

Supplementary tables

Table S1. Summary of basic information on molybdenite samples from different deposit types.

Deposit name	Deposit type	Country	Number of analyses	Reference
Hilltop	Porphyry Mo-Cu-Au	the United States	91	[20]
Boddington	Porphyry Cu-Au-Mo	Western Australia	66	[20]
Krupka	Quartz vein Sn-W	Czech Republic	33	[21]
Cínovec	Quartz vein Sn-W-Li	Czech Republic	10	[21]
Sadisdorf	Greisen Sn-W	Czech Republic	5	[21]
Krásno-Hubr	Greisen Sn-W	Czech Republic	6	[21]
Jáchymov	Greisen Sn-W	Czech Republic	5	[21]
Čelina	Quartz vein Au	Czech Republic	8	[21]
Mokrsko	Quartz vein Au	Czech Republic	12	[21]
Kasejovice	Quartz vein Au-W	Czech Republic	7	[21]
Vidly	Quartz vein Mo-Au	Czech Republic	12	[21]
Obří důl	Skarn Fe-Cu-As	Czech Republic	7	[21]
Staré Ransko Obrázek	Volcanogenic Zn-Cu-Ba-Pb	Czech Republic	5	[21]
Kalmakyr	Porphyry Cu-Mo-Au	Uzbekistan	18	[21]
Harrachov	Granite vein Mo	Czech Republic	9	[21]
Bohutín	Granodiorite Mo	Czech Republic	4	[21]
Černá hora u Blanska	Granodiorite Mo	Czech Republic	5	[21]
Černá Voda u Vidnavy	Granodiorite Mo	Czech Republic	6	[21]
Derflice	Granite vein Mo	Czech Republic	5	[21]
Hůrky u Nové Bystřice	Granite vein Mo	Czech Republic	6	[21]
Fojtka u Liberce	Granodiorite Mo	Czech Republic	5	[21]
Skalsko	Pegmatite vein Mo	Czech Republic	6	[21]
Moldava	Granite vein Mo	Czech Republic	3	[21]
Vrchoslav	Granite vein Mo	Czech Republic	6	[21]
Shapinggou	Porphyry Mo	China	79	[22]
Kalinovskoe	Porphyry Cu	South Urals	23	[23]
Birgilda	Porphyry Cu	South Urals	36	[23]
Sar Cheshmeh	Porphyry Cu-Mo	Iran	64	[24]

Table S2. Summary of censored LA-ICP-MS trace element data for molybdenite.

Element	Al	Si	Fe	Co	Ni	Cu	Zn	Ge	As	Se	Zr	Nb	Mo
Censored data (%)	85	90	52	20	25	1	3	88	6	1	46	55	89
Element	Ag	Cd	Sn	Sb	Te	W	Re	Au	Tl	Pb	Bi	U	
Censored data (%)	7	85	30	17	2	0	2	34	58	1	2	87	