

root-mean-square end-to-end distance, $\langle r^2 \rangle^{1/2}$

in polymers

The square root of the mean-square end-to-end distance of a linear polymer chain averaged over all conformations of the chain. For a freely jointed chain consisting of N segments each of length L , it is given by:

$$\langle r^2 \rangle^{1/2} = \sqrt{N} L$$

The subscript zero is used to indicate unperturbed dimensions, as in $\langle r^2 \rangle_0^{1/2}$. If this term is used repeatedly, and if it is not confusing, the abbreviated name 'end-to-end distance' may be used.

Source:

Purple Book, p. 49