An exact expression for the Wiener index of a polyhex nanotorus

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Abstract

The Wiener index of a graph $G$ is defined as $W(G) = \frac{1}{2} \sum_{x,y \in V(G)} d(x,y)$, where $V(G)$ is the set of all vertices of $G$ and for $x,y \in V(G)$, $d(x,y)$ denotes the length of a minimal path between $x$ and $y$. In this paper an algorithm for computing the distance matrix of a polyhex nanotorus $T = T[p,q]$ is given. Using this matrix, we obtain an exact expression for the Wiener index of $T$. We prove that: (Equation presented).

Matched Terms:

Chemicals and CAS Registry Numbers: calcium phosphate; berilium

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References (17)

1. Wiener, H.
   Structural determination of the paraffin boiling points
   View at Publisher

2. Hosoya, H.
   Topological index, a newly proposed quantity characterizing
   the topological nature of structure isomers of saturated
   hydrocarbons
   View at Publisher

3. Diudea, M.V., Gutman, I., Jantschi, L.
   Huntington, NY

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Wiener index of tori $T[p,q][C_4, C_8]$ covered by $C_4$ and $C_8$
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The energetic stability of tori and single-wall tubes
doi: 10.1081/FST-100107148

17. Cameron, P.J.
Cambridge University Press, Cambridge