

Supplemental Table S1. Powder X-ray diffraction data for synthetic AgTe₃ and measured interplanar spacings for lingbaoite (*d* in Å).

Synthetic AgTe ₃ (from PDF# 76-2328)			Lingbaoite	
<i>I</i>	<i>d_{meas.}</i>	<i>d_{calc.}</i>	<i>d_{meas.-lb.}</i>	<i>hkl</i>
0.3	4.31	4.3105		10 $\bar{1}1$
0.3	4.31	4.3225		11 $\bar{2}0$
100	3.052	3.0522	3.0652	02 $\bar{2}1$
0.1	2.493	2.4933		21 $\bar{3}1$
0.1	2.493	2.4956		30 $\bar{3}0$
0.1	2.486	2.4864		01 $\bar{1}2$
35.6	2.161	2.1613	2.1608	22 $\bar{4}0$
49.8	2.155	2.1553		20 $\bar{2}2$
0.1	1.932	1.9320		13 $\bar{4}1$
0.1	1.928	1.9288		12 $\bar{3}2$
15.8	1.763	1.7638	1.7664	40 $\bar{4}1$
9.8	1.757	1.7573		0003
0.1	1.633	1.6331		32 $\bar{5}1$
0.1	1.633	1.6338		41 $\bar{5}0$
0.1	1.631	1.6312		31 $\bar{4}2$
0.1	1.627	1.6279		11 $\bar{2}3$
8.8	1.526	1.5261	1.5362	04 $\bar{4}2$
0.1	1.439	1.4404		05 $\bar{5}1$
0.1	1.439	1.4391		23 $\bar{5}2$
0.1	1.436	1.4368		30 $\bar{3}3$
11.3	1.366	1.3665	1.3621	24 $\bar{6}1$
15.8	1.363	1.3635		22 $\bar{4}3$
0.1	1.302	1.3030		51 $\bar{6}1$
0.1	1.302	1.3020		50 $\bar{5}2$
0.1	1.298	1.2980		10 $\bar{1}4$
8.2	1.246	1.2466	1.2435	42 $\bar{6}2$
8.2	1.246	1.2478	1.2388	60 $\bar{6}0$
7.2	1.243	1.2432		02 $\bar{2}4$
0.1	1.198	1.1988		52 $\bar{7}0$
0.1	1.198	1.1986		43 $\bar{7}1$
0.1	1.197	1.1978		15 $\bar{6}2$
0.1	1.196	1.1965		14 $\bar{5}3$
0.1	1.194	1.1948		21 $\bar{3}4$
0.1	1.115	1.1152		34 $\bar{7}2$
0.1	1.115	1.1159		16 $\bar{7}1$
0.1	1.114	1.1142		33 $\bar{6}3$
0.1	1.112	1.1128		13 $\bar{4}4$

Notes: *d_{meas.}* = measured interplanar spacing values for synthetic AgTe₃ from PDF# 76-2328; *d_{calc.}* = calculated interplanar spacing values for synthetic AgTe₃ based on the cell parameters of synthetic AgTe₃ (Range et al. 1982); *d_{meas.-lb.}* = measured values based on the SAED patterns of lingbaoite in Figure 8.

Supplemental Table S2. Measured angles of lingbaoite in comparison with calculated angles of synthetic AgTe₃

Planes (<i>hkl</i>)	Angle between planes	
	Measured	Calculated
($\bar{2}021$)/($0\bar{4}41$)	55.52°	54.7°
($2\bar{4}20$)/($0\bar{4}41$)	35.12°	35.3°
($\bar{2}021$)/($2\bar{6}42$)	66.92°	65.82°
($4\bar{6}21$)/($2\bar{6}42$)	23.65°	24.11°
($\bar{6}241$)/($\bar{2}\bar{4}62$)	57.69°	56.76°
($4\bar{6}21$)/($\bar{2}\bar{4}62$)	56.63°	56.76°
($\bar{4}220$)/($\bar{4}\bar{2}61$)	51.13°	50.78°
($0\bar{4}41$)/($\bar{4}\bar{2}61$)	39.70°	39.22°
($04\bar{4}1$)/($\bar{6}600$)	61.25°	61.89°
($\bar{6}241$)/($\bar{6}600$)	42.32°	43.11°
($\bar{2}4\bar{2}0$)/($\bar{8}621$)	44.77°	45.01°
($\bar{6}241$)/($\bar{8}621$)	26.38°	26.56°
($22\bar{4}0$)/($\bar{2}4\bar{2}0$)	60.6°	60°
($\bar{4}220$)/($\bar{2}4\bar{2}0$)	59.23°	60°

Measured = measured values based on the SAED patterns of lingbaoite in Figure 8, Calculated = calculated values based on the cell parameters of synthetic AgTe₃ (Range et al. 1982)