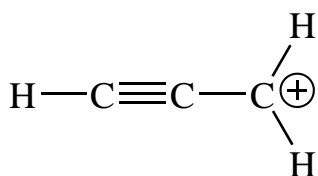


## Ex 22 - Pi delocalized systems

### Question One



The propargyl cation is shown. This molecule has five pi MOs. They are best described as two separate sets of pi MOs.

Which MO sets, and why separate?

Understanding this will help with the next question.

### Question Two

In class, we looked at the pi MOs for 2, 3 and 4 contiguous trigonal planar atoms corresponding to ethene, allyl and butadiene respectively. For each of the following species, determine

- the number of pi electrons
- whether its pi MOs will be like the ethene, allyl or butadiene system.
- which orbitals are the HOMO and the LUMO

