

Abstract Submitted
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The role of genome on self-assembly of viral shell SIYU LI, ROYA ZANDI, Univ of California - Riverside — Simple viruses self-assemble spontaneously and encapsulate their genome into a shell called the capsid. This process is mainly driven by the attractive interaction between capsid and genome. We perform a number of Brownian Dynamics simulations using coarse-grained models to monitor the growth of the virus. The energetics of the capsid is governed by the stretching and bending energies. The polymer is built from the Lennard Jones particles that interact with the shell through electrostatic interactions. The results show that genome structure has an impact on the capsid symmetry while genome radius of gyration plays a key role on the final capsid size as well as the triangulation number.

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