

The expected values of sum-connectivity, harmonic and symmetric division indices in random phenylene chains

Zahid Raza¹

¹University of Sharjah

May 18, 2020

Abstract

A special class of conjugated hydrocarbons known as phenylenes, which is composed of a special arrangement of six- and four-membered rings. In particular, any two six-membered rings (hexagons) are not adjacent, and every four-membered ring (square) is adjacent to a pair of nonadjacent hexagons. If each hexagon of phenylene is adjacent only to two squares, then the obtained chain is called the phenylene chain. The main object of this paper is to determine the expected values of the sum-connectivity, harmonic, and symmetric division indices of this class of conjugated hydrocarbons. The comparisons between the expected values of these indices with respect to the random phenylene chains have been determined explicitly. The graphical illustrations have been given in terms of the differences between the expected values of these indices.

Hosted file

The expected values of some indices in random Phenylene chains_5-16-2020.pdf available at <https://authorea.com/users/301298/articles/451929-the-expected-values-of-sum-connectivity-harmonic-and-symmetric-division-indices-in-random-phenylene-chains>