

**substance: boron compounds with group VI elements**

**property: properties of boron-sulfur compounds**

**(BS<sub>2</sub>)<sub>n</sub>**

Preparation [77G]

**B<sub>2</sub>S<sub>3</sub>**

Preparation [77G], crystalline structure [70C, 77G], IR emission and absorption spectra [59G]

**BS, B<sub>2</sub>S<sub>2</sub>, (B<sub>2</sub>S<sub>3</sub>)<sub>n</sub>**

preparation [77G]

**B<sub>4</sub>S**

Semiconductor (?); preparation [77G]

**B<sub>12</sub>S (better B<sub>12</sub>S<sub>2-x</sub>)**

Semiconductor (?); preparation [77G], crystalline structure: [77G]

α-rhombohedral boron structure group

Space group: D<sub>3d</sub><sup>5</sup> – R<sup>3</sup>m

**lattice parameters**

(in Å)

<i>a</i>	5.80	<i>T</i> = 300 K	X-ray diffraction	61M
<i>c</i>	11.90			91L
<i>c/a</i>	2.05			
<i>V</i>	347 Å <sup>3</sup>			

**B<sub>12</sub>S<sub>2-x</sub>**

**lattice parameters and interatomic distances**

(in Å)

<i>a</i>	5.8624(9)	<i>T</i> <sub>prep</sub> = ?	B <sub>12</sub> S <sub>1.3</sub>	94L, 97L, 96L
<i>c</i>	12.147(4)			97L
<i>a</i>	5.583(2)	<i>T</i> <sub>prep</sub> = 1450 K	B <sub>12</sub> S <sub>&lt;1</sub>	97L
<i>c</i>	12.278(5)			
<i>a</i>	5.810(2)	<i>T</i> = 300 K	B <sub>12</sub> S, X-ray diffraction	97L, 94L, 96L
<i>c</i>	11.94(2)			
<i>d</i> <sub>S(1) – S(2)</sub>	2.191(5)			
<i>d</i> <sub>S(1) – 3 B(1)</sub>	1.821(1)			
<i>n</i> (S(6c))	0.485		occupation density of pos. 6(c)	

## References:

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