The Experimental and Calculated Energy Measurements of the Major Symmetry Structures for C\textsubscript{20} Fullerene

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ABSTRACT

This paper and presentation will discuss the structural characteristics of C\textsubscript{20} and the employed experimental techniques and theoretical methods. A brief explanation of the CCSD, CCSD(T) and MP2 methods employed for theoretical observation will be given as well as the method of photoelectron spectroscopy for experimental measurements. Specifically addressed will be the variation in theoretically approximated energies for the C\textsubscript{20} cage molecule conformations I\textsubscript{h}, T\textsubscript{h} and D\textsubscript{2h} and the support of those findings with experimental data. Finally it will be shown that D\textsubscript{2h} symmetry is the most likely candidate for being the stable isomer for the C\textsubscript{20} cage structure based on the experimental and theoretical results.

REFERENCES

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