

Question #62236, Chemistry / Physical Chemistry

Question:

Phosphoenolpyruvate + H<sub>2</sub>O

↔

Pyruvate + Phosphate

For this reaction,

K<sub>eq</sub>'

=7.4x10<sup>10</sup>Units

Determine the unit of

K<sub>eq</sub>

Answer:

$$\Delta G^{o'} = -RT \ln K'_{eq} \quad \text{or} \quad K'_{eq} = e^{\left(\frac{-\Delta G^{o'}}{RT}\right)}$$

$$\Delta G = \Delta G^{o'} + RT \ln \left[ \frac{[C][D]}{[A][B]} \right]$$

$\Delta G = -RT \ln K_{eq}$

Only if we know concentration of all molecules in equilibrium we can find K<sub>eq</sub>.

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