

Lattice Structures of Viral Capsids

Retroviral capsids are fullerene-like, consisting of capsid protein hexamers and pentamers.

Mathematical models for the lattice structure help understand the underlying biological mechanisms in the formation of viral capsids. It is known that viral capsids could be categorized into three major types: icosahedron, tube, and cone. While the model for icosahedral capsids is established and well-received, models for tubular and conical capsids need further investigation. This talk will give an overview of current methods for defining icosahedral capsids and propose models for the tubular and conical capsids based on an extension of the Caspar-Klug quasi-equivalence theory.