



# Professional 1-1 Chemistry Tuition

- Online
- Worthing
- Brighton

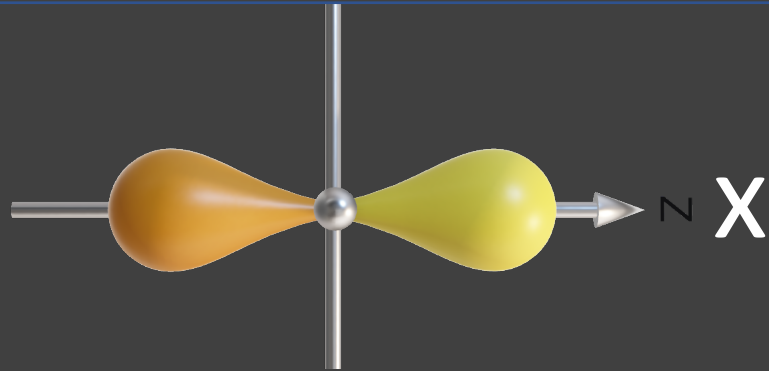
ChemistryTuition.Net

Dr Simon Orchard

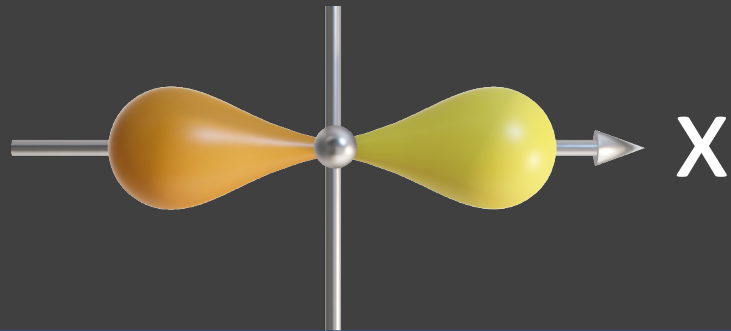
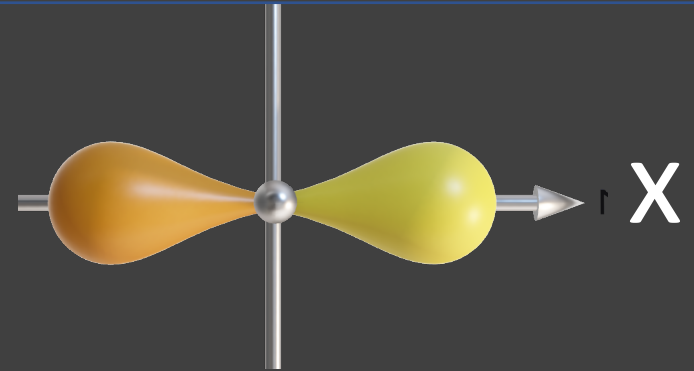
## NMR Extension

These slides may be downloaded at <https://www.chemistrytuition.net/>

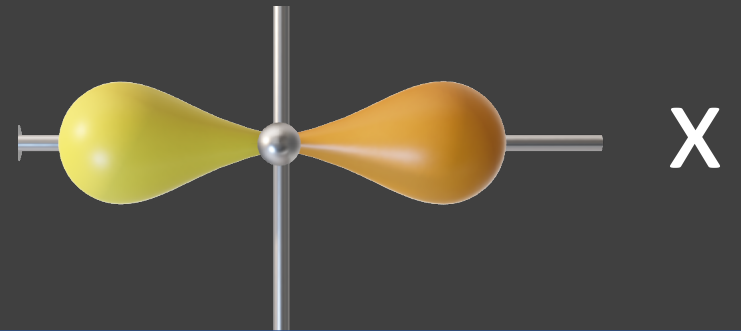
# Sigma molecular orbital formation - $p_x$ overlap



Out of Phase

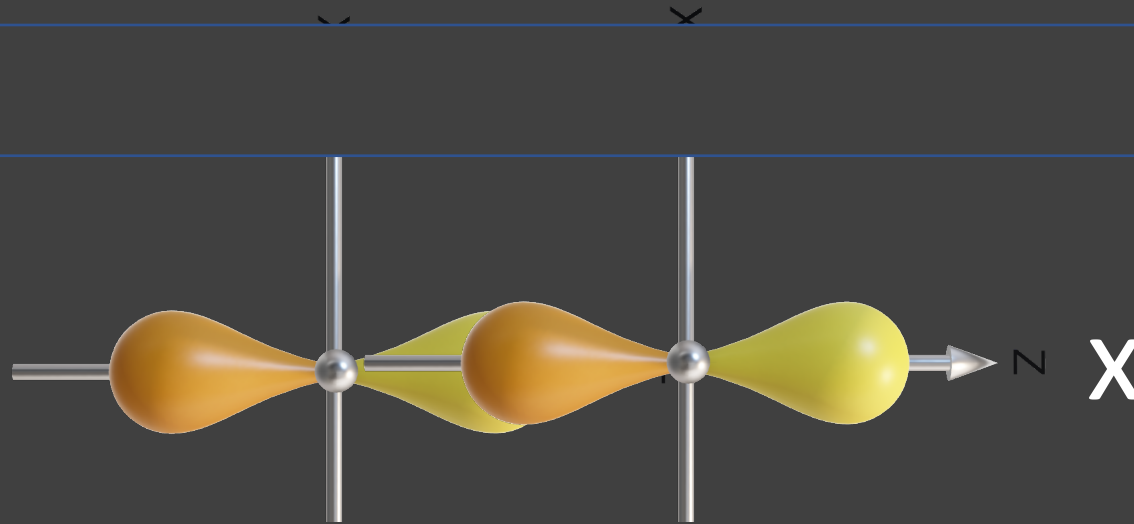


In phase

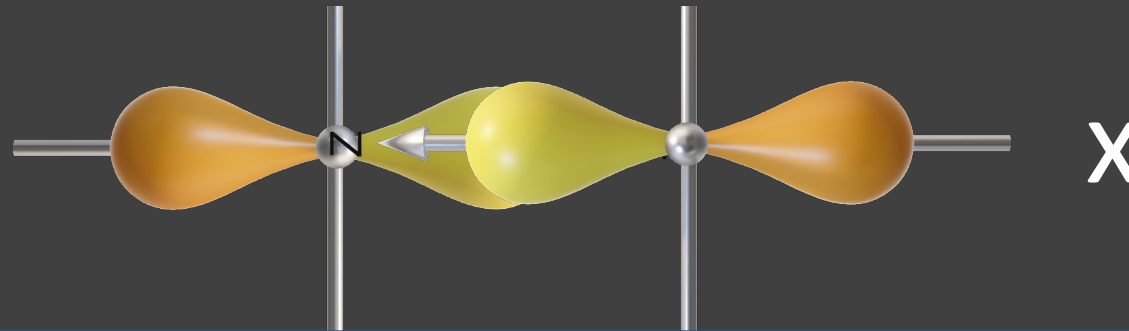


# Sigma molecular orbital formation - $p_x$ overlap

Out of Phase



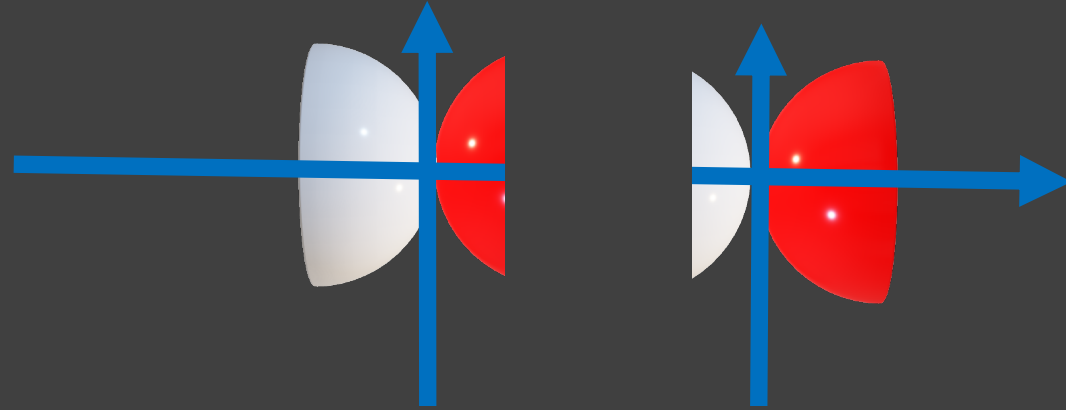
In phase



# sigma molecular orbital formation - $p_x$ overlap

Z Z

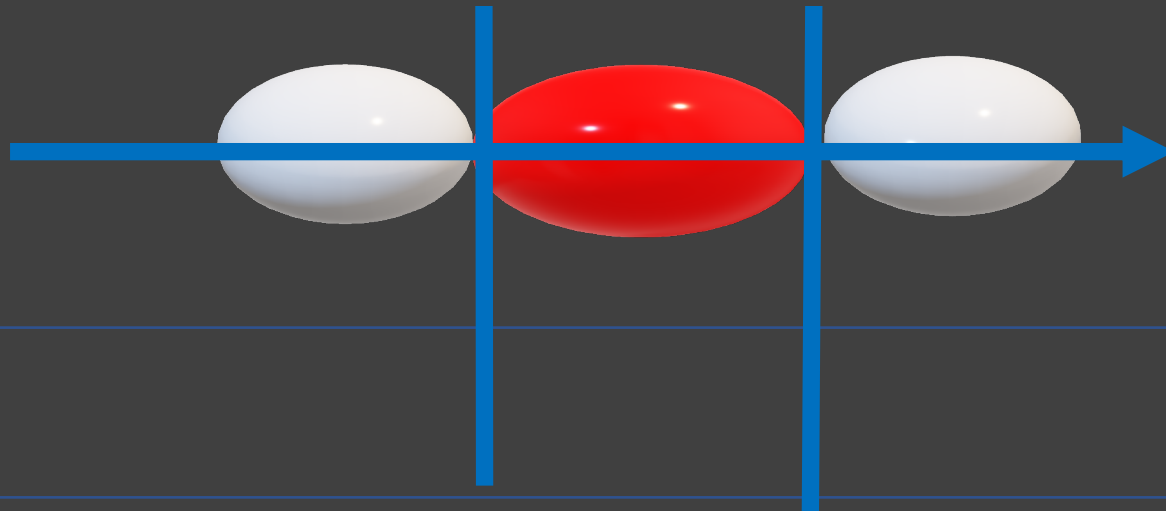
Out of Phase



X

$\sigma^*$  antibonding molecular orbital

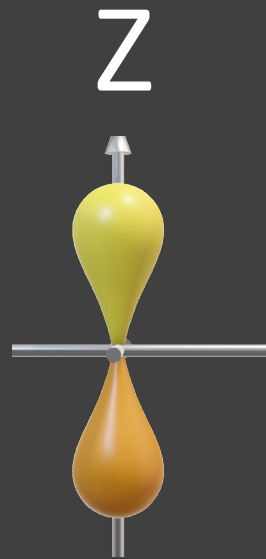
In phase



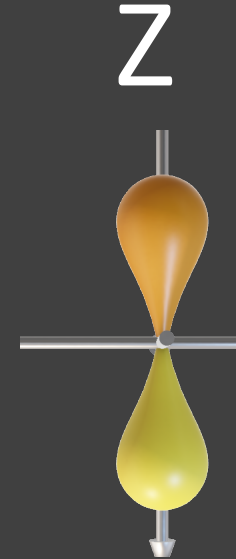
X

$\sigma$  bonding molecular orbital

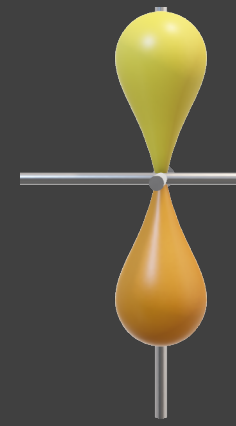
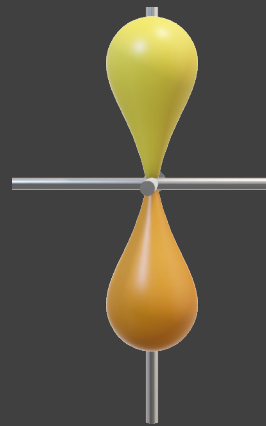
# pi molecular orbital formation using $p_z$ orbitals



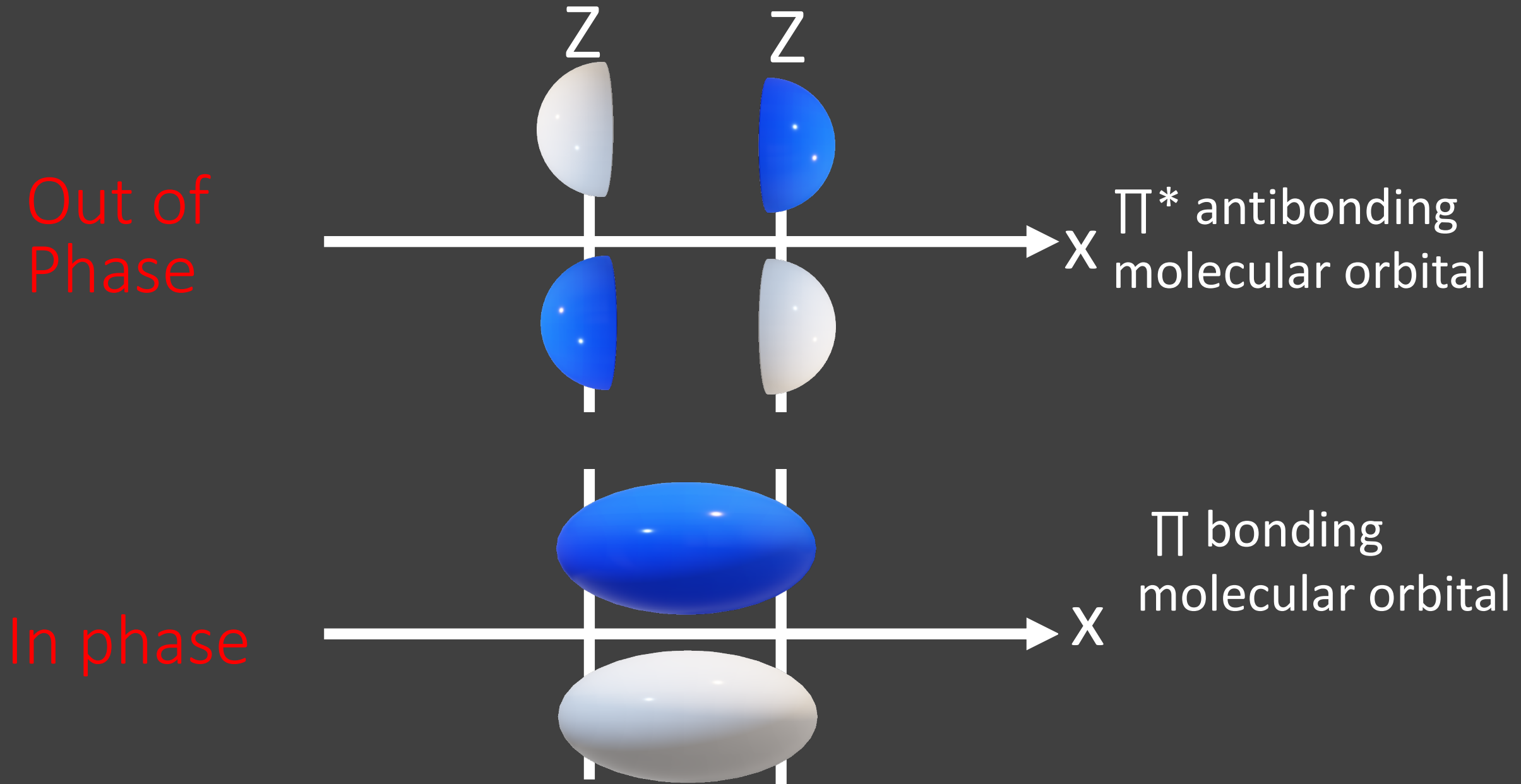
Out of Phase

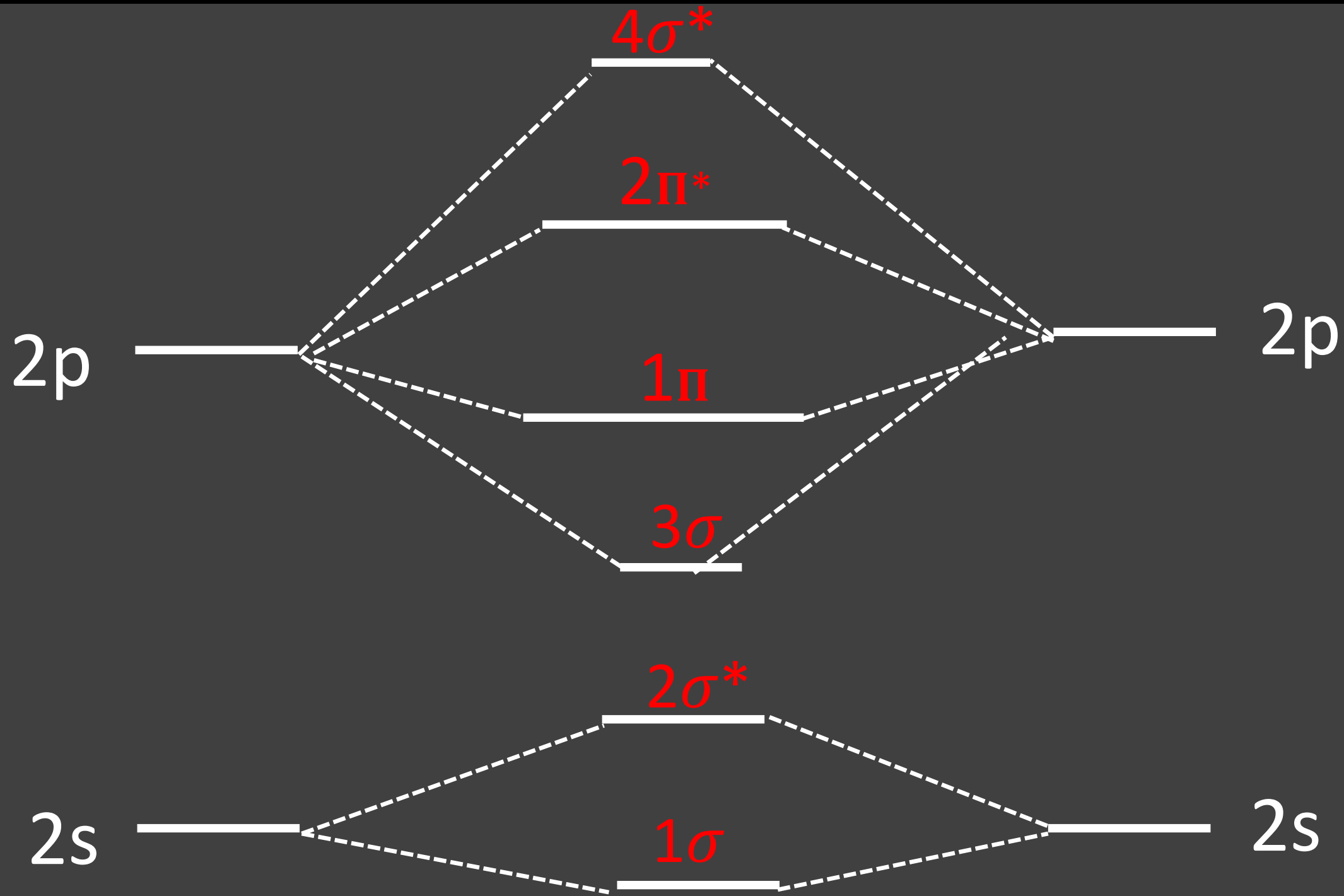


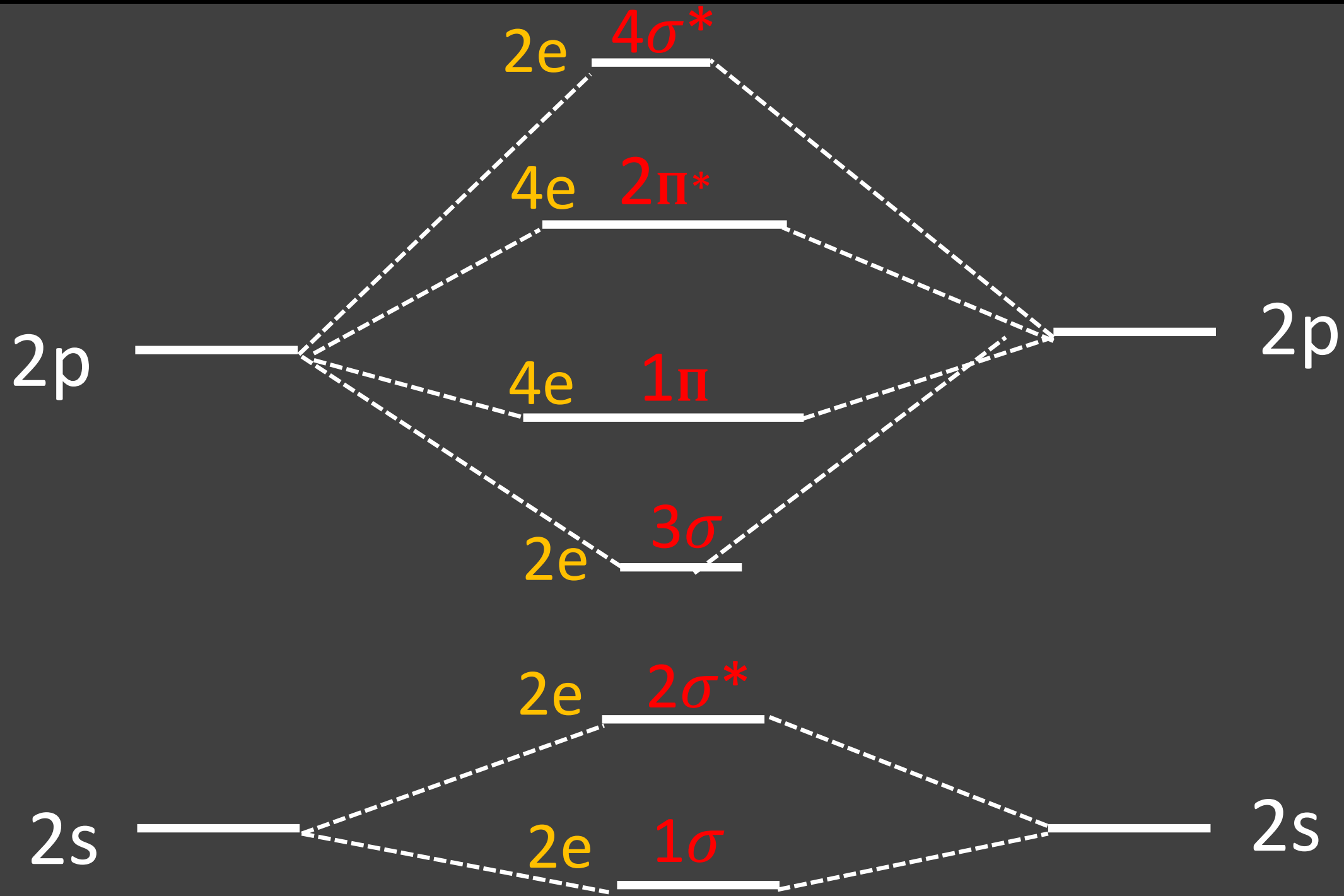
In phase



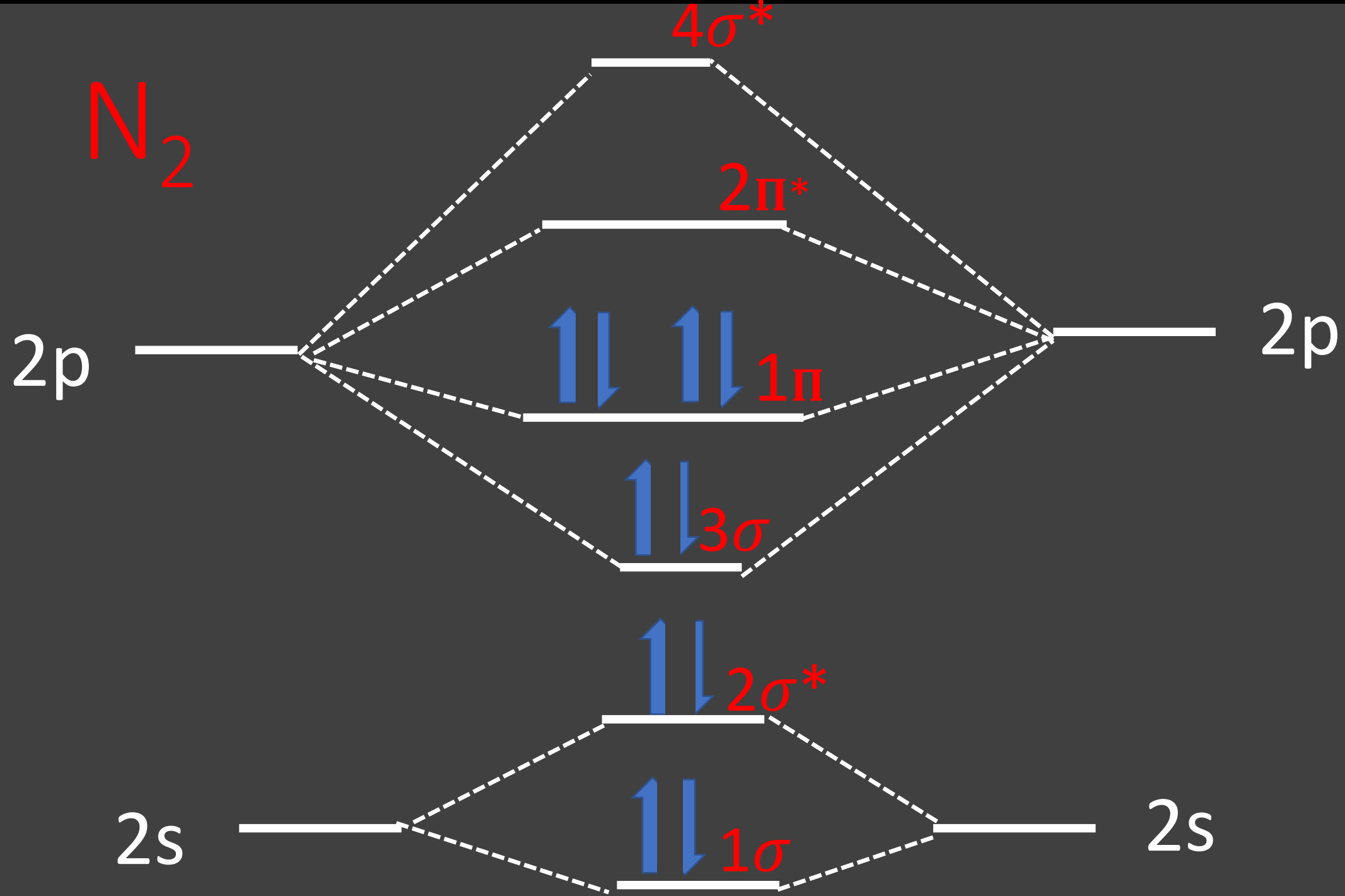
# pi molecular orbital formation using $p_z$ orbitals

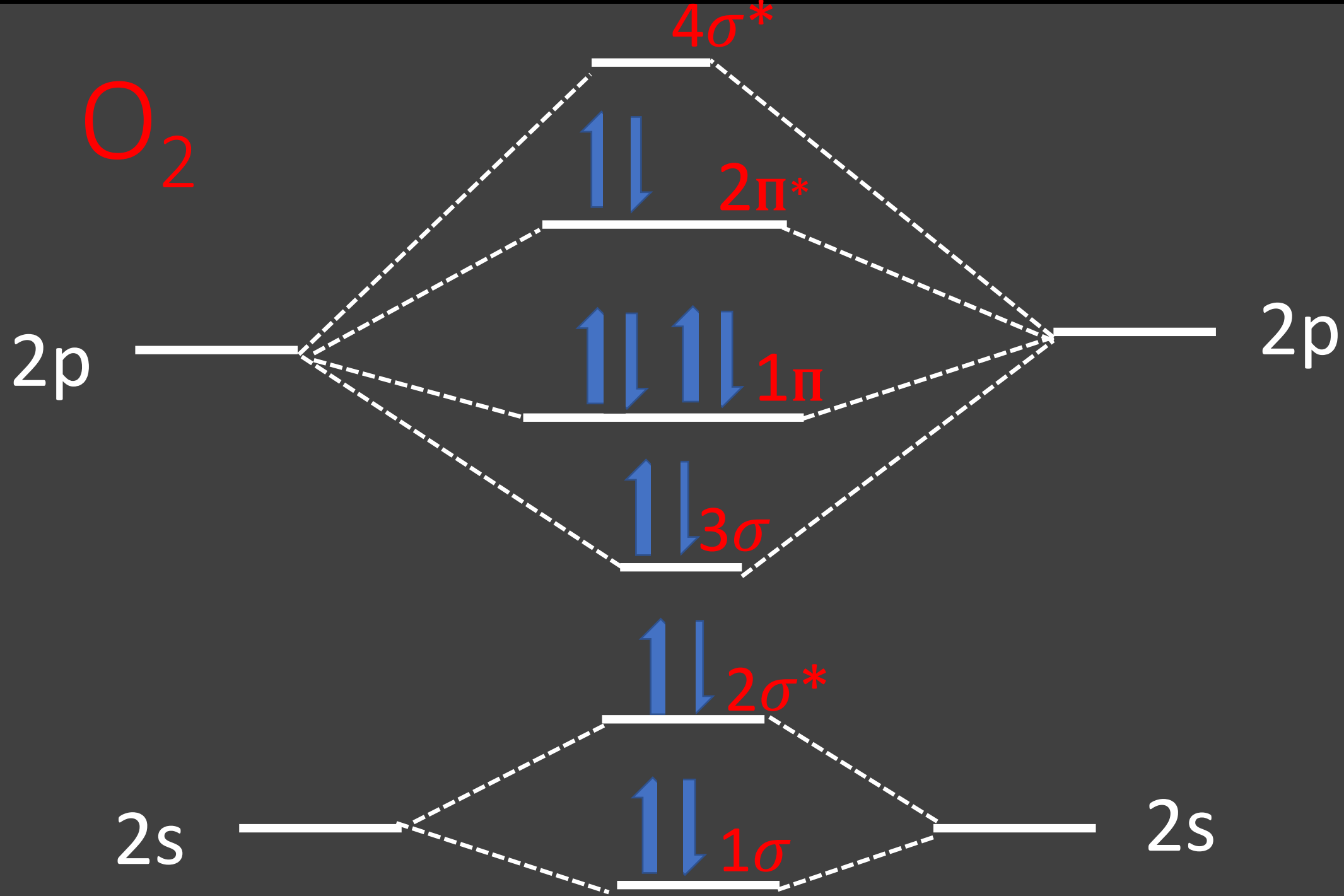


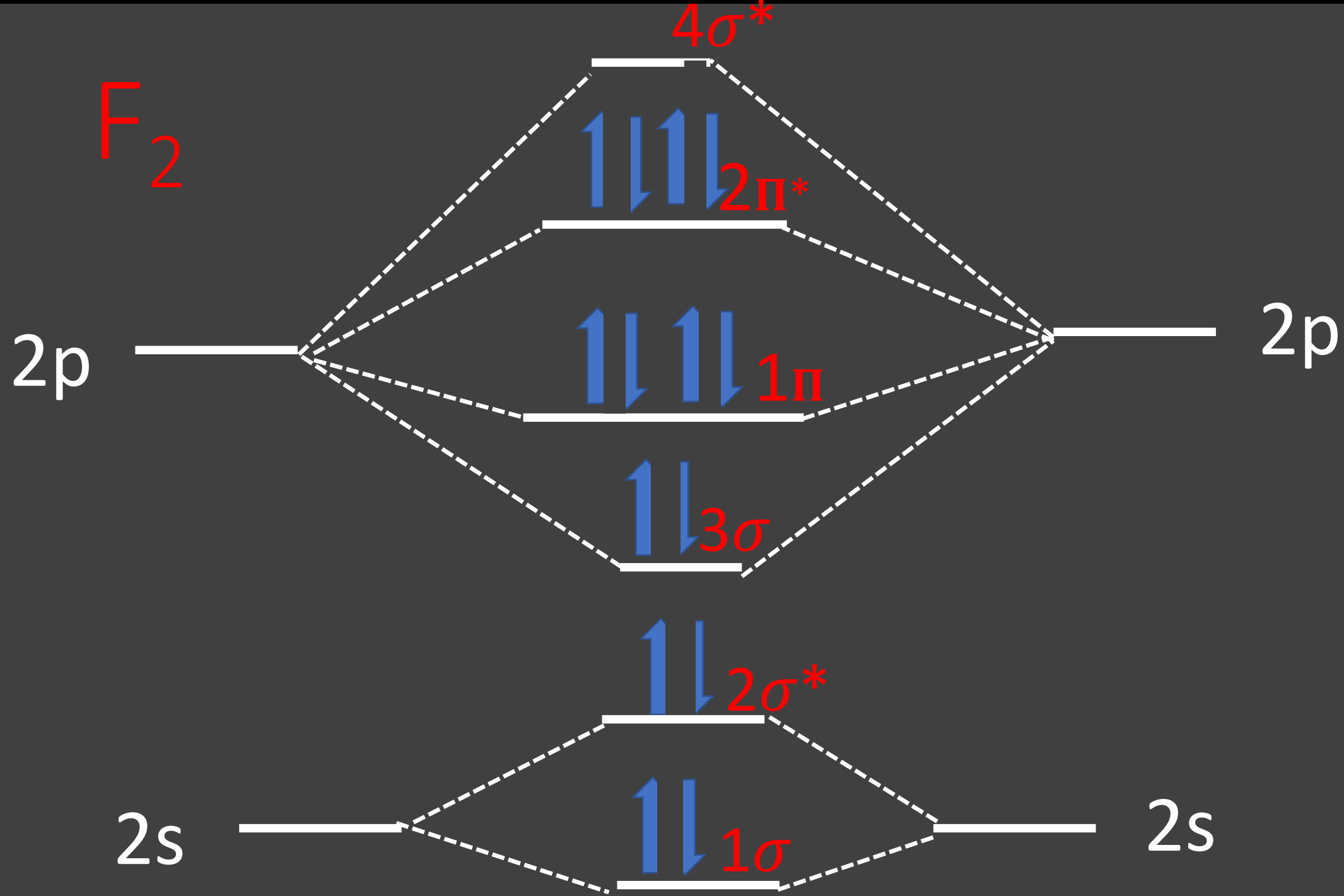




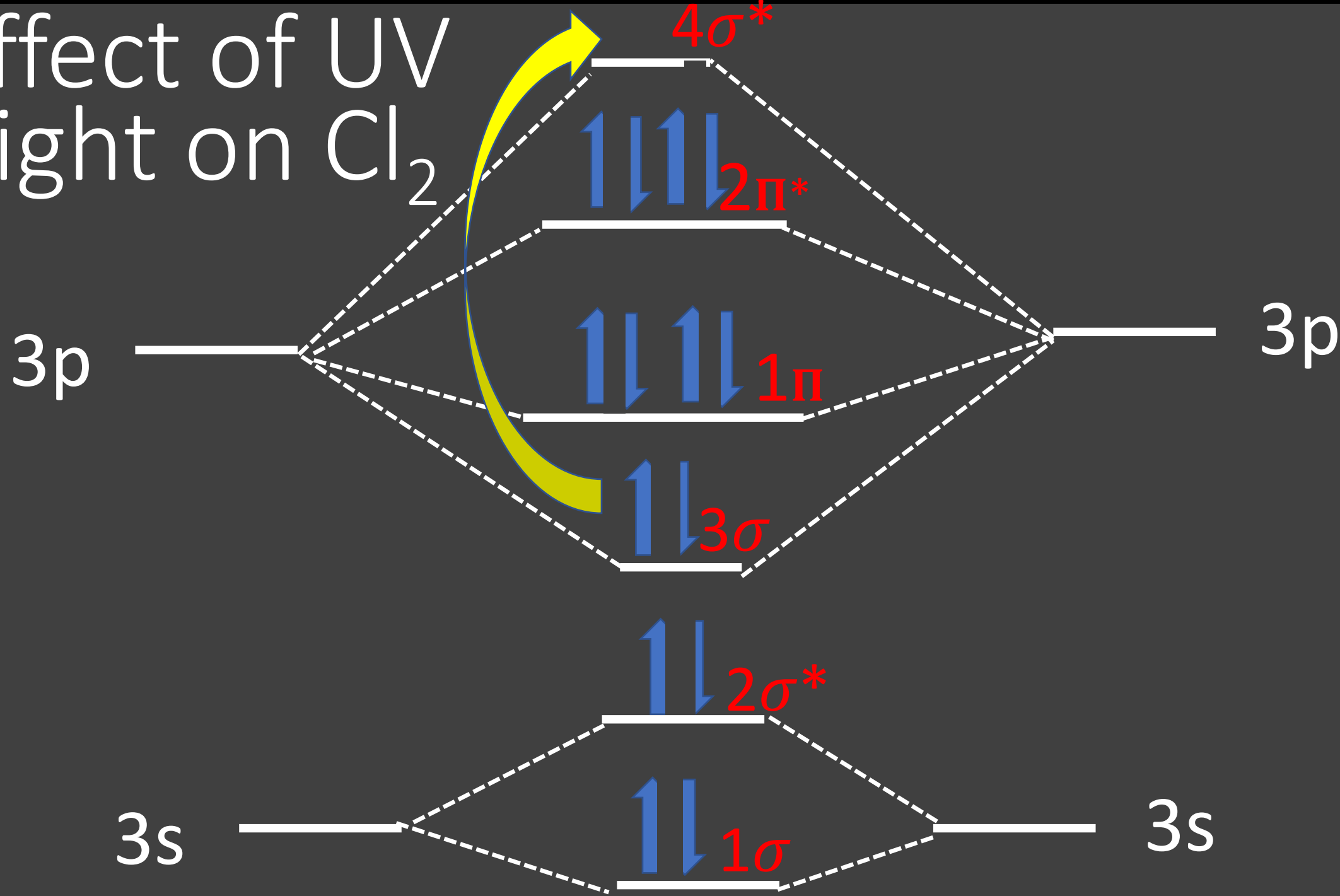








# Effect of UV Light on $\text{Cl}_2$





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