

Figure S1a

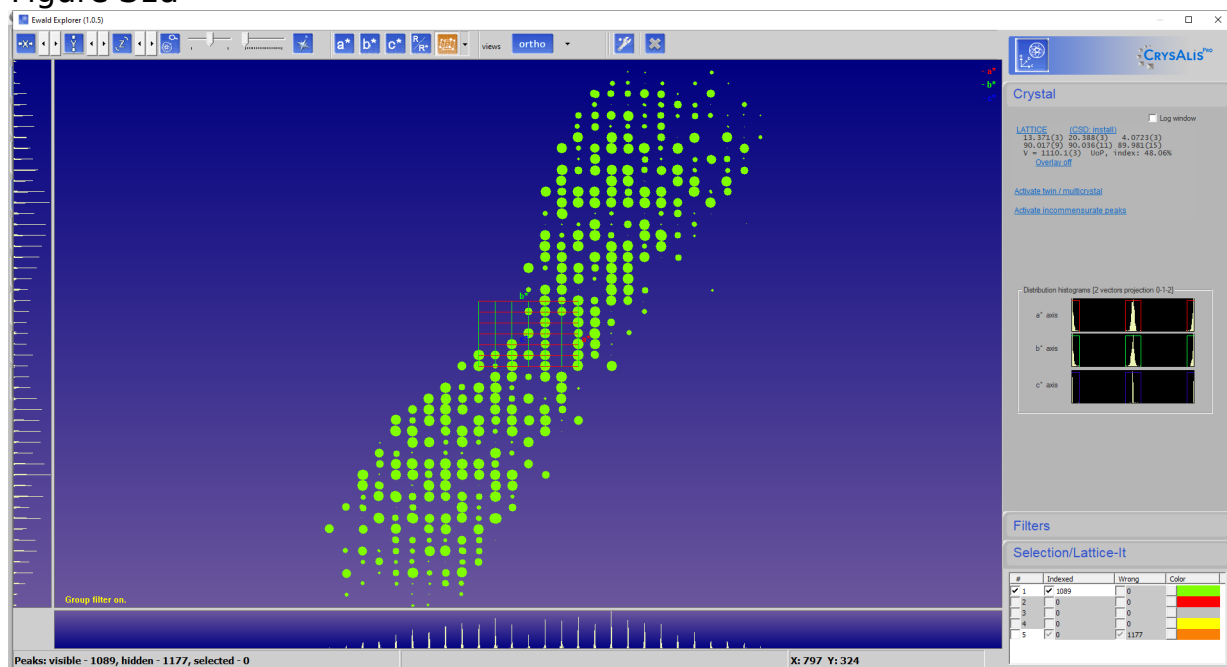


Figure S1b

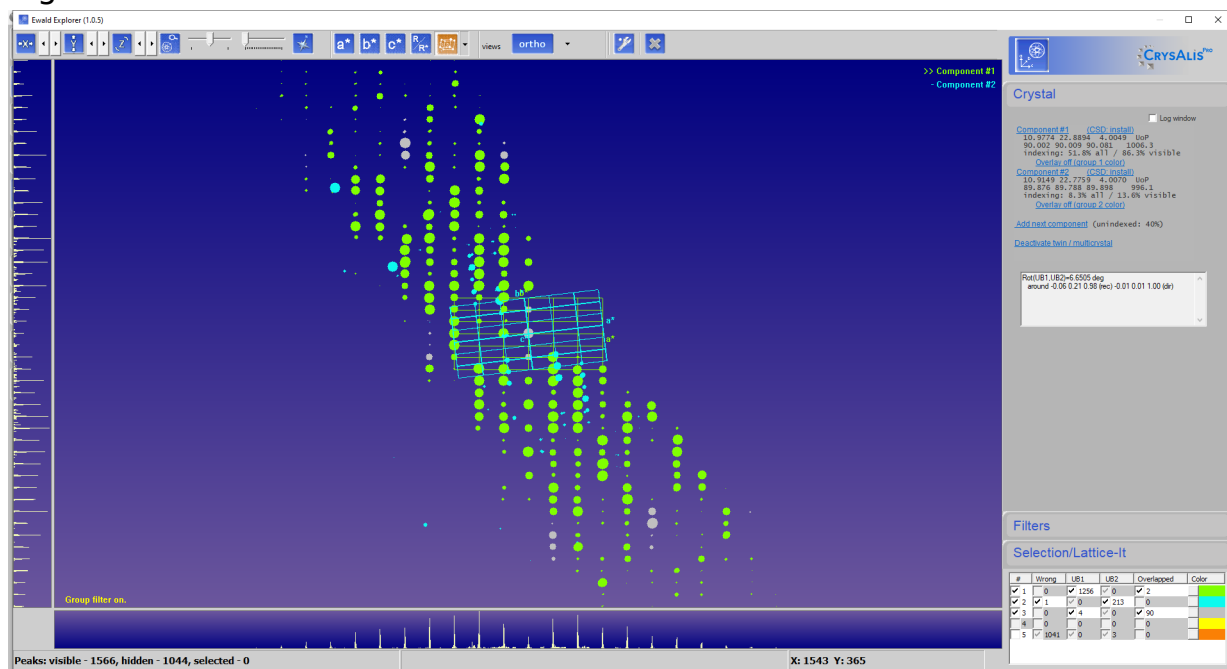


FIGURE S1. Collected data extraction and unit cells used for reflection indexing at 1.74 GPa (single lillianite crystal) (a), 6.30 GPa (twinned $\beta\text{-Pb}_3\text{Bi}_2\text{S}_6$) (b), and 2.13 GPa during decompression (the detwinned single lillianite crystal) (c). *(Continued on next page)*

Figure S1c

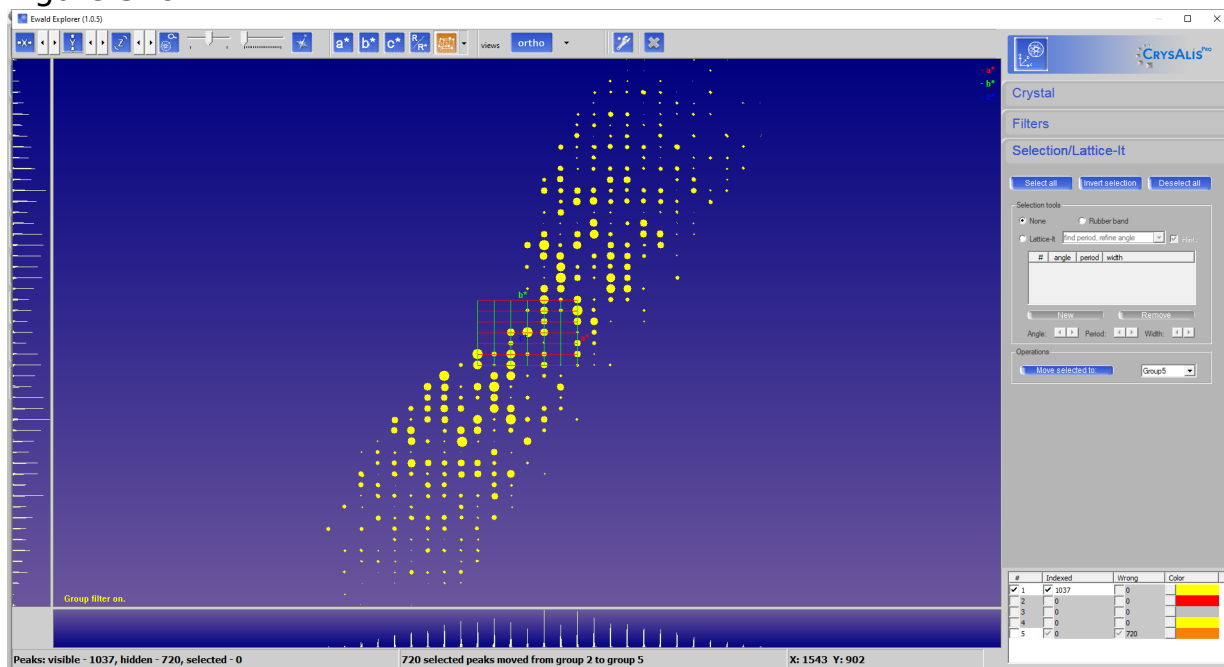


FIGURE S1.—CONTINUED

Figure S2a

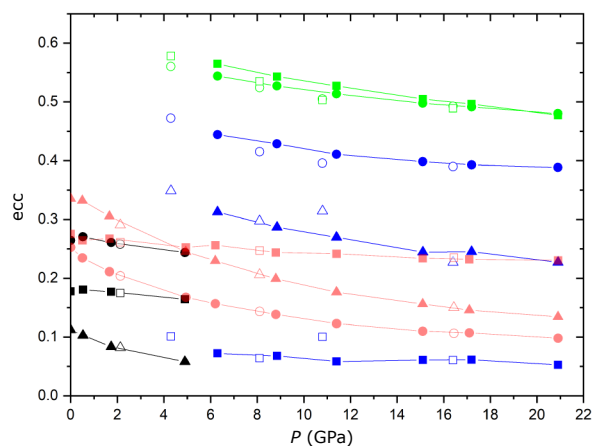


Figure S2b

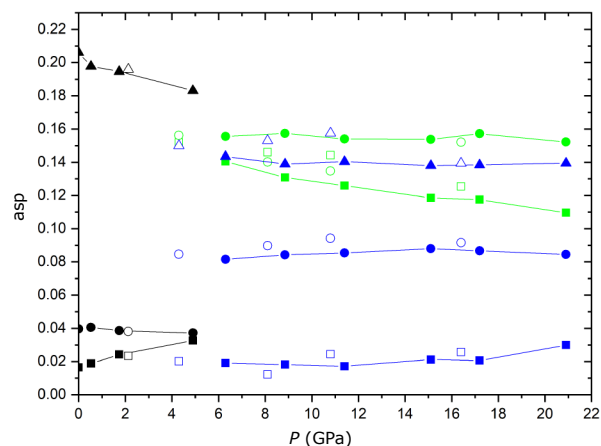


Figure S2c

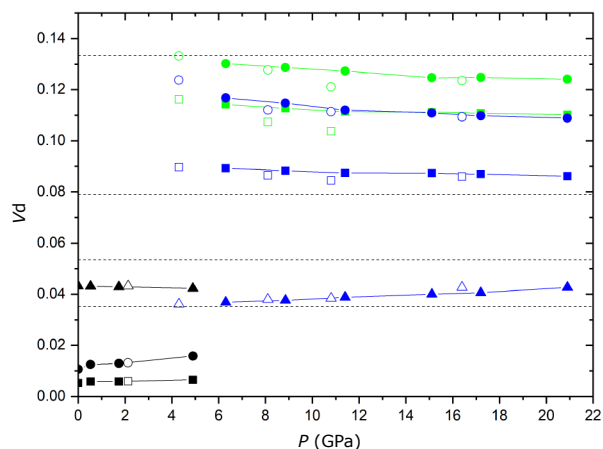


FIGURE S2. Eccentricities of coordination polyhedra at various pressures. In red, data for coordinations in galenobismutite (Comodi et al. 2019): squares M1 (CN6), circles M2 (CN7), and triangles M3 (CN8) (a); asphericities of coordination polyhedra at various pressures (b); volume distortion of coordination polyhedra at various pressures. Squares represent M1 in lillianite (black), M1A (blue), and M1B (green) in β - $\text{Pb}_3\text{Bi}_2\text{S}_6$; circles M2 in lillianite (black), M2A (blue), and M2B (green) in β - $\text{Pb}_3\text{Bi}_2\text{S}_6$; triangles M3 in lillianite (black) and β - $\text{Pb}_3\text{Bi}_2\text{S}_6$ (blue). The empty symbols are data during decompression. The dashed horizontal lines indicate values for the regular maximum-volume square antiprism (0.0351), Archimedean square antiprism (0.0535), maximum-volume split octahedron (0.0790), and simple split octahedron (0.1333) (c).