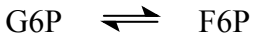
Marks

- A key step in the metabolism of glucose for energy is the isomerism of glucose-6-phosphate (G6P) to fructose-6-phosphate (F6P);



At 298 K, the equilibrium constant for the isomerisation is 0.510. Calculate $\Delta G°$ at 298 K.

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Answer:

Calculate ΔG at 298 K when the [F6P] / [G6P] ratio = 10.

Answer:

In which direction will the reaction shift in order to establish equilibrium? Why?

- The specific heat capacity of water is 4.18 J g^{-1} K^{-1} and the specific heat capacity of copper is 0.39 J g^{-1} K^{-1}. If the same amount of energy were applied to a 1.0 mol sample of each substance, both initially at 25 °C, which substance would get hotter? Show all working.

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Answer: