

**Chemistry 20 – Lesson 10**  
**Double and triple bonds**

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**Part A**

Molecular Substance	Molecular Formula	Lewis Diagram of Molecule	Structural Formula
methanal (formaldehyde)	HCHO	$  \begin{array}{c}  \text{H} \\    \\  \text{H} : \text{C} : : \text{O} : \\    \\  \text{H}  \end{array}  $	$  \begin{array}{c}  \text{H} \\    \\  \text{C} = \text{O} \\    \\  \text{H}  \end{array}  $
ethyne (acetylene)	C <sub>2</sub> H <sub>2</sub>	$  \text{H} : \text{C} : : : \text{C} : \text{H}  $	$  \text{H} - \text{C} \equiv \text{C} - \text{H}  $
nitrogen	N <sub>2</sub>	$  : \text{N} : : : \text{N} :  $	$  \text{N} \equiv \text{N}  $
hydrogen cyanide	HCN	$  \text{H} : \text{C} : : : \text{N} :  $	$  \text{H} - \text{C} \equiv \text{N}  $

Part B

Molecular Formula	Lewis Diagram of Molecule	Structural Formula
O <sub>2</sub>		O=O
P <sub>4</sub>		
NP		N≡P
C <sub>2</sub> Cl <sub>4</sub>		
C <sub>3</sub> H <sub>6</sub>		
C <sub>2</sub> Cl <sub>2</sub>		Cl-C≡C-Cl
C <sub>2</sub> BrI		Br-C≡C-I
C <sub>3</sub> H <sub>5</sub> OH		
CH <sub>3</sub> COOH		
CO <sub>2</sub>		O=C=O
CO <sub>3</sub> <sup>2-</sup>		