

On some topological indices and polynomials of the Zigzag Boron triangular nanotube $BNT[p, q]$

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In mathematical chemistry, a topological index is computed using structure of the molecular graph and is a numerical parameter which describe its topology. In the first part of this article we give a complete description of different types of the Zagreb indices of *the zigzag boron triangular* nanotubes $BNT[p, q]$. Using combinatorial techniques we also provide explicit formulas of the GA index, the Randic index and the atom-bond connectivity index of the nanotubes $BNT[p, q]$.

The Omega polynomial and its four counting polynomials have great significance in the study of QSPR/QSTR/QSAR. These are also useful to demonstrate topological indices by virtue of quasi-orthogonal cuts of the edge strips in the polycyclic graphs. In the second part of this article we give a complete description of the Omega and the Sadhana polynomial of the family of zigzag boron nanotube $BNT[p, q]$ and provide its mathematical proof. We also give explicit formulae for the PI and the Theta polynomial of zigzag boron nanotubes $BNT[p, q]$.

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