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($n \geq 8$) in Analytical Forms

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Distance Numbers and Wiener Indices of IPR Fullerenes with Formula $C_{10(n-2)}$ ($n \geq 8$) in Analytical Forms

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Abstract

The IPR fullerenes $C_{10(n-2)}$ with $n \geq 8$ have been considered for obtaining their distance numbers and hence the Wiener indices in analytical forms for both even and odd n . The distance numbers along with their patterns have been found to give the number of ^{13}C NMR signals with their respective intensity ratios. Logarithms of Wiener indices have been found to correlate well with the band (HOMO-LUMO) gaps and resonance energies of the respective fullerenes.

Keywords:

Topological invariants; Wiener indices; Distance number; ^{13}C NMR; IPR fullerenes

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