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## **INHIBITORY PROPERTIES OF POWDERED ACTIVATED CARBON MADE FROM COFFEE BEANS (COFFEA ARABICA) AGAINST THE GROWTH OF STAPHYLOCOCCUS AUREUS (ATCC 6538P)**

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### **Abstract**

Problems in the Philippines regarding the diseases caused by *Staphylococcus Aureus* have become a public health concern in the past few years due to its high antimicrobial resistance capacity to numerous antibiotics and penicillin. In line with this, the study aimed to identify the characteristics of Powdered Activated Carbon (PAC) derived from *Coffea Arabica* beans and to also identify the effects of PAC derived from *Coffea Arabica* beans in terms of zone of inhibition, inhibitory activity, and reactivity to *S. aureus*. In order to prepare the PAC, the pulverized coffee beans undergo physical activation, chemical activation using KOH, and removal of ash content using HCl and pyrolysis/carbonization at 500C for 1 hour. The pH level, moisture content, and antimicrobial activity of the PAC was determined by electrometric method, air-oven method and disk diffusion method, respectively. According to the results, the PAC sample with 26.42% moisture content and 5.12 pH level produced partial inhibitory activity with mild reactivity against *S. Aureus*, having a mean zone of inhibition of 10mm, which is lower in comparison to the positive setup, Oxacillin, with a mean zone of inhibition of 22.07 mm.

**Keywords:** *Coffea Arabica*, *Staphylococcus Aureus*, Antimicrobial Resistance Capacity, Zone of Inhibition, Powdered Activated Carbon, Philippines.

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