

Quick LAB

Periodic Trends in Ionic Radii

Purpose

Make a graph of ionic radius versus atomic number and use the graph to identify periodic and group trends.

Materials

- graph paper

Procedure

Use the data presented in Figure 6.19 to plot ionic radius versus atomic number.

Analyze and Conclude

- Describe how the size changes when an atom forms a cation and when an atom forms an anion.
- How do the ionic radii vary within a group of metals? How do they vary within a group of nonmetals?
- Describe the shape of a portion of the graph that corresponds to one period.
- Is the trend across a period similar or different for periods 2, 3, 4, and 5?
- Propose explanations for the trends you have described for ionic radii within groups and across periods.

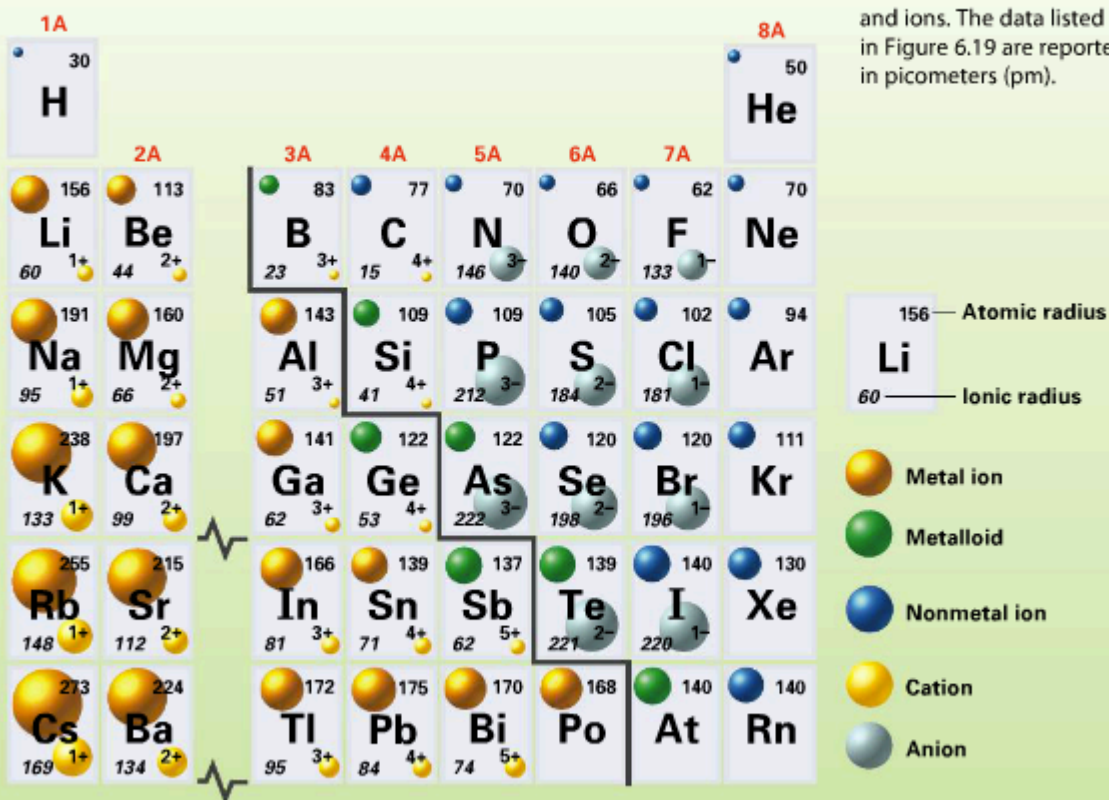
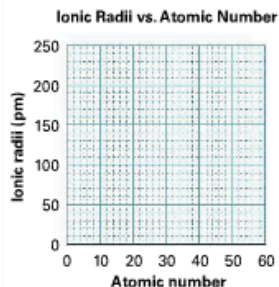


Figure 6.19 Atomic and ionic radii are an indication of the relative size of atoms and ions. The data listed in Figure 6.19 are reported in picometers (pm).