$$\mathbb{P}\left(\sum_{i=1}^{k} \Gamma_i \geq \sqrt{3}\sqrt{\widehat{\Omega}}\sigma\sqrt{\sum_{i=1}^{k} c_i^2}\right) \leq \exp\left(-\widehat{\Omega}\right), \ \ \forall k, \ \ \forall \widehat{\Omega} \geq 0.$$