

## Question #83862, Chemistry / General Chemistry | for completion

The ionic radius of  $\text{Sn}^{2+}$  is 136 pm. The ionic radius of  $\text{Br}^-$  is 182 pm. Assuming  $\text{SnBr}_2$  is an ionic solid, predict the crystal structure using the radius ratio rules.

**Answer:**

### Definition of the Radius Ratio Rule

Radius Ratio refers to as the ratio of smaller ionic radius (cation) by the ratio of larger ionic radius (anion). Hence, Radius ratio  $\rho = r_s/r_l$ .

$$\rho = r_s/r_l = 136/182 = 0.7472$$

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