$La_6C_2Br_9$: La-Tetraederdoppel mit endohedralen C^{4-}-Ionen

$La_6C_2Br_9$: La Bitetrahedral Clusters with Endohedral C^{4-} Ions

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Monophasic $La_6C_2Br_9$ was prepared by heating a mixture of $LaBr_3$, lanthanum metal and carbon in a molar ratio of 3 : 3 : 2 at 840 °C for 5 d. The crystal structure was investigated by X-ray single crystal diffraction (space group $C2/c$, a = 14.234(3), b = 10.858(2), c = 14.588(3) Å, β = 106.80(3) °). In the structure the La atoms form edge-sharing double tetrahedra. The La tetrahedra are centered by single carbon atoms. The yellow crystals of $La_6C_2Br_9$ are transparent and electrically insulating.

Key words: Lanthanum Carbide Bromide, La Bitetrahedra, C-La Tetrahedra