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Wiener index of toroidal polyhexes

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Abstract

The Wiener index of a graph is the sum of distances between all pairs of vertices. A toroidal polyhex (or toroidal graphitoid) H (p, q, t) can be described by a string (p, q, t) of three integers (p ≥ 1, q ≥ 1, 0 ≤ t ≤ p - 1). In a recent work (MATCH 45 (2002) 100-122) M.V. Diudea obtained Wiener index formulae for several classes of toroidal nets, including toroidal polyhexes with t ≡ -q/2 (mod p). In this paper, we obtain formulae for calculating the Wiener index of toroidal polyhexes H (p, q, t) with either t = 0 or p ≤ 2q or p ≤ q+t.

Matched Terms:

Chemicals and CAS Registry Numbers: calcium phosphate; berilium
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