$$aA + bB \rightleftharpoons cC + dD \quad (1)$$

$$Q' = \frac{[C]^c[D]^d}{[A]^a[B]^b} \quad (2a) \qquad K'_{eq} = \frac{[C]^c_{eq}[D]^d_{eq}}{[A]^a_{eq}[B]^b_{eq}} \quad (2b)$$

$$\Delta G' = \Delta G^{\circ\prime} + RT\ln Q' = \Delta G^{\circ\prime} + RT\ln\left(\frac{[C]^c[D]^d}{[A]^a[B]^b}\right) \quad (3)$$

At equilibrium, $\Delta G' = 0$ and $Q' = K'_{eq}$, so

$$\Delta G^{\circ\prime} = -RT\ln K'_{eq} \quad (4)$$

This book is primarily aimed at students and professors interested in understanding the basic principles and structure of proteins, nucleic acids and carbohydrates. It discusses the methods used to discover these structures, as well as the challenges of the methods that are used to determine the structure of these complex molecular assemblies. The principles of biochemistry are introduced by a chapter that sets forth a series of three-page overviews of the various molecular entities involved in biochemistry and their structures. An overview of topics such as the structure and function of proteins, enzymes, nucleic acids, lipid membranes, and carbohydrates are followed by more detailed discussion of their chemistry, biophysics and biochemistry. Principal inorganic reagents and acids, bases and enzymes, metals and metal chelators, buffers, salts, solvents, and temperature are discussed and understood in biochemistry. The book emphasizes the use of the latest biochemistry techniques including DNA sequencing, nucleic acid hybridization, protein crystallography, and X-ray crystallography. It also discusses important aspects such as the development of the field, the study of the genome, the molecular basis of human diseases, cell signaling, and metabolism. References Category:Chemistry booksQ: Prove that 2^π is irrational I want to prove that 2^π is irrational. Since 2^π is an infinite product of irrational numbers, I need to find one irrational number that is multiplied infinitely many times. So my idea is to define a function $f(x) = 1 - e^{ -x}$ such that $f(x)$ is irrational if and only if x is irrational. To prove this, I need to show that $f(x)$ is never zero and show that $f(2\pi) eq 0$. Since $f'(x) = -e^{ -x}(1 - e^{ -x}) \leq 0$, we can say that the graph of $f(x)$ is always below the x-axis. From this we can prove that $f(x)$ is never zero. So we have that 2^π is irrational. Is this correct? A: Your proof is correct, but it could be better. Your definition of $f(x)$ is incorrect. You said $f(x)$ is irrational 82157476af