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Falcipain 2 inhibitors and antiplasmodial compounds from a bio-guided fractionation of the fruits of *Sorindeia juglandifolia* A. Rich. (Anacardiaceae) growing in Cameroon

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Background

Discovering new lead compounds with the potential to become usable drugs against malaria is a crucial step to ensuring a sustainable global pipeline for innovative products. We describe here the results of an antimalarial activity-driven fractionation of the fruits *of Sorindeia juglandifolia* growing in Cameroon.

Materials and methods

Fresh fruits were collected by an ethnobotanist in Yaoundé area in May 2009. The plant was dried at Room Temperature during 7 days, powdered and extracted using organic solvents. The extract was fractionated by flash chromatography over silica gel (70-230 mesh, Merck, 7 x 42 cm), eluting with gradients of hexane-ethyl acetate mixtures, and resulted in 35 fractions, which were pooled on the basis of thin layer chromatography patterns. Resulting fractions were tested *in vitro* against the *Plasmodium falciparum* chloroquine-resistant strain W2, and the recombinant cysteine protease Falcipain 2 (F2) [1]. Two fractions showed the best potency and were selected for phytochemical investigation guided by biological activity.

Results

The main end-compounds afforded through the phytochemical investigation were found to be known (Figure 1), 2,3,6-trihydroxy benzoic acid (1), and 2,3,6-trihydroxy methyl benzoate (2) that exhibited low micromolar inhibitory concentrations against *P. falciparum* W2 and Falcipain 2 respectively.

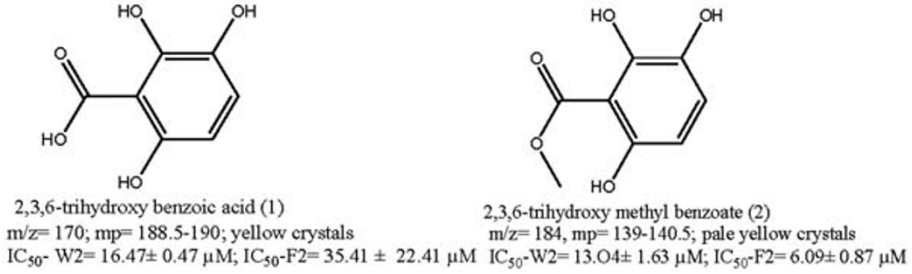

Figure 1 Antimalarial compounds isolated from *Sorindeia juglandifolia*.

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Conclusion

The isolated compounds have not been previously investigated for antimalarial activity, and therefore suggesting further investigation.

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Reference

1. Boyom FF, Madiesse KEA, Tepongning R, Mbacham WF, Tsamo E, Amvam Zollo PH, Gut J, Rosenthal PJ: **Antiplasmodial activity of extracts from seven medicinal plants used in malaria treatment in Cameroon.** *J Ethnopharmacol* 2009, **123**:483-488.

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