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$$dw(\varepsilon) = \left(\frac{1}{\pi kT} \right)^{\frac{1}{2}} \exp\left(-\frac{\varepsilon}{kT} \right) \varepsilon^{-\frac{1}{2}} d\varepsilon \quad (1)$$

$$dw(\varepsilon_1)dw(\varepsilon_2) = \left(\frac{1}{\pi kT} \right) \exp\left(-\frac{\varepsilon_1}{kT} \right) \varepsilon_1^{-\frac{1}{2}} \exp\left(-\frac{\varepsilon_2}{kT} \right) \varepsilon_2^{-\frac{1}{2}} d\varepsilon_1 d\varepsilon_2 \quad (2)$$

$$\varepsilon_1 + \varepsilon_2 = \varepsilon \quad (3)$$

$$dw(\varepsilon_1)dw(\varepsilon) = \left(\frac{1}{\pi kT} \right) \exp\left(-\frac{\varepsilon_1}{kT} \right) \varepsilon_1^{-\frac{1}{2}} \exp\left(-\frac{\varepsilon - \varepsilon_1}{kT} \right) (\varepsilon - \varepsilon_1)^{-\frac{1}{2}} d\varepsilon_1 d\varepsilon \quad (4)$$

$$dw(\varepsilon) = \left(\frac{1}{\pi kT} \right) \exp\left(-\frac{\varepsilon}{kT} \right) \left(\int_0^{\varepsilon} \varepsilon_1^{-\frac{1}{2}} (\varepsilon - \varepsilon_1)^{-\frac{1}{2}} d\varepsilon_1 \right) d\varepsilon \quad (5)$$

$$\int_0^{\varepsilon} \varepsilon_1^{-\frac{1}{2}} (\varepsilon - \varepsilon_1)^{-\frac{1}{2}} d\varepsilon_1 = \pi$$

$$dw(\varepsilon) = \left(\frac{1}{kT} \right) \exp\left(-\frac{\varepsilon}{kT} \right) d\varepsilon \quad (6)$$

$$\begin{aligned} w(\varepsilon \geq \varepsilon_K) &= \int_{\varepsilon_K}^{\infty} \left(\frac{1}{kT} \right) \exp\left(-\frac{\varepsilon}{kT} \right) d\varepsilon = -\exp\left(-\frac{\varepsilon}{kT} \right) \Big|_{\varepsilon_K}^{\infty} = -0 + \exp\left(-\frac{\varepsilon_K}{kT} \right) = \\ &= \exp\left(-\frac{\varepsilon_K}{kT} \right) \end{aligned}$$

(7)

$$dw(\varepsilon) = \left(\frac{1}{\pi kT} \right)^{\frac{S}{2}} \exp\left(-\frac{\varepsilon}{kT}\right) \times$$

$$\left(\iiint_{\varepsilon \leq \varepsilon_1 + \varepsilon_2 + \dots \leq \varepsilon + d\varepsilon} \varepsilon_1^{-\frac{1}{2}} \varepsilon_2^{-\frac{1}{2}} \dots \varepsilon_{S-1}^{-\frac{1}{2}} (\varepsilon - \varepsilon_1 \dots - \varepsilon_{S-1})^{-\frac{1}{2}} d\varepsilon_1 d\varepsilon_2 \dots d\varepsilon_{S-1} \right) d\varepsilon$$

(8)

$$w(\varepsilon \geq \varepsilon_K) = \int_{\varepsilon_K}^{\infty} \left(\frac{1}{\pi kT} \right)^{\frac{S}{2}} \exp\left(-\frac{\varepsilon}{kT}\right) \times$$

$$\left(\iiint_{\varepsilon \leq \varepsilon_1 + \varepsilon_2 + \dots \leq \varepsilon + d\varepsilon} \varepsilon_1^{-\frac{1}{2}} \varepsilon_2^{-\frac{1}{2}} \dots \varepsilon_{S-1}^{-\frac{1}{2}} (\varepsilon - \varepsilon_1 \dots - \varepsilon_{S-1})^{-\frac{1}{2}} d\varepsilon_1 d\varepsilon_2 \dots d\varepsilon_{S-1} \right) d\varepsilon$$

(9)

$$w(\varepsilon \geq \varepsilon_K) = \left(\frac{1}{\left(\frac{S}{2} - 1\right)!} \left(\frac{\varepsilon_K}{kT}\right)^{\frac{S}{2} - 1} + \frac{1}{\left(\frac{S}{2} - 2\right)!} \left(\frac{\varepsilon_K}{kT}\right)^{\frac{S}{2} - 2} \dots + \frac{1}{\left(\frac{S}{2} - \frac{S}{2}\right)!} \left(\frac{\varepsilon_K}{kT}\right)^{\frac{S}{2} - \frac{S}{2}} \right)$$

$$\times \exp\left(-\frac{\varepsilon_K}{kT}\right)$$

(10)

$$w(\varepsilon \geq \varepsilon_K) = \left(\frac{1}{\left(\frac{S}{2} - 1\right)!} \left(\frac{\varepsilon_K}{kT}\right)^{\frac{S}{2} - 1} \right) \exp\left(-\frac{\varepsilon_K}{kT}\right)$$

(11)