Supplementary Materials: Selenide Mineralization in the Příbram Uranium and Base-Metal District (Czech Republic)

Pavel Škácha, Jiří Sejkora and Jakub Plášil

Table S1. The empirical formulae of selenides and selected associated sulphides from Příbram.

mineral	empirical formula
antimonselite	$(Sb_{2.06}Cu_{0.02})_{\Sigma 2.08}(Se_{2.67}S_{0.25})_{\Sigma 2.92}$
athabascaite	$(Cu_{4.98}Fe_{0.06}Ag_{0.03})_{\Sigma 5.07}(Se_{3.12}S_{0.80}Te_{0.01})_{\Sigma 3.93}$
bellidoite	$Cu_{1.96}(Se_{1.00}S_{0.03})_{\Sigma 1.03}$
S-poor berzelianite	$Cu_{1.93}(Se_{1.02}S_{0.05})_{\Sigma 1.07}$
S-rich berzelianite	$(Cu_{1.88}Fe_{0.03})_{\Sigma 1.91}(Se_{0.69}S_{0.43})_{\Sigma 1.12}$
S, Te-rich berzelianite	$Cu_{1.94}(Se_{0.85}S_{0.14}Te_{0.06})_{\Sigma 1.05}$
brodtkorbite	$(Cu_{1.80}Ag_{0.01})_{\Sigma 1.81}Hg_{1.11}(Se_{2.07}S_{0.01})_{\Sigma 2.08}$
bukovite	$(Tl_{1.95}Pb_{0.01})_{\Sigma 1.96}(Cu_{3.00}Ag_{0.04})_{\Sigma 3.04}Fe_{0.97}(Se_{3.96}S_{0.05}Te_{0.01})_{\Sigma 4.02}$
bytízite	$(Cu_{3.00}Fe_{0.01}Ag_{0.01})_{\Sigma 3.02}(Sb_{0.97}As_{0.06})_{\Sigma 1.03}(Se_{2.94}S_{0.01})_{\Sigma 2.95}$
cadmoselite	$(Cd_{0.99}Hg_{0.01}Cu_{0.01})_{\Sigma 1.01}(Se_{0.98}S_{0.01})_{\Sigma 0.99}$
chaméanite	$(Cu_{3.63}Fe_{0.33}Ag_{0.03})_{\Sigma 3.99}(As_{0.88}Sb_{0.08})_{\Sigma 0.96}(Se_{4.03}S_{0.02})_{\Sigma 4.05}$
clausthalite	$(Pb_{0.98}Cu_{0.02})_{\Sigma 1.00}(Se_{0.97}S_{0.01})_{\Sigma 0.98}$
crookesite	$Cu_{7.12}(Tl_{0.93}Ag_{0.01})_{\Sigma 0.94}(Se_{3.92}S_{0.02})_{\Sigma 3.94}$
dzharkenite	$(Fe_{0.98}Cu_{0.02})_{\Sigma 1.00}(Se_{1.92}S_{0.08})_{\Sigma 2.00}$
S-poor eskebornite	$Cu_{1.03}Fe_{0.99}(Se_{1.92}S_{0.05})_{\Sigma 1.97}$
S-rich eskebornite	$Cu_{1.06}Fe_{0.95}(Se_{1.31}S_{0.66})_{\Sigma 1.97}$
eucairite	$Ag_{1.00}Cu_{1.04}(Se_{0.95}Te_{0.01})_{\Sigma 0.96}$
ferroselite	$(Fe_{1.00}Cu_{0.01})_{\Sigma 1.01}(Se_{1.94}S_{0.05})_{\Sigma 1.99}$
Hg-giraudite	$(Cu_{5.78}Ag_{0.22})_{\Sigma 6.00}Cu_{4.00}(Hg_{1.29}Cu_{0.41}Cd_{0.22}Zn_{0.12})_{\Sigma 2.04}(As_{3.55}Sb_{0.31})_{\Sigma 3.86}(Se_{11.48}S_{1.61})_{\Sigma 13.09}$
Cu-giraudite	$(Cu_{5.82}Ag_{0.18})_{\Sigma 6.00}Cu_{4.00}(Cu_{1.76}Fe_{0.34}Hg_{0.07}Zn_{0.03})_{\Sigma 2.20}(As_{3.27}Sb_{0.65})_{\Sigma 3.92}(Se_{12.82}S_{0.05})_{\Sigma 12.87}$
Hg-hakite	$(Cu_{5.65}Ag_{0.35})_{\Sigma 6.00}Cu_{4.00}(Hg_{1.72}Zn_{0.16}Fe_{0.07}Cu_{0.05}Cd_{0.05})_{\Sigma 2.05}(Sb_{3.89}As_{0.27})_{\Sigma 4.16}(Se_{11.67}S_{1.13})_{\Sigma 12.80}$
Zn-hakite	$(Cu_{5.80}Ag_{0.20})_{\Sigma 6.00}Cu_{4.00}(Zn_{1.46}Hg_{0.31}Cu_{0.12}Cd_{0.07})_{\Sigma 1.96}(Sb_{3.78}As_{0.38})_{\Sigma 4.16}(Se_{11.94}S_{0.91})_{\Sigma 12.85}$
Cd-hakite	$(Cu_{5.60}Ag_{0.14})_{\Sigma 5.74}Cu_{4.00}(Cd_{1.37}Hg_{0.45}Zn_{0.15})_{\Sigma 1.97}(Sb_{3.99}As_{0.32})_{\Sigma 4.31}(Se_{9.95}S_{3.05})_{\Sigma 13.00}$
Fe-hakite	$(Cu_{5.87}Ag_{0.13})_{\Sigma 6.00}Cu_{4.00}(Fe_{0.92}Cu_{0.55}Zn_{0.45}Hg_{0.21})_{\Sigma 2.13}(Sb_{3.63}As_{0.47})_{\Sigma 4.10}(Se_{10.66}S_{2.11})_{\Sigma 12.77}$
Cu-hakite	$(Cu_{5.72}Ag_{0.28})_{\Sigma 6.00}Cu_{4.00}(Cu_{1.02}Hg_{0.38}Fe_{0.45}Zn_{0.19})_{\Sigma 2.04}(Sb_{3.10}As_{1.01})_{\Sigma 4.11}(Se_{12.74}S_{0.12})_{\Sigma 12.86}$
klockmannite	$(Cu_{0.98}Ag_{0.02})_{\Sigma 1.00}(Se_{0.98}S_{0.03})_{\Sigma 1.01}$
naumannite	$(Ag_{1.96}Cu_{0.06})_{\Sigma 2.02}Se_{0.97}$
permingeatite	$(Cu_{3.01}Fe_{0.02})_{\Sigma 3.03}(Sb_{1.00}As_{0.01})_{\Sigma 1.01}(Se_{3.71}S_{0.24})_{\Sigma 3.95}$
příbramite	$Cu_{1.00}(Sb_{1.02}As_{0.01})_{\Sigma 1.03}(Se_{1.81}S_{0.15})_{\Sigma 1.96}$
sabatierite	$(Cu_{6.16}Ag_{0.12})_{\Sigma 6.28}(Tl_{0.92}Fe_{0.02})_{\Sigma .94}(Se_{3.67}S_{0.12})_{\Sigma 3.79}$

Fe-tennantite	$(Cu_{5.99}Ag_{0.01})_{\Sigma 6.00}Cu_{4.00}(Fe_{1.26}Cu_{0.62})_{\Sigma 1.88}(As_{2.57}Sb_{1.45})_{\Sigma 4.02}(S_{12.84}Se_{0.25})_{\Sigma 13.09}$
Zn-tetrahedrite	$(Cu_{5.99}Ag_{0.01})_{\Sigma 6.00}Cu_{4.00}(Zn_{1.42}Fe_{0.45}Cd_{0.02}Hg_{0.07}Pb_{0.02})_{\Sigma 1.98}(Sb_{3.91}As_{0.11})_{\Sigma 4.01}(S_{11.51}Se_{1.40})_{\Sigma 12.91}$
Fe-tetrahedrite	$(Cu_{5.99}Ag_{0.01})_{\Sigma 6.00}Cu_{4.00}(Fe_{1.22}Zn_{0.32}Cu_{0.47}Pb_{0.02}Hg_{0.01})_{\Sigma 2.04}(Sb_{3.69}As_{0.37})_{\Sigma 4.06}(S_{9.74}Se_{3.16})_{\Sigma 12.90}$
tiemannite	$(Hg_{0.98}Cd_{0.02}Cu_{0.01})_{\Sigma 1.01}(Se_{0.98}S_{0.1})_{\Sigma 0.99}$
umangite	$(Cu_{3.00}Ag_{0.02}Fe_{0.02})_{\Sigma 3.04}(Se_{1.91}S_{0.05})_{\Sigma 1.96}$
unnamed Cu-Hg-Se	$Cu_{5.83}Ag_{0.28}\square_{2.40}Hg_{3.43}Fe_{0.01}Zn_{0.03}(Sb_{3.88}As_{0.12})_{\Sigma 4.00}(Se_{10.83}S_{1.29})_{\Sigma 12.12}$
unnamed Cu-As-Se	$Cu_{1.04}As_{0.95}(Se_{0.99}S_{0.01})_{\Sigma 1.00}$

Table S2. The chemical composition of antimonselite from Příbram. The first part of the tables showing chemical composition is in weight percents, the second part is in *apfu*.

	*	1	2	3	4	5	6	7	8	9
Hg	0.05	0.09	0.09	0.13	0.38	0.00	0.00	0.05	0.00	0.00
Cu	0.22	0.33	0.49	0.70	0.26	0.19	0.18	0.33	0.13	0.29
Sb	52.69	52.37	52.43	52.22	51.26	52.14	51.43	51.94	51.71	50.79
As	0.08	0.14	0.17	0.18	0.11	0.17	0.12	0.09	0.09	0.16
Se	44.36	46.86	47.06	47.10	45.24	45.04	46.10	45.44	47.01	46.72
S	1.70	0.44	0.36	0.41	0.88	0.81	0.22	1.05	0.51	0.42
total	99.09	100.23	100.60	100.73	98.12	98.34	98.05	98.90	99.45	98.38
Sb	2.056	2.058	2.054	2.039	2.046	2.081	2.076	2.048	2.044	2.028
Hg	0.001	0.002	0.002	0.003	0.009	0.000	0.000	0.001	0.000	0.000
Cu	0.016	0.025	0.037	0.052	0.020	0.014	0.014	0.025	0.010	0.022
As	0.005	0.009	0.011	0.011	0.007	0.011	0.008	0.006	0.006	0.010
Σcat	2.079	2.094	2.104	2.105	2.082	2.106	2.097	2.080	2.059	2.060
Se	2.669	2.840	2.843	2.835	2.784	2.772	2.869	2.763	2.864	2.876
S	0.252	0.066	0.053	0.060	0.134	0.123	0.034	0.157	0.077	0.064
Σan	2.921	2.906	2.896	2.895	2.918	2.894	2.903	2.920	2.941	2.940

* mean of 16 analyses of antimonselite from Příbram; 1-9: representative analyses. Coefficients of empirical formula were calculated on the basis 5 apfu.

Table S3 Chemical composition of athabascaite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.57	0.66	0.25	0.40	0.31	0.42	1.19	0.90	0.88	1.13	0.67	0.65	0.55	0.34
Fe	0.00	0.59	1.31	0.00	0.56	0.24	0.25	1.09	0.75	0.30	1.87	0.53	0.78	0.70	0.16
Cu	50.15	53.04	53.54	51.20	53.96	53.80	53.81	53.55	53.77	53.72	51.02	53.87	53.38	54.89	54.57
Se	49.85	41.33	39.93	40.51	41.49	43.49	40.34	41.72	40.72	41.37	42.29	40.97	39.39	38.74	40.66
Te	0.00	0.16	0.00	3.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	4.31	5.78	4.61	5.17	4.03	4.68	4.40	4.50	4.30	4.18	4.38	5.29	5.16	4.54
total	100.00	100.02	101.22	99.93	101.58	101.88	99.49	101.95	100.64	100.57	100.48	100.42	99.56	100.04	100.26
Ag	0.000	0.032	0.035	0.014	0.022	0.017	0.023	0.065	0.049	0.049	0.062	0.037	0.036	0.030	0.019
Fe	0.000	0.064	0.136	0.000	0.058	0.026	0.026	0.115	0.079	0.031	0.199	0.056	0.082	0.073	0.016
Cu	5.000	4.976	4.867	4.862	4.932	4.979	5.041	4.928	4.997	5.016	4.777	5.023	4.960	5.071	5.081
Σcat	5.000	5.072	5.038	4.876	5.012	5.021	5.090	5.107	5.125	5.096	5.038	5.116	5.078	5.175	5.116
Se	4.000	3.120	2.921	3.096	3.052	3.239	3.041	3.090	3.046	3.109	3.187	3.075	2.945	2.880	3.047
Te	0.000	0.007	0.000	0.159	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.802	1.041	0.868	0.937	0.739	0.869	0.803	0.829	0.796	0.775	0.809	0.975	0.945	0.837
Σan	4.000	3.930	3.962	4.124	3.988	3.979	3.910	3.893	3.875	3.904	3.962	3.884	3.920	3.825	3.884

*ideal composition of athabascaite; ** mean of 44 analyses of athabascaite from Příbram; 1-13: representative analyses.

Coefficients of empirical formula were calculated on the basis 9 *apfu*.

Table S4. X-ray powder diffraction data of bellidoite from Příbram.

			Příbram			Habří*	
h	*k*	*l*	$d_{obs.}$	$I_{obs.}$	$d_{calc.}$	$d_{obs.}$	$I_{obs.}$
1	1	1	6.807	23	6.727	6.80	30
1	1	3	3.518	26	3.533		
3	1	1	3.500	10	3.503	3.50	10
2	2	2	3.365	58	3.363	3.38	80
3	1	2	3.112	23	3.112		
						2.81	5
3	2	3	2.4936	39	2.4863	2.49	5
4	0	3	2.3288	3	2.3310	2.32	10
5	1	0	2.2662	36	2.2764	2.26	50
3	3	3	2.2411	5	2.2423		
4	0	4	2.0598	100	2.0636	2.06	100
1	3	5	1.9802	5	1.9781	1.992	5
6	0	1	1.9107	8	1.9088	1.910	5
						1.873	5
5	3	3	1.7777	21	1.7743		
2	2	6	1.7629	20	1.7663	1.763	70
5	3	5	1.5170	3	1.5185	1.517	10
0	0	8	1.4698	12	1.4677	1.468	5
8	0	1	1.4412	10	1.4400	1.440	5
8	0	3	1.3609	3	1.3604		
6	2	6	1.3383	1	1.3387	1.340	10

Habří* - data published by [34]

Table S5. The chemical composition of bellidoite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.20	0.00	0.18	0.14	0.11	0.25	0.20	0.23	0.24	0.26	0.20	0.19	0.00	0.23
Fe	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
Hg	0.00	0.01	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00
Cu	61.68	61.00	61.63	61.57	61.02	60.78	61.23	60.61	60.02	60.62	60.68	59.26	61.20	60.17	59.93
Se	38.32	38.92	38.90	38.88	38.66	38.36	37.81	38.20	39.15	38.65	38.55	38.75	38.20	39.69	38.81
S	0.00	0.51	0.41	0.09	0.38	0.04	0.68	0.42	0.71	0.73	0.83	0.72	0.96	0.50	0.64
total	100.00	100.78	100.94	100.72	100.20	99.29	100.04	99.43	100.11	100.29	100.32	98.93	100.55	100.36	99.70
Ag	0.000	0.004	0.000	0.003	0.003	0.002	0.005	0.004	0.004	0.005	0.005	0.004	0.004	0.000	0.004
Fe	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Hg	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000
Cu	2.000	1.955	1.972	1.983	1.969	1.986	1.971	1.970	1.935	1.949	1.947	1.933	1.954	1.939	1.940
Σcat	2.000	1.964	1.972	1.986	1.972	1.988	1.977	1.974	1.939	1.954	1.952	1.936	1.958	1.939	1.948
Se	1.000	1.004	1.002	1.008	1.004	1.009	0.980	0.999	1.016	1.000	0.995	1.017	0.982	1.029	1.011
Te	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.032	0.026	0.006	0.024	0.003	0.043	0.027	0.045	0.047	0.053	0.047	0.061	0.032	0.041
Σan	1.000	1.036	1.028	1.014	1.028	1.012	1.023	1.026	1.061	1.046	1.048	1.064	1.042	1.061	1.052

*ideal composition of bellidoite; ** mean of 109 analyses of bellidoite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 3 *apfu*.

Table S6. X-ray powder diffraction data of berzelianite from Příbram.

			S-poor berzelianite			S-rich berzelianite		
h	*k*	*l*	$d_{obs.}$	$I_{obs.}$	$d_{calc.}$	$d_{obs.}$	$I_{obs.}$	$d_{calc.}$
1	1	1	3.328	100	3.328	3.247	55	3.245
2	0	0	2.883	5	2.882	2.812	7	2.810
2	2	0	2.0381	90	2.0380	1.9859	100	1.9869
1	1	3	1.7381	28	1.7380	1.6958	12	1.6945
4	0	0	1.4414	9	1.4411	1.4060	3	1.4050
3	3	1	1.3221	7	1.3224	1.2891	1	1.2893

Table S7. Unit-cell parameters of berzelianite (for cubic space group Fm3m).

			a [Å]	*V* [Å^3]
Příbram	S-rich	this paper	5.620(1)	177.5(1)
Příbram	S-poor	this paper	5.7643(4)	191.53(4)
synt.		[81]	5.765	191.6
synt.	$Cu_{1.801}Se$	[82]	5.746 (1)	189.7
synt.	$Cu_{1.806}Se_{0.826}S_{0.173}$	[82]	5.724(2)	187.5
synt.	$Cu_{1.806}Se_{0.6996}S_{0.300}$	[82]	5.702(1)	185.4
synt.	$Cu_{1.806}Se_{0.499}S_{0.501}$	[82]	5.653(2)	180.6
synt.	$Cu_{1.806}Se_{0.683}S_{0.317}$	[82]	5.696(3)	184.8
Martin Lake	$Cu_{1.751}Se$	[82]	5.740(1)	189.1
Martin Lake	$Cu_{1.854}Se$	[82]	5.748(2)	189.9

Table S8. Chemical composition of berzelianite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.22	0.60	0.74	0.15	1.00	0.24	0.23	0.25	0.80	1.47	0.21	1.03	0.22	0.12
Fe	0.00	0.07	1.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	58.48	59.22	56.32	58.08	58.71	58.74	58.76	58.78	58.92	58.93	59.01	59.16	59.27	59.27	59.28
Se	41.52	38.92	39.19	40.05	39.45	39.43	39.00	39.49	39.08	40.06	37.75	39.75	38.15	40.89	39.30
Te	0.00	0.05	0.00	0.17	0.08	0.32	0.00	0.18	0.05	0.28	0.12	0.00	0.23	0.12	0.00
S	0.00	0.73	0.76	0.54	0.23	0.06	0.15	0.48	0.00	0.00	0.18	0.18	0.00	0.21	0.36
total	100.00	99.24	98.79	99.59	98.62	99.55	98.15	99.17	98.29	100.06	98.53	99.31	98.67	100.71	99.06
Ag	0.000	0.004	0.011	0.014	0.003	0.019	0.005	0.005	0.005	0.015	0.029	0.004	0.020	0.004	0.002
Fe	0.000	0.003	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hg	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu	1.909	1.926	1.838	1.896	1.934	1.929	1.946	1.922	1.952	1.926	1.952	1.937	1.961	1.916	1.940
Σkat	1.909	1.933	1.921	1.910	1.937	1.949	1.951	1.926	1.957	1.942	1.981	1.941	1.981	1.921	1.942
Se	1.091	1.019	1.029	1.052	1.046	1.042	1.040	1.039	1.042	1.054	1.005	1.047	1.016	1.064	1.035
Te	0.000	0.001	0.000	0.003	0.001	0.005	0.000	0.003	0.001	0.004	0.002	0.000	0.004	0.002	0.000
S	0.000	0.047	0.049	0.035	0.015	0.004	0.010	0.031	0.000	0.000	0.012	0.012	0.000	0.014	0.023
Σan	1.091	1.067	1.079	1.090	1.063	1.051	1.049	1.074	1.043	1.058	1.019	1.059	1.019	1.079	1.058

*ideal composition of berzelianite; ** mean of 165 analyses of berzelianite from Příbram; 1-13: representative analyses.

Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S9. The chemical composition of S-rich berzelianite and S, Te-rich berzelianite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.18	0.10	0.12	0.17	0.27	0.21	0.17	0.29	0.09	0.13	0.15	0.27	0.42	0.09	0.20
Fe	0.22	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.83	0.65	0.00	0.00	0.00
Pb	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.11	0.00	0.00	0.00
Hg	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	63.41	64.21	61.69	62.18	62.40	62.86	63.16	64.05	65.10	66.07	64.95	63.57	61.03	62.58	59.36
As	0.04	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.23	0.25	0.19	0.00	0.00	0.00
Se	28.84	29.44	32.27	29.72	30.21	29.49	29.88	29.80	27.01	26.30	26.13	26.24	34.61	31.19	37.42
Te	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.52	3.83	3.81
S	7.26	7.61	4.50	6.12	5.72	5.93	5.67	5.78	7.39	8.85	8.88	8.75	2.07	3.06	0.93
total	99.99	101.95	98.57	98.19	98.61	98.49	98.89	99.92	99.59	101.82	101.19	99.78	101.66	100.75	101.72
Ag	0.003	0.002	0.002	0.003	0.005	0.004	0.003	0.005	0.002	0.002	0.003	0.005	0.008	0.002	0.004
Fe	0.008	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.027	0.022	0.00	0.00	0.00
Pb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.00	0.00	0.00
Hg	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
Cu	1.876	1.858	1.915	1.897	1.906	1.915	1.923	1.928	1.924	1.883	1.859	1.849	1.928	1.962	1.908
As	0.001	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.006	0.005	0.00	0.00	0.00
Σkat	1.888	1.878	1.917	1.900	1.911	1.919	1.926	1.933	1.925	1.897	1.894	1.881	1.928	1.962	1.908
Se	0.687	0.686	0.806	0.730	0.743	0.723	0.732	0.722	0.642	0.603	0.602	0.614	0.880	0.787	0.968
Te	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.055	0.060	0.061
S	0.425	0.436	0.277	0.370	0.346	0.358	0.342	0.345	0.433	0.500	0.504	0.504	0.130	0.190	0.059
Σan	1.112	1.122	1.083	1.100	1.089	1.081	1.074	1.067	1.075	1.103	1.106	1.119	1.065	1.036	1.088

*mean of 52 analyses of S-rich berzelianite from Příbram; 1-11: representative analyses of S-rich berzelianite from Příbram, 12-14: individual analyses of S, Te-rich berzelianite from Příbram. Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S10. The chemical composition of brodtkorbite from Příbram.

	*	**	***	mean	1	2	3	4	5	6	7	8	9	10	11
Ag	0.00	0.00	0.49	0.20	0.15	0.16	0.17	0.18	0.19	0.19	0.19	0.22	0.22	0.26	0.31
Hg	41.31	40.64	43.08	44.18	44.35	44.67	44.05	43.86	44.49	44.40	43.90	44.82	44.31	44.57	43.81
Cu	26.17	26.20	23.86	22.64	22.98	22.83	23.29	23.10	23.34	22.83	22.47	21.04	21.83	22.92	22.41
Se	32.52	32.81	32.25	32.45	32.63	32.37	31.74	33.01	32.41	32.51	32.43	32.59	32.91	32.17	32.20
Te	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00
S	0.00	0.00	0.05	0.06	0.12	0.05	0.05	0.05	0.06	0.07	0.05	0.05	0.05	0.05	0.06
total	100.00	99.66	99.78	99.54	100.23	100.08	99.29	100.21	100.48	99.99	99.09	98.72	99.32	99.96	98.78
Ag	0.000	0.000	0.023	0.009	0.007	0.008	0.008	0.008	0.009	0.009	0.009	0.010	0.010	0.012	0.014
Hg	1.000	0.983	1.068	1.111	1.104	1.119	1.108	1.089	1.106	1.110	1.108	1.151	1.121	1.117	1.110
Cu	2.000	2.000	1.867	1.797	1.806	1.806	1.849	1.811	1.831	1.803	1.790	1.705	1.744	1.814	1.792
Se	2.000	2.016	2.032	2.073	2.064	2.060	2.028	2.083	2.046	2.066	2.080	2.126	2.116	2.049	2.073
Te	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.005	0.000	0.000	0.000	0.000
S	0.000	0.000	0.009	0.009	0.019	0.007	0.008	0.008	0.009	0.010	0.008	0.009	0.009	0.008	0.010

* ideal composition; ** mean of 7 analyses of brodtkorbite from Tumiñico [79]; *** mean of 14 analyses of brodtkorbite from Příbram [55]; mean of 19 analyses and 1-11 representative analyses of brodtkorbite from Příbram (this paper); coefficients of empirical formula were calculated on the basis 5 *apfu*.

Table S11. The chemical composition of bukovite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.49	1.27	0.62	0.47	2.18	1.50	0.06	0.23	0.15	0.10	0.09	0.11	0.00	0.07
Cu	19.63	19.47	18.78	18.65	19.28	19.46	19.08	18.69	18.25	19.84	19.93	20.29	20.22	19.63	19.38
Fe	5.75	5.52	5.42	5.50	5.57	5.53	5.78	5.23	5.30	5.62	5.57	5.55	5.53	5.58	5.56
Pb	0.00	0.14	0.19	0.25	0.11	0.21	0.20	0.20	0.11	0.14	0.15	0.14	0.20	0.14	0.20
Tl	42.09	40.80	39.11	39.06	39.11	39.76	39.48	40.60	41.10	41.77	42.02	41.72	41.50	41.78	42.27
Se	32.52	31.99	32.09	32.58	35.08	31.38	30.81	32.00	32.01	30.82	31.25	30.44	31.58	31.97	31.47
Te	0.00	0.17	0.67	0.47	0.18	0.37	1.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.59	0.52	0.64	0.41	0.37	0.29
total	100.00	98.76	99.63	99.22	101.97	101.02	100.19	98.87	99.10	98.92	99.53	98.87	99.56	99.46	99.24
Ag	0.000	0.045	0.117	0.057	0.042	0.198	0.137	0.006	0.022	0.014	0.009	0.008	0.010	0.000	0.006
Cu	1.000	2.998	2.931	2.917	2.904	2.999	2.969	2.961	2.897	3.037	3.037	3.100	3.074	2.998	2.988
Ag+Cu	1.000	3.043	3.048	2.974	2.945	3.196	3.106	2.967	2.919	3.051	3.046	3.108	3.084	2.998	2.994
Fe	1.000	0.967	0.962	0.978	0.954	0.969	1.022	0.943	0.958	0.978	0.966	0.965	0.956	0.969	0.976
Pb	0.000	0.007	0.009	0.012	0.005	0.010	0.009	0.010	0.005	0.007	0.007	0.006	0.009	0.006	0.010
Tl	2.000	1.953	1.898	1.899	1.831	1.905	1.910	2.000	2.029	1.989	1.992	1.982	1.962	1.984	2.027
Pb+Tl	3.000	2.927	2.869	2.889	2.791	2.884	2.941	2.953	2.992	2.974	2.965	2.954	2.927	2.960	3.013
Se	4.000	3.963	4.031	4.101	4.251	3.892	3.858	4.081	4.090	3.797	3.833	3.743	3.864	3.930	3.905
Te	0.000	0.013	0.052	0.037	0.014	0.028	0.095	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.178	0.156	0.195	0.125	0.112	0.088
Se+S	4.000	4.030	4.083	4.137	4.264	3.920	3.953	4.081	4.090	3.975	3.989	3.938	3.989	4.043	3.993

*ideal composition of bukovite; ** mean of 17 analyses of bukovite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 10 *apfu*.

Table S12. The chemical composition of bytízite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.25	0.14	0.09	0.10	0.22	0.08	0.12	0.15	0.75	0.09	0.16	0.12	0.18	0.23
Fe	0.00	0.07	0.10	0.11	0.00	0.30	0.10	0.00	0.06	0.00	0.10	0.00	0.00	0.37	0.17
Hg	0.00	0.04	0.00	0.05	0.00	0.07	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00
Cu	34.71	34.64	34.30	34.12	34.38	33.79	34.57	34.92	35.13	35.13	34.75	34.52	35.09	34.89	34.53
Sb	22.16	21.39	21.82	21.13	21.37	21.33	22.51	21.37	21.27	21.27	22.45	22.10	20.95	21.55	21.25
As	0.00	0.80	0.71	0.83	0.69	0.81	0.24	0.94	1.01	0.48	0.18	0.46	1.33	0.55	0.88
Se	43.13	42.19	42.25	42.39	41.86	41.74	41.61	41.82	41.72	42.64	41.55	41.50	42.34	41.87	41.59
S	0.00	0.08	0.05	0.06	0.08	0.10	0.07	0.06	0.07	0.05	0.07	0.06	0.07	0.06	0.05
total	100.00	99.46	99.36	98.78	98.48	98.36	99.17	99.22	99.40	100.47	99.19	98.79	99.89	99.46	98.68
Ag	0.000	0.013	0.007	0.005	0.005	0.011	0.004	0.006	0.008	0.038	0.005	0.008	0.006	0.009	0.012
Fe	0.000	0.007	0.009	0.011	0.000	0.030	0.010	0.000	0.006	0.000	0.010	0.000	0.000	0.037	0.017
Cu	3.000	3.000	2.980	2.975	3.008	2.961	3.013	3.029	3.038	3.016	3.026	3.018	3.016	3.017	3.012
ΣM	3.000	3.019	2.996	2.990	3.013	3.002	3.027	3.035	3.051	3.054	3.041	3.026	3.022	3.063	3.041
Sb	1.000	0.967	0.989	0.962	0.976	0.976	1.024	0.968	0.960	0.953	1.020	1.008	0.940	0.973	0.967
As	0.000	0.059	0.052	0.061	0.051	0.060	0.018	0.069	0.074	0.035	0.014	0.034	0.097	0.040	0.065
ΣSb+As	1.000	1.026	1.041	1.023	1.027	1.036	1.042	1.037	1.034	0.988	1.034	1.043	1.037	1.013	1.032
Se	3.000	2.940	2.954	2.974	2.947	2.943	2.919	2.919	2.903	2.946	2.913	2.920	2.930	2.914	2.919
S	0.000	0.014	0.009	0.011	0.013	0.016	0.012	0.010	0.011	0.009	0.012	0.011	0.011	0.010	0.008
Σan	3.000	2.954	2.963	2.985	2.960	2.960	2.931	2.929	2.915	2.954	2.925	2.931	2.941	2.924	2.927

*ideal composition of bytízite; ** mean of 68 analyses of bytízite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 7 *apfu*.

Table S13. The chemical composition of cadmoselite from Příbram.

	*	**	1	2	3	4
Cd	58.74	57.26	56.98	57.38	57.41	57.27
Hg	0.00	0.78	0.80	0.75	0.88	0.70
Cu	0.00	0.43	0.54	0.45	0.36	0.38
Se	41.26	39.97	40.51	39.97	39.28	40.14
S	0.00	0.08	0.00	0.10	0.12	0.11
total	100.00	98.53	98.82	98.66	98.05	98.60
Cd	1.000	0.990	0.982	0.991	0.999	0.989
Hg	0.000	0.008	0.008	0.007	0.009	0.007
Cu	0.000	0.013	0.016	0.014	0.011	0.012
Σcat	1.000	1.011	1.006	1.012	1.019	1.007
Se	1.000	0.984	0.994	0.982	0.973	0.986
S	0.000	0.005	0.000	0.006	0.008	0.006
Σan	1.000	0.989	0.994	0.988	0.981	0.993

*ideal composition of cadmoselite; ** mean of 4 analyses of cadmoselite from Příbram; 1-4: individual analyses. Coefficients of empirical formula were calculated on the basis 2 *apfu*.

Table S14. The chemical composition of greenockite from Příbram.

	*	1	2
Ag	0.00	0.11	0.19
Cd	77.81	68.93	44.04
Tl	0.00	0.12	0.17
Zn	0.00	0.61	0.08
Hg	0.00	10.39	34.93
Se	0.00	1.02	2.78
S	22.19	19.49	16.39
total	100.00	100.65	98.58
Ag	0.000	0.002	0.003
Cd	1.000	0.946	0.702
Tl	0.000	0.001	0.001
Zn	0.000	0.014	0.002
Hg	0.000	0.080	0.312
Σcat	1.000	1.043	1.021
Se	0.000	0.020	0.063
S	1.000	0.937	0.916
Σan	1.000	0.957	0.979

*ideal composition of greenockite; 1-2: individual analyses. Coefficients of empirical formula were calculated on the basis 2 *apfu*.

Table S15. The chemical composition of chaméanite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.56	0.26	0.25	0.30	0.30	0.48	0.30	0.21	0.21	0.20	0.19	1.15	1.05	0.95
Fe	4.61	2.81	5.14	5.54	4.86	4.78	3.87	6.40	5.21	5.47	5.56	5.66	0.44	0.09	0.10
Pb	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tl	0.00	0.07	0.09	0.71	0.16	0.89	0.18	1.87	0.19	0.00	0.14	0.00	0.00	0.00	0.00
Zn	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.34	0.15	0.12
Hg	0.00	0.15	0.05	0.00	0.00	0.12	0.00	0.11	0.00	0.00	0.00	0.00	0.91	0.97	0.91
Cu	34.95	35.47	32.87	33.06	33.07	32.72	32.79	31.66	33.24	33.48	33.56	34.03	35.56	36.48	36.08
Sb	0.39	1.46	1.09	2.40	2.14	1.68	2.63	3.26	1.26	1.61	1.39	1.53	3.46	3.02	2.65
As	11.23	10.09	9.34	7.79	8.86	10.75	9.51	6.23	9.73	8.73	8.64	8.67	10.81	11.34	11.60
Se	46.76	48.88	50.00	49.66	49.39	48.74	49.00	48.85	49.32	49.86	49.48	50.23	46.76	47.03	47.56
S	1.72	0.11	0.06	0.06	0.05	0.05	0.05	0.06	0.06	0.07	0.06	0.05	0.37	0.10	0.10
total	99.66	99.63	98.90	99.47	98.83	100.02	98.50	98.74	99.22	99.42	99.02	100.36	99.80	100.23	100.07
Cu	3.458	3.630	3.371	3.394	3.409	3.347	3.412	3.307	3.396	3.412	3.431	3.432	3.691	3.778	3.739
Ag	0.000	0.033	0.015	0.015	0.018	0.018	0.029	0.018	0.013	0.013	0.012	0.011	0.070	0.064	0.058
Fe	0.519	0.327	0.600	0.647	0.570	0.556	0.458	0.761	0.606	0.634	0.646	0.650	0.052	0.011	0.012
Pb	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Tl	0.000	0.002	0.003	0.023	0.005	0.028	0.006	0.061	0.006	0.000	0.004	0.000	0.000	0.000	0.000
Zn	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.034	0.015	0.012
Hg	0.000	0.005	0.002	0.000	0.000	0.004	0.000	0.004	0.000	0.000	0.000	0.000	0.030	0.032	0.030
ΣM	3.977	3.999	3.991	4.079	4.002	3.954	3.905	4.151	4.021	4.058	4.093	4.093	3.878	3.900	3.850
Sb	0.020	0.078	0.058	0.129	0.115	0.089	0.143	0.178	0.067	0.086	0.074	0.080	0.187	0.163	0.143
As	0.942	0.876	0.812	0.678	0.775	0.933	0.839	0.552	0.843	0.754	0.749	0.742	0.952	0.996	1.020
ΣSb+As	0.962	0.954	0.870	0.807	0.890	1.022	0.982	0.730	0.910	0.840	0.823	0.822	1.139	1.159	1.163
Se	3.723	4.025	4.126	4.103	4.098	4.013	4.103	4.107	4.056	4.088	4.071	4.076	3.907	3.920	3.966
S	0.338	0.022	0.012	0.011	0.011	0.011	0.010	0.012	0.013	0.014	0.013	0.009	0.076	0.021	0.021
Σan	4.061	4.047	4.138	4.114	4.109	4.024	4.113	4.119	4.069	4.102	4.084	4.085	3.983	3.941	3.987

* mean of 11 analyses of chaméanite from Chaméane [77]; ** mean of 54 analyses of chaméanite from Příbram; 1-13: representative analyses of chaméanite from Příbram. Coefficients of empirical formula were calculated on the basis 9 *apfu*.

Table S16. The chemical composition of clausthalite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.12	0.00	0.05	0.00	0.00	1.17	1.51	0.00	1.85	0.27	0.00	0.00	0.00	0.00
Pb	72.41	71.94	71.48	70.62	73.21	72.46	71.78	71.93	72.59	70.76	72.00	72.19	71.65	72.50	72.53
Cd	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tl	0.00	0.10	0.20	0.30	0.22	0.16	0.24	0.34	0.10	0.29	0.32	0.27	0.17	0.13	0.17
Zn	0.00	0.02	0.28	0.28	0.27	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	0.00	0.53	1.37	1.39	1.27	0.62	0.05	0.00	0.00	1.32	1.70	0.83	2.12	0.29	0.61
Sb	0.00	0.02	0.27	0.44	0.12	0.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00
As	0.00	0.06	0.00	0.00	0.00	0.07	0.00	0.00	0.11	0.13	0.00	0.00	0.08	0.00	0.00
Se	27.59	27.11	27.02	27.41	26.14	26.25	26.94	27.20	26.94	25.44	26.06	25.64	26.05	27.45	27.22
Te	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.19	0.08	0.00	0.08	0.08
S	0.00	0.11	0.10	0.17	0.10	0.00	0.00	0.00	0.00	0.40	0.28	0.43	0.41	0.00	0.19
total	100.00	100.11	100.71	100.66	101.32	99.82	100.17	100.98	99.73	100.26	100.83	99.43	100.49	100.52	100.79
Ag	0.000	0.003	0.000	0.001	0.000	0.000	0.031	0.040	0.000	0.048	0.007	0.000	0.000	0.000	0.000
Pb	1.000	0.984	0.959	0.940	0.990	1.005	0.989	0.982	1.010	0.951	0.967	0.993	0.955	0.994	0.984
Cd	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Tl	0.000	0.001	0.003	0.004	0.003	0.002	0.003	0.005	0.001	0.004	0.004	0.004	0.002	0.002	0.002
Zn	0.000	0.001	0.012	0.012	0.012	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu	0.000	0.024	0.060	0.061	0.056	0.028	0.002	0.000	0.000	0.058	0.074	0.037	0.092	0.013	0.027
Sb	0.000	0.001	0.006	0.010	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.002	0.000
As	0.000	0.002	0.000	0.000	0.000	0.003	0.000	0.000	0.004	0.005	0.000	0.000	0.003	0.000	0.000
Σcat	1.000	1.016	1.040	1.028	1.063	1.045	1.026	1.026	1.016	1.066	1.053	1.034	1.053	1.011	1.013
Se	1.000	0.973	0.952	0.957	0.928	0.955	0.974	0.974	0.984	0.898	0.918	0.926	0.911	0.987	0.969
Te	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.004	0.002	0.000	0.002	0.002
S	0.000	0.010	0.009	0.015	0.009	0.000	0.000	0.000	0.000	0.035	0.025	0.039	0.036	0.000	0.016
Σan	1.000	0.983	0.960	0.972	0.937	0.955	0.974	0.974	0.984	0.934	0.947	0.966	0.947	0.989	0.987

*ideal composition of clausthalite; ** mean of 58 analyses of clausthalite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 2 *apfu*.

Table S17. The chemical composition of crookesite from Příbram.

	*	1	2
Ag	0.00	0.15	0.13
Tl	21.15	19.80	19.94
Cu	46.10	47.24	47.72
Se	32.75	32.23	32.66
S	0.00	0.07	0.07
total	100.00	99.48	100.52
Cu	7.000	7.126	7.121
Ag	0.000	0.013	0.011
ΣCu+Ag	7.000	7.139	7.132
Tl	1.000	0.929	0.925
Se	4.000	3.912	3.923
S	0.000	0.020	0.020
Σan	4.000	3.933	3.943

*ideal composition of crookesite; 1-2: individual analyses of crookesite from Příbram. Coefficients of empirical formula were calculated on the basis 12 *apfu*.

Table S18. The chemical composition of dzharkenite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Fe	26.13	25.96	26.00	25.96	25.67	26.37	26.01	26.83	25.65	25.85	25.07	26.37	24.21	26.00	26.48
Cu	0.00	0.50	0.50	0.62	0.71	0.10	0.09	0.46	0.39	0.13	1.02	0.62	1.25	0.64	0.50
Se	73.87	71.77	72.48	71.34	72.17	72.30	73.03	70.23	71.57	72.26	71.92	69.66	70.33	71.07	72.30
S	0.00	1.34	0.91	1.67	1.02	1.20	0.57	2.87	0.97	0.73	0.73	2.79	2.58	2.44	0.95
total	100.00	99.57	99.89	99.59	99.56	99.97	99.69	100.39	98.58	98.97	98.73	99.44	98.37	100.15	100.22
Fe	1.000	0.98	0.984	0.975	0.973	0.993	0.991	0.983	0.983	0.990	0.963	0.976	0.913	0.962	0.997
Cu	0.000	0.02	0.017	0.020	0.024	0.003	0.003	0.015	0.013	0.004	0.034	0.020	0.041	0.021	0.016
Σcat	1.000	1.00	1.000	0.995	0.997	0.996	0.994	0.997	0.996	0.994	0.997	0.996	0.954	0.983	1.013
Se	2.000	1.92	1.940	1.895	1.936	1.925	1.968	1.819	1.939	1.957	1.954	1.824	1.876	1.860	1.925
S	0.000	0.09	0.060	0.109	0.067	0.079	0.038	0.183	0.065	0.049	0.049	0.180	0.170	0.157	0.062
Σan	2.000	2.00	2.000	2.005	2.003	2.004	2.006	2.003	2.004	2.006	2.003	2.004	2.046	2.017	1.987

*ideal composition of dzharkenite; ** mean of 22 analyses of dzharkenite from Příbram; 1-13: representative analyses.

Coefficients of empirical formula were calculated on the basis 3 *apfu*.

Table S19. The chemical composition of eskebornite from Příbram.

	*	**	***	1	2	3	4	5	6	7	8	9	10	11	12
Ag	0.00	0.11	0.22	0.00	0.00	0.00	0.05	0.00	0.00	0.26	0.35	0.22	0.16	0.23	0.21
Tl	0.00	0.05	0.00	0.17	0.07	0.00	0.12	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Cu	22.91	23.73	27.16	23.45	22.91	23.36	23.29	24.21	23.89	27.11	26.85	26.76	26.82	29.24	26.73
Fe	20.14	20.06	21.42	20.73	20.66	20.20	20.60	20.29	20.13	21.90	21.69	21.78	21.20	20.67	20.94
Pb	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.19	0.05	0.18	0.11	0.00
Hg	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.19	0.11	0.23	0.08	0.00
Se	56.95	55.02	41.70	55.09	55.39	53.63	54.84	54.60	52.83	41.72	42.13	42.36	43.64	38.17	42.95
Te	0.00	0.03	0.00	0.00	0.15	0.08	0.13	0.13	0.11	0.00	0.00	0.00	0.00	0.00	0.00
S	0.00	0.61	8.57	0.26	0.05	0.96	0.18	0.30	2.03	8.37	8.41	8.40	7.28	10.36	7.67
total	100.00	99.62	99.28	99.70	99.24	98.24	99.20	99.53	99.05	99.54	99.81	99.68	99.51	98.86	98.50
Ag	0.000	0.003	0.005	0.000	0.000	0.000	0.001	0.000	0.000	0.006	0.008	0.005	0.004	0.005	0.005
Hg	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.003	0.001	0.000
Tl	0.000	0.001	0.000	0.002	0.001	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000
Cu	1.000	1.030	1.062	1.020	1.005	1.022	1.020	1.054	1.023	1.059	1.049	1.045	1.065	1.122	1.064
ΣM^{+}	1.000	1.034	1.069	1.022	1.006	1.022	1.023	1.054	1.024	1.066	1.059	1.051	1.072	1.129	1.069
Fe	1.000	0.991	0.953	1.026	1.031	1.005	1.026	1.005	0.981	0.973	0.964	0.967	0.958	0.903	0.949
Pb	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.002	0.001	0.002	0.001	0.000
ΣM^{2+}	1.000	0.991	0.954	1.026	1.031	1.005	1.026	1.005	0.981	0.974	0.966	0.968	0.960	0.904	0.949
Se	2.000	1.922	1.313	1.929	1.955	1.888	1.933	1.913	1.821	1.312	1.324	1.331	1.395	1.179	1.376
Te	0.000	0.001	0.000	0.000	0.003	0.002	0.003	0.003	0.002	0.000	0.000	0.000	0.000	0.000	0.000
S	0.000	0.053	0.664	0.022	0.004	0.083	0.016	0.026	0.173	0.648	0.651	0.650	0.573	0.788	0.605
Σan	2.000	1.976	1.977	1.952	1.963	1.973	1.951	1.941	1.995	1.959	1.975	1.981	1.968	1.967	1.982

*ideal composition of eskebornite; ** mean of 19 analyses of S-poor eskebornite from Příbram; *** mean of 7 analyses of S-rich eskebornite from Příbram; 1-6: representative analyses of S-poor eskebornite; 7-12: representative analyses of S-rich eskebornite. Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S20. The chemical composition of chalcopyrite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.06	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19	0.26	0.18	0.11	0.00
Cu	34.63	40.31	34.51	35.00	34.84	35.02	34.69	34.26	34.16	34.61	62.55	62.59	61.78	33.23	33.18
Tl	0.00	0.05	0.10	0.07	0.11	0.09	0.09	0.09	0.07	0.12	0.00	0.00	0.00	0.00	0.00
Sb	0.00	0.24	0.63	0.00	0.10	0.00	0.59	0.05	0.07	0.05	0.00	0.00	0.00	0.58	0.10
Pb	0.00	0.07	0.00	0.13	0.11	0.15	0.16	0.15	0.09	0.12	0.00	0.00	0.00	0.00	0.00
Fe	30.43	25.81	30.42	30.46	30.35	30.50	29.78	29.99	29.65	30.07	10.84	11.00	11.03	29.15	29.19
Se	0.00	1.95	1.53	0.07	0.00	0.00	0.00	3.80	4.40	0.79	0.00	0.00	0.00	7.92	8.74
S	34.94	31.05	34.03	33.66	33.41	33.57	33.34	31.60	30.82	32.30	25.81	25.93	26.21	29.99	29.66
total	100.00	99.54	101.26	99.38	98.92	99.32	98.65	99.95	99.25	98.05	99.38	99.78	99.20	100.97	100.87
Ag	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.005	0.003	0.002	0.000
Cu	1.000	1.213	0.999	1.026	1.027	1.028	1.028	1.021	1.031	1.036	1.984	1.977	1.955	1.003	1.003
Tl	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
Sb	0.000	0.004	0.010	0.000	0.001	0.000	0.009	0.001	0.001	0.001	0.000	0.000	0.000	0.009	0.002
Pb	0.000	0.001	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000
Σ	1.000	1.218	1.010	1.027	1.031	1.030	1.039	1.024	1.033	1.039	1.987	1.982	1.959	1.014	1.005
Fe	1.000	0.883	1.002	1.016	1.018	1.018	1.004	1.017	1.018	1.024	0.391	0.395	0.397	1.001	1.004
Se	0.000	0.047	0.036	0.002	0.000	0.000	0.000	0.091	0.107	0.019	0.000	0.000	0.000	0.192	0.213
S	2.000	1.851	1.952	1.955	1.952	1.952	1.957	1.867	1.843	1.917	1.622	1.623	1.644	1.793	1.778
Σan	2.000	1.898	1.988	1.957	1.952	1.952	1.957	1.958	1.949	1.936	1.622	1.623	1.644	1.985	1.991

*ideal composition of chalcopyrite; ** mean of 15 analyses of chalcopyrite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S21. X-ray powder diffraction data of eucairite from Příbram.

h	*k*	*l*	$d_{obs.}$	$I_{obs.}$	$d_{calc.}$
0	1	1	3.424	2	3.425
0	0	2	3.151	38	3.151
1	1	0	2.902	49	2.901
1	1	1	2.635	46	2.635
1	0	2	2.504	47	2.504
0	1	2	2.4940	47	2.4941
1	1	2	2.1342	100	2.1342
0	0	3	2.1003	61	2.1007
2	0	0	2.0624	10	2.0621
0	2	0	2.0408	31	2.0404
1	0	3	1.8713	13	1.8719
2	0	2	1.7256	1	1.7255
0	2	2	1.7128	3	1.7127
1	1	3	1.7014	2	1.7014
2	1	2	1.5888	3	1.5892
1	2	2	1.5817	6	1.5817
0	1	4	1.4705	12	1.4698
0	2	3	1.4635	7	1.4636
2	2	0	1.4503	4	1.4504
1	2	3	1.3792	2	1.3794
2	2	2	1.3178	3	1.3175
1	3	0	1.2917	2	1.2918

Table S22. Unit-cell parameters of eucairite (for orthorhombic space group Pmmn).

		a [Å]	*b* [Å]	*c* [Å]	*V* [Å^3]
Příbram	this paper	4.1242(5)	4.0808(4)	6.3022(7)	106.06(1)
	[93]	4.105	4.07	6.31	105.4

Table S23. The chemical composition of eucairite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	43.08	43.03	42.86	43.24	43.15	42.82	43.10	43.28	44.02	43.15	43.49	43.35	43.35	41.87	41.51
Tl	0.00	0.03	0.16	0.00	0.06	0.00	0.00	0.10	0.00	0.00	0.08	0.00	0.00	0.00	0.00
Cu	25.38	26.28	26.48	26.89	26.26	26.44	26.53	26.57	25.97	27.01	27.00	24.70	24.55	25.86	26.65
As	0.00	0.00	0.07	0.10	0.00	0.05	0.00	0.08	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Se	31.54	30.12	29.99	28.97	29.05	30.60	29.61	30.68	29.90	29.39	28.88	31.19	30.26	30.97	30.79
Te	0.00	0.62	1.63	2.11	3.31	0.95	1.14	0.54	0.42	0.00	0.00	0.00	1.86	0.00	0.00
S	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06
total	100.00	100.08	101.19	101.31	101.82	100.85	100.37	101.25	100.31	99.74	99.44	99.24	100.01	98.69	99.01
Ag	1.000	0.998	0.986	0.995	0.994	0.985	0.998	0.992	1.021	1.000	1.013	1.017	1.017	0.981	0.965
Tl	0.000	0.000	0.002	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.000
Ag+Tl	1.000	0.999	0.988	0.995	0.995	0.985	0.998	0.993	1.021	1.000	1.014	1.017	1.017	0.981	0.965
Cu	1.000	1.035	1.035	1.050	1.027	1.033	1.043	1.034	1.023	1.063	1.067	0.984	0.977	1.028	1.052
As	0.000	0.000	0.002	0.003	0.000	0.001	0.000	0.003	0.000	0.006	0.000	0.000	0.000	0.000	0.000
Cu+As	1.000	1.035	1.037	1.053	1.027	1.034	1.043	1.036	1.023	1.069	1.067	0.984	0.977	1.028	1.052
Se	1.000	0.954	0.943	0.911	0.914	0.962	0.937	0.960	0.948	0.931	0.919	1.000	0.969	0.991	0.978
Te	0.000	0.012	0.032	0.041	0.064	0.019	0.022	0.011	0.008	0.000	0.000	0.000	0.037	0.000	0.000
S	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
Σan	1.000	0.967	0.975	0.952	0.979	0.981	0.959	0.971	0.956	0.931	0.919	1.000	1.006	0.991	0.982

*ideal composition of eucairite; ** mean of 48 analyses of eucairite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 3 *apfu*.

Table S24. The chemical composition of disintegration product close to eucairite from Příbram.

	*	1	2	3	4	5	6	7
Ag	51.62	57.57	57.66	50.84	63.85	58.01	53.85	48.94
Hg	0.12	0.06	0.16	0.00	0.15	0.07	0.88	0.18
Cu	13.37	9.11	9.70	14.49	7.09	10.08	11.58	15.37
Se	34.18	31.74	31.24	35.15	30.17	31.58	32.57	35.70
Te	0.00	0.13	0.16	0.15	0.14	0.15	0.00	0.00
S	0.00	0.00	0.08	0.00	0.00	0.00	0.14	0.10
total	99.29	98.62	98.99	100.63	101.40	99.88	99.02	100.29
Ag	1.279	1.482	1.475	1.234	1.633	1.469	1.358	1.182
Hg	0.002	0.001	0.002	0.000	0.002	0.001	0.012	0.002
Ag+Hg	1.281	1.483	1.477	1.234	1.635	1.470	1.370	1.184
Cu	0.562	0.398	0.421	0.597	0.308	0.434	0.496	0.630
Se	1.157	1.116	1.092	1.166	1.054	1.093	1.122	1.178
Te	0.000	0.003	0.003	0.003	0.003	0.003	0.000	0.000
S	0.000	0.000	0.007	0.000	0.000	0.000	0.012	0.008
Σan	1.157	1.119	1.102	1.169	1.057	1.096	1.134	1.186

* mean of 7 analyses of disintegration product close to eucairite; 1-7: individual analyses. Coefficients of empirical formula were calculated on the basis 3 *apfu*.

Table S25. The chemical composition of ferroselite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12
Fe	26.36	26.24	26.22	26.46	26.34	26.47	26.41	26.34	26.37	26.73	26.36	26.37	26.05
Cu	0.36	0.52	0.49	0.48	0.14	0.47	0.19	0.16	0.38	0.45	0.49	0.20	0.35
Se	72.05	71.25	71.22	71.81	71.96	71.75	72.76	72.97	71.41	71.58	72.54	72.56	72.82
S	0.78	1.11	1.03	1.03	0.76	1.02	0.23	0.19	1.11	1.31	0.68	0.49	0.35
total	99.55	99.12	98.96	99.78	99.20	99.71	99.59	99.66	99.27	100.07	100.07	99.62	99.57
Fe	1.001	0.996	0.998	0.999	1.004	1.000	1.010	1.008	1.000	1.002	0.997	1.005	0.996
Cu	0.012	0.017	0.016	0.016	0.005	0.016	0.006	0.005	0.013	0.015	0.016	0.007	0.012
Σcat	1.013	1.013	1.014	1.015	1.009	1.016	1.016	1.013	1.012	1.017	1.014	1.012	1.008
Se	1.935	1.913	1.917	1.917	1.941	1.917	1.968	1.974	1.914	1.898	1.941	1.956	1.969
S	0.051	0.073	0.068	0.068	0.050	0.067	0.015	0.013	0.073	0.086	0.045	0.033	0.023
Σan	1.987	1.987	1.986	1.985	1.991	1.984	1.984	1.987	1.988	1.983	1.986	1.988	1.992

* mean of 12 analyses of ferroselite from Příbram; 1-12: individual analyses. Coefficients of empirical formula were calculated on the basis 3 *apfu*.

Table S26. The chemical composition of klockmannite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9
Ag	0.00	1.12	0.21	0.26	0.33	0.27	2.27	2.33	1.00	1.38	2.02
Cu	44.59	43.68	45.12	45.53	43.52	43.04	42.01	43.16	43.73	44.59	42.48
Se	55.41	54.27	52.65	53.47	56.79	56.15	54.54	52.86	53.24	52.91	55.86
Te	0.00	0.08	0.15	0.20	0.00	0.00	0.09	0.07	0.09	0.00	0.09
S	0.00	0.68	1.37	1.16	1.06	1.43	0.07	0.15	0.53	0.29	0.08
total	100.00	99.83	99.50	100.61	101.69	100.89	98.99	98.56	98.57	99.16	100.53
Ag	0.000	0.015	0.003	0.003	0.004	0.004	0.031	0.031	0.013	0.018	0.027
Cu	1.000	0.977	0.998	0.999	0.951	0.944	0.961	0.988	0.991	1.007	0.956
Σcat	1.000	0.992	1.001	1.003	0.955	0.947	0.992	1.019	1.004	1.025	0.983
Se	1.000	0.977	0.937	0.945	0.999	0.991	1.004	0.973	0.971	0.962	1.012
Te	0.000	0.001	0.002	0.002	0.000	0.000	0.001	0.001	0.001	0.000	0.001
S	0.000	0.030	0.060	0.050	0.046	0.062	0.003	0.007	0.024	0.013	0.004
Σan	1.000	1.008	0.999	0.997	1.045	1.053	1.008	0.981	0.996	0.975	1.017

*ideal composition of klockmannite; ** individual analyses; 1-9: representative analyses. Coefficients of empirical formula were calculated on the basis 2 *apfu*.

Table S27. The chemical composition of naumannite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	73.21	72.06	72.76	71.47	72.57	75.61	75.83	75.87	75.08	72.03	72.57	73.13	61.62	60.48	60.74
Cd	0.00	0.10	0.00	0.00	0.00	0.55	0.43	0.44	0.46	0.00	0.00	0.00	0.00	0.00	0.00
Hg	0.00	0.03	0.00	0.00	0.00	0.11	0.00	0.00	0.11	0.00	0.00	0.00	0.10	0.00	0.06
Cu	0.00	1.34	0.00	0.91	0.58	0.00	0.00	0.06	0.00	1.31	0.79	1.05	7.01	8.09	8.33
As	0.00	0.11	0.22	0.21	0.26	0.39	0.28	0.42	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Se	26.79	26.07	25.35	25.97	25.73	24.76	24.86	24.70	25.11	26.51	26.01	25.72	30.08	31.05	31.09
Te	0.00	0.16	0.14	0.00	0.00	0.08	0.07	0.00	0.00	0.15	0.24	0.24	0.28	0.34	0.30
total	100.00	99.86	98.46	98.56	99.14	101.50	101.46	101.48	101.02	99.99	99.62	100.13	99.09	99.95	100.51
Ag	2.000	1.959	2.024	1.971	1.996	2.050	2.056	2.055	2.043	1.954	1.985	1.990	1.609	1.552	1.549
Cd	0.000	0.003	0.000	0.000	0.000	0.014	0.011	0.011	0.012	0.000	0.000	0.000	0.000	0.000	0.000
Hg	0.000	0.000	0.000	0.000	0.000	0.002	0.000	0.000	0.002	0.000	0.000	0.000	0.001	0.000	0.001
Cu	0.000	0.062	0.000	0.042	0.027	0.000	0.000	0.003	0.000	0.060	0.037	0.048	0.311	0.352	0.361
As	0.000	0.004	0.009	0.008	0.010	0.015	0.011	0.016	0.010	0.000	0.000	0.000	0.000	0.000	0.000
Σcat	2.000	2.028	2.033	2.022	2.033	2.081	2.078	2.086	2.067	2.014	2.022	2.038	1.921	1.904	1.910
Se	1.000	0.968	0.964	0.978	0.967	0.917	0.921	0.914	0.933	0.982	0.972	0.956	1.073	1.088	1.083
Te	0.000	0.004	0.003	0.000	0.000	0.002	0.001	0.000	0.000	0.003	0.005	0.005	0.006	0.007	0.006
Σan	1.000	0.972	0.967	0.978	0.967	0.919	0.922	0.914	0.933	0.986	0.978	0.962	1.079	1.096	1.090

*ideal composition of naumannite; ** mean of 30 analyses of naumannite from Příbram; 1-13: representative analyses.

Coefficients of empirical formula were calculated on the basis 3 *apfu*.

Table S28. The chemical composition of permingeatite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.04	0.07	0.18	0.90	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Fe	0.00	0.22	0.70	1.14	0.69	0.08	0.05	0.25	0.00	0.00	0.18	0.06	0.11	0.12	0.00
Tl	0.00	0.02	0.08	0.23	0.31	0.11	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.08
Cu	30.35	30.82	31.10	30.46	30.53	30.65	29.63	32.29	31.74	31.43	31.08	31.66	31.58	30.66	30.32
Sb	19.38	19.71	19.82	18.43	17.89	19.57	20.05	19.36	19.52	19.46	19.52	19.53	19.47	20.01	19.88
As	0.00	0.10	0.76	0.74	0.73	0.91	0.72	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Se	50.27	47.29	47.94	50.05	49.24	49.99	48.16	45.58	46.50	47.16	46.89	47.66	46.24	47.01	46.82
S	0.00	1.23	1.40	0.43	0.20	0.33	0.42	1.96	1.37	1.33	1.42	1.07	1.40	1.12	1.30
Total	100.00	99.47	101.87	101.64	100.49	101.65	99.24	99.60	99.21	99.57	99.14	100.04	98.92	98.97	98.45
Ag	0.000	0.002	0.004	0.010	0.052	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.003	0.000
Fe	0.000	0.025	0.075	0.124	0.077	0.009	0.006	0.027	0.000	0.000	0.020	0.007	0.012	0.013	0.000
Tl	0.000	0.001	0.002	0.007	0.009	0.003	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hg	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.003
Cu	3.000	3.007	2.951	2.925	2.981	2.967	2.947	3.103	3.094	3.058	3.031	3.074	3.086	3.016	2.994
Σ	3.000	3.036	3.033	3.067	3.119	2.979	2.960	3.130	3.094	3.062	3.051	3.080	3.099	3.032	2.996
Sb	1.000	1.004	0.982	0.924	0.912	0.989	1.041	0.971	0.993	0.988	0.994	0.990	0.993	1.027	1.025
As	0.000	0.008	0.061	0.060	0.061	0.075	0.061	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.004
ΣSb+As	1.000	1.012	1.043	0.984	0.973	1.063	1.102	0.971	0.993	0.988	0.994	0.990	0.993	1.027	1.029
Se	4.000	3.714	3.661	3.869	3.870	3.894	3.855	3.525	3.648	3.693	3.681	3.724	3.637	3.722	3.721
S	0.000	0.238	0.263	0.081	0.038	0.064	0.083	0.373	0.265	0.256	0.274	0.206	0.271	0.218	0.254
ΣS+Se	4.000	3.952	3.924	3.950	3.908	3.957	3.938	3.898	3.913	3.949	3.955	3.930	3.908	3.940	3.975

*ideal composition of permingeatite; ** mean of 41 analyses of permingeatite from Příbram; 1-13: representative analyses.

Coefficients of empirical formula were calculated on the basis 8 *apfu*.

Table S29. The chemical composition of příbramite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Fe	0.07	0.00	0.00	0.54	0.00	0.00	0.37	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Pb	0.02	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.05	0.07	0.00	0.00	0.00	0.00
Tl	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	0.09	0.00	0.00	0.41	0.13	0.18	0.38	0.12	0.24	0.00	0.00	0.00	0.09	0.00	0.00
Cu	18.75	18.94	18.85	18.99	18.30	18.48	18.74	17.08	18.83	18.89	18.82	18.84	18.78	18.59	18.86
Sb	36.75	37.57	37.62	37.36	37.10	35.87	36.96	37.30	37.82	36.49	37.26	36.88	37.14	36.88	37.15
As	0.28	0.08	0.10	0.09	0.12	0.51	0.22	0.23	0.17	0.73	0.38	0.53	0.13	0.13	0.12
Se	42.21	43.10	43.16	41.09	42.17	42.54	41.69	41.59	40.66	42.32	42.20	41.98	43.02	43.52	41.94
S	1.45	0.98	0.94	2.04	1.16	1.08	1.66	1.70	2.39	1.60	1.63	1.51	0.95	0.72	1.42
total	99.85	100.67	100.67	100.51	99.04	98.66	100.01	98.03	100.36	100.08	100.36	99.75	100.10	99.83	99.49
Fe	0.004	0.000	0.000	0.032	0.000	0.000	0.022	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000
Pb	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000
Tl	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hg	0.001	0.000	0.000	0.007	0.002	0.003	0.006	0.002	0.004	0.000	0.000	0.000	0.002	0.000	0.000
Cu	0.998	1.007	1.003	0.994	0.988	0.998	0.992	0.928	0.984	0.997	0.993	1.000	1.004	1.000	1.007
ΣM^{+}	1.005	1.007	1.003	1.033	0.992	1.001	1.020	0.930	1.002	0.997	0.994	1.000	1.006	1.000	1.007
Sb	1.021	1.043	1.045	1.021	1.046	1.011	1.021	1.058	1.032	1.005	1.026	1.022	1.037	1.035	1.035
As	0.013	0.004	0.004	0.004	0.005	0.023	0.010	0.011	0.008	0.033	0.017	0.024	0.006	0.006	0.005
ΣM^{3+}	1.034	1.046	1.049	1.024	1.051	1.035	1.031	1.068	1.039	1.038	1.043	1.046	1.043	1.041	1.040
Se	1.809	1.844	1.849	1.731	1.833	1.849	1.775	1.819	1.710	1.798	1.792	1.794	1.851	1.883	1.802
S	0.150	0.103	0.099	0.212	0.124	0.115	0.174	0.183	0.248	0.167	0.171	0.159	0.100	0.076	0.151
ΣM^{2-}	1.959	1.947	1.948	1.942	1.957	1.964	1.949	2.001	1.958	1.965	1.963	1.953	1.952	1.960	1.953

* mean of 53 analyses of příbramite from Příbram; 1-14: representative analyses. Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S30. The chemical composition of the Se-rich chalcostibite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.06	0.07	0.07	0.06	0.11	0.06	0.00	0.07	0.09	0.06	0.00	0.07	0.09	0.07
Fe	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	0.00	0.00	0.00	0.00	0.00
Pb	0.00	0.02	0.00	0.00	0.08	0.07	0.00	0.00	0.07	0.00	0.00	0.00	0.05	0.00	0.05
Cu	25.48	22.53	21.71	21.70	21.67	22.32	21.70	23.36	22.00	23.98	22.47	22.38	22.24	22.57	22.50
Sb	48.81	42.47	41.36	41.37	41.51	42.48	41.49	44.36	41.99	38.04	41.45	42.28	41.35	42.13	41.54
As	0.00	0.60	0.23	0.23	0.32	0.47	0.33	0.62	0.53	0.77	1.09	0.77	0.90	0.78	1.07
Se	0.00	19.41	25.25	24.86	24.07	20.86	24.37	13.18	22.92	22.94	20.60	17.78	21.44	19.13	21.15
S	25.71	14.56	11.12	11.35	11.71	13.95	11.69	17.94	12.56	13.84	14.05	15.57	13.37	14.42	13.62
total	100.00	99.68	99.74	99.57	99.42	100.25	99.64	99.47	100.13	100.38	99.71	98.78	99.43	99.13	99.99
Ag	0.000	0.001	0.002	0.002	0.002	0.003	0.002	0.000	0.002	0.002	0.002	0.000	0.002	0.002	0.002
Fe	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036	0.000	0.000	0.000	0.000	0.000
Pb	0.000	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.001	0.000	0.000	0.000	0.001	0.000	0.001
Cu	1.000	1.004	1.011	1.009	1.005	0.999	1.004	1.003	1.003	1.051	1.004	0.992	1.006	1.012	1.010
Σ	1.000	1.006	1.013	1.011	1.008	1.002	1.006	1.003	1.005	1.089	1.006	0.992	1.009	1.014	1.012
Sb	1.000	0.988	1.005	1.004	1.005	0.992	1.002	0.993	0.999	0.870	0.967	0.978	0.977	0.985	0.973
As	0.000	0.023	0.009	0.009	0.013	0.018	0.013	0.023	0.020	0.029	0.041	0.029	0.035	0.030	0.041
ΣSb+As	1.000	1.011	1.014	1.013	1.017	1.010	1.015	1.016	1.019	0.899	1.008	1.007	1.011	1.015	1.013
Se	0.000	0.696	0.947	0.930	0.898	0.751	0.907	0.455	0.841	0.809	0.741	0.634	0.781	0.690	0.764
S	2.000	1.286	1.026	1.046	1.077	1.237	1.072	1.526	1.135	1.203	1.245	1.367	1.199	1.281	1.211
ΣSe+S	2.000	1.982	1.973	1.976	1.975	1.988	1.979	1.981	1.975	2.012	1.986	2.001	1.980	1.971	1.975

*ideal composition of chalcostibite; ** mean of 72 analyses of chalcostibite from Příbram 1-13: representative analyses.

Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S31. Chemical composition of sabatierite from Příbram.

	*	**	1	2	3	4
Cu	42.30	43.59	43.61	44.03	43.91	42.82
Ag	0.00	1.45	4.82	0.20	0.67	0.13
Fe	0.00	0.11	0.17	0.07	0.09	0.10
Tl	22.67	20.89	19.32	21.48	21.10	21.65
Se	35.04	32.27	31.68	31.82	32.03	33.55
S	0.00	0.43	0.63	0.49	0.54	0.04
total	100.01	98.74	100.23	98.08	98.34	98.30
Cu	6.000	6.157	6.042	6.251	6.208	6.130
Ag	0.000	0.121	0.393	0.016	0.056	0.011
ΣCu+Ag	6.000	6.278	6.436	6.267	6.263	6.141
Tl	1.000	0.917	0.832	0.948	0.927	0.964
Fe	0.000	0.017	0.027	0.011	0.014	0.017
ΣTl+Fe	0.000	0.017	0.027	0.011	0.014	0.017
Se	4.000	3.668	3.533	3.635	3.644	3.866
S	0.000	0.119	0.173	0.138	0.151	0.012
Σan	4.000	3.788	3.705	3.774	3.796	3.878

*ideal composition of sabatierite; ** mean of 4 analyses of sabatierite from Příbram; 1-4: individual analyses. Coefficients of empirical formula were calculated on the basis 11 *apfu.*

Table S32. The chemical composition of Cu-, and Hg-giraudite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	3.89	0.90	0.56	0.53	0.57	0.58	0.68	0.71	1.35	0.90	0.40	1.04	1.15	1.05	1.09
Fe	0.19	0.90	1.49	1.35	1.34	1.32	0.34	0.63	1.66	1.32	4.36	0.90	0.89	0.00	0.00
Cd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.03	1.16
Tl	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.40	0.00	0.14	0.06	0.00	0.00	0.00
Zn	3.37	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.28	0.32	0.36	0.35
Hg	0.57	0.67	0.34	0.42	0.49	0.53	0.00	0.08	1.60	1.14	0.00	1.57	1.70	11.28	11.71
Cu	30.06	34.57	34.31	34.13	34.22	34.52	36.84	35.60	30.85	31.82	31.08	32.33	31.73	28.91	28.69
Sb	10.66	3.73	3.70	3.85	3.96	4.08	0.00	0.00	10.26	7.79	2.91	7.84	8.99	1.04	2.36
As	7.61	11.52	11.52	11.44	11.32	11.33	14.70	14.64	6.64	9.02	12.01	8.41	7.59	12.20	11.49
Se	41.09	47.55	47.66	47.33	47.52	47.24	49.03	49.43	46.10	46.74	48.84	46.48	47.05	40.58	40.03
S	2.73	0.07	0.05	0.00	0.05	0.08	0.08	0.09	0.06	0.05	0.06	0.17	0.06	2.28	2.32
total	100.17	100.01	99.62	99.03	99.47	99.68	101.67	101.18	98.98	98.78	99.80	99.08	99.48	98.71	99.18
Cu^{tot}	10.075	11.582	11.490	11.521	11.506	11.579	11.909	11.582	10.853	11.032	10.307	11.198	11.035	10.215	10.168
Ag	0.768	0.177	0.110	0.105	0.113	0.114	0.129	0.136	0.280	0.184	0.078	0.212	0.236	0.218	0.228
Tl	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.044	0.000	0.014	0.006	0.000	0.000	0.000
Cu*	9.232	9.819	9.890	9.895	9.887	9.886	9.871	9.864	9.676	9.816	9.907	9.781	9.764	9.782	9.772
ΣM^{+}	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Fe	0.072	0.344	0.568	0.517	0.512	0.505	0.125	0.233	0.665	0.521	1.645	0.355	0.352	0.000	0.000
Cd	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.205	0.232
Zn	1.098	0.025	0.000	0.000	0.000	0.000	0.000	0.000	0.021	0.000	0.000	0.094	0.108	0.122	0.119
Hg	0.061	0.071	0.036	0.045	0.052	0.056	0.000	0.008	0.178	0.125	0.000	0.172	0.187	1.262	1.314
Cu**	0.843	1.763	1.600	1.626	1.618	1.693	2.038	1.718	1.177	1.216	0.399	1.417	1.271	0.432	0.397
ΣM^{2+}	2.074	2.203	2.205	2.187	2.182	2.255	2.163	1.960	2.040	1.862	2.044	2.038	1.919	2.021	2.062
Sb	1.865	0.653	0.647	0.678	0.695	0.715	0.000	0.000	1.884	1.410	0.504	1.417	1.632	0.191	0.437
As	2.163	3.273	3.273	3.276	3.227	3.223	4.030	4.040	1.981	2.652	3.378	2.471	2.239	3.656	3.453
ΣX^{3+}	4.028	3.926	3.919	3.954	3.922	3.937	4.030	4.040	3.865	4.062	3.882	3.888	3.871	3.847	3.890
Se	11.084	12.824	12.846	12.859	12.860	12.752	12.755	12.942	13.052	13.042	13.034	12.957	13.169	11.537	11.420
S	1.813	0.047	0.030	0.000	0.036	0.055	0.051	0.058	0.042	0.034	0.039	0.117	0.041	1.594	1.628
$\Sigma(Y+Z)^{2-}$	12.897	12.871	12.876	12.859	12.896	12.807	12.806	13.000	13.094	13.076	13.074	13.074	13.210	13.132	13.048

* Zn-giraudite from Chaméane [77], ** mean of analyses of Cu-giraudite from Příbram (22 analyses); 1-11: representative analyses; 12-13: analyses of Hg-giraudite from Příbram. Cu* = Cu^{tot} – Cu**; Cu** = Cu^{tot} - (10-Ag-Tl). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S33. The chemical composition of Fe-tennantite from Příbram.

	*	1	2	3	4	5
Ag	0.06	0.07	0.09	0.05	0.08	0.00
Fe	4.54	4.59	4.41	4.21	5.04	4.45
Pb	0.05	0.08	0.05	0.00	0.06	0.06
Cu	43.57	42.85	43.42	44.25	43.61	43.70
Sb	11.40	11.11	12.47	10.68	10.98	11.77
As	12.44	12.20	11.98	12.97	12.45	12.58
Se	1.29	0.91	1.38	1.70	0.92	1.54
S	26.60	26.85	26.45	26.40	27.04	26.26
total	99.94	98.65	100.24	100.26	100.17	100.35
Cu^{tot}	10.614	10.510	10.609	10.754	10.536	10.662
Ag	0.008	0.011	0.013	0.007	0.011	0.000
Cu*	9.992	9.989	9.987	9.993	9.989	10.000
ΣM^{+}	10.000	10.000	10.000	10.000	10.000	10.000
Cu**	0.622	0.521	0.622	0.761	0.547	0.663
Fe	1.258	1.281	1.225	1.164	1.387	1.234
Pb	0.004	0.006	0.004	0.000	0.004	0.004
ΣM^{2+}	1.884	1.807	1.850	1.925	1.937	1.901
Sb	1.450	1.423	1.590	1.355	1.384	1.498
As	2.570	2.537	2.483	2.674	2.552	2.602
ΣX^{3+}	4.020	3.960	4.073	4.029	3.936	4.101
Se	0.253	0.179	0.271	0.333	0.179	0.303
S	12.843	13.053	12.806	12.713	12.947	12.696
$\Sigma(Y+Z)^{2-}$	13.096	13.233	13.077	13.046	13.126	12.998

* mean of analyses of Fe-tennantite from Příbram (5 analyses); 1-5: individual analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S34. Chemical composition of Hg-hakite from Příbram

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	1.51	0.83	0.47	2.34	1.79	5.76	5.49	0.68	0.81	0.69	0.31	0.47	0.47	0.69
Fe	0.00	0.15	0.00	0.10	0.08	0.20	0.00	0.00	0.00	0.30	0.00	0.00	0.00	0.00	0.00
Cd	0.00	0.24	0.31	0.44	0.11	0.17	0.40	0.36	0.10	0.00	3.44	0.06	0.05	0.07	0.23
Tl	0.00	0.02	0.00	0.05	0.00	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	0.00	0.43	0.52	0.95	0.13	0.31	0.00	0.00	0.09	0.06	0.25	0.15	0.14	0.18	2.63
Hg	15.30	13.66	13.84	12.43	15.50	14.97	15.76	15.38	14.62	14.35	9.67	14.80	15.25	15.54	8.73
Cu	26.60	24.96	25.86	27.58	25.27	26.29	20.93	21.20	25.03	25.31	26.81	26.65	26.30	26.65	27.74
Sb	15.50	19.17	20.23	20.47	20.65	21.16	15.80	15.45	19.14	19.46	10.64	20.53	19.51	19.60	20.94
As	3.20	0.81	0.21	0.10	0.13	0.07	2.43	2.70	0.66	0.71	6.51	0.00	0.13	0.54	0.19
Se	34.00	37.26	36.81	34.33	31.23	30.26	37.50	37.52	37.26	39.11	38.72	35.84	35.95	35.71	37.34
Te	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.84	0.88	0.78	0.84
S	3.50	1.48	1.53	3.29	3.78	5.03	1.23	1.37	1.47	0.72	2.26	1.75	1.48	1.63	2.14
total	98.10	99.80	100.12	100.19	99.21	100.23	99.80	99.60	99.04	100.83	98.98	100.92	100.15	101.17	101.45
Cu^{tot}	10.077	9.707	10.027	10.253	9.727	9.760	8.378	8.443	9.855	9.866	9.820	10.284	10.285	10.291	10.135
Ag	0.000	0.345	0.190	0.102	0.531	0.391	1.359	1.287	0.157	0.186	0.148	0.070	0.108	0.106	0.148
Tl	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu*	10.000	9.554	9.810	9.898	9.469	9.609	8.378	8.443	9.843	9.814	9.820	9.930	9.892	9.894	9.852
ΣM^{+}	10.000	10.899	10.000	10.006	10.000	10.000	9.737	9.749	10.000	10.000	9.969	10.000	10.000	10.000	10.000
Fe	0.000	0.066	0.000	0.041	0.034	0.084	0.000	0.000	0.000	0.133	0.001	0.002	0.000	0.000	0.000
Cd	0.000	0.052	0.069	0.093	0.024	0.035	0.090	0.080	0.022	0.000	0.713	0.012	0.011	0.016	0.048
Zn	0.000	0.164	0.194	0.342	0.047	0.110	0.000	0.000	0.034	0.021	0.088	0.056	0.052	0.066	0.933
Hg	1.836	1.683	1.700	1.464	1.890	1.761	1.998	1.941	1.823	1.772	1.122	1.810	1.889	1.901	1.010
Cu**	0.077	0.052	0.217	0.356	0.258	0.151	0.000	0.000	0.012	0.052	0.000	0.354	0.393	0.397	0.283
ΣM^{2+}	1.913	2.017	2.179	2.296	2.252	2.140	2.087	2.021	1.891	1.979	1.923	2.234	2.346	2.380	2.274
Sb	3.065	3.891	4.094	3.972	4.148	4.100	3.301	3.212	3.932	3.960	2.033	4.135	3.982	3.951	3.992
As	1.028	0.268	0.068	0.031	0.041	0.020	0.825	0.911	0.220	0.235	2.023	0.000	0.043	0.177	0.059
ΣX^{3+}	4.093	4.159	4.162	4.003	4.190	4.121	4.125	4.123	4.153	4.195	4.056	4.135	4.025	4.128	4.051
Se	10.366	11.659	11.485	10.273	9.672	9.041	12.077	12.028	11.806	12.268	11.412	11.132	11.313	11.096	10.977
Te	0.000	0.020	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.161	0.171	0.150	0.152
S	2.628	1.143	1.173	2.422	2.886	3.698	0.974	1.079	1.149	0.559	1.640	1.338	1.145	1.246	1.546
$\Sigma(Y+Z)^{2-}$	12.994	12.822	12.659	12.695	12.559	12.739	13.051	13.107	12.956	12.826	13.052	12.631	12.629	12.492	12.676

* Hg-hakite from the type locality [39], ** mean of analyses of Hg-hakite from Příbram (122 analyses); 1-13: representative analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag-Tl). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S35. The chemical composition of Zn-hakite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.92	0.12	0.39	0.49	0.71	0.88	2.10	1.67	1.19	1.08	1.86	0.82	2.71	0.99	1.11
Fe	0.10	0.12	0.11	0.22	0.05	0.07	0.16	0.11	0.00	0.00	0.16	0.00	0.00	0.07	0.05
Cd	0.35	0.00	0.42	0.41	0.40	0.47	0.41	0.30	2.17	2.29	1.05	0.10	0.19	0.20	0.32
Zn	4.18	3.80	4.35	4.17	4.15	3.82	3.75	4.18	3.16	3.30	3.43	3.12	3.96	4.07	3.90
Hg	2.69	5.21	2.37	2.43	2.32	3.01	4.20	4.02	4.53	4.03	4.22	6.85	1.87	2.78	3.13
Cu	27.66	27.68	27.39	27.28	27.64	27.45	26.67	27.73	27.38	28.03	26.22	28.06	28.32	27.24	28.31
Sb	20.17	21.43	20.27	20.11	19.23	19.13	19.32	19.00	21.42	20.54	18.35	21.06	18.28	19.93	19.57
As	1.25	0.00	1.24	1.38	1.95	1.88	1.43	1.50	0.22	0.61	1.46	0.08	1.82	1.12	1.84
Se	41.34	39.75	43.14	43.74	42.23	42.61	40.87	41.13	36.95	35.03	41.32	38.28	42.49	42.73	41.27
S	1.29	1.96	0.59	0.32	1.10	0.58	0.70	1.04	2.13	3.44	0.09	1.74	0.88	0.59	1.36
total	99.94	100.06	100.25	100.55	99.79	99.90	99.60	100.68	99.15	98.37	98.16	100.12	100.51	99.71	100.86
Cu^{tot}	9.922	9.999	9.871	9.842	9.899	9.951	9.806	9.964	10.034	10.072	9.874	10.285	10.079	9.904	10.054
Ag	0.195	0.026	0.083	0.105	0.149	0.188	0.455	0.352	0.258	0.228	0.413	0.177	0.568	0.213	0.233
Cu*	9.805	9.974	9.871	9.842	9.851	9.812	9.545	9.648	9.742	9.772	9.587	9.823	9.432	9.787	9.767
ΣM^{+}	10.000	10.000	9.954	9.947	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Fe	0.041	0.049	0.043	0.091	0.021	0.030	0.066	0.044	0.000	0.000	0.070	0.000	0.000	0.027	0.021
Cd	0.071	0.000	0.085	0.084	0.081	0.096	0.084	0.061	0.449	0.466	0.223	0.021	0.039	0.041	0.064
Zn	1.458	1.333	1.525	1.462	1.446	1.347	1.342	1.462	1.125	1.154	1.255	1.112	1.369	1.437	1.346
Hg	0.306	0.596	0.271	0.278	0.263	0.345	0.490	0.458	0.526	0.459	0.503	0.796	0.211	0.320	0.352
Cu**	0.118	0.026	0.000	0.000	0.048	0.139	0.260	0.317	0.292	0.300	0.288	0.462	0.647	0.116	0.287
ΣM^{2+}	1.993	2.004	1.924	1.914	1.859	1.957	2.242	2.342	2.393	2.378	2.339	2.391	2.265	1.942	2.070
Sb	3.776	4.041	3.813	3.787	3.594	3.618	3.708	3.564	4.097	3.853	3.606	4.028	3.396	3.781	3.626
As	0.380	0.000	0.378	0.422	0.594	0.578	0.447	0.457	0.068	0.186	0.465	0.023	0.549	0.346	0.555
ΣX^{3+}	4.156	4.041	4.190	4.209	4.187	4.196	4.155	4.021	4.165	4.038	4.071	4.052	3.945	4.127	4.181
Se	11.937	11.554	12.514	12.699	12.171	12.431	12.096	11.894	10.898	10.131	12.521	11.292	12.171	12.504	11.794
S	0.914	1.401	0.418	0.231	0.782	0.416	0.507	0.744	1.545	2.452	0.069	1.266	0.619	0.427	0.956
$\Sigma(Y+Z)^{2-}$	12.851	12.955	12.932	12.930	12.953	12.846	12.603	12.637	12.442	12.583	12.590	12.558	12.789	12.931	12.749

* mean of analyses of Zn-hakite from Příbram (53 analyses); 1-14: representative analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S36. The chemical composition of Cd-hakite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.67	0.56	0.59	0.61	0.47	0.50	0.30	0.60	0.29	0.47	0.75	0.43	0.63	2.63	0.60
Cd	6.75	6.67	6.55	6.74	6.70	6.86	6.96	6.22	7.05	7.36	6.98	7.39	7.30	6.62	5.17
Tl	0.02	0.00	0.00	0.00	0.00	0.00	0.21	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.06
Zn	0.42	0.25	0.21	0.20	0.22	0.27	0.37	0.36	0.40	0.44	0.43	0.08	0.09	0.09	2.53
Hg	3.93	4.97	4.93	5.06	4.60	4.20	4.24	4.27	3.89	3.42	3.81	3.66	3.69	4.21	0.12
Cu	26.82	27.01	27.05	26.94	27.36	27.18	27.59	26.65	27.71	28.17	27.40	26.43	25.61	23.69	26.74
Sb	21.33	21.56	21.38	21.41	21.52	21.51	22.03	21.42	21.80	22.27	21.79	20.81	20.55	19.32	21.26
As	1.04	1.14	1.10	1.17	1.12	1.13	0.93	1.11	1.20	1.12	1.14	0.99	1.04	1.14	0.23
Se	34.52	33.59	34.37	33.81	33.63	32.37	32.88	32.77	31.75	30.47	31.92	37.77	37.61	40.52	39.89
S	4.29	4.84	4.43	4.52	4.60	5.23	5.37	5.04	5.81	6.67	5.85	2.29	2.28	0.88	2.27
total	99.82	100.59	100.60	100.46	100.22	99.24	100.88	98.44	99.89	100.45	100.05	99.85	98.80	99.09	98.85
Cu^{tot}	9.602	9.579	9.636	9.616	9.740	9.665	9.657	9.577	9.687	9.673	9.569	9.736	9.552	9.062	9.642
Ag	0.142	0.116	0.124	0.129	0.099	0.105	0.061	0.126	0.060	0.095	0.153	0.094	0.138	0.592	0.127
Tl	0.003	0.000	0.000	0.000	0.000	0.000	0.023	0.000	0.000	0.007	0.000	0.000	0.000	0.000	0.006
Cu*	9.602	9.579	9.636	9.616	9.740	9.665	9.657	9.577	9.687	9.673	9.569	9.736	9.552	9.062	9.642
ΣM^{+}	9.747	9.696	9.761	9.745	9.839	9.771	9.741	9.703	9.747	9.775	9.723	9.829	9.690	9.654	9.775
Cu**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cd	1.367	1.338	1.319	1.361	1.348	1.380	1.378	1.263	1.394	1.429	1.377	1.538	1.539	1.433	1.054
Zn	0.148	0.086	0.071	0.070	0.076	0.092	0.125	0.126	0.137	0.146	0.146	0.028	0.034	0.034	0.888
Hg	0.446	0.559	0.557	0.572	0.519	0.473	0.470	0.486	0.430	0.373	0.422	0.427	0.436	0.510	0.013
ΣM^{2+}	1.961	1.982	1.946	2.003	1.942	1.945	1.972	1.875	1.961	1.947	1.945	1.994	2.009	1.976	1.955
Sb	3.986	3.990	3.977	3.989	3.999	3.993	4.024	4.017	3.977	3.992	3.973	4.000	4.001	3.859	4.001
As	0.316	0.344	0.332	0.354	0.337	0.340	0.277	0.339	0.356	0.325	0.338	0.308	0.329	0.370	0.071
ΣX^{3+}	4.301	4.334	4.309	4.343	4.336	4.333	4.301	4.356	4.333	4.318	4.310	4.308	4.330	4.229	4.072
Se	9.947	9.588	9.855	9.712	9.635	9.266	9.262	9.475	8.933	8.421	8.973	11.196	11.288	12.476	11.575
S	3.045	3.400	3.130	3.196	3.247	3.685	3.724	3.591	4.026	4.540	4.049	1.673	1.683	0.665	1.623
$\Sigma(Y+Z)^{2-}$	12.991	12.988	12.984	12.909	12.882	12.951	12.986	13.066	12.959	12.961	13.022	12.869	12.971	13.141	13.198

* mean of analyses of Cd-hakite from Příbram (14 analyses); 1-14: individual analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag-Tl). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S37. The chemical composition of Fe-hakite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.64	0.96	0.95	0.81	0.82	0.78	1.00	0.89	0.97	0.98	0.18	0.98	0.88	0.87	0.06
Fe	2.33	2.15	2.09	2.05	2.07	1.97	1.40	1.46	1.46	1.49	2.84	2.12	2.33	2.47	3.25
Cd	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tl	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08
Zn	1.34	1.40	1.52	1.49	1.52	1.41	1.60	1.55	1.62	1.55	1.56	1.47	1.78	2.01	0.52
Hg	1.92	2.14	2.23	2.20	1.91	2.40	3.88	3.52	3.38	3.21	0.22	2.35	2.18	1.79	0.00
Cu	30.07	28.52	28.47	28.40	28.53	28.00	27.67	27.58	27.87	28.08	32.09	27.78	27.71	27.23	34.59
Sb	20.07	18.70	19.17	19.60	19.59	19.54	19.41	19.74	19.26	19.29	22.55	18.88	19.40	19.98	21.66
As	1.58	1.93	1.69	1.23	1.34	1.07	1.19	1.03	1.33	1.31	1.14	1.75	1.46	1.13	1.98
Se	38.20	43.94	44.15	43.68	44.40	43.77	42.31	42.55	42.58	42.60	31.85	43.09	42.53	42.39	28.17
S	3.08	0.22	0.20	0.19	0.14	0.13	0.14	0.13	0.14	0.15	6.57	0.15	0.23	0.23	9.14
total	99.23	99.97	100.46	99.64	100.31	99.07	98.59	98.45	98.61	98.66	99.00	98.57	98.49	98.09	99.45
Cu^{tot}	10.421	10.238	10.200	10.277	10.238	10.224	10.276	10.246	10.299	10.356	10.526	10.165	10.128	9.992	10.830
Ag	0.132	0.203	0.200	0.172	0.174	0.168	0.218	0.194	0.211	0.214	0.034	0.212	0.190	0.188	0.011
Tl	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.008
Cu*	9.868	9.797	9.800	9.828	9.826	9.832	9.782	9.806	9.789	9.786	9.966	9.788	9.810	9.812	9.981
ΣM^{+}	10.001	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Fe	0.919	0.880	0.850	0.844	0.843	0.818	0.589	0.618	0.615	0.623	1.060	0.883	0.968	1.032	1.158
Cd	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Zn	0.451	0.489	0.531	0.522	0.530	0.501	0.576	0.561	0.583	0.556	0.498	0.523	0.631	0.715	0.158
Hg	0.211	0.244	0.253	0.253	0.217	0.277	0.456	0.415	0.395	0.375	0.023	0.273	0.252	0.208	0.000
Cu**	0.553	0.441	0.400	0.449	0.412	0.392	0.494	0.440	0.511	0.570	0.561	0.377	0.318	0.180	0.849
ΣM^{2+}	2.135	2.053	2.034	2.068	2.002	1.988	2.116	2.033	2.103	2.124	2.143	2.056	2.169	2.136	2.165
Sb	3.630	3.505	3.585	3.702	3.669	3.725	3.762	3.827	3.715	3.713	3.861	3.606	3.700	3.828	3.540
As	0.465	0.587	0.512	0.377	0.409	0.331	0.374	0.324	0.417	0.408	0.318	0.542	0.452	0.351	0.526
ΣX^{3+}	4.096	4.092	4.097	4.078	4.078	4.056	4.137	4.151	4.132	4.121	4.178	4.148	4.152	4.178	4.065
Se	10.656	12.698	12.731	12.720	12.823	12.864	12.645	12.722	12.664	12.643	8.408	12.688	12.509	12.520	7.098
S	2.113	0.157	0.138	0.133	0.097	0.092	0.102	0.094	0.100	0.113	4.271	0.108	0.170	0.166	5.671
$\Sigma(Y+Z)^{2-}$	12.769	12.855	12.869	12.854	12.920	12.956	12.748	12.816	12.765	12.755	12.679	12.796	12.679	12.686	12.770

* mean of analyses of Fe-hakite from Příbram (27 analyses); 1-14: representative analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag-Tl). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S38. The chemical composition of Cu - hakite from Příbram.

	*	1	2	3	4	5	6	7	8
Ag	1.29	0.87	1.34	1.32	1.38	1.31	1.81	0.67	1.66
Fe	1.09	2.00	1.21	1.35	1.29	1.10	0.86	0.15	0.80
Tl	0.04	0.00	0.00	0.13	0.07	0.08	0.00	0.00	0.07
Zn	0.53	0.65	0.60	0.61	0.60	0.62	0.52	0.08	0.56
Hg	3.28	1.12	3.83	2.40	2.39	4.19	5.90	0.90	5.52
Cu	29.73	29.93	28.71	29.94	30.85	29.89	28.58	30.86	29.08
Sb	16.46	20.04	16.47	15.66	14.10	15.31	14.52	21.04	14.53
As	3.29	1.17	3.37	3.58	4.55	3.80	4.29	1.39	4.19
Se	43.79	43.14	44.67	43.82	44.60	44.14	43.03	43.69	43.23
S	0.16	0.19	0.07	0.08	0.05	0.14	0.65	0.06	0.05
total	99.68	99.10	100.27	98.89	99.88	100.58	100.16	98.84	99.69
Cu^{tot}	10.744	10.818	10.379	10.815	10.950	10.717	10.343	11.296	10.633
Ag	0.276	0.184	0.285	0.281	0.289	0.277	0.386	0.144	0.358
Tl	0.005	0.000	0.000	0.015	0.008	0.009	0.000	0.000	0.008
Cu*	9.720	9.816	9.715	9.704	9.704	9.714	9.614	9.856	9.634
ΣM^{+}	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Fe	0.450	0.822	0.498	0.555	0.521	0.449	0.354	0.062	0.333
Zn	0.186	0.228	0.211	0.214	0.207	0.216	0.183	0.028	0.199
Hg	0.376	0.128	0.439	0.275	0.269	0.476	0.676	0.104	0.639
Cu**	1.024	1.002	0.665	1.111	1.246	1.002	0.729	1.440	0.999
ΣM^{2+}	2.036	2.180	1.812	2.154	2.243	2.143	1.942	1.635	2.170
Sb	3.104	3.780	3.108	2.953	2.612	2.865	2.743	4.020	2.773
As	1.009	0.359	1.033	1.097	1.370	1.156	1.317	0.432	1.299
ΣX^{3+}	4.113	4.139	4.141	4.049	3.982	4.021	4.059	4.451	4.072
Se	12.735	12.549	12.997	12.739	12.740	12.737	12.532	12.870	12.721
S	0.115	0.133	0.050	0.057	0.035	0.099	0.466	0.044	0.036
$\Sigma(Y+Z)^{2-}$	12.850	12.681	13.047	12.796	12.775	12.836	12.998	12.913	12.758

* mean of analyses of Cu-hakite from Příbram (8 analyses); 1-8: individual analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag-Tl). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S39. The chemical composition of Zn-tetrahedrite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.05	0.05	0.07	0.00	0.10	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.16	0.10
Fe	1.46	0.25	0.77	0.47	0.61	0.61	0.48	0.62	1.01	1.41	3.22	2.66	2.59	2.43	3.34
Pb	0.26	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.58	2.08	0.00
Cd	0.16	0.32	0.00	0.05	0.00	0.00	0.00	0.37	0.35	0.22	0.10	0.14	0.00	0.00	0.43
Zn	5.38	7.17	5.83	5.73	5.20	5.53	6.37	6.20	6.06	6.04	3.95	4.57	3.80	3.92	3.98
Hg	0.77	0.00	1.49	2.28	3.39	2.27	0.75	0.78	0.38	0.06	0.06	0.00	0.00	0.05	0.00
Cu	37.18	39.35	35.65	34.83	34.31	34.83	35.30	36.05	37.14	38.93	38.93	38.90	38.39	38.42	38.47
Sb	27.64	28.56	27.02	26.37	25.97	26.41	26.76	26.47	27.53	28.36	29.11	29.00	27.98	27.78	28.59
As	0.47	0.31	0.35	0.23	0.13	0.06	0.12	0.47	0.48	0.82	0.44	0.49	0.96	0.98	0.76
Se	6.40	0.68	11.73	14.52	15.44	14.42	15.10	11.61	8.02	0.00	0.00	0.20	0.00	0.00	1.68
S	21.40	24.70	18.21	16.37	15.83	16.65	16.62	18.69	20.70	25.14	25.31	24.98	24.86	24.90	24.38
total	101.16	101.66	101.11	100.82	100.96	100.85	101.49	101.25	101.65	100.96	101.13	100.94	100.34	100.71	101.73
Cu^{tot}	10.086	10.228	10.073	10.126	10.086	10.092	10.094	10.069	10.092	10.092	10.059	10.103	10.094	10.089	9.990
Ag	0.008	0.007	0.011	0.000	0.017	0.011	0.000	0.000	0.000	0.000	0.000	0.000	0.027	0.024	0.015
Cu*	9.992	9.993	9.989	10.000	9.983	9.989	10.000	10.000	10.000	10.000	10.000	10.000	9.973	9.976	9.985
ΣM^{+}	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Fe	0.450	0.074	0.247	0.154	0.202	0.201	0.155	0.195	0.311	0.417	0.946	0.786	0.774	0.727	0.985
Pb	0.022	0.023	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.128	0.167	0.000
Cd	0.024	0.047	0.000	0.007	0.000	0.000	0.000	0.059	0.054	0.032	0.014	0.020	0.000	0.000	0.063
Zn	1.419	1.811	1.603	1.619	1.487	1.556	1.771	1.685	1.599	1.522	0.992	1.153	0.971	1.001	1.006
Hg	0.066	0.000	0.134	0.210	0.315	0.208	0.068	0.069	0.033	0.005	0.005	0.000	0.000	0.004	0.000
Cu**	0.094	0.235	0.084	0.126	0.103	0.103	0.094	0.069	0.092	0.092	0.059	0.103	0.121	0.114	0.005
ΣM^{2+}	2.074	2.189	2.068	2.116	2.108	2.069	2.087	2.077	2.089	2.067	2.016	2.062	1.994	2.014	2.060
Sb	3.913	3.874	3.985	4.001	3.985	3.993	3.994	3.859	3.904	3.838	3.926	3.930	3.840	3.807	3.875
As	0.109	0.069	0.083	0.055	0.032	0.015	0.028	0.110	0.110	0.180	0.097	0.108	0.214	0.217	0.167
ΣX^{3+}	4.022	3.943	4.068	4.056	4.016	4.009	4.022	3.970	4.014	4.018	4.023	4.039	4.055	4.025	4.042
Se	1.397	0.141	2.668	3.396	3.653	3.363	3.474	2.609	1.753	0.000	0.000	0.043	0.000	0.000	0.351
S	11.507	12.727	10.196	9.432	9.223	9.559	9.416	10.344	11.145	12.915	12.961	12.857	12.951	12.961	12.547
$\Sigma(Y+Z)^{2-}$	12.904	12.868	12.864	12.828	12.876	12.922	12.891	12.953	12.897	12.915	12.961	12.899	12.951	12.961	12.898

* mean of analyses of Zn-tetrahedrite from Příbram (15 analyses); 1-14: representative analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S40. The chemical composition of Fe-tetrahedrite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.08	0.13	0.12	0.15	0.16	0.07	0.10	0.06	0.06	0.05	0.05	0.09	0.09	0.08	0.09
Fe	3.79	4.75	3.45	4.79	3.99	2.73	2.85	2.86	2.82	2.95	3.11	3.12	3.62	3.64	3.34
Pb	0.24	0.00	0.99	0.00	1.98	0.07	0.00	0.00	0.12	0.08	0.06	0.13	0.10	0.18	0.05
Cd	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zn	1.17	0.31	2.81	0.74	1.88	1.69	1.43	1.68	1.60	1.44	0.90	0.43	0.50	0.39	1.45
Hg	0.09	0.17	0.07	0.10	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	36.97	40.30	38.90	39.22	38.70	36.77	36.82	37.07	36.99	37.43	37.43	35.93	36.15	35.63	37.70
Sb	25.00	29.05	27.92	28.89	27.50	26.68	26.52	26.55	26.39	26.61	26.52	25.84	26.27	25.52	26.72
As	1.53	0.72	1.07	0.71	1.15	0.22	0.21	0.42	0.40	0.38	0.40	0.00	0.00	0.00	1.01
Se	13.89	0.00	0.00	0.00	0.00	15.32	16.15	14.91	15.45	15.18	16.16	19.57	18.25	19.33	10.73
S	17.38	25.17	25.06	25.46	24.98	16.42	15.97	16.60	16.32	16.62	16.25	14.12	14.91	14.12	18.93
total	100.16	100.60	100.37	100.06	100.45	99.96	100.04	100.14	100.15	100.73	100.88	99.21	99.88	98.89	100.01
Cu^{tot}	10.456	10.454	10.154	10.188	10.142	10.604	10.661	10.634	10.651	10.684	10.717	10.719	10.612	10.640	10.518
Ag	0.014	0.020	0.018	0.024	0.025	0.012	0.017	0.010	0.010	0.009	0.009	0.015	0.015	0.014	0.015
Cu*	9.986	9.980	9.982	9.976	9.975	9.988	9.983	9.990	9.990	9.991	9.991	9.985	9.985	9.986	9.985
ΣM^{+}	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000	10.000
Fe	1.218	1.403	1.024	1.417	1.191	0.897	0.938	0.934	0.923	0.957	1.012	1.058	1.209	1.236	1.060
Pb	0.021	0.000	0.079	0.000	0.159	0.006	0.000	0.000	0.011	0.007	0.005	0.012	0.009	0.017	0.004
Cd	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Zn	0.322	0.078	0.712	0.186	0.479	0.473	0.401	0.468	0.446	0.398	0.251	0.124	0.143	0.112	0.393
Hg	0.008	0.014	0.005	0.008	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu**	0.470	0.474	0.173	0.211	0.166	0.616	0.678	0.643	0.661	0.693	0.725	0.734	0.628	0.653	0.534
ΣM^{2+}	2.041	1.970	1.994	1.822	2.004	1.992	2.016	2.045	2.041	2.055	1.993	1.928	1.989	2.018	1.991
Sb	3.690	3.932	3.804	3.917	3.762	4.017	4.007	3.975	3.966	3.965	3.964	4.024	4.026	3.977	3.891
As	0.367	0.158	0.236	0.156	0.257	0.053	0.052	0.101	0.097	0.093	0.098	0.000	0.000	0.000	0.239
ΣX^{3+}	4.057	4.090	4.040	4.072	4.019	4.069	4.059	4.076	4.063	4.058	4.062	4.024	4.026	3.977	4.130
Se	3.161	0.000	0.000	0.000	0.000	3.556	3.763	3.441	3.581	3.487	3.724	4.700	4.312	4.646	2.409
S	9.740	12.940	12.965	13.106	12.978	9.383	9.162	9.437	9.315	9.400	9.220	8.348	8.673	8.358	10.470
$\Sigma(Y+Z)^{2-}$	12.901	12.940	12.965	13.106	12.978	12.939	12.925	12.878	12.896	12.887	12.945	13.048	12.985	13.004	12.879

* mean of analyses of Fe-tetrahedrite from Příbram (27 analyses); 1-14: representative analyses; Cu* = Cu^{tot} - Cu**; Cu** = Cu^{tot} - (10-Ag). Coefficients of empirical formula were calculated on the basis 29 *apfu*.

Table S41. The chemical composition of a new Hg-Cu-Sb selenide.

	*	**	***	1	2	3	4	5	6	7	8	9	10	11	12
Ag	0.00	0.00	1.21	1.25	1.35	1.35	1.27	1.34	1.20	1.53	1.51	1.52	1.36	1.30	1.25
Fe	0.00	0.15	0.03	0.00	0.00	0.00	0.00	0.00	0.07	0.00	0.06	0.07	0.14	0.00	0.08
Cd	0.00	0.00	0.12	0.09	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.22
Tl	0.00	0.00	0.03	0.00	0.00	0.00	0.15	0.31	0.36	0.21	0.23	0.19	0.22	0.14	0.00
Zn	0.00	0.00	0.08	0.14	0.20	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.19
Hg	29.75	21.63	27.74	29.94	28.59	28.70	30.33	29.76	27.69	24.70	23.15	23.97	28.74	29.85	23.61
Cu	14.14	17.79	14.95	13.21	13.09	13.56	13.52	14.22	15.56	18.14	19.29	18.17	15.30	14.10	18.27
Sb	18.06	19.45	19.06	18.48	17.88	18.22	18.94	18.94	18.90	19.56	19.77	19.66	18.98	19.13	19.23
As	0.00	0.33	0.37	0.71	0.77	0.76	0.46	0.48	0.52	0.49	0.52	0.53	0.54	0.53	0.75
Se	38.06	38.89	34.51	35.97	35.74	35.93	34.61	34.83	34.55	33.91	33.87	33.93	34.93	34.45	35.46
S	0.00	1.65	1.66	1.28	1.15	1.26	1.39	1.51	1.83	2.39	2.57	2.33	1.80	1.57	1.81
total	100.00	99.89	99.74	101.07	98.84	99.93	100.67	101.38	100.68	100.93	100.97	100.37	102.00	101.07	100.87
Ag	0.000	0.000	0.278	0.287	0.318	0.314	0.292	0.306	0.275	0.338	0.331	0.333	0.309	0.293	0.276
Cu	6.000	6.822	5.828	5.154	5.245	5.341	5.266	5.529	6.036	6.827	7.169	6.784	5.906	5.405	6.847
ΣM^{1+}	6.000	6.822	6.106	5.441	5.563	5.655	5.559	5.835	6.311	7.165	7.500	7.117	6.216	5.698	7.124
Hg	4.000	2.628	3.427	3.701	3.628	3.581	3.742	3.665	3.403	2.945	2.725	2.835	3.515	3.626	2.803
Fe	0.000	0.065	0.011	0.000	0.000	0.000	0.000	0.000	0.030	0.000	0.024	0.028	0.060	0.000	0.035
Cd	0.000	0.000	0.025	0.021	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.047
Tl	0.000	0.000	0.004	0.000	0.000	0.000	0.018	0.037	0.043	0.025	0.026	0.022	0.027	0.017	0.000
Zn	0.000	0.000	0.031	0.053	0.077	0.053	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.068
□	2.000	2.485	2.396	2.784	2.716	2.712	2.681	2.463	2.213	1.865	1.725	1.998	2.183	2.659	1.923
ΣM^{2+}	6.000	5.178	5.894	6.559	6.437	6.345	6.441	6.165	5.689	4.835	4.500	4.883	5.784	6.302	4.876
Sb	4.000	3.893	3.879	3.765	3.738	3.746	3.850	3.842	3.828	3.843	3.835	3.831	3.824	3.828	3.762
As	0.000	0.107	0.121	0.235	0.262	0.254	0.150	0.158	0.172	0.157	0.165	0.169	0.176	0.172	0.238
ΣX^{3+}	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000	4.000
Se	13.000	12.001	10.830	11.296	11.523	11.389	10.849	10.898	10.786	10.272	10.131	10.193	10.854	10.631	10.696
S	0.000	1.254	1.287	0.992	0.913	0.985	1.069	1.160	1.409	1.784	1.895	1.726	1.374	1.191	1.343
$\Sigma(Y+Z)^{2-}$	13.000	13.255	12.117	12.289	12.436	12.374	11.918	12.058	12.195	12.057	12.026	11.919	12.229	11.823	12.039

*ideal composition of new Hg-Cu-Sb selenide; ** composition of similar mineral from China (Chen et al. 1995); *** mean of analyses of new Hg-Cu-Sb selenide from Příbram (62 analyses); 1-3: analyses of a grain of new Hg-Cu-Sb selenide used for SXRD study; 4-12: representative analyses. $Cu^{*} = Cu^{tot} - Cu^{**}$; $Cu^{**} = Cu^{tot} - (10\text{-}Ag\text{-}Tl)$. Coefficients of empirical formula were calculated on the basis 4 *apfu*.

Table S42. The chemical composition of tiemannite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.12	0.00	0.13	0.17	0.15	0.11	0.07	0.05	0.06	0.08	0.08	0.13	0.08	0.11
Pb	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00
Cd	0.00	0.88	0.61	0.34	1.21	1.25	0.28	0.30	0.26	0.23	0.27	0.25	5.47	5.53	0.00
Zn	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	71.75	70.24	70.05	70.53	68.40	69.38	71.76	71.64	71.36	70.90	71.35	71.26	64.40	64.94	72.29
Cu	0.00	0.12	0.29	0.07	0.64	1.17	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00
Bi	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00
As	0.00	0.03	0.00	0.12	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Se	28.25	27.79	27.49	27.05	28.18	27.50	26.95	27.00	27.13	26.88	26.90	26.78	30.09	30.20	28.43
Te	0.00	0.15	0.08	0.00	0.00	0.00	0.16	0.06	0.08	0.10	0.21	0.15	0.00	0.00	0.00
S	0.00	0.08	0.00	0.00	0.00	0.00	0.07	0.09	0.08	0.08	0.07	0.08	0.08	0.06	0.06
total	100.00	99.47	98.52	98.23	98.60	99.53	99.32	99.16	98.95	98.24	98.89	98.60	100.38	100.85	100.89
Ag	0.000	0.003	0.000	0.003	0.004	0.004	0.003	0.002	0.001	0.001	0.002	0.002	0.003	0.002	0.003
Cd	0.000	0.022	0.015	0.009	0.030	0.031	0.007	0.007	0.007	0.006	0.007	0.006	0.128	0.130	0.000
Zn	0.000	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hg	1.000	0.976	0.986	1.003	0.947	0.952	1.013	1.012	1.009	1.010	1.011	1.013	0.848	0.854	0.996
Cu	0.000	0.005	0.013	0.003	0.028	0.051	0.000	0.000	0.000	0.000	0.000	0.000	0.006	0.000	0.000
Bi	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.000
As	0.000	0.001	0.000	0.004	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Σcat	1.000	1.009	1.015	1.023	1.009	1.041	1.023	1.022	1.017	1.018	1.020	1.022	0.987	0.986	0.999
Se	1.000	0.981	0.984	0.977	0.991	0.959	0.967	0.969	0.975	0.973	0.969	0.967	1.007	1.009	0.995
Te	0.000	0.003	0.002	0.000	0.000	0.000	0.003	0.001	0.002	0.002	0.005	0.003	0.000	0.000	0.000
S	0.000	0.007	0.000	0.000	0.000	0.000	0.006	0.008	0.007	0.007	0.006	0.007	0.006	0.005	0.006
Σan	1.000	0.991	0.985	0.977	0.991	0.959	0.977	0.978	0.983	0.982	0.980	0.978	1.013	1.014	1.001

*ideal composition of tiemannite; ** mean of 93 analyses of tiemannite from Příbram; 1-14: representative analyses. Coefficients of empirical formula were calculated on the basis 2 *apfu*.

Table S43. The chemical composition of Te-tiemannite from Příbram.

	*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Ag	0.07	0.00	0.09	0.07	0.10	0.07	0.09	0.08	0.08	0.06	0.10	0.08	0.12	0.07	0.07
Pb	0.02	0.00	0.12	0.00	0.07	0.00	0.00	0.00	0.00	0.12	0.04	0.03	0.00	0.00	0.00
Cd	0.53	0.44	0.38	0.40	0.45	0.36	0.40	0.41	0.39	0.42	0.47	0.44	0.66	0.77	0.75
Tl	0.04	0.06	0.13	0.00	0.11	0.07	0.12	0.00	0.00	0.28	0.14	0.07	0.20	0.00	0.00
Hg	67.48	67.37	66.60	67.29	67.03	64.38	66.19	66.33	65.72	65.76	66.71	66.69	67.99	69.45	68.81
Cu	1.15	0.82	1.20	1.75	1.65	1.13	0.60	1.73	2.35	1.68	1.08	1.14	0.34	0.50	0.28
Bi	0.03	0.10	0.00	0.07	0.00	0.00	0.06	0.00	0.17	0.06	0.13	0.00	0.00	0.00	0.00
Se	22.13	21.76	20.91	21.28	22.32	21.61	22.08	21.77	21.15	21.84	21.83	21.73	22.19	23.36	22.80
Te	8.19	9.55	10.33	10.11	9.17	10.55	9.77	9.41	9.45	9.21	9.18	9.49	6.49	5.66	5.59
S	0.06	0.00	0.00	0.05	0.05	0.00	0.05	0.05	0.06	0.05	0.05	0.05	0.09	0.08	0.08
total	99.70	100.10	99.76	101.01	100.94	98.21	99.35	99.78	99.38	99.48	99.72	99.72	98.09	99.90	98.37
Ag	0.002	0.000	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.001	0.002	0.002	0.003	0.002	0.002
Pb	0.000	0.000	0.002	0.000	0.001	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000	0.000
Cd	0.013	0.011	0.010	0.010	0.011	0.009	0.010	0.010	0.010	0.011	0.012	0.011	0.017	0.019	0.019
Tl	0.001	0.001	0.002	0.000	0.001	0.001	0.002	0.000	0.000	0.004	0.002	0.001	0.003	0.000	0.000
Hg	0.952	0.954	0.946	0.935	0.926	0.918	0.939	0.927	0.918	0.922	0.942	0.941	0.987	0.983	0.995
Cu	0.051	0.037	0.054	0.077	0.072	0.051	0.027	0.076	0.104	0.074	0.048	0.051	0.016	0.022	0.013
Bi	0.000	0.001	0.000	0.001	0.000	0.000	0.001	0.000	0.002	0.001	0.002	0.000	0.000	0.000	0.000
Σcat	1.020	1.004	1.015	1.024	1.014	0.981	0.981	1.016	1.036	1.015	1.009	1.006	1.026	1.027	1.029
Se	0.793	0.783	0.755	0.751	0.783	0.783	0.796	0.773	0.751	0.778	0.783	0.779	0.818	0.840	0.837
Te	0.182	0.213	0.231	0.221	0.199	0.236	0.218	0.207	0.208	0.203	0.204	0.211	0.148	0.126	0.127
S	0.005	0.000	0.000	0.004	0.004	0.000	0.005	0.004	0.006	0.004	0.004	0.004	0.008	0.007	0.007
Σan	0.980	0.996	0.985	0.976	0.986	1.019	1.019	0.984	0.964	0.985	0.991	0.994	0.974	0.973	0.971

* mean of 38 analyses of Te-tiemannite from Příbram; 1-14: representative analyses. Coefficients of empirical formula were calculated on the basis 2 *apfu*.

Table S44. The chemical composition of umangite from Příbram.

	*	**	1	2	3	4	5	6	7	8	9	10	11	12	13
Ag	0.00	0.49	0.06	0.11	0.69	0.08	0.07	1.09	0.16	0.00	0.21	1.33	0.37	0.00	0.19
Fe	0.00	0.28	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hg	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cu	54.69	55.00	51.67	53.51	53.52	53.67	53.82	54.39	55.46	54.58	54.96	55.06	55.08	55.24	55.37
Se	45.31	43.47	44.93	46.98	46.25	45.52	45.65	43.03	44.32	43.34	43.71	42.48	43.94	46.00	43.03
Te	0.00	0.09	0.00	0.00	0.43	0.00	0.00	0.19	0.16	0.18	0.27	0.23	0.00	0.00	0.00
S	0.00	0.47	0.36	0.20	0.19	0.10	0.18	0.32	0.00	0.57	0.26	0.15	0.34	0.18	0.20
total	100.00	99.81	98.76	100.79	101.07	99.37	99.72	99.03	100.11	98.68	99.40	99.25	99.73	101.42	98.79
Ag	0.000	0.016	0.002	0.003	0.022	0.003	0.002	0.035	0.005	0.000	0.007	0.043	0.012	0.000	0.006
Fe	0.000	0.017	0.109	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hg	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Cu	3.000	3.003	2.853	2.915	2.917	2.964	2.959	3.008	3.037	3.009	3.023	3.044	3.015	2.982	3.059
Σkat	3.000	3.036	2.964	2.919	2.939	2.966	2.961	3.044	3.042	3.009	3.030	3.087	3.027	2.982	3.065
Se	2.000	1.910	1.997	2.060	2.029	2.023	2.020	1.916	1.953	1.923	1.935	1.890	1.936	1.999	1.913
Te	0.000	0.002	0.000	0.000	0.012	0.000	0.000	0.005	0.004	0.005	0.007	0.006	0.000	0.000	0.000
S	0.000	0.051	0.039	0.021	0.020	0.011	0.020	0.035	0.000	0.063	0.028	0.017	0.037	0.019	0.022
Σan	2.000	1.964	2.036	2.081	2.061	2.034	2.039	1.956	1.958	1.991	1.970	1.913	1.973	2.018	1.935

*ideal composition of umangite; ** mean of 69 analyses of umangite from Příbram; 1-13: representative analyses. Coefficients of empirical formula were calculated on the basis 5 *apfu*.

Table S45. The chemical composition of S-umangite and Te-umangite from Příbram.

	*	1	2	3	4	5	6	7	8	9
Ag	0.30	0.25	0.25	0.36	0.52	0.43	0.22	0.23	0.15	0.08
Fe	2.55	2.21	5.42	2.33	4.24	3.22	2.82	0.09	0.07	0.00
Pb	0.02	0.00	0.00	0.00	0.00	0.13	0.06	0.00	0.00	0.00
Hg	0.02	0.00	0.00	0.05	0.08	0.00	0.00	0.00	0.00	0.00
Cu	57.05	58.46	53.80	58.81	55.76	53.53	56.76	58.64	60.65	54.47
Se	31.88	30.15	31.25	32.19	31.74	35.13	30.07	32.98	31.51	42.18
Te	0.02	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	3.74
S	7.62	8.76	8.83	7.36	8.48	5.97	8.46	6.47	6.64	0.58
total	99.46	99.83	99.55	101.10	100.99	98.41	98.39	98.41	99.02	101.06
Cu	2.827	2.845	2.618	2.878	2.698	2.743	2.808	2.984	3.053	2.977
Ag	0.009	0.007	0.007	0.010	0.015	0.013	0.006	0.007	0.004	0.000
Fe	0.144	0.122	0.300	0.130	0.233	0.188	0.159	0.005	0.004	0.000
Pb	0.000	0.000	0.000	0.000	0.000	0.002	0.001	0.000	0.000	0.000
Hg	0.000	0.000	0.000	0.001	0.001	0.000	0.000	0.000	0.000	0.003
Σcat	2.980	2.974	2.925	3.019	2.947	2.945	2.974	2.997	3.061	2.980
Se	1.271	1.181	1.224	1.268	1.236	1.449	1.197	1.351	1.276	1.855
Te	0.001	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.102
S	0.748	0.845	0.851	0.714	0.813	0.606	0.829	0.653	0.662	0.063
Σan	2.020	2.026	2.075	1.981	2.053	2.055	2.026	2.003	1.939	2.020

* mean of 8 analyses of S-umangite from Příbram; 1-8: individual analyses of S-umangite; 9: analyse of Te-umangite. Coefficients of empirical formula were calculated on the basis 5 *apfu*.

Table S46. The chemical composition of a new Cu-As selenide from Příbram.

	*	1	2
Ag	0.15	0.15	0.14
Fe	0.09	0.13	0.05
Tl	0.13	0.07	0.19
Cu	30.10	29.10	31.10
Sb	0.18	0.19	0.17
As	32.33	32.58	32.07
Se	35.66	36.38	34.93
S	0.20	0.16	0.23
total	98.82	98.76	98.88
Cu	1.039	1.007	1.071
Ag	0.003	0.003	0.003
Fe	0.004	0.005	0.002
Tl	0.001	0.001	0.002
Σ	1.047	1.016	1.077
Sb	0.003	0.003	0.003
As	0.946	0.956	0.936
ΣSb+As	0.950	0.960	0.939
Se	0.990	1.013	0.968
S	0.013	0.011	0.016
ΣSe+S	1.004	1.024	0.983

* mean of 2 analyses of new Cu-As selenide from Příbram; 1-2: individual analyses. Coefficients of empirical formula were calculated on the basis 3 *apfu*.