

Enzyme action for topological entanglement in DNA and knot theory

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Abstract:

Beside the double helix structure, circular DNA molecules may be knotted or interlinked. For example, interlinked daughter molecules arise during process of replication. Some enzymes, such as topoisomerase and site-specific recombinases, solve such topological entanglement problem in DNA. In this talk we will discuss topological characterizations of the action of enzyme using knot theory.