

**Figure 1**. Atomic structure of two boron allotropes.

Simulation cell thickness is 12 Å.

**Equations**

Absorbance A, reflectance R, and transmittance T, perpendicular dimension of the supercell *L*. Absorbance formula is taken from this reference: Bernardi, M., Palummo, M. & Grossman, J. C. Extraordinary Sunlight Absorption and One Nanometer Thick Photovoltaics Using Two-Dimensional Monolayer Materials. *Nano Lett.* **13,** 3664–3670 (2013).