

Abstract Submitted
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Conformation of Single Polymer Chains HOWARD WANG, Binghamton Univ, XIAORONG WANG, Tongji University — Large biological molecules such as proteins and DNAs can be packed into condensed forms through hydrogen bonding and specific interactions; the conformation of an ultra-long single chain with no specific intra-chain interactions is considered here. We discuss three possible states, (1) uniformly compressed Gaussian, (2) totally irregular aggregates, and (3) long Gaussian sections separated by segments of frustrated local conformation, or “kinks.” Those states could be related to the methods of preparing the condensed form of the single chain globule. We argue that the Gaussian-Kink conformation is preferred and the segregation of kinks to the surface of globules would significantly alter the chain dynamics.

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