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**Enumeration of non-equivalent carbon atoms in finitely large triangulenes, rhombulenes and related structures**
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**Abstract**

Simple analytic expressions for the number of non-equivalent carbon atoms (NEC) which is important in counting  $^{13}\text{C}$  NMR signals in some classes of polynuclear aromatic hydrocarbons, viz., linear polyacenes, flanked pyrenes, triangulenes and rhombulenes have been deduced using Pólya's enumeration theorem (PET) and Balasubramanian's method of reduced cycle indices. Given only a very obvious structural feature of the molecular graph, these analytical expressions directly yield the NEC value and construction of the cycle index and reduced cycle index can be avoided. Moreover, in case of triangulenes NEC has been shown to be obtainable from a flow-chart which is easy to construct and for rhombulenes NEC has been shown to be obtainable from Pascal's triangle.

**References (15)**



 Select:  All

- [Balaban, A.T.](#)  
(1976) *Chemical Application of Graph Theory*, [Cited 173 times](#)  
Academic Press, New York
- [Trinajstić, N.](#)  
(1983) *Chemical Graph Theory*, 1-2 [Cited 650 times](#)  
CRC Press, Boca Raton, FL
- [Todeschini, R.](#), [Consonni, V.](#)  
(2000) *Handbook of Molecular Descriptors*, [Cited 372 times](#)  
Wiley-VCH, Weinheim
- [Diudea, M.V.](#), [Gutman, I.](#), [Jantschi, L.](#)  
(2001) *Molecular Topology*, [Cited 13 times](#)  
Nova, Huntington
- [Polyá, G.](#)  
(1937) *Acta Math*, 65 p. 145 [Cited 136 times](#)
- [Balasubramanian, K.](#)  
(1989) *J Molec Struct (Theochem)*, 185 p. 229
- [Krishnamurthy, V.](#)  
(1986) *Combinatorics*,  
Horwood, Chichester
- [Brocas, J.](#)  
(1976) *Chemical Application of Graph Theory*, pp. 223-257  
edited by A T Balaban (Academic Press, New York)
- [Balasubramanian, K.](#)

(1988) *Theoret Chim Acta*, 74 p. 111 [Cited 2 times](#)

[View at Publisher](#)

10.  [Klein, D.J., Cowley, A.H.](#)

(1975) *J Am Chem Soc*, 97 p. 1633 [Cited 5 times](#)

[View at Publisher](#)

11.  [Klein, D.J., Cowley, A.H.](#)

(1978) *J Am Chem Soc*, 100 p. 2593 [Cited 5 times](#)

[View at Publisher](#)

12.  [Balasubramanian, K.](#)

(1989) *J Math Chem*, 3 p. 227

[View at Publisher](#)

13.  [Hinze, J.](#)


(1979) *The Permutation Group in Physics and Chemistry*, [Cited 3 times](#)  
Berlin, Springer

14.  [Pouchert, C.J.](#)

*The Aldrich Library of NMR Spectra, Edition 11*, 1 p. 761

15.  [Gutman, I., Cyvin, S.J.](#)

(1989) *Introduction to the Theory of Benzenoid Hydrocarbons*, [Cited 228 times](#)  
Springer-Verlag, Berlin

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