Paper Title :- Vibrational spectra of distorted structure Macro & Nano molecules: An algebraic approach

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ABSTRACT

Using the Lie algebraic method the vibrational frequencies of 97 resonances Raman lines (A1g + B1g + A2g + B2g) and 38 infrared bands (Eu) of oc-taethylporphyrinato-Ni (II) and its mesodeuter-ated and 15N-substituted derivates and Fullere-nes C60 and C70 of 7 vibrational bands are cal-culated using U(2) algebraic Hamiltonian with four fitting algebraic parameters. The results ob- tained by the algebraic technique have been com- pared with experimental data; and they show great accuracy.

Keywords: Lie Algebra; Vibrational Spectra; Ni (OEP); Ni (OEP)-d4 & Ni (OEP)-N4 and Fullerenes