F)2	monoclinic	14	3.77	2.14	1.57
A0.5V12O29	V12O29	monoclinic	8	3.94	3.50	3.43
A3V12O29	A0.5V12O29	monoclinic	8	3.52	3.17	2.76
A3Co2CuO6	ACo2CuO6	monoclinic	12	3.25	3.30	3.26
ATi(SiO3)2	Ti(SiO3)2	orthorhombic	61	1.59	2.03	1.78
A3Ni2(PO4)3	ANi2(PO4)3	triclinic	2	4.91	4.25	2.96
A4Ni2(PO4)3	A3Ni2(PO4)3	triclinic	2	4.33	3.04	2.29
A5Ni2(PO4)3	A4Ni2(PO4)3	triclinic	2	4.07	2.42	2.03
A2TiPCO7	ATiPCO7	monoclinic	11	1.46	1.85	1.81
A3TiPCO7	A2TiPCO7	monoclinic	11	0.69	1.54	1.60
ANb(PO3)4	Nb(PO3)4	orthorhombic	60	2.52	2.89	2.35
A2V3CrO8	AV3CrO8	triclinic	2	3.08	2.63	2.37
A4V3CrO8	A2V3CrO8	triclinic	2	2.69	2.03	1.70
A8TiNi7O16	A6TiNi7O16	triclinic	1	3.73	3.13	2.88
AZnCr3(SO4)6	ZnCr3(SO4)6	triclinic	1	4.81	4.10	3.81
A2ZnCr3(SO4)6	AZnCr3(SO4)6	triclinic	1	2.74	3.64	3.05
A2FeCSO7	AFeCSO7	monoclinic	11	3.31	3.33	3.23
A2Mn3SbO8	Mn3SbO8	trigonal	159	3.91	3.43	3.14
AV(CO3)2	V(CO3)2	trigonal	148	4.04	3.16	2.76
A3Mo4P9O32	Mo4P9O32	tetragonal	114	4.25	4.00	3.57
A7Mo4P9O32	A3Mo4P9O32	tetragonal	114	3.20	2.94	2.48
A4Mn5Co3O16	Mn5Co3O16	monoclinic	8	3.89	3.82	3.31
A0.5NbO2	NbO2	hexagonal	194	3.34	3.11	2.94
A0.58NbO2	A0.5NbO2	hexagonal	194	2.66	2.45	2.39
ANbO2	A0.58NbO2	hexagonal	194	2.43	2.10	1.96
ACo2P3O10	Co2P3O10	monoclinic	15	4.18	4.13	3.56

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ACo2P3O10	Co2P3O10	monoclinic	11	4.53	4.11	3.54
A5VCr3O8	A3VCr3O8	trigonal	166	1.26	1.79	1.87
ANbFeO4	NbFeO4	tetragonal	95	3.10	2.83	2.49
ACuO2	CuO2	monoclinic	12	4.58	3.80	3.12
AMo2PO8	Mo2PO8	orthorhombic	19	3.21	3.03	2.59
A4V3CoO10	A1V3CoO10	monoclinic	5	3.49	2.79	2.68
AAFe2(SiO3)4	AFe2(SiO3)4	monoclinic	5	4.85	4.35	4.03
A4V3CoO8	A2V3CoO8	monoclinic	12	2.34	2.19	2.23
A3Mo3(PO4)4	Mo3(PO4)4	monoclinic	4	4.13	2.96	2.50
A8Mn7Nb(PO4)12	Mn7Nb(PO4)12	triclinic	1	4.71	4.18	3.34
A2CoH8(CO5)2	CoH8(CO5)2	monoclinic	14	3.80	4.17	3.61
KAMnP3HO10	KMnP3HO10	triclinic	1	2.98	2.62	2.41
A4Ti3Ni3(TeO8)2	Ti3Ni3(TeO8)2	monoclinic	8	3.85	3.34	2.91
A4Cu3TeO8	A3Cu3TeO8	trigonal	166	2.68	2.78	3.38
A5Ti2Ni3O10	A4Ti2Ni3O10	triclinic	2	4.18	2.40	2.37
A4Fe5Co3O16	Fe5Co3O16	triclinic	1	4.42	4.19	3.72
A10Fe5Co3O16	A4Fe5Co3O16	triclinic	1	2.75	2.66	2.69
A4FeCo5O12	FeCo5O12	monoclinic	12	3.82	3.92	3.51
A3CrFe3O8	A2CrFe3O8	hexagonal	186	3.71	4.10	4.35
A2Cu2(SO4)3	Cu2(SO4)3	monoclinic	15	4.65	4.29	3.48
A3Mn3CoO8	A2Mn3CoO8	trigonal	166	2.37	2.67	3.15
AFe(GeO3)2	Fe(GeO3)2	monoclinic	15	5.04	4.74	4.46
A2Co(PO3)4	ACo(PO3)4	monoclinic	14	4.65	4.25	3.09
A2CrCo3O8	CrCo3O8	trigonal	166	4.44	3.96	3.52
A3MnBPO7	A2MnBPO7	monoclinic	11	3.61	2.39	2.00
AMn2O3F	Mn2O3F	orthorhombic	62	4.03	3.32	2.94
AV(PO3)3	V(PO3)3	orthorhombic	19	2.70	2.77	2.17
A2TiVO4	TiVO4	tetragonal	119	2.25	2.07	1.73
ANi(PO3)3	Ni(PO3)3	triclinic	2	5.18	4.87	4.07
A0.75CuO	CuO	tetragonal	139	3.81	2.99	2.70
ACuO	A0.75CuO	tetragonal	139	2.91	2.07	2.47
A3MnNi3O8	A2MnNi3O8	monoclinic	12	3.92	3.49	3.05
ACu2P3O10	Cu2P3O10	monoclinic	11	4.63	4.39	3.81
A0.5MnO2	MnO2	triclinic	1	4.60	3.76	3.13
AMnO2	A0.5MnO2	triclinic	1	2.82	2.45	2.57
A4Mn5Fe3O16	Mn5Fe3O16	triclinic	1	4.19	3.85	3.33
A10Mn5Fe3O16	A4Mn5Fe3O16	triclinic	1	2.03	2.43	2.61
A5Co7O16	A4Co7O16	monoclinic	4	4.32	3.97	3.64
A2NiO2	NiO2	orthorhombic	71	3.77	3.12	2.67
A4Mn5FeO12	Mn5FeO12	monoclinic	12	3.29	3.52	3.15

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A6Mn5FeO12	A4Mn5FeO12	monoclinic	12	2.89	2.42	2.88
ANi2(SO4)3	Ni2(SO4)3	orthorhombic	60	5.09	5.00	4.43
A2Ni2(SO4)3	ANi2(SO4)3	orthorhombic	60	5.05	4.19	3.21
AVF5	VF5	orthorhombic	62	4.80	4.43	3.43
A1.67CuO2	CuO2	orthorhombic	71	2.67	2.90	2.64
A2CuO2	A1.67CuO2	orthorhombic	71	2.45	2.33	2.42
AMnF3	MnF3	trigonal	167	4.04	3.79	3.23
A10Mn2Fe3Ni3O16	A4Mn2Fe3Ni3O16	monoclinic	8	3.01	2.77	3.01
A4Mn5NiO12	Mn5NiO12	monoclinic	12	3.45	3.51	3.05
A4Cu(PO4)2	A3Cu(PO4)2	triclinic	1	4.06	2.34	2.03
A5Cu(PO4)2	A4Cu(PO4)2	triclinic	1	3.51	1.94	1.68
A4V3FeO8	A2V3FeO8	trigonal	166	2.63	2.28	2.36
ATi4VO8	Ti4VO8	monoclinic	12	1.90	1.42	1.33
A2Ti4VO8	ATi4VO8	monoclinic	12	1.54	1.26	1.24
A3Ti4VO8	A2Ti4VO8	monoclinic	12	1.47	1.21	1.20
A2Mn3TeO8	Mn3TeO8	trigonal	166	3.97	3.35	3.12
A4Ni3Sn(PO4)4	Ni3Sn(PO4)4	monoclinic	6	3.70	3.40	2.95
A6Cr3Ni(PO4)6	Cr3Ni(PO4)6	triclinic	1	4.53	3.99	2.84
A4Cr3Ni(PO4)4	Cr3Ni(PO4)4	monoclinic	6	3.17	3.03	2.44
A5TiV3O8	A2TiV3O8	orthorhombic	19	1.15	1.38	1.30
A3Fe(BO3)2	A2.25Fe(BO3)2	triclinic	1	4.47	2.28	1.71
A3Fe(BO3)2	A2Fe(BO3)2	monoclinic	14	4.39	2.68	2.18
AFe2C2O7	Fe2C2O7	monoclinic	5	2.67	3.47	3.27
A0.5CuO	CuO	orthorhombic	62	2.99	3.01	2.62
A2CoSiO4	ACoSiO4	trigonal	152	3.14	3.15	3.28
A3CuAsCO7	A2CuAsCO7	monoclinic	11	3.62	3.04	2.99
AA2FePCO7	AFePCO7	monoclinic	4	3.63	3.14	2.86
AMoP2O7	MoP2O7	monoclinic	5	3.42	3.15	2.59
A0.5FeO2	FeO2	orthorhombic	74	4.84	4.43	3.90
AFeO2	A0.5FeO2	orthorhombic	74	3.47	3.19	3.07
A2VO3	AVO3	triclinic	2	3.13	2.45	2.09
ACu(PO3)3	Cu(PO3)3	triclinic	2	5.58	4.58	3.85
A2Si4Cu5O14	Si4Cu5O14	triclinic	2	3.93	3.77	3.49
AMn(SO4)2	Mn(SO4)2	triclinic	1	5.16	4.81	4.16
A4MnCu3O8	A3MnCu3O8	trigonal	166	3.64	2.82	3.31
A6V5O12	A5V5O12	triclinic	2	3.13	2.01	1.67
A7V5O12	A6V5O12	triclinic	2	2.89	1.80	1.50
ACr2(PS4)3	Cr2(PS4)3	monoclinic	14	2.84	2.96	2.96
A3Cr2(PS4)3	ACr2(PS4)3	monoclinic	14	2.47	2.51	2.58
A2TiMn3O8	TiMn3O8	monoclinic	5	3.94	3.41	3.06

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2.75TiMn3O8	A2TiMn3O8	monoclinic	5	2.21	2.52	2.67
A0.8FeO2	A0.4FeO2	triclinic	2	4.06	3.56	3.36
AFeO2	A0.8FeO2	triclinic	2	3.97	2.95	2.97
ASbP2O7	SbP2O7	monoclinic	4	3.95	3.55	2.95
AP4WO12	P4WO12	triclinic	2	3.66	3.61	2.97
A10Fe2Co3Ni3O16	A4Fe2Co3Ni3O16	triclinic	1	2.84	2.72	2.82
A10Mn3Cr3(NiO8)2	A10Mn3Cr3(NiO8)2	triclinic	1	2.52	1.94	2.11
AMn2HO7	Mn2HO7	monoclinic	14	3.48	3.89	3.12
A3Ti(FeO3)2	A2Ti(FeO3)2	monoclinic	12	2.28	2.45	2.65
ACo3P4O15	Co3P4O15	orthorhombic	33	5.10	4.82	4.39
A4Co3P4O15	ACo3P4O15	orthorhombic	33	4.18	3.13	2.49
ACrCo3O8	CrCo3O8	trigonal	166	4.54	4.38	4.09
A3CrCo3O8	ACrCo3O8	trigonal	166	3.68	3.27	3.32
A4CrCo3O8	A3CrCo3O8	trigonal	166	2.15	2.77	3.19
ATa2CuO6	Ta2CuO6	trigonal	155	3.38	2.88	2.55
ASbF4	SbF4	triclinic	1	3.39	2.83	2.13
A4SbTe2WO12	A3SbTe2WO12	triclinic	1	3.17	2.65	2.21
A2B5SbO10	B5SbO10	monoclinic	14	3.78	3.30	2.55
A2Mn3SnO8	Mn3SnO8	orthorhombic	36	3.72	3.25	2.99
A3Nb2Fe3O10	A2Nb2Fe3O10	triclinic	2	2.56	2.37	2.34
A4Nb2Fe3O10	A3Nb2Fe3O10	triclinic	2	2.37	1.93	2.10
A5Nb2Fe3O10	A4Nb2Fe3O10	triclinic	2	1.45	1.64	1.84
A6Co5Ni3O16	A4Co5Ni3O16	monoclinic	8	3.43	3.55	3.35
A4Mn3Nb2Co3O16	Mn3Nb2Co3O16	triclinic	1	3.75	3.32	2.96
A0.5MoO2	MoO2	monoclinic	15	3.16	2.92	2.78
ATi8O13	Ti8O13	trigonal	148	0.54	1.33	1.29
AVCoO4	VCoO4	orthorhombic	74	4.35	3.03	2.57
A2VCoO4	AVCoO4	orthorhombic	74	3.06	2.32	2.46
AAV(OF)2	AV(OF)2	monoclinic	11	2.85	2.57	2.23
A0.33FeO2	FeO2	trigonal	160	4.56	5.06	4.54
A0.75FeO2	A0.33FeO2	trigonal	160	4.36	3.90	3.85
A1.25FeO2	A0.75FeO2	trigonal	160	2.13	2.79	2.99
A4V3Cr3(WO8)2	V3Cr3(WO8)2	monoclinic	8	3.04	2.81	2.40
A0.25CoO2	CoO2	trigonal	166	4.09	4.49	4.17
A0.75CoO2	A0.25CoO2	trigonal	166	3.74	3.38	3.33
ACoO2	A0.75CoO2	trigonal	166	3.46	2.93	3.30
A4Mn3Fe3(SbO8)2	Mn3Fe3(SbO8)2	monoclinic	8	4.05	3.66	3.41
A4CrFe3O8	A3CrFe3O8	triclinic	2	3.90	2.72	2.76
A2FeBO4	A1.5FeBO4	monoclinic	7	4.60	2.73	2.55
A2.5FeBO4	A2FeBO4	monoclinic	7	1.56	2.25	2.16



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2Mn3CoO8	Mn3CoO8	hexagonal	186	3.95	3.65	3.43
A0.67MnBO3	MnBO3	hexagonal	174	4.15	4.07	3.83
AMnBO3	A0.67MnBO3	hexagonal	174	3.91	3.69	3.59
KAMnO2	KMnO2	monoclinic	12	2.34	2.03	1.82
A4TiFe3Cu2(PO4)6	TiFe3Cu2(PO4)6	triclinic	1	3.13	3.13	2.51
A3TiCr3O8	A2TiCr3O8	trigonal	166	3.80	2.53	2.44
A4TiCr3O8	A3TiCr3O8	trigonal	166	1.43	1.97	1.97
A2Co(PO3)4	ACo(PO3)4	monoclinic	15	4.37	4.25	3.10
A4CrO4	A2CrO4	triclinic	2	2.60	2.30	2.01
A3CrO4	A2CrO4	tetragonal	137	2.92	2.64	2.97
A4CrO4	A3CrO4	tetragonal	137	2.12	2.07	2.17
A6CrO4	A4CrO4	tetragonal	137	1.15	1.34	1.32
AP2WO7	P2WO7	triclinic	2	3.20	2.56	1.92
A4Mn2Co5O12	Mn2Co5O12	monoclinic	5	3.51	3.45	3.14
A5Mn2Co5O12	A4Mn2Co5O12	monoclinic	5	3.31	2.76	3.03
A2CoH8(CO5)2	ACoH8(CO5)2	monoclinic	15	4.68	3.95	3.34
ACo(PO3)4	Co(PO3)4	monoclinic	12	5.40	5.31	4.69
A0.5V2O5	V2O5	monoclinic	12	3.64	3.35	2.97
A0.67V2O5	A0.5V2O5	monoclinic	12	2.86	2.98	2.30
A4CoCu3(PO4)4	CoCu3(PO4)4	triclinic	1	4.10	3.67	2.84
A6CoCu3(PO4)4	A4CoCu3(PO4)4	triclinic	1	2.80	2.15	2.07
A4Mn3Fe2Sb3O16	Mn3Fe2Sb3O16	monoclinic	8	3.42	3.54	3.19
A4FeCo3O8	A3FeCo3O8	trigonal	166	1.93	3.03	3.37
A3Co4TeO8	Co4TeO8	monoclinic	12	2.67	3.33	3.14
A4Fe3Co5O16	Fe3Co5O16	monoclinic	8	4.09	4.25	3.81
A4.38FeO4	A3.75FeO4	orthorhombic	61	3.88	2.96	2.16
A5FeO4	A4.38FeO4	orthorhombic	61	3.66	2.35	1.61
AP4WO12	P4WO12	orthorhombic	60	3.57	3.46	2.85
A2Cr3(FeO6)2	Cr3(FeO6)2	orthorhombic	60	3.33	4.06	3.85
A3Cu2P5O16	A2Cu2P5O16	monoclinic	13	4.37	3.83	2.83
A4Fe5(CoO6)2	A3Fe5(CoO6)2	monoclinic	5	3.86	3.84	3.53
A5Fe5(CoO6)2	A4Fe5(CoO6)2	monoclinic	5	3.35	3.30	3.17
A2Mn3OF6	Mn3OF6	triclinic	2	3.67	3.10	2.49
ACuP4O11	CuP4O11	triclinic	1	2.05	4.42	3.76
A6Ti3V(PO4)6	ATi3V(PO4)6	triclinic	1	2.33	2.18	1.75
A0.25FeBO3	FeBO3	monoclinic	14	3.16	4.17	3.95
A0.5FeBO3	A0.25FeBO3	monoclinic	14	3.11	3.74	3.37
AFeBO3	A0.5FeBO3	monoclinic	14	2.85	2.87	2.50
A2Cu2(SO4)3	Cu2(SO4)3	orthorhombic	61	4.84	4.27	3.50
A6Ti9O20	A4Ti9O20	monoclinic	12	2.73	1.47	1.42

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A0.83MnBO3	MnBO3	triclinic	1	3.01	2.99	2.32
A4Mn3CuO8	A2Mn3CuO8	trigonal	166	2.64	2.54	2.96
A3VCr2O6	A2VCr2O6	monoclinic	12	2.83	2.08	2.01
A4.5Cr2C4SO16	A4Cr2C4SO16	monoclinic	5	2.21	2.77	2.70
A5Fe2Ni3O10	A3Fe2Ni3O10	triclinic	2	4.10	3.09	3.05
A2CrNiO4	ACrNiO4	orthorhombic	74	3.48	2.79	2.79
ANbF5	NbF5	monoclinic	12	2.28	2.51	1.94
AP3(WO6)2	P3(WO6)2	monoclinic	14	2.97	2.74	2.26
A3P3(WO6)2	AP3(WO6)2	monoclinic	14	2.11	1.72	1.51
A5CoO4	A4CoO4	tetragonal	137	3.15	2.41	2.24
A6CoO4	A5CoO4	tetragonal	137	2.05	1.69	1.54
A2.5FePCO7	A2FePCO7	triclinic	2	2.93	2.75	2.70
A4.5CoO4	A4CoO4	monoclinic	7	3.46	2.65	2.23
A5CoO4	A4.5CoO4	monoclinic	7	3.07	2.19	1.78
A5.25CoO4	A5CoO4	monoclinic	7	0.52	1.92	1.54
A1.33CrCoO4	A0.67CrCoO4	monoclinic	10	3.63	3.52	3.42
A2CrCoO4	A1.33CrCoO4	monoclinic	10	2.99	2.79	3.08
A2CrCoO4	ACrCoO4	orthorhombic	74	3.30	2.58	2.76
A0.75NiO2	NiO2	orthorhombic	74	4.38	4.03	3.46
ANiO2	A0.75NiO2	orthorhombic	74	3.47	3.46	3.07
A2MnAsCO7	AMnAsCO7	monoclinic	11	4.00	3.55	2.98
A3MnAsCO7	A2MnAsCO7	monoclinic	11	3.26	2.80	2.73
ANi(WO4)2	Ni(WO4)2	triclinic	2	4.93	4.31	3.78
A2Ni(WO4)2	ANi(WO4)2	triclinic	2	4.93	3.53	2.63
K2A3CoO4	A2K2CoO4	monoclinic	14	2.51	2.12	2.10
A4Mn3Cr3(TeO8)2	Mn3Cr3(TeO8)2	monoclinic	8	3.51	3.66	3.42
A5SbS	ASbS	orthorhombic	19	1.00	1.01	0.88
AV(CO3)2	V(CO3)2	monoclinic	14	3.68	2.92	2.48
A2NbV3O8	NbV3O8	hexagonal	186	3.15	2.87	2.90
AP2WO8	P2WO8	orthorhombic	19	3.61	3.03	2.25
A3P2WO8	AP2WO8	monoclinic	12	2.75	2.02	1.61
A4CoSn3(PO4)4	CoSn3(PO4)4	monoclinic	6	2.85	3.13	3.14
A3FeBPO7	A2FeBPO7	monoclinic	11	4.01	2.67	2.30
A5ANi2P2(CO7)2	A5Ni2P2(CO7)2	monoclinic	6	4.06	3.36	3.18
AVF4	VF4	orthorhombic	55	4.19	3.54	2.52
A2VF4	AVF4	orthorhombic	55	2.41	1.64	1.40
A3Fe(NiO3)2	A2Fe(NiO3)2	monoclinic	12	3.71	3.27	3.34
A5Fe3(NiO5)2	A4Fe3(NiO5)2	triclinic	2	3.73	2.89	3.07
A3Co(NiO3)2	A2Co(NiO3)2	monoclinic	15	3.49	3.24	3.24
A2CoPCO7	ACoPCO7	monoclinic	11	4.47	3.61	3.18

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3CoPCO7	A2CoPCO7	monoclinic	11	3.82	3.00	2.99
A5Cr2Ni5O12	A4Cr2Ni5O12	monoclinic	5	3.85	3.30	3.14
A9Sb3P8O29	A3Sb3P8O29	trigonal	165	3.30	2.99	2.43
A6TiFe3(PO4)6	TiFe3(PO4)6	trigonal	146	4.25	3.43	2.84
A7TiFe3(PO4)6	A6TiFe3(PO4)6	trigonal	146	0.61	2.27	2.13
A4Mn2Fe3Co3O16	Mn2Fe3Co3O16	triclinic	1	4.08	3.97	3.44
A10Mn2Fe3Co3O16	A4Mn2Fe3Co3O16	triclinic	1	2.64	2.55	2.72
A2V3CrO8	V3CrO8	monoclinic	8	2.63	2.75	2.45
A3V3CrO8	A2V3CrO8	monoclinic	8	1.88	2.15	2.03
A0.75CoS2	CoS2	trigonal	160	2.14	1.98	2.04
ACoS2	A0.75CoS2	trigonal	160	2.00	1.76	1.90
A5Mn3(SnO5)2	A4Mn3(SnO5)2	triclinic	2	2.96	2.65	3.14
A2Co3SnO8	Co3SnO8	hexagonal	186	4.11	3.81	3.78
A2Co3NiO8	Co3NiO8	trigonal	166	4.37	3.96	3.60
AMn(PO3)3	Mn(PO3)3	orthorhombic	19	4.35	4.04	3.40
A3Mn(SbO3)4	Mn(SbO3)4	triclinic	1	3.64	3.31	2.81
A1.2MnO2	A0.8MnO2	triclinic	1	2.30	2.06	2.41
A1.6MnO2	A1.2MnO2	triclinic	1	1.61	1.66	1.86
A2AMnPCO7	A2MnPCO7	monoclinic	11	3.10	2.92	2.72
A4V3Fe3(TeO8)2	V3Fe3(TeO8)2	triclinic	1	3.29	3.19	2.80
A2ACuPCO7	A2CuPCO7	monoclinic	11	3.48	3.07	2.94
AV2(SO4)3	V2(SO4)3	monoclinic	15	3.33	3.06	2.68
A2V2(SO4)3	AV2(SO4)3	monoclinic	15	2.95	2.54	2.10
A3SiSbCO7	ASiSbCO7	monoclinic	11	2.73	2.76	2.49
A4Mn3Cr2Co3O16	Mn3Cr2Co3O16	monoclinic	8	3.95	3.75	3.40
AMo3O8	Mo3O8	trigonal	166	3.87	3.51	3.13
A4Mo3O8	AMo3O8	trigonal	166	2.92	2.58	2.63
A4Mn5O12	A2Mn5O12	monoclinic	15	4.81	3.56	3.18
A0.5MnO2	A0.33MnO2	triclinic	1	3.29	3.23	2.83
A0.5Co(CO3)2	Co(CO3)2	triclinic	1	4.68	4.74	4.34
ACo(CO3)2	A0.5Co(CO3)2	triclinic	1	4.66	4.08	3.26
A1.5Co(CO3)2	ACo(CO3)2	triclinic	1	3.82	3.50	2.98
A2Co(CO3)2	A1.5Co(CO3)2	triclinic	1	3.79	3.09	3.01
A1.5Cr2(PO4)3	ACr2(PO4)3	cubic	230	4.73	4.58	3.71
A3Cr2(PO4)3	A1.5Cr2(PO4)3	cubic	230	4.60	3.49	3.03
A3Sn2(PO4)3	ASn2(PO4)3	monoclinic	14	2.45	3.01	2.99
A2Fe2(MoO4)3	Fe2(MoO4)3	orthorhombic	60	3.03	3.57	3.31
A5AFe2P2(CO7)2	A5Fe2P2(CO7)2	monoclinic	6	4.71	3.17	3.05
A2TiMnO4	TiMnO4	tetragonal	119	2.90	2.80	2.56
ACuS	CuS	hexagonal	194	2.22	1.69	1.69

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3VBPO7	A2VBPO7	monoclinic	11	3.12	1.53	1.43
A4NbNi3O8	A3NbNi3O8	trigonal	166	3.74	2.49	2.75
AMn2(SO4)3	Mn2(SO4)3	trigonal	167	4.33	4.10	3.72
A4Cr3Sn3(SbO8)2	Cr3Sn3(SbO8)2	monoclinic	8	3.02	3.54	3.56
A5Fe5O12	A3Fe5O12	monoclinic	5	4.22	4.09	4.05
A6Fe5O12	A5Fe5O12	monoclinic	5	4.12	3.77	3.80
A7Fe5O12	A6Fe5O12	monoclinic	5	3.88	3.43	3.48
A2Fe(CoO3)2	Fe(CoO3)2	orthorhombic	64	3.97	3.81	3.38
A3Cr10Fe5O24	Cr10Fe5O24	monoclinic	8	4.78	4.39	4.21
ANi2P5O16	Ni2P5O16	monoclinic	13	5.29	5.43	5.02
A3Ni2P5O16	ANi2P5O16	monoclinic	13	5.11	4.49	3.24
ALa4CuO8	La4CuO8	orthorhombic	65	4.00	3.23	3.05
A3Ti2(PO4)3	ATi2(PO4)3	monoclinic	14	1.63	1.70	1.52
A0.6MnO2	A0.2MnO2	triclinic	2	3.66	3.26	2.86
A0.8MnO2	A0.6MnO2	triclinic	2	2.87	2.57	2.73
AMnO2	A0.8MnO2	triclinic	2	2.73	2.24	2.56
A3CuP2O7	A2CuP2O7	triclinic	2	1.90	2.08	1.91
AFeO2	FeO2	hexagonal	186	4.50	4.16	4.17
A8Mn15CrO32	Mn15CrO32	triclinic	1	3.89	3.69	3.08
A3Cr3(CuO6)2	Cr3(CuO6)2	monoclinic	14	4.08	4.16	3.73
A3Co3(PO4)4	Co3(PO4)4	triclinic	1	5.22	4.44	3.42
A2V5O12	V5O12	monoclinic	14	3.42	3.07	2.57
A3V5O12	A2V5O12	monoclinic	14	2.90	2.54	2.08
A4V5O12	A3V5O12	monoclinic	14	1.74	2.30	2.12
A2.5TiMn4O10	TiMn4O10	monoclinic	12	3.90	3.44	3.05
A2Mn3CrO8	Mn3CrO8	tetragonal	96	4.25	3.80	3.32
A2Mn3NiO8	Mn3NiO8	trigonal	166	4.58	3.76	3.18
AFe(WO4)2	Fe(WO4)2	monoclinic	15	5.30	4.08	3.53
ANbPO5	NbPO5	orthorhombic	62	1.72	1.67	1.51
A6Cr5O12	A5Cr5O12	monoclinic	12	3.96	2.75	2.66
A7Cr5O12	A6Cr5O12	monoclinic	12	3.82	2.38	2.35
A9Co3P8O29	A6Co3P8O29	monoclinic	15	5.04	3.53	2.79
A3Mg3Ti6O16	A2Mg3Ti6O16	monoclinic	4	1.54	1.67	1.54
A5Cu2Ni5O12	A4Cu2Ni5O12	monoclinic	5	3.64	3.38	3.16
A7MnNi3(PO4)6	A6MnNi3(PO4)6	trigonal	146	4.58	3.18	2.62
AVSiO4	A0.5VSiO4	orthorhombic	62	3.44	2.30	1.92
A2VSiO4	AVSiO4	orthorhombic	62	1.11	1.89	1.76
AVF5	VF5	monoclinic	15	4.85	4.45	3.48
A2MnSiO4	A1.5MnSiO4	orthorhombic	31	4.21	3.09	2.66
A2CoSnO4	ACoSnO4	orthorhombic	74	2.90	2.99	3.27

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ANb(PO <sub>3</sub> ) <sub>4</sub>	Nb(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	15	2.55	3.07	2.41
A <sub>4</sub> Co <sub>3</sub> Cu <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	Co <sub>3</sub> Cu <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	triclinic	1	4.12	3.78	3.37
A <sub>3</sub> Mg(NiO <sub>2</sub> ) <sub>4</sub>	Mg(NiO <sub>2</sub> ) <sub>4</sub>	trigonal	166	3.52	3.40	2.87
AReO <sub>3</sub>	ReO <sub>3</sub>	trigonal	167	2.00	1.98	1.77
A <sub>2</sub> ReO <sub>3</sub>	AReO <sub>3</sub>	trigonal	167	1.09	1.55	1.64
ABi <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	Bi <sub>2</sub> (SO <sub>4</sub> ) <sub>3</sub>	trigonal	167	1.47	2.30	2.18
AMnO <sub>2</sub>	MnO <sub>2</sub>	trigonal	164	3.16	3.00	3.02
A <sub>2</sub> MnO <sub>2</sub>	AMnO <sub>2</sub>	trigonal	164	1.63	1.63	1.89
A <sub>0.4</sub> VO <sub>2</sub>	A <sub>0.2</sub> VO <sub>2</sub>	triclinic	2	2.82	2.65	2.24
A <sub>0.6</sub> VO <sub>2</sub>	A <sub>0.4</sub> VO <sub>2</sub>	triclinic	2	2.78	2.39	2.09
A <sub>0.8</sub> VO <sub>2</sub>	A <sub>0.6</sub> VO <sub>2</sub>	triclinic	2	2.36	2.05	1.68
AVO <sub>2</sub>	A <sub>0.8</sub> VO <sub>2</sub>	triclinic	2	2.29	1.70	1.47
A <sub>2</sub> AMn(PO <sub>3</sub> ) <sub>5</sub>	A <sub>2</sub> Mn(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	11	2.94	3.79	3.30
ACoP <sub>2</sub> O <sub>7</sub>	CoP <sub>2</sub> O <sub>7</sub>	monoclinic	5	5.24	4.83	3.99
A <sub>3</sub> Ni <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	ANi <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	15	4.87	4.51	3.32
A <sub>2</sub> Nb(PO <sub>4</sub> ) <sub>2</sub>	ANb(PO <sub>4</sub> ) <sub>2</sub>	monoclinic	14	2.61	1.82	1.53
A <sub>1.75</sub> Mo <sub>3</sub> Se <sub>4</sub>	Mo <sub>3</sub> Se <sub>4</sub>	triclinic	1	1.63	1.59	1.50
A <sub>4</sub> VCr <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> VCr <sub>3</sub> O <sub>8</sub>	trigonal	166	3.05	2.12	2.22
A <sub>6</sub> V <sub>2</sub> O <sub>7</sub> F <sub>11</sub>	A <sub>5</sub> V <sub>2</sub> O <sub>7</sub> F <sub>11</sub>	triclinic	1	4.33	2.67	1.75
ASnPO <sub>4</sub>	SnPO <sub>4</sub>	trigonal	159	3.64	3.12	3.20
A <sub>2</sub> Mn(PO <sub>3</sub> ) <sub>4</sub>	AMn(PO <sub>3</sub> ) <sub>4</sub>	triclinic	2	4.97	3.77	2.66
AFePO <sub>4</sub> F	FePO <sub>4</sub> F	triclinic	1	5.09	4.33	3.23
A <sub>2</sub> FePO <sub>4</sub> F	AFePO <sub>4</sub> F	triclinic	1	2.84	2.18	1.91
A <sub>3</sub> Mn <sub>2</sub> F <sub>9</sub>	AMn <sub>2</sub> F <sub>9</sub>	triclinic	1	4.97	4.52	3.69
AV <sub>2</sub> P <sub>3</sub> O <sub>10</sub>	V <sub>2</sub> P <sub>3</sub> O <sub>10</sub>	monoclinic	11	2.69	2.24	1.84
AV <sub>2</sub> O <sub>7</sub> F	V <sub>2</sub> O <sub>7</sub> F	triclinic	1	4.49	4.15	3.42
A <sub>3</sub> V <sub>2</sub> O <sub>7</sub> F	AV <sub>2</sub> O <sub>7</sub> F	triclinic	1	3.84	2.61	2.01
A <sub>4</sub> V <sub>2</sub> O <sub>7</sub> F	A <sub>3</sub> V <sub>2</sub> O <sub>7</sub> F	triclinic	1	2.10	1.72	1.44
AV <sub>3</sub> (P <sub>3</sub> O <sub>10</sub> ) <sub>2</sub>	V <sub>3</sub> (P <sub>3</sub> O <sub>10</sub> ) <sub>2</sub>	orthorhombic	41	3.11	3.14	2.77
ANiPO <sub>4</sub>	NiPO <sub>4</sub>	orthorhombic	33	4.80	4.10	3.14
AFe <sub>7</sub> (OF <sub>3</sub> ) <sub>3</sub>	Fe <sub>7</sub> (OF <sub>3</sub> ) <sub>3</sub>	triclinic	1	2.81	3.74	3.42
ABi(PO <sub>3</sub> ) <sub>4</sub>	Bi(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	4	5.00	4.90	4.31
AFe(CO <sub>3</sub> ) <sub>2</sub>	A <sub>0.5</sub> Fe(CO <sub>3</sub> ) <sub>2</sub>	orthorhombic	43	4.64	3.84	3.29
A <sub>2</sub> Fe(CO <sub>3</sub> ) <sub>2</sub>	AFe(CO <sub>3</sub> ) <sub>2</sub>	orthorhombic	43	3.32	3.04	2.91
A <sub>2</sub> TiV <sub>3</sub> O <sub>8</sub>	TiV <sub>3</sub> O <sub>8</sub>	monoclinic	8	2.38	2.48	2.22
A <sub>3</sub> TiV <sub>3</sub> O <sub>8</sub>	A <sub>2</sub> TiV <sub>3</sub> O <sub>8</sub>	monoclinic	8	2.22	1.72	1.56
A <sub>5</sub> TiV <sub>3</sub> O <sub>8</sub>	A <sub>3</sub> TiV <sub>3</sub> O <sub>8</sub>	monoclinic	8	1.17	1.39	1.33
A <sub>2</sub> CuF <sub>4</sub>	ACuF <sub>4</sub>	monoclinic	7	4.71	3.85	3.29
AFe <sub>2</sub> O <sub>7</sub> F <sub>3</sub>	Fe <sub>2</sub> O <sub>7</sub> F <sub>3</sub>	orthorhombic	62	3.25	2.99	2.38
A <sub>3</sub> FeF <sub>6</sub>	A <sub>2</sub> FeF <sub>6</sub>	orthorhombic	33	6.14	4.14	3.01

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ASnP2O7	SnP2O7	monoclinic	14	3.46	3.35	3.13
A2V2OF5	AV2OF5	triclinic	1	2.08	1.77	1.57
A3ACuPCO7	A3CuPCO7	monoclinic	11	1.90	2.70	2.55
ACo(CO)4	Co(CO)4	cubic	215	3.38	3.27	3.10
A4Cr3FeO8	A3Cr3FeO8	trigonal	166	2.33	2.69	2.84
A0.63FeBO3	A0.5FeBO3	triclinic	1	2.54	3.15	2.61
A2VF5	VF5	monoclinic	15	4.57	3.97	2.93
A2V3CuO8	V3CuO8	orthorhombic	19	3.46	2.90	2.47
Ba2A(CuO2)3	Ba2(CuO2)3	orthorhombic	69	2.87	3.11	3.15
A4MnV(PO4)3	A3MnV(PO4)3	triclinic	1	3.52	1.97	1.70
A4V3Cr3(SbO8)2	V3Cr3(SbO8)2	monoclinic	8	3.47	3.02	2.56
ATi3MnCr(PO4)6	Ti3MnCr(PO4)6	trigonal	146	4.81	3.20	2.90
AMn(PO3)3	Mn(PO3)3	triclinic	1	3.52	4.27	3.49
A2Mn3SbO8	Mn3SbO8	cubic	212	3.93	3.30	3.01
A3V(SO4)3	A2V(SO4)3	trigonal	148	4.02	3.12	2.52
A2Mn3OF6	Mn3OF6	triclinic	1	3.60	3.10	2.48
A8Fe3Sn(PO4)6	A6Fe3Sn(PO4)6	trigonal	146	2.48	2.39	2.47
A5SbS4	A3SbS4	orthorhombic	36	1.95	1.65	1.40
A2VF6	AVF6	monoclinic	4	4.52	3.48	2.49
A3VF6	A2VF6	monoclinic	4	3.70	2.44	1.68
AVSiO4	A0.5VSiO4	tetragonal	95	3.17	2.65	2.20
A4Fe3Ni(PO4)4	Fe3Ni(PO4)4	monoclinic	6	3.79	3.35	2.70
A3Ni3(PO4)4	Ni3(PO4)4	monoclinic	15	5.17	4.96	3.95
AVF5	VF5	orthorhombic	19	4.85	4.40	3.40
A2VF5	AVF5	orthorhombic	19	3.67	2.56	1.68
A1.33MnNi(PO4)2	MnNi(PO4)2	triclinic	1	3.79	3.81	3.07
A3Co(NiO2)4	Co(NiO2)4	monoclinic	12	3.62	3.49	3.19
A2SiNiO4	A1.5SiNiO4	orthorhombic	33	4.42	3.65	2.87
A2CoSiO4	ACoSiO4	monoclinic	7	3.67	3.12	3.23
AV(OF)2	A0.92V(OF)2	triclinic	1	8.25	3.70	2.61
A1.5V(OF)2	AV(OF)2	triclinic	1	3.00	2.96	2.39
ATl3(MoO4)2	Tl3(MoO4)2	hexagonal	186	5.07	4.94	4.84
A4Fe3Co(PO4)4	Fe3Co(PO4)4	monoclinic	6	3.67	3.22	2.67
AMnAsO4	MnAsO4	orthorhombic	62	3.79	3.91	3.26
A3Sb11S18	Sb11S18	triclinic	1	2.85	2.95	2.85
ATiO2	TiO2	hexagonal	194	9.43	3.77	3.36
A4Mn3Cu(PO4)4	Mn3Cu(PO4)4	monoclinic	6	3.93	3.41	2.76
ANb2(PO4)3	Nb2(PO4)3	monoclinic	14	1.66	1.89	1.65
AMgSbPd	MgSbPd	cubic	216	0.44	0.62	0.60
A2CoP2O7	A1CoP2O7	monoclinic	14	4.38	3.28	2.64

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
APWO <sub>4</sub> F	PWO <sub>4</sub> F	triclinic	2	2.35	2.14	1.65
AMn <sub>3</sub> CrO <sub>8</sub>	Mn <sub>3</sub> CrO <sub>8</sub>	trigonal	166	4.76	4.06	3.63
A <sub>2</sub> Mn <sub>3</sub> CrO <sub>8</sub>	AMn <sub>3</sub> CrO <sub>8</sub>	trigonal	166	3.60	3.10	3.09
A <sub>0.67</sub> FeO <sub>2</sub>	A <sub>0.33</sub> FeO <sub>2</sub>	triclinic	1	3.91	3.95	3.60
A <sub>4</sub> Mn <sub>5</sub> Cr <sub>3</sub> O <sub>16</sub>	Mn <sub>5</sub> Cr <sub>3</sub> O <sub>16</sub>	monoclinic	8	3.89	3.68	3.30
A <sub>2</sub> NbP <sub>4</sub> O <sub>13</sub>	ANbP <sub>4</sub> O <sub>13</sub>	triclinic	2	2.46	2.86	1.92
A <sub>7</sub> TiCr <sub>3</sub> (PO <sub>4</sub> ) <sub>6</sub>	TiCr <sub>3</sub> (PO <sub>4</sub> ) <sub>6</sub>	trigonal	146	3.55	2.97	2.49
A <sub>13</sub> Mn <sub>17</sub> O <sub>40</sub>	A <sub>6</sub> Mn <sub>17</sub> O <sub>40</sub>	monoclinic	12	4.59	3.57	3.15
A <sub>5</sub> Fe <sub>5</sub> (NiO <sub>6</sub> ) <sub>2</sub>	A <sub>3</sub> Fe <sub>5</sub> (NiO <sub>6</sub> ) <sub>2</sub>	monoclinic	5	3.87	3.37	3.23
AMn <sub>2</sub> O <sub>2</sub> F <sub>3</sub>	Mn <sub>2</sub> O <sub>2</sub> F <sub>3</sub>	monoclinic	5	4.55	4.05	3.57
A <sub>2</sub> CrAsCO <sub>7</sub>	ACrAsCO <sub>7</sub>	monoclinic	11	4.45	3.35	2.76
ASnS <sub>2</sub>	SnS <sub>2</sub>	trigonal	164	1.56	1.92	1.98
A <sub>2</sub> MnCr <sub>2</sub> O <sub>6</sub>	AMnCr <sub>2</sub> O <sub>6</sub>	monoclinic	12	3.73	3.28	3.20
A <sub>3</sub> MnCr <sub>2</sub> O <sub>6</sub>	A <sub>2</sub> MnCr <sub>2</sub> O <sub>6</sub>	monoclinic	12	3.02	2.50	2.65
A <sub>5</sub> MnCr <sub>3</sub> O <sub>8</sub>	A <sub>2</sub> MnCr <sub>3</sub> O <sub>8</sub>	trigonal	166	2.10	2.23	2.42
ASn(PO <sub>3</sub> ) <sub>4</sub>	Sn(PO <sub>3</sub> ) <sub>4</sub>	orthorhombic	60	2.77	3.94	3.60
A <sub>0.5</sub> TiO <sub>2</sub>	TiO <sub>2</sub>	hexagonal	186	2.10	3.34	3.29
ATiP <sub>2</sub> O <sub>7</sub>	TiP <sub>2</sub> O <sub>7</sub>	monoclinic	4	1.95	2.33	1.77
A <sub>0.67</sub> MnO <sub>2</sub>	A <sub>0.33</sub> MnO <sub>2</sub>	monoclinic	9	2.98	2.84	2.91
A <sub>2</sub> Fe <sub>2</sub> C <sub>2</sub> O <sub>7</sub>	Fe <sub>2</sub> C <sub>2</sub> O <sub>7</sub>	monoclinic	14	2.98	3.07	3.03
AMo <sub>2</sub> P <sub>3</sub> O <sub>13</sub>	Mo <sub>2</sub> P <sub>3</sub> O <sub>13</sub>	triclinic	2	3.80	3.90	3.51
A <sub>10</sub> Ti <sub>2</sub> Fe <sub>3</sub> Co <sub>3</sub> O <sub>16</sub>	A <sub>4</sub> Ti <sub>2</sub> Fe <sub>3</sub> Co <sub>3</sub> O <sub>16</sub>	triclinic	1	2.54	2.28	2.30
AVFeO <sub>4</sub>	VFeO <sub>4</sub>	orthorhombic	74	3.31	3.06	2.72
A <sub>3</sub> Mo <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	Mo <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	monoclinic	14	3.35	2.99	2.56
A <sub>4</sub> MnSi <sub>2</sub> O <sub>7</sub>	A <sub>3</sub> MnSi <sub>2</sub> O <sub>7</sub>	monoclinic	5	3.84	3.22	2.82
A <sub>2</sub> Mn <sub>3</sub> (P <sub>2</sub> O <sub>7</sub> ) <sub>2</sub>	Mn <sub>3</sub> (P <sub>2</sub> O <sub>7</sub> ) <sub>2</sub>	triclinic	2	4.33	3.48	2.79
A <sub>0.5</sub> VSO <sub>4</sub> F <sub>3</sub>	VSO <sub>4</sub> F <sub>3</sub>	monoclinic	14	5.12	4.88	4.28
AVSO <sub>4</sub> F <sub>3</sub>	A <sub>0.5</sub> VSO <sub>4</sub> F <sub>3</sub>	monoclinic	14	4.68	4.03	2.93
A <sub>1.5</sub> VSO <sub>4</sub> F <sub>3</sub>	AVSO <sub>4</sub> F <sub>3</sub>	monoclinic	14	3.85	3.42	2.45
A <sub>2</sub> VSO <sub>4</sub> F <sub>3</sub>	A <sub>1.5</sub> VSO <sub>4</sub> F <sub>3</sub>	monoclinic	14	3.54	3.07	2.21
A <sub>3</sub> Sb <sub>2</sub> P <sub>5</sub> O <sub>18</sub>	A <sub>1</sub> Sb <sub>2</sub> P <sub>5</sub> O <sub>18</sub>	triclinic	2	4.52	3.58	2.63
A <sub>5</sub> Sb <sub>2</sub> P <sub>5</sub> O <sub>18</sub>	A <sub>3</sub> Sb <sub>2</sub> P <sub>5</sub> O <sub>18</sub>	triclinic	2	3.60	2.42	1.84
ANiP <sub>2</sub> O <sub>7</sub>	NiP <sub>2</sub> O <sub>7</sub>	triclinic	1	5.47	5.01	4.11
A <sub>2</sub> NiP <sub>2</sub> O <sub>7</sub>	ANiP <sub>2</sub> O <sub>7</sub>	triclinic	1	4.69	3.43	2.35
A <sub>4</sub> Cr <sub>3</sub> Fe <sub>2</sub> Sb <sub>3</sub> O <sub>16</sub>	Cr <sub>3</sub> Fe <sub>2</sub> Sb <sub>3</sub> O <sub>16</sub>	monoclinic	8	2.89	3.38	3.05
ASb(PO <sub>3</sub> ) <sub>4</sub>	Sb(PO <sub>3</sub> ) <sub>4</sub>	orthorhombic	20	4.42	4.18	3.61
A <sub>0.5</sub> Mo <sub>4</sub> O <sub>5</sub>	Mo <sub>4</sub> O <sub>5</sub>	tetragonal	109	4.17	3.55	3.45
ANi <sub>4</sub> P <sub>7</sub> O <sub>24</sub>	Ni <sub>4</sub> P <sub>7</sub> O <sub>24</sub>	triclinic	2	4.67	5.21	4.93
A <sub>4</sub> Ti <sub>3</sub> Cu <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	Ti <sub>3</sub> Cu <sub>3</sub> (TeO <sub>8</sub> ) <sub>2</sub>	monoclinic	8	3.66	3.46	3.06
A <sub>8</sub> MnO <sub>6</sub>	A <sub>6</sub> MnO <sub>6</sub>	trigonal	148	3.30	2.16	1.78

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2Mn4OF8	Mn4OF8	monoclinic	9	3.63	3.35	2.76
A1.5Cr2(PO4)3	Cr2(PO4)3	monoclinic	15	5.14	4.54	3.73
A3Cr2(PO4)3	A1.5Cr2(PO4)3	monoclinic	15	4.46	3.02	2.33
A0.5CoPO4	CoPO4	monoclinic	14	4.30	4.17	3.65
ACoPO4	A0.5CoPO4	monoclinic	14	4.16	3.03	2.59
A2NiP2O7	ANiP2O7	triclinic	2	4.81	3.43	2.35
A3MnOF3	A2MnOF3	monoclinic	12	2.99	2.03	1.75
ACo6P7O24	Co6P7O24	monoclinic	11	4.42	4.12	3.86
AMn2F7	Mn2F7	monoclinic	4	5.59	5.09	4.53
A2MnNbO4	AMnNbO4	orthorhombic	74	1.33	1.66	1.53
A0.67CrO2	CrO2	hexagonal	186	3.97	3.73	3.64
ACrO2	A0.67CrO2	hexagonal	186	3.57	3.22	3.64
A3V2FeO6	A2V2FeO6	monoclinic	12	3.51	2.12	2.25
A0.29Y2Ti2S2O5	Y2Ti2S2O5	triclinic	2	1.15	1.14	1.14
A0.5Y2Ti2S2O5	A0.29Y2Ti2S2O5	triclinic	2	1.01	1.13	1.12
AY2Ti2S2O5	A0.5Y2Ti2S2O5	triclinic	2	0.80	1.12	1.11
A1.57Y2Ti2S2O5	AY2Ti2S2O5	triclinic	2	0.34	1.10	1.08
A2V(SO4)2	V(SO4)2	orthorhombic	61	3.68	3.46	2.81
AV2O2F3	V2O2F3	monoclinic	9	3.19	2.61	2.35
A2VF6	AVF6	trigonal	163	4.13	3.68	2.77
A3VF6	A2VF6	trigonal	163	4.02	2.71	1.90
ACr(SO4)2	Cr(SO4)2	orthorhombic	61	5.34	3.95	3.20
A2Cr(SO4)2	ACr(SO4)2	orthorhombic	61	2.99	3.00	2.42
A4Cr3Fe3(TeO8)2	Cr3Fe3(TeO8)2	monoclinic	8	3.62	3.93	3.72
A6NiO4	A5NiO4	orthorhombic	59	2.65	1.71	1.32
A0.89MnO2	A0.67MnO2	triclinic	1	3.36	2.42	2.65
A10Ti2Mn3Co3O16	Ti2Mn3Co3O16	triclinic	1	2.89	3.04	2.68
A2Co(CO3)2	ACo(CO3)2	triclinic	1	3.94	3.09	2.95
A7CrFe3(PO4)6	A6CrFe3(PO4)6	trigonal	146	2.70	2.57	2.35
A2FeF5	AFeF5	orthorhombic	62	6.18	4.43	3.33
AFe(SiO3)2	Fe(SiO3)2	orthorhombic	61	4.78	4.10	3.63
ACrB3(HO3)3	CrB3(HO3)3	orthorhombic	60	4.10	4.80	4.16
A2TiFeO4	ATiFeO4	orthorhombic	44	2.09	1.94	2.01
A3Ti2V3O12	A1Ti2V3O12	monoclinic	14	2.33	2.47	2.10
A3MnF6	A2MnF6	monoclinic	14	4.27	3.81	2.91
ASnAu	SnAu	hexagonal	194	0.93	0.91	0.91
ACa9Co(PO4)7	Ca9Co(PO4)7	trigonal	161	2.70	3.48	3.36
A3VF7	A2VF7	cubic	216	5.03	3.16	2.42
A4VF7	A3VF7	cubic	216	3.33	2.45	1.87
A6Fe5CoO12	A4Fe5CoO12	monoclinic	12	4.10	3.36	3.31



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ASn(PO3)4	Sn(PO3)4	triclinic	2	3.08	3.94	3.62
AMn(PO3)3	Mn(PO3)3	hexagonal	188	3.71	4.41	3.98
A4TiNi3O8	A3TiNi3O8	trigonal	166	3.43	2.64	2.99
A2V(OF)2	AV(OF)2	monoclinic	3	3.72	2.52	2.22
A0.75TiO2	TiO2	orthorhombic	74	2.01	1.55	1.42
ATiO2	A0.75TiO2	orthorhombic	74	1.69	1.24	1.21
A4Co5NiO12	Co5NiO12	monoclinic	12	3.67	3.82	3.42
A2Co3SbO8	Co3SbO8	hexagonal	186	4.22	3.94	3.80
A2CrFeO4	A1.33CrFeO4	tetragonal	119	3.87	2.92	3.07
A3V(OF)2	A2V(OF)2	monoclinic	13	2.29	1.68	1.50
A2CoNiO4	A1.33CoNiO4	monoclinic	10	3.22	3.20	3.28
Ba6A2Ti7Nb9O42	Ba6Ti7Nb9O42	monoclinic	8	1.48	1.65	1.65
A4TiMn3Cr2(PO4)6	TiMn3Cr2(PO4)6	triclinic	1	3.04	2.85	2.35
A4NbFe3Cu2(PO4)6	NbFe3Cu2(PO4)6	triclinic	1	2.79	2.93	2.36
A2Ni4P4O15	Ni4P4O15	monoclinic	15	4.42	4.35	3.80
A1.6NiO2	A1.2NiO2	triclinic	2	2.62	2.32	2.52
AFe(PO3)4	Fe(PO3)4	monoclinic	4	5.37	5.03	4.39
ACrP2O7	CrP2O7	monoclinic	5	5.02	4.18	3.20
ACrPO4	A0.5CrPO4	orthorhombic	33	2.69	1.83	1.60
KA2Sb(PO4)2	KASb(PO4)2	triclinic	1	2.89	1.80	1.66
A2VCo3O8	VCo3O8	hexagonal	186	3.96	3.46	3.32
AVCoO4	VCoO4	orthorhombic	62	4.37	3.04	2.57
A2Cr(Si2O5)3	ANbVO4	orthorhombic	74	1.31	2.97	2.89
A2Cr(Si2O5)3	ACr(Si2O5)3	hexagonal	192	4.57	5.28	4.95
A3Cr(Si2O5)3	A2Cr(Si2O5)3	hexagonal	192	3.11	5.04	4.72
A3Fe3(PO4)4	Fe3(PO4)4	monoclinic	4	5.22	4.22	3.39
A4Mn7(PO4)6	Mn7(PO4)6	triclinic	1	3.34	3.09	2.57
AFeP2O7	FeP2O7	monoclinic	5	5.19	4.53	3.63
A5VO3F2	A3VO3F2	monoclinic	12	2.05	1.62	1.47
AVOF3	VOF3	tetragonal	76	4.37	3.79	3.06
A2VOF3	AVOF3	tetragonal	76	3.24	2.20	1.64
A0.6MnF3	MnF3	tetragonal	100	4.08	4.37	3.81
A0.94NbO3	A0.85NbO3	trigonal	161	5.01	1.82	1.77
ANbO3	A0.94NbO3	trigonal	161	4.91	1.73	1.70
A3Ti2Mn3O10	ATi2Mn3O10	triclinic	1	3.30	2.93	2.76
A4Ti2Mn3O10	A3Ti2Mn3O10	triclinic	1	2.91	2.27	2.19
A5Ti2Mn3O10	A4Ti2Mn3O10	triclinic	1	2.66	1.92	1.84
AMo2P2O11	Mo2P2O11	monoclinic	11	3.79	3.73	3.27
A4FeCu3O8	A3FeCu3O8	trigonal	166	4.24	3.12	3.65
AMo2(PO4)3	Mo2(PO4)3	trigonal	148	3.58	3.31	3.04

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3Mo2(PO4)3	AMo2(PO4)3	trigonal	148	3.11	2.47	2.31
A3CuF6	A2CuF6	orthorhombic	33	6.06	4.53	3.56
ANiP2O7	NiP2O7	monoclinic	15	5.29	5.17	4.28
AFe(PO3)3	Fe(PO3)3	orthorhombic	19	3.60	4.02	3.31
A3CoSiO5	A2.5CoSiO5	orthorhombic	33	4.63	3.67	3.21
AV(PO3)3	V(PO3)3	triclinic	2	3.44	3.38	2.61
AFe5O8	Fe5O8	cubic	212	8.76	5.25	4.92
A5Mo2P5O18	A3Mo2P5O18	triclinic	2	3.80	2.35	1.97
A4Fe3(BO3)4	A3Fe3(BO3)4	monoclinic	7	3.27	3.19	2.57
A5Fe3(BO3)4	A4Fe3(BO3)4	monoclinic	7	2.64	2.72	2.24
A3V3(CoO6)2	AV3(CoO6)2	monoclinic	14	4.44	3.18	2.62
A1.5CuO2	ACuO2	monoclinic	12	2.86	2.67	3.21
A4V3OF11	AV3OF11	triclinic	1	4.03	2.80	2.16
A2Cr5(PO4)4	Cr5(PO4)4	triclinic	2	2.05	2.79	2.41
ACrP2O7	CrP2O7	monoclinic	15	4.96	4.23	3.26
A0.5CrO2	CrO2	orthorhombic	19	4.48	3.65	3.07
ACrO2	A0.5CrO2	orthorhombic	19	3.38	2.04	1.78
A1.25CrO2	ACrO2	orthorhombic	19	-0.72	1.57	1.47
A2VCrO4	AVCrO4	monoclinic	12	2.36	2.13	1.92
A2.5VCrO4	A2VCrO4	monoclinic	12	-0.42	1.56	1.49
A3VF6	A2VF6	trigonal	148	3.59	2.65	1.82
AMn2(PO4)3	Mn2(PO4)3	triclinic	1	4.99	4.91	4.33
A2Mn2(PO4)3	AMn2(PO4)3	triclinic	1	4.26	3.98	2.99
A3Mn2(PO4)3	A2Mn2(PO4)3	triclinic	1	4.06	2.98	2.47
A4Mn2(PO4)3	A3Mn2(PO4)3	triclinic	1	3.60	2.44	2.12
A5Mn2(PO4)3	A4Mn2(PO4)3	triclinic	1	3.26	2.04	1.83
A2MnV(PO4)3	AMnV(PO4)3	triclinic	2	4.30	3.37	2.51
A3MnV(PO4)3	A2MnV(PO4)3	triclinic	2	3.74	2.40	1.99
A4MnV(PO4)3	A3MnV(PO4)3	triclinic	2	3.06	1.98	1.70
A6Mn5O12	A5Mn5O12	monoclinic	5	3.79	2.72	2.98
A7Mn5O12	A6Mn5O12	monoclinic	5	3.32	2.50	2.74
A4VF8	A3VF8	orthorhombic	65	4.95	3.34	2.15
A5VF8	A4VF8	orthorhombic	65	3.88	2.63	1.64
A3V(CO3)3	A2V(CO3)3	orthorhombic	40	3.52	2.46	2.03
ACoPO4	CoPO4	trigonal	159	4.56	3.35	2.84
A2MnF4	AMnF4	monoclinic	7	4.06	2.98	2.38
ACr3P4O15	Cr3P4O15	orthorhombic	33	5.26	3.79	3.25
A4Cr3P4O15	ACr3P4O15	orthorhombic	33	2.55	2.09	1.69
ACoPO4	CoPO4	orthorhombic	63	4.01	3.53	2.85
A2CuPO4	ACuPO4	orthorhombic	31	3.12	2.02	1.79

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ACr(PO <sub>3</sub> ) <sub>3</sub>	Cr(PO <sub>3</sub> ) <sub>3</sub>	monoclinic	9	2.36	4.07	3.26
A <sub>2</sub> TiFeO <sub>4</sub>	A <sub>1.33</sub> TiFeO <sub>4</sub>	monoclinic	10	2.58	2.06	2.21
A <sub>4</sub> Mn <sub>3</sub> NbCr <sub>2</sub> (PO <sub>4</sub> ) <sub>6</sub>	Mn <sub>3</sub> NbCr <sub>2</sub> (PO <sub>4</sub> ) <sub>6</sub>	triclinic	1	2.67	2.61	2.19
A <sub>0.5</sub> CrO <sub>2</sub>	CrO <sub>2</sub>	orthorhombic	62	3.71	3.67	3.25
A <sub>4</sub> MnF <sub>7</sub>	A <sub>3</sub> MnF <sub>7</sub>	monoclinic	15	4.64	3.57	2.67
A <sub>3</sub> V <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	V <sub>3</sub> (PO <sub>4</sub> ) <sub>4</sub>	monoclinic	4	4.38	2.92	2.17
A <sub>4</sub> Mn <sub>3</sub> Nb <sub>2</sub> Cr <sub>3</sub> O <sub>16</sub>	Mn <sub>3</sub> Nb <sub>2</sub> Cr <sub>3</sub> O <sub>16</sub>	monoclinic	8	3.79	3.21	2.92
A <sub>0.5</sub> FePO <sub>4</sub>	FePO <sub>4</sub>	monoclinic	7	3.50	3.69	3.23
AFePO <sub>4</sub>	A <sub>0.5</sub> FePO <sub>4</sub>	monoclinic	7	3.44	2.61	2.38
AVPO <sub>5</sub>	VPO <sub>5</sub>	monoclinic	15	3.98	3.43	2.59
AAMnPCO <sub>7</sub>	AMnPCO <sub>7</sub>	monoclinic	4	4.12	3.51	3.25
AA <sub>2</sub> MnPCO <sub>7</sub>	AAMnPCO <sub>7</sub>	monoclinic	4	3.15	2.83	2.57
ACoP <sub>2</sub> O <sub>7</sub>	CoP <sub>2</sub> O <sub>7</sub>	monoclinic	4	5.13	4.83	3.99
A <sub>2</sub> CoP <sub>2</sub> O <sub>7</sub>	ACoP <sub>2</sub> O <sub>7</sub>	monoclinic	4	3.95	3.22	2.59
AV(PO <sub>3</sub> ) <sub>4</sub>	V(PO <sub>3</sub> ) <sub>4</sub>	orthorhombic	60	4.81	3.94	3.24
ACr(PO <sub>3</sub> ) <sub>5</sub>	Cr(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	7	5.41	5.38	4.76
A <sub>2</sub> Cr(PO <sub>3</sub> ) <sub>5</sub>	ACr(PO <sub>3</sub> ) <sub>5</sub>	monoclinic	7	5.38	4.44	3.09
A <sub>5</sub> Mn <sub>2</sub> Ni <sub>3</sub> O <sub>10</sub>	A <sub>4</sub> Mn <sub>2</sub> Ni <sub>3</sub> O <sub>10</sub>	triclinic	2	4.29	2.81	2.92
A <sub>0.5</sub> FeClO	FeClO	orthorhombic	25	2.36	2.51	2.32
A <sub>1.5</sub> Fe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	AFe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	15	5.38	4.48	3.60
A <sub>3</sub> Fe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	A <sub>1.5</sub> Fe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	15	4.66	3.45	2.88
A <sub>4</sub> Mn <sub>3</sub> Co <sub>5</sub> O <sub>16</sub>	Mn <sub>3</sub> Co <sub>5</sub> O <sub>16</sub>	monoclinic	8	3.99	3.89	3.49
A <sub>3</sub> Mo <sub>4</sub> P <sub>5</sub> O <sub>24</sub>	Mo <sub>4</sub> P <sub>5</sub> O <sub>24</sub>	monoclinic	9	3.62	3.58	3.00
A <sub>7</sub> Ti <sub>11</sub> O <sub>24</sub>	A <sub>4</sub> Ti <sub>11</sub> O <sub>24</sub>	monoclinic	6	1.83	1.47	1.40
A <sub>2</sub> Fe(SiO <sub>3</sub> ) <sub>2</sub>	AFe(SiO <sub>3</sub> ) <sub>2</sub>	orthorhombic	43	2.77	3.39	3.02
A <sub>0.75</sub> MnBO <sub>3</sub>	A <sub>0.5</sub> MnBO <sub>3</sub>	triclinic	1	3.37	2.66	1.89
A <sub>5</sub> MnF <sub>8</sub>	A <sub>4</sub> MnF <sub>8</sub>	cubic	225	5.19	3.55	2.63
A <sub>6</sub> MnF <sub>8</sub>	A <sub>5</sub> MnF <sub>8</sub>	cubic	225	3.55	2.84	2.15
AFe(PO <sub>3</sub> ) <sub>4</sub>	Fe(PO <sub>3</sub> ) <sub>4</sub>	monoclinic	12	5.31	5.07	4.43
A <sub>3</sub> V <sub>3</sub> O <sub>3</sub> F <sub>5</sub>	A <sub>2</sub> V <sub>3</sub> O <sub>3</sub> F <sub>5</sub>	monoclinic	8	1.99	1.71	1.53
A <sub>2</sub> FeSiO <sub>4</sub>	A <sub>1.5</sub> FeSiO <sub>4</sub>	monoclinic	14	3.32	3.14	3.36
A <sub>3.5</sub> Fe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	A <sub>3</sub> Fe <sub>2</sub> (PO <sub>4</sub> ) <sub>3</sub>	monoclinic	9	2.80	2.83	2.61
AFeSiO <sub>4</sub>	A <sub>0.5</sub> FeSiO <sub>4</sub>	trigonal	146	5.14	3.89	3.55
A <sub>2</sub> V <sub>5</sub> CoO <sub>12</sub>	V <sub>5</sub> CoO <sub>12</sub>	monoclinic	5	2.66	2.91	2.59
AMo <sub>4</sub> P <sub>7</sub> O <sub>24</sub>	Mo <sub>4</sub> P <sub>7</sub> O <sub>24</sub>	triclinic	2	2.89	3.29	3.10
A <sub>4</sub> Mn <sub>5</sub> CoO <sub>12</sub>	Mn <sub>5</sub> CoO <sub>12</sub>	monoclinic	5	3.27	3.49	3.08
AMn <sub>4</sub> (PO <sub>4</sub> ) <sub>3</sub>	Mn <sub>4</sub> (PO <sub>4</sub> ) <sub>3</sub>	trigonal	161	4.10	3.36	3.11
A <sub>6</sub> Fe <sub>3</sub> P <sub>8</sub> O <sub>29</sub>	A <sub>3</sub> Fe <sub>3</sub> P <sub>8</sub> O <sub>29</sub>	trigonal	165	5.34	4.03	3.20
A <sub>9</sub> Fe <sub>3</sub> P <sub>8</sub> O <sub>29</sub>	A <sub>6</sub> Fe <sub>3</sub> P <sub>8</sub> O <sub>29</sub>	trigonal	165	4.90	3.10	2.53
A <sub>6</sub> Mn <sub>9</sub> (PO <sub>4</sub> ) <sub>8</sub>	Mn <sub>9</sub> (PO <sub>4</sub> ) <sub>8</sub>	triclinic	2	3.74	3.10	2.57

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
AFeP2O7	FeP2O7	monoclinic	9	5.18	4.55	3.65
AVOF3	VOF3	orthorhombic	19	4.14	3.80	2.93
A3VOF5	A2VOF5	orthorhombic	44	3.46	2.90	1.83
A0.5Mo2P2O11	Mo2P2O11	triclinic	2	3.35	4.11	3.86
A2Fe2(CO3)3	AFe2(CO3)3	orthorhombic	38	3.35	3.07	2.86
AMnF4	MnF4	monoclinic	9	6.93	5.10	4.33
A2MnF4	AMnF4	orthorhombic	62	3.55	3.07	2.35
A2Cr3(P2O7)2	Cr3(P2O7)2	monoclinic	14	2.83	3.10	2.57
A2VSiO5	AVSiO5	tetragonal	129	3.37	2.80	2.49
ACuHCO4	CuHCO4	hexagonal	176	3.39	3.56	3.36
A4VFe3O8	A3VFe3O8	trigonal	166	2.87	2.75	3.00
A2VPHO5	AVPHO5	triclinic	2	1.33	1.64	1.58
A2Fe2C2O7	A2e2C2O7	monoclinic	14	2.97	4.07	3.76
ACuO2	CuO2	trigonal	166	3.91	3.77	3.20
A2FeF4	AFeF4	orthorhombic	55	3.52	2.77	2.26
A3Mn2(PO4)3	AMn2(PO4)3	monoclinic	12	4.50	3.75	3.01
ACrPO4	CrPO4	orthorhombic	61	2.99	2.41	1.95
A1.25CuBO3	ACuBO3	triclinic	1	1.65	2.65	2.19
A3Cr2NiO6	A2Cr2NiO6	monoclinic	12	3.93	2.81	2.99
A2NiP2O7	ANiP2O7	monoclinic	15	5.80	3.86	2.76
ANiPO4	NiPO4	trigonal	159	4.93	3.92	3.23
AFe5(OF2)4	Fe5(OF2)4	orthorhombic	22	4.93	5.21	4.82
A7FeO5F	A6FeO5F	hexagonal	173	3.40	3.97	3.89
A8FeO5F	A7FeO5F	hexagonal	173	3.20	3.54	3.45
ACrPO5	CrPO5	orthorhombic	62	4.24	4.02	3.14
A0.83MnBO3	A0.67MnBO3	triclinic	1	3.17	2.46	1.73
ANd2Ti(MoO4)4	Nd2Ti(MoO4)4	monoclinic	15	4.89	4.56	4.41
A3Bi(PO4)2	A2Bi(PO4)2	trigonal	147	4.36	2.86	2.42
AV2(PO4)3	V2(PO4)3	monoclinic	14	4.13	3.82	3.13
A2V2(PO4)3	AV2(PO4)3	monoclinic	14	3.73	2.83	2.06
A3V2(PO4)3	A2V2(PO4)3	monoclinic	14	3.15	2.11	1.65
A2SnP2O7	SnP2O7	monoclinic	14	2.65	3.07	3.08
A5AFe2P2(CO7)2	A5Fe2P2(CO7)2	triclinic	1	3.00	2.77	2.64
A3VFe3O8	A2VFe3O8	hexagonal	186	4.28	3.55	3.89
AMo2P3O13	Mo2P3O13	monoclinic	15	3.06	3.77	3.28
A0.25MnO2	MnO2	monoclinic	5	2.53	4.11	3.72
A0.5CuO2	CuO2	cubic	227	4.52	4.26	3.75
A2CrP2O7	ACrP2O7	monoclinic	15	4.59	2.55	2.00
A1.5FeSiO4	FeSiO4	triclinic	1	2.39	3.30	3.04
A5CrO4	A2CrO4	orthorhombic	61	2.33	1.74	1.51

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3Sn(BO3)2	A2Sn(BO3)2	monoclinic	14	1.93	2.62	2.65
AFe3P4O15	Fe3P4O15	orthorhombic	33	5.55	4.33	3.89
A4Fe3P4O15	AFe3P4O15	orthorhombic	33	3.13	2.65	2.15
A0.67TiO2	TiO2	trigonal	166	1.86	1.82	1.59
ATiO2	A0.67TiO2	trigonal	166	1.61	1.28	1.27
A3FeO3	A2.75FeO3	tetragonal	136	3.72	2.56	2.58
A3Cr2FeO6	A2Cr2FeO6	monoclinic	12	4.31	2.75	2.89
A2MnCr3O8	MnCr3O8	hexagonal	186	3.94	3.75	3.62
A5MnCr3O8	A2MnCr3O8	hexagonal	186	2.46	2.64	3.29
AMn6P7O24	Mn6P7O24	monoclinic	11	3.87	3.80	3.60
A2Fe5(PO4)4	Fe5(PO4)4	triclinic	2	2.74	2.89	2.48
A2Mn3NiO8	A1Mn3NiO8	monoclinic	12	4.13	3.47	2.94
A3Mn3NiO8	A2Mn3NiO8	monoclinic	12	3.31	2.78	2.99
A4Mn3NiO8	A3Mn3NiO8	monoclinic	12	2.84	2.43	2.90
A2VAsCO7	AVAsCO7	monoclinic	11	3.33	2.58	2.21
A2Ti3MnO8	Ti3MnO8	hexagonal	186	3.53	3.61	3.52
ANiPO4	A0.5NiPO4	orthorhombic	29	4.85	3.59	2.53
A0.5VPO4	VPO4	orthorhombic	62	2.45	2.15	1.76
AVPO4	A0.5VPO4	orthorhombic	62	2.39	1.55	1.42
A4Cr3Co(PO4)4	Cr3Co(PO4)4	monoclinic	6	3.10	2.90	2.39
A4Co2Si3O10	A2.5Co2Si3O10	monoclinic	15	3.64	3.43	3.29
A0.42TiO2	TiO2	monoclinic	6	1.66	1.75	1.49
A0.44TiO2	A0.42TiO2	monoclinic	6	1.45	1.30	1.28
A0.45TiO2	A0.44TiO2	monoclinic	6	1.40	1.29	1.28
A0.75TiO2	A0.45TiO2	monoclinic	6	0.77	1.28	1.26
AVCoO4	VCoO4	orthorhombic	63	3.92	3.04	2.57
AV(PO3)4	V(PO3)4	monoclinic	9	4.81	4.18	3.39
K2A3NiO4	K2A2NiO4	monoclinic	14	3.38	2.08	2.05
A3Cr(Si2O5)3	A2Cr(Si2O5)3	orthorhombic	62	4.16	3.81	3.18
A2Cr2P4H3O16	Cr2P4H3O16	triclinic	1	4.73	4.58	3.64
A4Cr2P4H3O16	A2Cr2P4H3O16	triclinic	1	3.71	2.73	2.01
AFe4(PO4)3	Fe4(PO4)3	orthorhombic	62	4.29	3.09	2.77
AMnP2O7	MnP2O7	monoclinic	15	4.72	4.48	3.76
AFeP2O7	FeP2O7	monoclinic	11	5.23	4.56	3.66
A3VO3F	A2VO3F	triclinic	1	2.87	2.29	1.81
AVOF3	VOF3	monoclinic	14	4.07	3.91	2.96
A3Bi5(PO4)6	Bi5(PO4)6	triclinic	1	5.33	4.08	3.41
A2V(PO3)4	V(PO3)4	monoclinic	14	4.04	3.68	2.61
A2FeF4	AFeF4	monoclinic	4	3.68	2.61	2.37
A3Ti2Mn5O12	A2Ti2Mn5O12	monoclinic	5	2.93	2.51	2.60

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A4Ti2Mn5O12	A3Ti2Mn5O12	monoclinic	5	2.75	2.20	2.39
A5Ti2Mn5O12	A4Ti2Mn5O12	monoclinic	5	2.74	1.96	2.07
AFePO4	FePO4	monoclinic	9	3.28	3.14	2.63
AFePO4	FePO4	orthorhombic	29	3.25	2.79	2.23
AVP2O7	VP2O7	triclinic	2	3.38	3.47	2.50
A2VP2O7	AVP2O7	triclinic	2	2.25	1.82	1.57
A3FeOF3	A2FeOF3	monoclinic	13	2.63	2.13	2.21
A4FeOF4	A3FeOF4	tetragonal	87	2.75	2.19	2.06
A8CrO6	A7.5CrO6	triclinic	1	3.26	1.50	1.28
A8.5CrO6	A8CrO6	triclinic	1	1.22	1.39	1.24
A8Ti7Nb6O30	A2Ti7Nb6O30	trigonal	143	1.64	1.69	1.60
ACoPO4	CoPO4	orthorhombic	33	4.21	3.38	2.70
AV2P3O11	V2P3O11	monoclinic	5	3.32	3.07	2.40
A0.5NiPO4	NiPO4	orthorhombic	62	4.98	4.59	4.05
ANiPO4	A0.5NiPO4	orthorhombic	62	4.90	3.71	2.70
A2Fe(PO3)4	AFe(PO3)4	monoclinic	15	3.37	3.96	2.92
A0.5MnBO3	A0.25MnBO3	triclinic	2	3.48	3.24	2.62
AMnBO3	A0.5MnBO3	triclinic	2	3.37	2.26	1.70
ANi2P3O11	Ni2P3O11	monoclinic	5	4.61	5.16	4.62
ALa8Cu3O16	La8Cu3O16	triclinic	1	3.33	3.00	2.91
A3Ni3(PO4)4	Ni3(PO4)4	monoclinic	4	5.37	4.95	3.94
A6NbCo3(PO4)6	ANbCo3(PO4)6	triclinic	1	4.11	3.29	2.48
A2FeCo9O20	FeCo9O20	triclinic	1	4.25	4.52	4.14
A4FeCo9O20	A2FeCo9O20	triclinic	1	4.13	4.03	3.40
A8FeCo9O20	A4FeCo9O20	triclinic	1	3.40	3.24	3.15
A10FeCo9O20	A8FeCo9O20	triclinic	1	2.17	2.67	2.97
A4Mn3Co3(SnO8)2	Mn3Co3(SnO8)2	triclinic	1	4.06	3.38	3.15
A2NiH8(CO5)2	NiH8(CO5)2	monoclinic	14	4.32	4.31	3.74
A2Cu(PO3)4	ACu(PO3)4	triclinic	2	5.28	4.10	2.79
AMn3CrO8	Mn3CrO8	triclinic	2	3.97	4.01	3.67
A2Mn3CrO8	AMn3CrO8	triclinic	2	3.29	3.32	2.86
AV(SiO3)2	V(SiO3)2	triclinic	2	3.28	2.90	2.44
A9Mn3P8O29	A3Mn3P8O29	monoclinic	15	4.51	3.85	2.94
A2Fe3(P2O7)2	Fe3(P2O7)2	monoclinic	14	3.60	3.41	2.89
A4CuNi3O8	A3CuNi3O8	monoclinic	12	3.64	3.34	3.21
A1.5FeO3	FeO3	orthorhombic	62	3.94	4.61	4.03
A2FeO3	A1.5FeO3	orthorhombic	62	3.70	3.83	3.67
A3FeO3	A2FeO3	orthorhombic	62	2.92	2.78	2.53
A2Mn3NiO8	Mn3NiO8	cubic	212	4.68	3.60	3.06
A3TiMn2O6	TiMn2O6	monoclinic	12	3.04	3.02	2.85

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
AMoPO5	MoPO5	orthorhombic	62	3.00	2.74	2.37
A3V(Si2O5)3	A2V(Si2O5)3	orthorhombic	62	3.02	3.41	2.75
A5Mn2Ni5O12	A3Mn2Ni5O12	monoclinic	5	3.78	3.09	2.89
Sr2A2Nb3O10	Sr2ANb3O10	orthorhombic	42	2.15	1.81	1.67
ASi6Bi9O26	Si6Bi9O26	trigonal	147	4.29	4.34	4.22
A3Fe(PO4)2	A2Fe(PO4)2	monoclinic	15	4.83	2.98	2.69
ACrPO5	CrPO5	orthorhombic	33	3.88	3.99	3.03
AMn4(PO4)3	Mn4(PO4)3	orthorhombic	58	3.61	3.26	2.93
AFe(CoO3)2	Fe(CoO3)2	monoclinic	12	4.50	4.42	4.16
A3Fe(CoO3)2	AFe(CoO3)2	monoclinic	12	3.05	3.34	3.31
A2MnSiO4	A1.25MnSiO4	orthorhombic	33	3.86	3.06	2.69
A2.75V3CoO8	A2V3CoO8	monoclinic	5	2.06	2.41	2.40
A2NbV3O8	NbV3O8	monoclinic	8	2.08	2.51	2.24
A2P2WO8	AP2WO8	monoclinic	14	3.71	2.19	1.74
A4Cr3NiO8	A2Cr3NiO8	trigonal	166	3.50	2.74	2.94
A2Ni(PO3)4	ANi(PO3)4	monoclinic	15	5.31	4.57	3.27
AFe3P3O11	Fe3P3O11	monoclinic	14	3.02	3.37	3.05
AFe4P7O24	Fe4P7O24	triclinic	2	4.01	4.67	4.32
AV6O7F5	V6O7F5	monoclinic	7	2.04	2.53	2.36
A4VO3F2	A3VO3F2	triclinic	1	2.84	2.23	1.64
A4TiNi3Sn2(PO4)6	TiNi3Sn2(PO4)6	triclinic	1	3.32	3.02	2.71
AV(PO3)4	V(PO3)4	monoclinic	12	4.53	4.19	3.41
A3VOF5	A2VOF5	monoclinic	7	4.06	2.69	1.96
AMnPO4	A0.5MnPO4	monoclinic	4	3.92	2.69	2.27
A3Ni(PO4)2	A2Ni(PO4)2	monoclinic	12	4.93	3.60	2.67
A4Ni(PO4)2	A3Ni(PO4)2	monoclinic	14	4.85	2.75	2.22
AVOF3	VOF3	orthorhombic	29	4.00	3.81	2.94
AFePO4	FePO4	monoclinic	14	2.93	3.17	2.66
AFePO4	FePO4	orthorhombic	62	3.24	2.95	2.39
A4Mn3(OF3)2	AMn3(OF3)2	triclinic	2	3.34	2.50	2.06
A2CoPO4F	ACoPO4F	orthorhombic	62	4.44	2.92	2.28
ACo3NiO8	Co3NiO8	monoclinic	12	4.68	4.44	4.11
A2Co3NiO8	ACo3NiO8	monoclinic	12	3.99	3.87	3.49
A3Co3NiO8	A2Co3NiO8	monoclinic	12	2.67	3.56	3.41
A6Fe2C4SO16	A4Fe2C4SO16	cubic	203	2.43	3.49	3.52
A3MnFeCo(PO4)3	MnFeCo(PO4)3	orthorhombic	31	3.83	3.06	2.50
A4Mn5Sb3O16	Mn5Sb3O16	monoclinic	8	3.67	3.42	3.08
A4MnH6(S2O9)2	MnH6(S2O9)2	orthorhombic	56	4.68	4.56	3.72
A4Fe3TeO8	A3Fe3TeO8	monoclinic	12	1.28	3.30	3.70
A2A4Ti3Al(PO4)6	A2A1Ti3Al(PO4)6	triclinic	1	1.01	1.82	1.59

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2MnSiO4	A1.5MnSiO4	orthorhombic	33	3.98	3.10	2.67
KA2Mn2O4	KMn2O4	monoclinic	11	1.73	2.41	2.46
A4Mn3Ni3(TeO8)2	Mn3Ni3(TeO8)2	monoclinic	8	4.18	3.72	3.34
A2Mn7(P2O7)4	Mn7(P2O7)4	orthorhombic	20	3.48	3.36	3.02
A4Mn5(NiO6)2	A3Mn5(NiO6)2	monoclinic	5	3.37	2.69	2.87
A5Mn5(NiO6)2	A4Mn5(NiO6)2	monoclinic	5	3.03	2.38	2.72
K11AMn4O16	K11Mn4O16	tetragonal	121	3.41	3.38	3.35
A1.33MnCrO4	A0.67MnCrO4	monoclinic	10	3.62	3.13	3.13
A0.92FeBO3	A0.83FeBO3	triclinic	1	5.87	2.52	2.21
A2Cu3(P2O7)2	Cu3(P2O7)2	monoclinic	14	4.28	4.22	3.53
AW6CCl18	W6CCl18	hexagonal	176	2.26	2.35	2.32
A5TiMn9O20	TiMn9O20	triclinic	1	3.84	3.60	3.09
A8Mn15NiO32	Mn15NiO32	trigonal	155	4.03	3.65	3.12
A2Mn3CrO8	Mn3CrO8	monoclinic	9	3.72	3.64	3.20
A3Mn3CrO8	A2Mn3CrO8	monoclinic	9	2.26	2.65	2.94
AVCr(P2O7)2	VCr(P2O7)2	triclinic	1	4.46	4.25	3.67
A2VCr(P2O7)2	AVCr(P2O7)2	triclinic	1	3.94	3.15	2.31
A3VCr(P2O7)2	A2VCr(P2O7)2	triclinic	1	1.93	2.25	1.76
A5V(CO3)4	A4V(CO3)4	monoclinic	14	3.52	2.49	2.36
AV2O3F	V2O3F	orthorhombic	33	2.45	2.32	2.01
A5Cr2P5O18	A3Cr2P5O18	triclinic	2	5.01	2.76	2.02
A3FeF6	A2FeF6	monoclinic	15	6.26	3.91	3.19
A3Cr3(PO4)4	Cr3(PO4)4	monoclinic	4	5.05	3.78	2.90
A3MnF5	A2MnF5	triclinic	1	3.96	2.82	2.15
A2MnF5	AMnF5	orthorhombic	62	4.85	4.37	3.33
A3MnF5	A2MnF5	orthorhombic	62	3.98	3.05	2.10
A2Mn(PO3)5	Mn(PO3)5	monoclinic	11	5.43	4.98	4.11
ACrP2O7	CrP2O7	triclinic	2	5.27	4.06	3.06
AP4WO13	P4WO13	orthorhombic	19	5.21	4.09	3.37
A8VO5F	A7VO5F	triclinic	1	1.34	1.34	1.24
AFePO4	A0.25FePO4	orthorhombic	62	3.47	2.65	2.20
A0.67FeCoO4	FeCoO4	monoclinic	10	4.45	4.53	4.26
A2FeCoO4	A0.67FeCoO4	monoclinic	10	3.45	3.44	3.33
A2VSiO4	AVSiO4	triclinic	1	1.57	2.07	1.88
A2CoPO4F	ACoPO4F	orthorhombic	60	4.35	2.91	2.27
AVCuO4	A0.83VCuO4	orthorhombic	74	4.01	2.94	2.47
A3V(OF)2	A2V(OF)2	orthorhombic	65	2.54	1.64	1.44
AMgSbPt	MgSbPt	cubic	216	0.29	0.48	0.46
A3Sb17S27	Sb17S27	triclinic	1	2.86	3.00	2.94
AFeP2O7	FeP2O7	triclinic	1	5.17	4.43	3.41



High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2FeP2O7	AFeP2O7	triclinic	1	3.07	2.50	2.00
A2FeP4O13	AFeP4O13	triclinic	2	5.33	4.66	3.24
A2MnP2O7	AMnP2O7	monoclinic	15	4.07	3.07	2.42
AFePO4	FePO4	trigonal	146	3.38	2.79	2.48
AFePO4	FePO4	trigonal	159	3.88	2.87	2.55
AV4P7O24	V4P7O24	triclinic	2	2.73	3.56	3.21
A0.75MnP2O7	A0.5MnP2O7	monoclinic	14	5.27	4.34	3.41
AMnP2O7	A0.75MnP2O7	monoclinic	14	5.02	3.93	3.04
A1.5MnP2O7	AMnP2O7	monoclinic	14	4.54	3.36	2.63
A2MnP2O7	A1.5MnP2O7	monoclinic	14	4.47	2.82	2.23
AMnVP2(O4F)2	MnVP2(O4F)2	triclinic	1	4.37	4.27	3.58
A3MnVP2(O4F)2	AMnVP2(O4F)2	triclinic	1	3.41	2.51	2.07
A4Cu(PO4)2	A3Cu(PO4)2	monoclinic	14	4.44	2.66	2.32
A3Fe2CoO6	A2Fe2CoO6	monoclinic	12	5.37	3.30	3.32
A4Fe3SbO8	A3Fe3SbO8	monoclinic	12	2.53	2.49	2.71
A2FeSiO4	FeSiO4	monoclinic	4	2.74	3.31	3.09
A3Fe3CoO8	A2Fe3CoO8	trigonal	166	4.23	3.77	3.83
A4Fe3CoO8	A3Fe3CoO8	trigonal	166	3.26	3.26	3.41
A2V(PO4)2	A1V(PO4)2	monoclinic	14	4.09	2.99	2.10
A2CrP4O13	ACrP4O13	triclinic	2	5.57	4.42	2.99
ACrPO4	CrPO4	trigonal	159	3.51	2.64	2.30
A3Fe2P5O16	A1Fe2P5O16	monoclinic	13	3.14	3.59	2.75
AMn4P7O24	Mn4P7O24	triclinic	2	3.67	4.64	4.31
A4Fe5(P3O11)2	Fe5(P3O11)2	monoclinic	14	3.23	3.29	2.78
AFe4(PO4)3	Fe4(PO4)3	monoclinic	15	2.68	3.37	3.11
A7VO5F	A6VO5F	triclinic	1	1.45	1.56	1.32
AMnPO4	MnPO4	orthorhombic	62	3.82	3.30	2.69
AFePO4	A0.5FePO4	monoclinic	9	3.91	2.62	2.39
AVPO4	VPO4	orthorhombic	62	2.13	1.86	1.60
A2MnCu(PO4)2	MnCu(PO4)2	monoclinic	11	3.97	3.59	2.86
A2CoSiO4	A1.5CoSiO4	monoclinic	12	4.07	3.13	3.35
ATiTe2	TiTe2	trigonal	164	1.22	1.46	1.42
A4Mn3OF8	AMn3OF8	orthorhombic	31	3.65	2.90	2.19
AMnPO5	A0.5MnPO5	monoclinic	14	5.06	4.12	3.25
A4Ni5(P3O11)2	Ni5(P3O11)2	monoclinic	14	4.68	4.38	3.58
ANi6P7O24	Ni6P7O24	monoclinic	11	4.73	4.71	4.48
ACuPO4	CuPO4	orthorhombic	43	4.44	3.65	2.85
A2CoNiO4	ACoNiO4	orthorhombic	74	3.29	3.18	3.03
ASn2(PO3)5	Sn2(PO3)5	monoclinic	7	4.16	3.56	3.40
AMgCr3Se2(SO6)4	MgCr3Se2(SO6)4	triclinic	1	4.74	4.13	3.91

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A3VF6	A2VF6	monoclinic	15	3.94	2.47	1.73
AV2O2F3	V2O2F3	orthorhombic	63	3.31	2.60	2.30
A4Cr3Co3(SbO8)2	Cr3Co3(SbO8)2	monoclinic	8	4.30	3.73	3.51
A6Cu9(PO4)8	Cu9(PO4)8	triclinic	2	4.16	3.81	3.09
A2VF6	AVF6	monoclinic	12	4.28	3.48	2.52
AV(CO3)2	V(CO3)2	orthorhombic	43	3.59	2.80	2.29
A2V(CO3)2	AV(CO3)2	orthorhombic	43	2.14	2.00	1.78
AVPO5	VPO5	triclinic	1	3.85	3.43	2.66
A2VPO5	AVPO5	triclinic	1	2.22	1.97	1.66
ALa4NiO8	La4NiO8	orthorhombic	65	4.23	3.33	3.15
A2V(PO4)2	AV(PO4)2	monoclinic	7	4.71	2.96	2.06
AMnV(P2O7)2	MnV(P2O7)2	triclinic	1	4.50	4.39	3.88
A2MnV(P2O7)2	AMnV(P2O7)2	triclinic	1	3.95	3.36	2.45
A3MnV(P2O7)2	A2MnV(P2O7)2	triclinic	1	3.57	2.42	1.93
A1.5CuF4	ACuF4	monoclinic	14	4.88	4.19	3.42
AMn5O7F	Mn5O7F	trigonal	160	3.70	3.42	2.98
A3Sn2P5O16	ASn2P5O16	monoclinic	13	3.48	3.08	2.94
Mn(PO3)4	Mn(PO3)4	monoclinic	4	5.05	5.73	5.73
A3Fe3OF7	Fe3OF7	monoclinic	8	2.88	3.07	2.53
A4MnOF4	A3MnOF4	tetragonal	87	2.85	2.24	1.75
ACoPO4	CoPO4	triclinic	2	4.03	3.36	2.64
ACr6P7O24	Cr6P7O24	monoclinic	11	2.77	3.26	3.06
AV3O5F	V3O5F	triclinic	1	2.99	2.71	2.43
AV3OF11	V3OF11	monoclinic	4	4.28	4.13	3.66
ACrPO4	CrPO4	orthorhombic	63	2.43	2.42	1.96
A0.75MnBO3	A0.5MnBO3	monoclinic	9	3.45	2.86	2.15
A0.83MnBO3	A0.75MnBO3	monoclinic	9	2.74	2.62	2.00
AVFeP2(O4F)2	VFeP2(O4F)2	triclinic	2	4.48	4.29	3.58
A2VFeP2(O4F)2	AVFeP2(O4F)2	triclinic	2	3.78	2.89	2.15
A4Ni7(PO4)6	Ni7(PO4)6	monoclinic	8	4.39	4.20	3.59
A1.5Co(CO3)2	A1Co(CO3)2	orthorhombic	43	4.99	3.63	3.14
A2Co(CO3)2	A1.5Co(CO3)2	orthorhombic	43	4.22	3.37	3.04
ACr2P3O11	Cr2P3O11	monoclinic	5	4.01	4.06	3.44
ASn4(PO4)3	Sn4(PO4)3	trigonal	161	3.94	3.50	3.50
A3Cr3(PO4)4	Cr3(PO4)4	monoclinic	15	4.88	3.84	2.96
A3VO3F	A2VO3F	monoclinic	15	3.06	2.07	1.94
AMnPO4	MnPO4	trigonal	146	4.23	3.29	2.85
A0.5MnPO4	MnPO4	triclinic	1	4.04	3.74	3.10
AVPO5	VPO5	orthorhombic	62	3.83	3.28	2.53
A2FePO5	A1.5FePO5	tetragonal	129	4.57	3.07	2.81

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
ANi3P3O11	Ni3P3O11	monoclinic	14	4.67	4.47	4.07
A10CoNi9O20	A6CoNi9O20	triclinic	1	3.72	3.34	2.91
A3ASbP2O9	A3SbP2O9	orthorhombic	19	1.64	2.38	2.04
li0.75TiO2	TiO2	monoclinic	3	1.02	2.18	2.18
A6VFe3(PO4)6	VFe3(PO4)6	triclinic	1	4.21	3.81	2.83
A2VF6	AVF6	trigonal	162	4.62	3.68	2.77
A3VF6	A2VF6	trigonal	162	3.04	2.71	1.89
A2VF6	AVF6	orthorhombic	33	4.76	3.54	2.42
A3VF6	A2VF6	orthorhombic	33	3.66	2.40	1.60
A0.67V(CO3)2	V(CO3)2	trigonal	148	3.74	3.41	2.97
A2V(CO3)2	A0.67V(CO3)2	trigonal	148	2.72	2.49	2.36
A2FeP2HO8	AFeP2HO8	monoclinic	4	5.13	3.31	2.58
ACrPO4	CrPO4	triclinic	2	2.69	2.64	2.08
A0.63MnBO3	A0.5MnBO3	triclinic	1	3.41	2.95	2.07
A0.75MnBO3	A0.63MnBO3	triclinic	1	3.35	2.64	1.82
A7V4O11F	A3V4O11F	triclinic	1	3.13	2.55	2.28
A1.5FeSiO4	AFeSiO4	monoclinic	7	1.92	3.37	3.42
A11V6O5F19	V6O5F19	triclinic	1	3.67	3.24	2.59
A4VO3F2	A3VO3F2	monoclinic	15	2.57	1.97	1.71
AVP2O7	VP2O7	triclinic	1	3.97	3.46	2.49
A2VP2O7	AVP2O7	triclinic	1	2.18	1.81	1.57
A3Cr3(PO4)4	Cr3(PO4)4	triclinic	1	5.13	3.73	2.76
AMn(PO3)4	Mn(PO3)4	monoclinic	15	5.78	4.98	4.36
AV2OF7	V2OF7	monoclinic	7	4.36	4.08	3.36
A2V3(P2O7)2	V3(P2O7)2	monoclinic	14	2.62	2.09	1.73
AV3(OF3)2	V3(OF3)2	triclinic	2	3.34	2.74	2.46
ANiPO4	NiPO4	monoclinic	9	4.83	4.15	3.27
ACrP2O7	CrP2O7	monoclinic	11	5.20	4.21	3.23
AMn2P3O10	Mn2P3O10	monoclinic	15	4.46	3.82	3.29
AMn4(PO4)3	Mn4(PO4)3	tetragonal	122	3.37	3.73	3.45
A1.5VF6	AVF6	monoclinic	14	3.64	3.76	2.65
A4Fe5Ni(PO4)6	Fe5Ni(PO4)6	triclinic	1	3.51	3.40	2.67
A2Cu5F12	ACu5F12	monoclinic	13	4.08	4.39	3.79
A4FeNi3(PO4)4	FeNi3(PO4)4	monoclinic	6	4.55	3.91	2.99
AMn5O3F5	Mn5O3F5	trigonal	160	2.80	3.06	2.73
ACo2C2O7	Co2C2O7	monoclinic	5	3.86	3.73	3.47
ACr2P5O16	Cr2P5O16	monoclinic	13	4.61	4.62	4.07
A3Cr2P5O16	ACr2P5O16	monoclinic	13	2.36	3.29	2.39
AFe(PO3)3	AFe(PO3)3	triclinic	2	3.68	3.63	2.73
AMnVP2(HO5)2	MnVP2(HO5)2	triclinic	1	4.15	4.01	3.31

High-ion concentration	Low-ion concentration	Crystal lattice	Space group	A=Li	A=Na	A=K
A2MnVP2(HO5)2	AMnVP2(HO5)2	triclinic	1	3.72	2.67	2.24
A3MnVP2(HO5)2	A2MnVP2(HO5)2	triclinic	1	2.52	2.02	1.88
A2CrPO5	CrPO5	monoclinic	14	4.04	3.56	2.80
A2FeP2O7	AFeP2O7	triclinic	2	3.16	2.51	2.00
AMnP2O7	MnP2O7	monoclinic	5	4.89	4.48	3.73
AVOF3	VOF3	orthorhombic	30	3.79	3.81	2.94
A2VOF3	AVOF3	orthorhombic	30	3.21	2.01	1.54
AMnPO4	MnPO4	trigonal	159	4.55	3.34	2.93
AVP2O7	VP2O7	monoclinic	4	3.79	3.34	2.36
A2VP2O7	AVP2O7	monoclinic	4	2.00	1.87	1.54
A2SnP2O7	ASnP2O7	monoclinic	15	4.55	2.84	2.91
A2CuPO4	ACuPO4	monoclinic	6	3.78	2.29	2.27
A6Fe(SiO4)2	A4Fe(SiO4)2	triclinic	2	2.99	3.18	2.98
ACr4(PO4)3	Cr4(PO4)3	orthorhombic	62	3.76	2.65	2.37
AV2P5O16	V2P5O16	monoclinic	13	3.69	3.72	3.14
A3V2P5O16	AV2P5O16	monoclinic	13	2.19	2.49	1.81
A2Mn(PO4)2	Mn(PO4)2	monoclinic	15	4.71	4.75	3.86
A3Mn(PO4)2	A2Mn(PO4)2	monoclinic	15	4.45	3.14	2.42
AFe(PO3)5	Fe(PO3)5	monoclinic	11	5.32	5.60	5.02
A2Fe(PO3)5	AFe(PO3)5	monoclinic	11	5.30	4.65	3.41
A3Fe3(PO4)4	Fe3(PO4)4	monoclinic	15	4.94	4.25	3.45
AV4OF11	V4OF11	triclinic	2	2.97	3.00	2.67
A2FeP2O7	AFeP2O7	monoclinic	15	4.47	2.88	2.48
A2VOF3	AVOF3	monoclinic	5	2.80	2.16	1.67
A0.67FePO4	FePO4	monoclinic	5	3.06	3.48	2.96

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