

**Laude's CH301 Worksheet 3: Lewis Structures, Ionic and Covalent  
(Sections 2.1-2.7)**

(The textbook referenced is Atkins & Jones's *Chemical Principle, 3<sup>rd</sup> edition*)

1. For the following pair of ions, fill in the blanks with either < or > to correctly order their bond strengths: (feel free to work similar problems 2.1-2.4 pg. 79)



2. Fill in the blank (feel free to work similar problems 2.11-2.12 pg. 79)

	Electron configuration	4 other elements or ions with the same electron configurations	Smallest radius	Largest radius
Ne				
$\text{Si}^-$				
$\text{Sc}^{+1}$				
$\text{S}^{+1}$				
$\text{Pd}^{-2}$				

3. Fill in the blank

Elements	Short hand electron configurations (EC)	Most stable ionic states according to EC	Chemical formula according to charge
Na Cl			
Al S			
Mg O			
Cu Br			
K Ar			

4. Fill in the blank

	Covalent electrons	Lewis structure	Lewis structure of the most stable ion
Be			
N			
Kr			
Ni			
Au			
O			

5. Fill in the blank

Compound	Covalent electrons	Lewis structure	Ionic or covalent?
HI			
Al <sub>2</sub> O <sub>3</sub>			
PH <sub>3</sub>			
CaI <sub>2</sub>			
CBr <sub>4</sub>			
P <sub>2</sub> O <sub>3</sub>			
ZnF <sub>2</sub>			
HNO <sub>3</sub>			
NaCl			
Li <sub>2</sub> S			