

# ENCRYPTION THROUGH MOLECULAR GRAPHS

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May 5, 2020

## Abstract

Encryption and decryption mostly emerge from mathematical discipline. Molecular graphs are models of molecules in which atoms are represented by vertices and chemical bonds by edges of a graph. Graph invariant numbers reflect certain structural features of a molecule that are derived from its molecular graph, known as topological indices. A topological index is a numerical descriptor of a molecule, based on a certain topological features of the corresponding molecular graph. One of the most widely known topological descriptor is the Wiener index. Wiener number is employed to predict boiling point, molar volumes and large number of physico-chemical properties of alkenes. In this paper a new technique is employed to encrypt and decrypt message through the topological index of molecular graph using the linear congruence equations.

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