

$$Q = 4\pi \left( \frac{2\pi\mu kT}{h^2} \right)^{3/2} \int_{\sigma}^{\infty} \frac{\gamma \left( \frac{3}{2}, -\frac{U}{kT} \right)}{\Gamma \left( \frac{3}{2} \right)} \exp \left( -\frac{U}{kT} \right) R^2 dR \quad (1)$$