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The Antimalarial and Antibacterial Activities of Some Organotin(IV) Carboxylate compounds

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The organotin(IV) carboxylate and its derivatives are widely known since the derivative of these compounds are very active and strong even at very low concentration.¹⁻⁷ This condition makes these compounds continue to attract more attention to be used in many biological activities. We have previously succeeded in the syntheses and performed many activity studies of some organotin(IV) benzoates,^{2,4-7} in this work, we reported the antibacteria and antimalaria activity studies of some organotin(IV) derivatives. The targeted compounds were prepared from their organotin(IV) chlorides via the intermediate products of dibutyltin(IV) oxide, diphenyltin(IV) dihydroxide and triphenyltin(IV) hydroxide, respectively and followed by reacting the intermediate products with benzoic acid desired. The antimalaria activity was performed against *Plasmodium falcifarum*. While the antibacterial activity was performed against *Pseudomonas aeruginosa* and *Bacillus subtilis*. The results showed that the IC₅₀ of all organotin(IV) compounds tested were little bit higher than the chloroquine as the positive control, however one advantage is that the organotin(IV) compounds are not resistant to the Plasmodium, thus making the used of organotin(IV) as antimalaria is widely opened. The triphenyltin(IV) compound is more potent to be used as antimalaria² and has potential to be developed as antimalarial drug in the near future. The results of antibacterial activity revealed that the triphenyltin(IV) derivatives was the most active compound.

Keywords: antibacteria, antimalaria, organotin(IV) carboxylate

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