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Volume 56, Issue 1, 2006, Pages 169-178

Document Type: Article

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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 $W(G) = 1/2\sum_{[x,y]\subseteq V(G)} d(x,y)$, where V(G) is the set of all vertices of G and for x,y ∈ 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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