

Chemistry

Covalent Compounds

Learning Outcomes

- I can use Lewis Dot Diagrams to show how covalent compounds form.

Covalent Compounds

- _____

Steps

1. _____

 2. _____

 3. _____

 4. _____

- _____

Exercises:

1. Draw a Lewis dot structure for methane (CH_4)

Step 1: Valence e^- calculation

Step #2: Arrange the atoms with the single atom in the middle

Step #3: Place an e^- pair between bonding atoms.

Step #4: Complete all outer shells with e^- .

(Since _____ is full with _____ electrons, the diagram is complete)

2. Draw Lewis dot diagram for H_2O

Structural Diagrams:

- _____
- _____
- _____

example: water

example: CH_4

Video: Comparing ionic vs covalent bonds: <https://www.youtube.com/watch?v=PKA4CZwbZWU>

- _____
- _____

Practice:

Label the following substances as ionic or covalent:

- | | |
|----------------|-------------------|
| 1. CH_3OH | 6. SCN^- |
| 2. $Ca(OH)_2$ | 7. $NaSCN$ |
| 3. PO_4^{3-} | 8. Na_2CO_3 |
| 4. KBr | 9. $(NH_4)_2SO_4$ |
| 5. N_2O_4 | 10. H_2O |

