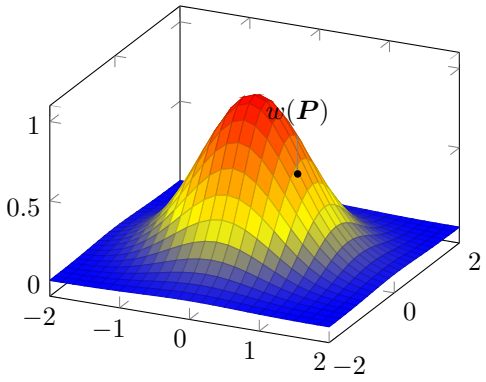
From the difference in energy of folded and unfolded states ($\Delta G$), the probability of being folded $p(\Delta G)$ is:

$$p(\Delta G) = \frac{1}{1 + e^{\beta \Delta G(\mathbb{S})}}, \text{ where } \Delta G = G_{\mathrm{F}}(\mathbb{S}) - G_{\mathrm{U}}(\mathbb{S}) \text{ and } \beta \text{ is the inverse temperature.}$$

The selection coefficient of a mutant sequence is:

$$s = \frac{p(\Delta G') - p(\Delta G)}{p(\Delta G)} \simeq \frac{\mathrm{e}^{\beta\left(\Delta G - \Delta G'\right)} - 1}{\mathrm{e}^{-\beta \Delta G}}.$$




$$\boldsymbol{P} = \sum_{1 \le i \le n} \boldsymbol{P_i}.$$

$$w(\boldsymbol{P}) \propto \mathrm{e}^{-|\boldsymbol{P}|^2}$$

$$s = \frac{w(\boldsymbol{P'}) - w(\boldsymbol{P})}{w(\boldsymbol{P})}$$