

substance: boron compounds with group VII elements
property: properties of compounds with group VIIa elements

Review on polyhedral boron halides in [91M].

BF₃

Insulators (molecular crystals); crystalline structure [59D], IR and Raman spectra [74B1, 72C, 74B2]

BCl₃

Insulators (molecular crystals); crystalline structure [61D, 57A, 57S], IR and Raman spectra [74B1, 72C, 75B]

BBr₃

Insulators (molecular crystals); crystalline structure [47R, 62R], IR and Raman spectra [74B1, 72C]

BI₃

Insulators (molecular crystals); crystalline structure [58W]

B₄Cl₄

Insulators (molecular crystals); crystalline structure [53A], electronic structure [65M], IR and Raman spectra [76B]

B₉Cl₉

Space group: $R\bar{3}m$; $Z=6$

lattice parameters

a	1.2596(5) nm	$T = 300$ K	X-ray diffraction	97H
c	1.7001(5) nm			

Superstructure (s) with $a_s = a$ and $c_s = 3c$

Structure in Fig. 1 [97H].

B₉Br₉

Structure in Fig. 1 [97H].

Space group: $R\bar{3}m$; $Z=6$

lattice parameters

a	1.3175(3) nm	$T = 300$ K	X-ray diffraction	97H
c	1.7776(3) nm			

Superstructure (s) with $a_s = a$ and $c_s = 3c$

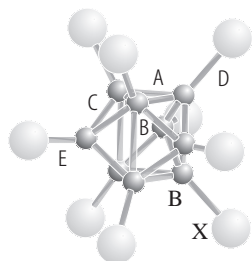
References:

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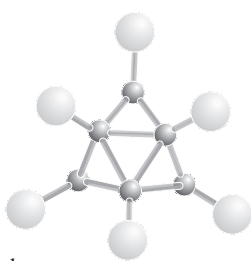
Fig. 1.

B_9X_9 ($X = Cl, Br$). Crystal structure. **(a)** Schematic view of the tricapped trigonal prism. B_9X_9 bond lengths in nm for $X = Cl$ ($X = Br$) A, 0.1800 (0.1765); B, 0.2057 (0.2010); C, 0.1740 (0.1735); D, 0.1747 (0.1933); E, 0.1709 (0.1886). **(b)** View along the threefold axis. **(c)** View along the crystallographic c axis. The gravicenters of the molecules in the position (xyz) are (0,0,0), (2/3,1/3,1/3), (1/3, 1/3, 2/3) [97H].

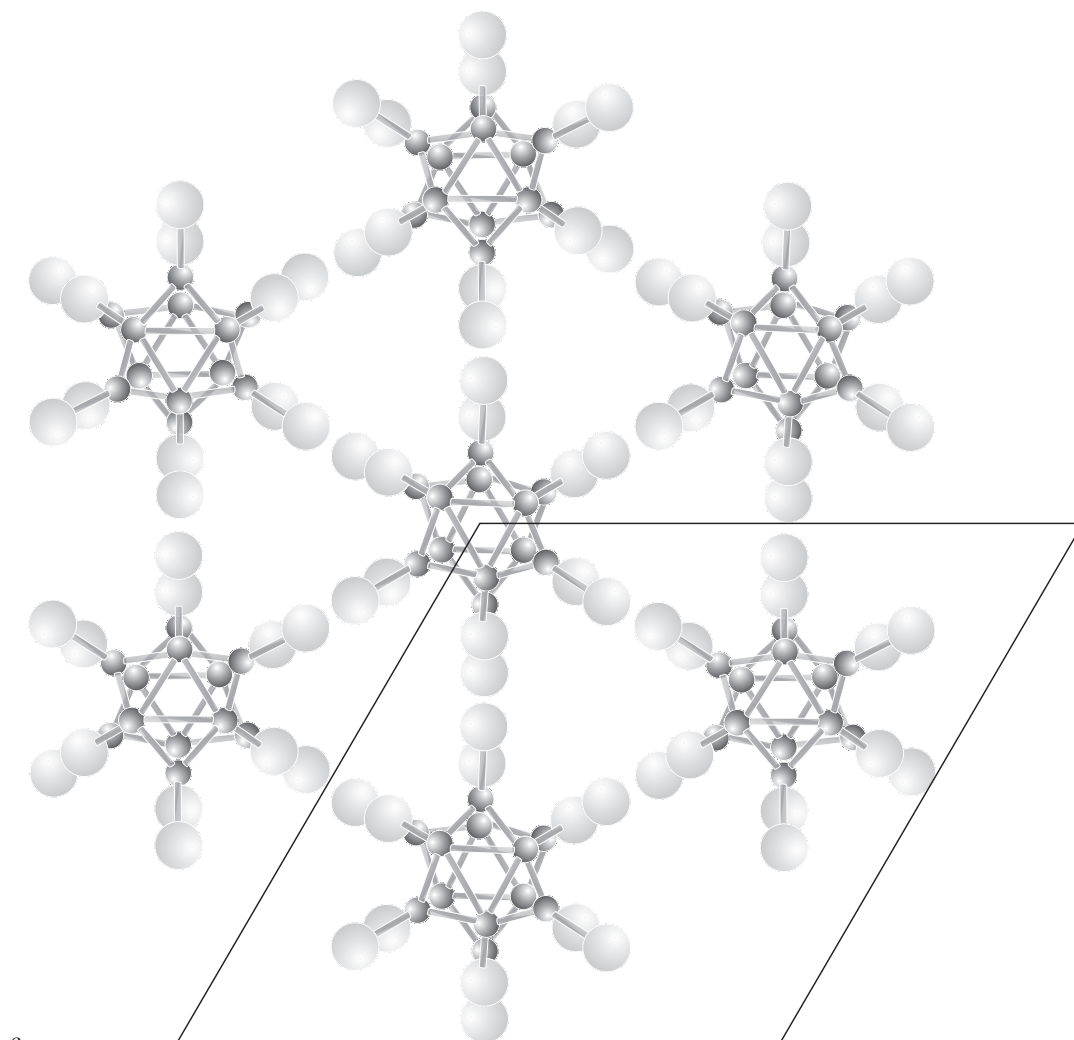
B_9X_9



a



b



c