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DNA/RNA Fragmentation and Cytolysis in Human Cancer Cells Treated with Diphthamide Nano Particles Derivatives

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Molecular structure activity studies for some Diphthamide Nano particles derivatives indicate that the conformational characteristics along with the nature and position of the substituents on the Diphthamide Nano particles derivatives ring play an important role in their biological and biochemical activities (Figure 1) [1-7]. Therefore, we have calculated the optimized molecular geometries of some Diphthamide Nano particles derivatives. Calculations are carried out on the structures of these medical, medicinal and pharmaceutical Nano drugs using Hartree–Fock calculations and also Density Functional Theory (DFT) by performing HF, PM3, MM2, MM3, AM1, MP2, MP3, MP4, CCSD, CCSD(T), LDA, BVWN, BLYP and B3LYP levels of theory using the standard 31G, 6–31G*, 6–31+G*, 6–31G(3df, 3pd), 6–311G, 6–311G* and 6–311+G* basis sets of the Gaussian 09. The comparative heats of formation and Natural Bond Orbital (NBO) charges are calculated for these Diphthamide Nano particles derivatives. We have finally obtained some conformational rules in terms of the natures and positions of the substituents on the Diphthamide Nano particles derivatives ring.

On the other hand, Diphthamide Nano particles is an interesting medical, medicinal and pharmaceutical Nano drug which has received a lot of interests because of its applications in many areas of medical, medicinal and pharmaceutical chemistry. During the last three decades, a large number of substituted Diphthamide Nano particles derivatives have been claimed to have several biological and biochemical activities. Molecular structure activity studies for some Diphthamide Nano particles derivatives indicate that the conformational characteristics along with the nature and position of the substituents on the Diphthamide Nano particles derivatives ring play an important role in their biological and biochemical activities. In the course of our studies, we have investigated the chemistry and pharmacology of some Diphthamide Nano particles derivatives. In the present editorial, we have calculated the optimized molecular geometries of some Diphthamide Nano particles derivatives.

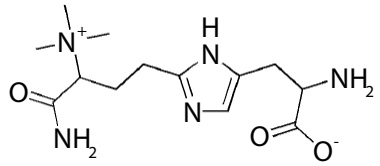

Figure 1: Molecular structure of Diphthamide Nano particles [1-7].

References

1. Schnell L, Dmochewitz-Kück L, Feigl P, Montecucco C, Barth H (2016) Thioredoxin reductase inhibitor auranofin prevents membrane transport of diphtheria toxin into the cytosol and protects human cells from intoxication. Toxicon 116: 23-28.
2. Balasubramanian V, Sellegounder D, Suman K, Krishnaswamy B (2016) Proteome analysis reveals translational inhibition of Caenorhabditis elegans enhances susceptibility to Pseudomonas aeruginosa PAO1 pathogenesis. Journal of Proteomics 145: 141-152.
3. Yang M, Dong J, Zhao W, Gao X (2016) Characterization of proteins involved in early stage of wheat grain development by iTRAQ. Journal of Proteomics 136: 157-166.
4. Lule VK, Garg S, Gosewade SC, Tomar SK, Khedkar CD (2016) Niacin In Encyclopaedia of Food and Health, Academic Press, Oxford 63-72.
5. Komar AA, Merrick WC (2016) Components, Initiation, Elongation, Termination, and Regulation, In Encyclopaedia of Cell Biology, Academic Press, Waltham 525-534.
6. Clark DP, Pazdernik NJ (2016) Recombinant Proteins. In Biotechnology Academic Cell, Boston 335-363.
7. Prod'hom G, Bille J (2017) 178 - Aerobic Gram-Positive Bacilli, In Infectious Diseases. Elsevier 1537-1552.e2.

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