On normalized Laplacian, degree-Kirchhoff index of the strong prism of the dicyclobutadieno derivative of linear phenylenes

Jia-bao Liu^1 and Jiaojiao Gu^2

¹Anhui Xinhua University ²Anhui Jianzhu University South Campus

September 25, 2021

Abstract

Phenylenes network is applied in several fields of chemistry sciences due to its advantages compared to other several columnar networks, recently. This paper aims to introduce a kind of networks which obtained by a family of dicyclobutadieno derivative of linear phenylene chain Ln which is made up of n hexagons and (n+1) quadrangles. Let L2n be the strong prism of the dicyclobutadieno derivative of linear phenylenes Ln. By taking full advantage of the knowleges about the normalized Laplacian spectra, we induce the explicit expressions, with respect to the index n, of the multiplicative degree-Kirchhoff index and the number of spanning tree based on the graph L2n.

Hosted file

manuscript .pdf available at https://authorea.com/users/336629/articles/538927-on-normalizedlaplacian-degree-kirchhoff-index-of-the-strong-prism-of-the-dicyclobutadieno-derivativeof-linear-phenylenes