

Strontium Barium Metaborate, $\text{Sr}_{1.36}\text{Ba}_{1.64}(\text{B}_3\text{O}_6)_2$

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Single crystals of strontium barium metaborate, $\text{Sr}_{1.36}\text{Ba}_{1.64}(\text{B}_3\text{O}_6)_2$, were grown for the first time using the high temperature solution growth technique and a detailed structure analysis was carried out with the space group No. 165, $\overline{R}3c$ and $R=1.85\%$, where the strontium atom occupies a 6(a) site, and the barium atom is situated at a 12(c) site with Ba^{2+} and Sr^{2+} in the ratio 0.82 : 0.18.

The metaborate $(\text{B}_3\text{O}_6)^{-3}$ anion planar groups in the title compound form infinite layers parallel to (001) plane, and Sr and Ba atoms are alternatively placed between the layers and both atoms are octahedrally coordinated by six O2 atoms in the neighbouring anion rings as shown in the following figure:

