

# Herbals & Natural Remedies

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## Evaluation of antimicrobial, antioxidant and cytotoxic activity of *Lovoa trichiliodes* extracts and essential oils

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*Lovoa trichiliodes* is a medicinal plant used in many African countries by traditional practitioners for the treatment of some infectious diseases. The extracts and essential oils of *Lovoa trichiliodes* were investigated for their antioxidant, antimicrobial and cytotoxic properties using standard techniques. The DPPH scavenging activities ranged from 05.33±0.88% at 0.05 mg/ml of leaf to 88.14±0.03% at 2.0 mg/ml of stem bark essential oils respectively. The IC<sub>50</sub> of the stem bark oil (0.81±0.15) and that of the leaf oil (1.52±0.03) were significantly ( $p \leq 0.05$ ) higher than that of ascorbic acid (0.40±0.15) used as control. The antimicrobial assay of the samples revealed a high activity against the test pathogens at 50 mg/ml for extracts and 50 µg/ml for oil, respectively. The leaf extract showed lower level of activity than the stem bark extract against the test organisms compared to the controls. The essential oils from both the leaf and stem bark exhibited higher activities against bacteria than fungi. *Bacillus subtilis* showed the highest susceptibility to the extracts while *Pseudomonas aeruginosa* exhibited the least susceptibility to the plant materials. The minimum inhibitory concentration and minimum bactericidal/fungicidal concentration ranged from 2.5 to >200 mg/ml and 5 to 200 mg/ml for the extracts while that of oils ranged from 3 to 40 µg/ml and 5 to 75 µg/ml, respectively. However, water extract of the plant's stem bark showed no activity against any of the test organisms. All the extracts and essential oils showed high level of lethality on brine shrimp larva with LC<sub>50</sub> ranging from 0.71 to 56.13 ppm. These results confirm the basis for the use of this plant in traditional medicine as remedy against several diseases.

### Biography

Opawale B is a PhD student at the Microbiology Department of Federal University of Technology, Akure, Nigeria. He lectures at the Department of Science Laboratory Technology, Rufus Giwa Polytechnic, Owo, Nigeria, and has served at various academic and administrative positions positively in the last twenty years. He currently holds the position of Dean of students in the institution. His recent research interest is in the area of medicinal plants used as folkloric remedies and has published more than 15 papers in reputable journals. He is a Member of Nigerian Institute of Science Laboratory Technology and American Society for Microbiology, respectively.

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