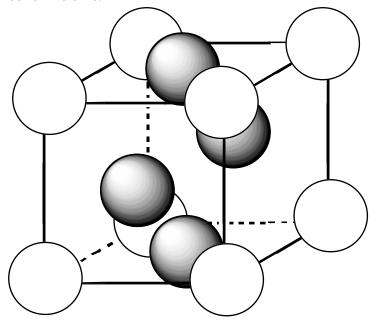
1. a. (12 pts.) At  $23.0\,^{\circ}$ C,  $1.450\,^{\circ}$ g of a non-ionizing solid was dissolved in enough water to make  $125.0\,^{\circ}$ mL of solution. The osmotic pressure of the solution was  $4.374\,^{\circ}$ atm. Determine the molar mass of the unknown compound.

8.~(8~pts) What is the formula of an unknown compound XY if the unit cell of XY looks like this.



X's are the gray spheres located on the faces.

Y's are the white spheres located on the vertices.