KEYNOTE FORUM | **DAY 2** *JOURNAL OF NANOMEDICINE & NANOTECHNOLOGY 2019, VOLUME 10 | DOI: 10.4172/2157-7439-C1-099*

Antimicrobial activity of the ethanolic and aqueous extract of passion fruit (*Passiflora edulis*), in the absence and presence of transition metal salts

The aqueous and ethanolic extract of Passion fruit (Passiflora edulis Sims) was investigated in the absence and presence of transition metal salts using the Disc Diffusion Assay under aseptic conditions. For the ethanolic extracts, 1-3, the highest AZOI of 153.9mm^2 was induced by the sample (1), 0.015g/ml of the extract against C. *albicans*. The lowest AZOI of 15.9mm^2 was also induced by sample 3, 0.1g/ml of the ethanolic extract against K. *pneumoniae.* There seems to be a general increase in AZOI as the concentration of ethanolic extract increases. From the ethanolic extract, a white isolate crystallized and its antimicrobial activity was investigated at an increasing concentration (sample 4-5). For sample 4-5, the highest AZOI of 149.5mm^2 was induced by the aqueous solution at a concentration of 0.026g/ml against P. *aeruginosa.* The lowest AZOI of 30.7mm^2 was induced by the white isolate at a concentration of 0.052g/ml against K. *pneumoniae.* For sample 6 and 7, 0.1g of Zn (OAc)2.2H$_2$O in 10ml aqueous extract and 1.0g of Zn(OAc)2.2H$_2$O in 10ml of aqueous extract, it was observed that the highest AZOI of 67.2mm^2 was observed against E. coli. whereas the lowest AZOI of 21.6mm^2 was observed against C. *albicans*. The AZOI induced by sample 8, 1.0g of Zn (OAc)2.2H$_2$O in 10ml of aqueous solution is greater than sample 7, suggesting that Zn(OAc)2.2H$_2$O augment the antimicrobial activity of the aqueous passion fruit extract. Antimicrobial selectivity was also observed. For example, against S. aureus, sample (1) exhibit AZOI of 32.2mm^2 whereas against C. *albicans*, AZOI of 153.9mm^2 was observed. For all experiments conducted, antimicrobial activity seems to be less than that of the standard antibiotics: Ampicillin and Nystatin. Nevertheless, the ethanolic and aqueous extracts of green passion fruit can be used as a natural antibiotic against a range of bacteria-induced diseases.

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Biography

Raymond C Jagessar obtained his BSc (Distinction) in Chemistry/Biology from the University of Guyana (1992) and his Ph.D. from the UK (1995). He held three Post-Doctoral Research Fellowships (PDF) at various universities overseas. He has also won several international awards, amongst them are Chartered Chemist, CChem and Fellow of the Royal Society of Chemistry, FRSC, UK, Research and traveling Grants etc. His research interests are broad, covering the spectrum of Pure and Applied Chemistry, Chemical Biology and Pharmaceutical Chemistry. He has published over eighty (80) research articles, five book chapters and presented at conferences: locally and internationally. He is currently Professor in Chemistry at the University of Guyana (South America).

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