ANTIBIOFILM ACTIVITY OF ESSENTIAL OIL FROM *Croton blanchetianus* Baill. (Euphorbiaceae) AGAINST *Staphylococcus aureus* AND *Staphylococcus epidermidis*

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ABSTRACT:
Biofilms is an assemblage of microbial cells organized in an extracellular polymeric matrix, which can be adhered to surfaces biotic or abiotic. Biofilms can confer up to 1,000-fold increased resistance to antibiotic treatments, such conditions have led us to a serious public health problem. In this sense, essential oils become promising sources for antimicrobial compounds. Thus, the objective of this work is to evaluate the antibiofilm effect of essential oils extracted from the leaves of *Croton blanchetianus* Baill. on bacteria of the *Staphylococcus aureus* e *Staphylococcus epidermidis*. Plant material was collected from two different populations (population I and II) in Serra do Lima, in the municipality of Patu-RN. Subsequently, essential oils were extracted from the leaves using the hydrodistillation method using the *Clevenger* apparatus. Antibiofilm analyzes were performed by quantifying biomass (crystal violet staining) and number of viable cells count of different strains of *S. aureus* and *S. epidermidis*. The bacterial biofilms showed susceptibility to essential oils of both populations. Regarding biomass quantification, and the action of population I and II oils against *S. aureus* ATCC 700698 showed complete inhibition at all tested concentrations (5 to 0.078%). Moreover, on strains *S. aureus* ATCC 25923, *S. epidermidis* ATCC 12228 and *S. epidermidis* ATCC 35984 the essential oil from population I showed complete inhibition up to a concentration of 0.156% and population II, there was significant inhibition at all concentrations tested. The reduction of number of viable cells from biofilms was observed. The essential oils of both populations (I and II) caused reduction ragging from 2 to 11 logs for all strains. Thus, the results obtained show that essential oils from *C. blanchetianus* can be promising in preventing antimicrobial resistance.

Keywords: biofilm, *C. blanchetianus*, essential oil.