



Covalent bonding versus ionic bonding

Bởi:

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When a two non-metal atoms share some electrons they form a covalent bond. However, when a metal and non-metal atoms interact, electron(s) is/are transferred from the metal atom to the non-metal atom to form an ionic bond. We can use quantum chemistry tool in Avisto to learn the differences between these two types of bonding.

For covalent bond: H₂, Li₂, and F₂

For ionic bond: Li-F and NaCl

Examine the differences in atomic partial charges, dipole moments, and electrostatic potential surfaces of these molecule.

To use tools in Avisto: Download it [Here](#)

Procedure:

1. Using MolDesign to build these diatomic molecules.
2. Use Basic QChem Edu or Basic QChem tool to find the stable structures for these molecules.
3. View results in PsiViewer and report the results.

Example: H₂ and Li-F

Properties	H ₂	LiF
Atomic partial charges	H1 = H2 = 0.0	Li = 0.77 and F = -0.77
Dipole moment (D)	0.0	5.28

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Electrostatic Potential Surface

