

Darstellung und Strukturbeschreibung von $\text{NaCa}_3\text{Mn}(\text{V}_2\text{O}_7)(\text{V}_3\text{O}_{10})$

Preparation and Structure of $\text{NaCa}_3\text{Mn}(\text{V}_2\text{O}_7)(\text{V}_3\text{O}_{10})$

R. Rettich, Hk. Müller-Buschbaum*

Institut für Anorganische Chemie der Christian-Albrechts-Universität,
Olshausenstraße 40, D-24098 Kiel

Z. Naturforsch. **53 b**, 507–511 (1998); eingegangen am 22. Januar 1998

Sodium, Calcium, Manganese, Vanadium Oxide, Crystal Structure

Single crystals of $\text{NaCa}_3\text{Mn}(\text{V}_2\text{O}_7)(\text{V}_3\text{O}_{10})$ have been prepared by crystallization from flux in argon atmosphere. X-Ray single crystal methods led to triclinic symmetry, space group $C_1^1-P\bar{1}$, $a = 6.8798(9)$, $b = 6.902(1)$, $c = 15.480(2)$ Å, $\alpha = 87.39(1)$, $\beta = 85.32(1)$, $\gamma = 86.25(2)^\circ$, $Z = 2$. The compound belongs to the rare trivanadates showing V_2O_7 and V_3O_{10} groups incorporated into a NaCaMn/O framework. One point position of the cations is occupied by Ca^{2+} , three by Na^+ and Ca^{2+} in a statistical distribution and a fourth one by Mn^{2+} . The surrounding of Mn^{2+} and the statistically occupied position M(3) are octahedra, the other metal positions are centers of capped trigonal prisms.

* Sonderdruckanforderungen an Prof. Dr. Hk. Müller-Buschbaum.