



ChemTech

## International Journal of ChemTech Research

CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555  
Vol.12 No.04, pp 15-23, 2019

# HPLC Determination of Benzoic Acid, Saccharin, and Caffeine in Carbonated Soft Drinks

Doris O. Seyinde<sup>1</sup>, Ikechukwu P. Ejidike<sup>1\*</sup>, Segun Ayejuyo<sup>2</sup>

<sup>1</sup>Department of Chemical Sciences, Faculty of Science and Science Education, Anchor University, Lagos, Nigeria

<sup>2</sup>Department of Chemistry, Faculty of Science, University of Lagos, Akoka, Nigeria

**Abstract :** With increase in worlds populace, the demand for soft drinks is increasing, hence, additives utilized during drinks preparations have become a global health challenge as a result of adverse health effectson consumers. In this paper, a reverse phase high performance liquid chromatographic method that could simultaneously and quantitatively determine the amount of saccharin, caffeine and benzoic acid in soft drinks samples was utilized. It involved the use of ahypersil C-18 column and a binary eluent consisting of 10% acetic acid in ultra pure water. The analysis of the results showed the regular cola caffeine content was  $0.13\pm 0.03\text{mg/mL}$  and benzoic acid content of fanta  $0.67\pm 0.01\text{ mg/mL}$ . The linearity of the calibration curve for all additives gave  $R^2 > 0.99$ . Relative standard deviations of 0.68, 0.08 and 1.44% were found for the qualification of saccharin, caffeine and benzoic acid confirming good precision. The results, therefore, emphasized the significance of a robust monitoring procedures for these additives by the public and food health establishments in Nigeria.

**Keywords :** HPLC, Food Additives, Benzoic Acid, Retention Times, Saccharin, Caffeine.

Ikechukwu P. Ejidike *et al* /International Journal of ChemTech Research, 2019,12(4): 15-23.

DOI= <http://dx.doi.org/10.20902/IJCTR.2019.120403>

\*\*\*\*\*