

What do valence electrons have to do with bonding?

What does a Lewis dot structure show?

Steps in drawing a Lewis dot structure:

1.

2.

Practice:

Draw the Lewis dot structures for the following elements and predict the number of bonds they will form.

H C N Se Ar Mg S

Practice:

Draw the Lewis dot structures for the following elements and predict the number of bonds they will form.

Ca K B O Br Xe P

Can you take the next step? Try to draw the following molecules/compounds using Lewis dot structures.

1) CH_4
(methane)

2) H_2O
(water)

3) C_2H_6
(ethane)

4) N_2
(nitrogen gas)

5) CO_2
(carbon dioxide)

6) O_2
(oxygen gas)

7) $\text{CH}_3\text{CH}_2\text{CH}_3$
(C_3H_8) (propane)

8) NH_3
(ammonia)

9) CH_3OH
(CH_4O) (methanol)

10) $\text{C}_2\text{H}_5\text{OH}$
($\text{C}_2\text{H}_6\text{O}$) (ethanol)

11) H_2O_2
(hydrogen peroxide)

12) $\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_3$
(C_4H_{10}) (butane)

Extra Credit: Describe how you could infer the formula and structure of butanol. IMPORTANT: Do NOT write the formula. Do NOT draw the structure. Anyone can find that on the internet! Describe the pattern that you notice after looking at the molecules from this assignment that would allow you to determine the formula and structure of butanol.