



ABSTRACT

This study aimed to determine quorum-sensed pyocyanin production in the bacterial specimen *Pseudomonas aeruginosa* BIOTECH 1335 using the plant specimen *Solanum melongena* L. Due to the increasing antibiotic resistance produced by certain microorganisms, new techniques are highly sought after. One mechanism is the anti-quorum sensing. Quorum sensing is a method of deactivating AHL signal molecules and prevent bacteria from communicating and therefore preventing them from further infecting a host. Plants are the common sources of phytochemicals that are all beneficial for the study of medicine. Experimentation was done by first collecting leaves and drying them, then ethanolic extraction using rotary evaporator and filtered using Whatman number 1 filter paper. Then the bacterial test cultures were prepared, namely *Pseudomonas aeruginosa* and the *Chromobacterium violaceum*. This was followed by the disk-diffusion assay for antibacterial activities of the plant extracts against *Pseudomonas aeruginosa* BIOTECH 1335. Quorum quenching activities against *Chromobacterium violaceum* was then assessed. It was followed by the assessment of quorum quenching potentials against *Pseudomonas aeruginosa*. For the antibacterial assay evaluation, the presence of clear zones was used as an identifying characteristic. Pyocyanin values on the other hand were interpreted using Mann-Whitney U. According to the statistical treatment and to what was observed, both plant parts of the plant specimen *Solanum melongena* L. did not exhibit antibacterial activities against *Pseudomonas aeruginosa*. As for the quorum quenching potential, there was an absence of clear zones for the specimen *Chromobacterium violaceum*, indicating absence of quorum quenching and for the *Pseudomonas aeruginosa*, the extracts exhibited quorum quenching activities but according to Mann-Whitney U test statistical analysis, the results are not significantly different from $P=0.05$ to be considered significant.

Key terms: *Solanum melongena* L., *Pseudomonas aeruginosa*, *Chromobacterium violaceum*, pyocyanin