

### ConceptTest on “high E bonds” and the E Diagram:

In biology one often hears about the “high energy bond” in ATP. The “high energy” refers to the energy **released** when a phosphate breaks its bond to ATP, and ADP is formed. If we place the molecules, ATP and ADP, in an energy diagram, which diagram below matches closest to this reaction?

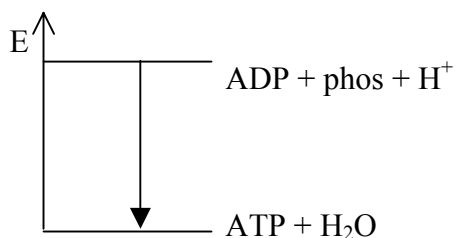


Diagram A

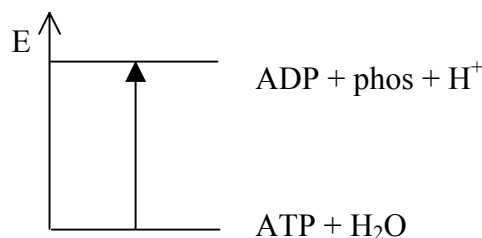


Diagram B

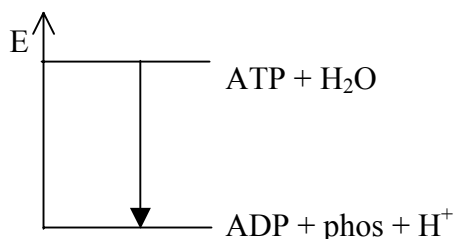


Diagram C

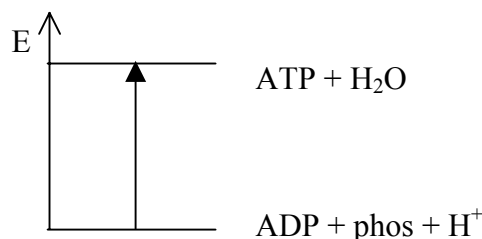


Diagram D

1. Diagram A
2. Diagram B
3. Diagram C
4. Diagram D

**Correct Ans: 3. Diagram C**

*Often students confuse “high energy bonds” to mean bonds that are very strong, and therefore difficult to break. This question reinforces the concept that when energy is released from a system, the system must be changing from a higher E state to a lower E state.*

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