

# Synthese und Kristallstruktur von Pt<sub>2</sub>Sn<sub>2</sub>Zn<sub>3</sub>, der ersten ternären Verbindung im System Pt/Sn/Zn

Synthesis and Crystal Structure of Pt<sub>2</sub>Sn<sub>2</sub>Zn<sub>3</sub>, the First Ternary Compound of the Pt/Sn/Zn System

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Single crystals of Pt<sub>2</sub>Sn<sub>2</sub>Zn<sub>3</sub>, the first ternary compound in the system Pt/Sn/Zn, have been synthesised from the elements. Pt<sub>2</sub>Sn<sub>2</sub>Zn<sub>3</sub> exhibits a new structure type (hP14,  $P6_3/mmc$ ,  $Z = 2$ ,  $a = 4.3367(5)$ ,  $c = 15.532(3)$  Å, 402 reflections, 14 variables,  $R_1(F) = 0.025$ ,  $wR_2(I) = 0.059$ ) with motifs of the binary compounds. One Pt atom has a cubic environment (PtSn<sub>6</sub>Zn<sub>2</sub>), the second one forms an Edshammer polyhedron (PtSn<sub>2</sub>Zn<sub>9</sub>). Pt<sub>2</sub>Sn<sub>2</sub>Zn<sub>3</sub> is one of the few examples of a ternary Sn/Zn compound of a transition metal.

*Key words:* Synthesis, Single Crystals, Structure Determination, Platinum Tin Zinc Compound