

### C. HIGH-PRESSURE SYNTHESIS

A review of high-pressure synthesis, as illustrated by studies on compounds with the chemical formula  $ABX_3$  or  $(AX)_n(ABX_3)$ , has been prepared for publication as a chapter entitled "High-Pressure Syntheses" in Preparative Methods in Solid State Chemistry, edited by P. Hagenmuller (Academic Press, New York). The Introduction is given below.

"High-pressure synthesis has a practical as well as a scientific interest, since many high-pressure products are either stable or metastable at atmospheric pressure to temperatures well above  $300^\circ\text{K}$ . To illustrate the strategy and present-day techniques of high-pressure synthesis, we have chosen to review the high-pressure studies - through June 1970 - performed on compounds having the chemical formula  $ABX_3$  or  $(AX)_n(ABX_3)$ , where cation A is always larger than cation B. At atmospheric pressure, these compounds crystallize in a variety of different structures, or do not form at all. High pressures stabilize preferentially the more dense phase. The most dense  $ABX_3$  phase has the cubic-perovskite structure, and if the

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