

Darstellung und Kristallstruktur von Hexacaesium-hexatellurido- digermanat(III) ($\text{Cs}_6\text{Ge}_2\text{Te}_6$)

Preparation and Crystal Structure of Hexacaesium-hexatellurido-digermanate(III)
($\text{Cs}_6\text{Ge}_2\text{Te}_6$)

Bernd Friede^a und Martin Jansen^{b,*}

^a Institut für Anorganische Chemie der Universität Bonn, Gerhard-Domagk-Str. 1, 53121 Bonn

^b Max-Planck-Institut für Festkörperforschung, Heisenbergstraße 1, 70569 Stuttgart

* Sonderdruckerfordernungen an Prof. Dr. M. Jansen.

E-mail: hamilton@vsibm1.mpi-stuttgart.mpg.de

Z. Naturforsch. **54b**, 1095–1097 (1999);
eingegangen am 7. Juni 1999

Hypotelluride, Telluridodigermanate, Caesium,
X-Ray Data

The new compound hexacaesium hexatellurido digermanate(III), $\text{Cs}_6\text{Ge}_2\text{Te}_6$, has been prepared by reacting the elements in a stoichiometric ratio at 923 K in an evacuated silica glass tube. The title compound crystallizes as black columns and is isostructural to $\text{K}_6\text{Ge}_2\text{Te}_6$ ($C2/c$, $a = 17.027(2)$, $b = 14.237(1)$, $c = 10.104(1)$ Å, $\beta = 96.701(8)^\circ$, $Z = 4$ (5130 reflections, $R1$ ($I > 2 \sigma(I)$) = 0.042). The structure is composed of isolated distorted Te_6 octahedra, with Ge-Ge dumbbells at the centres. The caesium cations are arranged between the isolated Ge_2Te_6 octahedra. The Ge-Ge bond lengths in $\text{A}_6\text{Ge}_2\text{Te}_6$ (A = alkali metal) increase significantly as the counter ions are varied from sodium to caesium.