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## Triterpenes isolated from the extract of *Combretum racemosum* P. Beauv with antimalarial activities

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**Statement of problem:** An estimated 219 million cases of malaria occurred in 2017, resulting in the death of approximately 435,000 people similar to the previous year (WHO, 2014). Widespread resistance to current therapies has necessitated the search for new antimalarial molecules.

*Combretum racemosum* showed activity in previous ethnopharmacological investigations of some *Combretum* species used in malaria treatment in parts of West Africa. This study aimed at confirming the antimalarial potential of this plant by an activity-guided isolation of its active principles.

A crude methanolic leaf extract of *Combretum racemosum* and fractions there of obtained by partition with chloroform and n-butanol were investigated for antiplasmodial activity against chloroquine-sensitive (D10) and chloroquine-resistant (W2) strains of *Plasmodium falciparum*. Repeated chromatographic separations were conducted on the chloroform fraction to isolate bioactive compounds for further tests on antiplasmodial activity. The characterization of the isolated substances was performed by applying NMR and MS-techniques (ESI-MS, HR-ESIMS, 1D and 2D NMR).

The chloroform fraction (D10: IC<sub>50</sub>=33.8±1.5 µg/mL and W2: IC<sub>50</sub>=27.8±2.9 µg/mL) exhibited better antiplasmodial activity than the n-butanol fraction (D10: IC<sub>50</sub>=78.1±7.3 µg/mL and

W2: IC<sub>50</sub>=78±15 µg/mL) as well as the methanolic raw extract (D10: IC<sub>50</sub>=64.2±2.7 µg/mL and W2: IC<sub>50</sub>=65.8±14.9 µg/mL). Thus, the focus of the phytochemical investigation was laid on the chloroform fraction, which led to the isolation of 11 compounds: which include 19α-hydroxyasiatic acid, 6β,23-dihydroxytormentic acid, madecassic acid, nigaichigoside, arjungenin, combregenin among others. Isolated compounds and mixtures exhibited moderate activity, with madecassic acid being most active (D10: IC<sub>50</sub>=28±12 µg/mL and W2: IC<sub>50</sub>=17.2±4.3 µg/mL).

### Conclusion:

This paper reports for the first time antiplasmodial principles from *C. racemosum* and thereby gives reason to the traditional use of the plant.

### Biography

Babatunde Samuel is an Assistant Professor at the Faculty of Pharmacy, University of Ibadan, Nigeria. He developed a [Phytomedicine](#) with other Scientists which was patented in 46 countries including United States of America and United Kingdom. He obtained his B Pharm, MSc and PhD degrees in [Pharmaceutical Chemistry](#) Department of the Faculty of Pharmacy, University of Ibadan; where he currently teaches [Natural Product Chemistry](#) and [Chromatography](#).

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