

Zhang – Zhang Polynomial of Multiple Linear Hexagonal Chains

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An explicit combinatorial expression is obtained for the Zhang-Zhang polynomial (also known as “Clar cover polynomial”) of a large class of pericondensed benzenoid systems, the multiple linear hexagonal chains $M_{n,m}$. By means of this result, various problems encountered in the Clar theory of $M_{n,m}$ are also resolved: counting of Clar and Kekulé structures, determining the Clar number, and calculating the sextet polynomial.

Key words: Clar Aromatic Sextet Theory; Zhang-Zhang Polynomial; Clar Cover Polynomial; Sextet Polynomial.