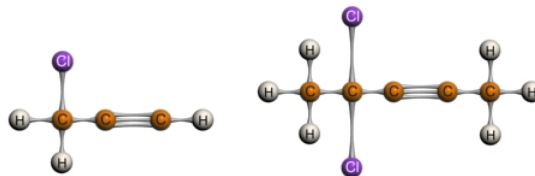


11.1: Introduction

The simplest alkyne—a hydrocarbon with carbon-to-carbon triple bond—has the molecular formula C_2H_2 and is known by its common name—acetylene. Its structure is $H-C\equiv C-H$.

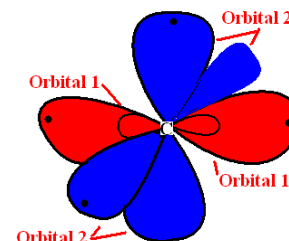
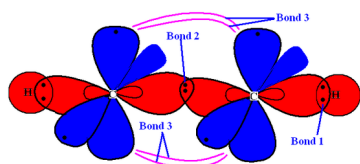
Terminal Alkyne: Internal Alkyne:



3-chloro-1-propyne 4,4-dichloro-2-pentyne

Bonding and Hybridization

Bond	Name	Location	Overlap
Bond 1	s (? bond) bond	Formed between 2 sp orbitals of carbon and hydrogen atoms	End-on overlap
Bond 2	S (? bond) bond	Formed between the 2 sp orbital of 2 unsaturated Carbon atoms.	End-on overlap
Bond 3	p-bonds (? bonds)	Formed between the 2 p-orbitals among the carbon atoms	Side-on overlap



Orbital	Name	Location
Orbital 1	sp hybrid orbitals	Formed in the linear structure model of carbon atom
Orbital 2	p-orbitals	Formed on each carbon

Contributors

- Jim Clark (Chemguide.co.uk)

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