

## Synthesis and Structure Characterization of Germanate-Based Pharmacosiderites with Different Crystal Symmetries

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The hydrothermal synthesis and crystal structures of aluminogermanate and germanate analogs of pharmacosiderites in the cubic, orthorhombic and rhombohedral unit cells, as well as in the cubic body-centered superstructure are described. Under the synthesis conditions studied here, the crystal symmetry of the crystallized pharmacosiderite was found to differ according to the type and/or content of alkali cations employed. It is also shown that all four pharmacosiderites with different crystal symmetries undergo a two-phase transformation at elevated temperatures.