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Isolation, purification and characterization of flavor compounds in the fruit pulp of *Synsepalum dulcificum*

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Flavor is an organoleptic response to a parameter commonly described as taste which can be classified as natural, nature-identical or artificial flavoring substances. In this study, cold and hot ethanolic extracts were obtained from *Synsepalum dulcificum* (Daniell) known locally as *Ntum* in Akaeze dialect of Igbo language of Nigeria and traditionally used as sweetener were evaluated for its flavoring principles. The presence of bioactive components was detected and the result revealed that hot ethanol gave the highest percent extract recoveries of 3.33%, while the cold extraction technique yielded 1.81 %. The result of sensory evaluation of purified extract showed that no significant difference was observed between these values except for sample 760 ($p < 0.05$). Chromatographic analysis of cold ethanol extract revealed that component E-1 has a melting point of 66–68°C, while the GC analysis of E-1 showed the eluate of two compounds at different retention times of 12.692 and 15.133 minutes, respectively. Spectral analysis of compounds in E-1(a, b) revealed that they are possible isomers and based on spectral data, the structure of compound E-1a was established as 2, 5-dimethyl-2, 4-dihydroxy-3(2H)-furanone while E-1b was established as 3, 5-dihydroxy-6-methyl-2, 3-dihydro-4H-pyranone.

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