

Bonding Worksheet #3 Electronegativity and Bond Type

Identify the value for ΔEN that best describes each of the following

- 0 The lowest possible value of ΔEN
- _____ The bond of greatest possible ionic character
- 0 A pure nonpolar covalent bond
- _____ A polar covalent bond
- 2.5 An ionic bond that would form between calcium and oxygen
- _____ The bond in a diatomic molecule of an element
- <0.3, >0 A bond that is classified as nonpolar but that has a slight polarity
- _____ The division between nonpolar covalent and polar covalent
- 3.3 A bond that would form between cesium and fluorine
- _____ The division between ionic and polar covalent bonds.

Classify the bond between the following as nonpolar covalent, polar covalent, or ionic.

	Elements	ΔEN	Bond Type
11.	Cs and Br	2.1	Ionic
12.	O and O		
13.	H and S	.40	Slightly Polar Covalent
14.	Ca and O		
15.	Si and Cl	1.7	Polar Covalent
16.	As and P		
17.	C and O	1.0	Polar Covalent
18.	H and H		

19. Compare the degree of polarity in HF, HCl, HBr, and HI

very polar HF HCl HBr HI *> slightly polar*
 ΔEN 1.9 .90 .70 .40

20. How does an element's electronegativity relate to its position on the periodic table?