Rubidium- und Caesium-Oxoantimonate(V) mit Kanalstrukturen. Synthesen, Kristallstrukturen und Schwingungsspektren

Rubidium and Caesium Oxoantimonates(V) with Channel Structures. Syntheses, Crystal Structures and Vibrational Spectra

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Antimonates(V), Oxoantimonates, Raman Spectra

The oxoantimonates(V) $Cs_2Sb_4O_{11}$ (monoclinic, C2/m, a=1964.5(5), b=762.8(2), c=730.2(2) pm, β=96.276(5)°, Z=4) and $A_3Sb_5O_{14}$ (A=Rb/Cs; orthorhombic, Pbam, a=718.81(9)/743.37(13), b=2447.8(2)/2625.1(5), c=733.1(2)/739.6(3) pm, Z=4) were synthesized from Sb_2O_5 and the peroxides AO_2 (A=Rb, Cs). Their crystal structures were determined on the basis of single crystal diffractometer data. The structures are composed of three-dimensional nets of $[SbO_6]$ octahedra connected via common corners and edges, with the A cations incorporated in the resulting channel systems. The Raman spectra of the compounds are discussed in relation with the different type of oxide connectivites in the oxoantimonate anions.