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## Antimicrobial and antioxidant activities of extracts and isolated compound from *Cola nitida* (Vent) Schott et Endl seed

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This study was designed to investigate the seed nut of *Cola nitida* for its phyto-constituents, antioxidant and antimicrobial properties. Dried ground seed nut (2 Kg) was extracted by soaking (trice) in methanol at room temperature for 24 hrs. Combined filtrate was concentrated with rotary evaporator at 45°C. The methanol extract was partitioned with n-hexane, ethylacetate (EtOAc) and n-butanol. Accelerated Gradient Chromatography (AGC) fractionation of ethylacetate extract and subsequent purification of fractions afforded the identification of phytochemicals. Structural elucidation of isolated compound I was done with <sup>1</sup>H and <sup>13</sup>C NMR spectroscopic techniques while compound II was identified with GCMS. The crude extract, fractions and isolated compound were evaluated for their antimicrobial and antioxidant activities by agar well diffusion and DPPH radical scavenging methods respectively. Compound I was identified to be caffeine (by its <sup>1</sup>H and <sup>13</sup>C NMR spectroscopic data and literature) and compound II as n-Hexadecanoic acid (by GCMS analysis). Compound I demonstrated antimicrobial activity against *B. cereus*, *E. coli* and *P. vulgaris* but low antioxidant activity. However, the methanol and EtOAc extracts showed good antimicrobial and antioxidant activities. The antioxidant activity of the extracts is attributed to the presence of phenolics. These findings established the antimicrobial and antioxidant activities of the extract from the seed nut of *Cola nitida* and also establish the presence of caffeine and n-hexadecanoic acid in the extract.

### Biography

Adesanwo K Julius completed his PhD from University of Ibadan, Ibadan, Nigeria and Post-doctoral studies from KwaZuluNatal University (KZNU) Durban West-Ville South Africa. He is a senior lecturer at Chemistry Department, Obafemi Awolowo University, Ile-Ife, Nigeria. He has to his credit, over 16 publications in reputed journals.

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