

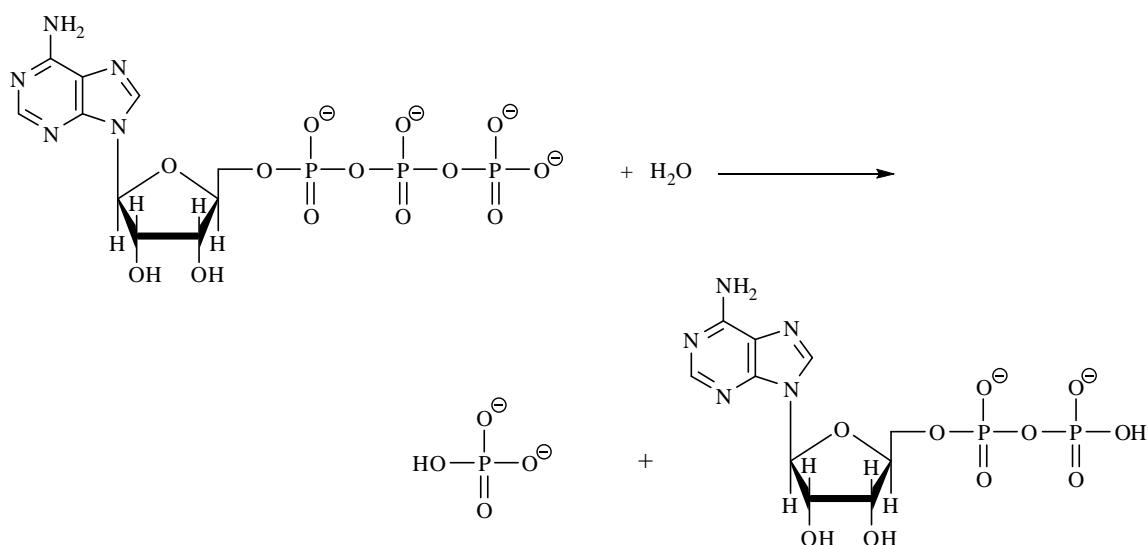
Marks
2

- Consider the σ -bond of a hydrogen molecule and the π -bond of ethylene ($\text{H}_2\text{C}=\text{CH}_2$). Sketch the shapes of the molecular orbitals of these bonds and the shapes of the atomic orbitals from which they arise.

hydrogen	ethylene
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- ATP is used as an energy source in the body. Hydrolysis releases ADP, HPO_4^{2-} and energy, according to the equation:

2



Suggest **two** reasons why this reaction is a good energy source.