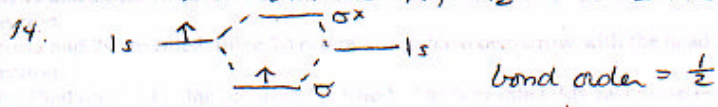


13. (c) ~~H₂~~ H₂⁺ has only 1 electron,
 (b) Like H, H₂⁺ ~~is~~ has no e⁻-e⁻ interaction. Unlike H, H₂⁺ has 2 nuclei



so H₂⁺ more stable than the H atom alone

15. bond order = $\frac{1}{2}$, the molecule is paramagnetic
 (unpaired spin)

16. Neutral H₂, with a bond order of 1, has a shorter, stronger bond than H₂⁺

	O ₂ ⁺	O ₂	O ₂ ⁻
σ_{2p}^*	—	—	—
π_{2p}^*	\uparrow	$\uparrow\downarrow$	$\uparrow\downarrow$
π_{2p}	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow$
σ_{2p}	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow$
σ_{2s}^*	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow$
σ_{2s}	$\uparrow\downarrow$	$\uparrow\downarrow$	$\uparrow\downarrow$
B.O.	$\frac{3}{2}$	2	$\frac{5}{2}$
unpaired e ⁻	1	2	1
strength	weakest	→	strongest
length	longest	←	shortest