# CHAPTER V

# CONCLUSION

The bioisosterism of quinolones with N-1 position modification, namely chromone-3-carboxylic acid derivatives, were designed and synthesized as potential antibacterial agents. 6-Chlorochromone-3-carboxylic acid and 7-Chloro-6-fluorochromone-3-carboxylic acid, have been prepared via 6 steps : 1) Phenyl acetate intermediates were obtained by the reaction of phenol derivatives with acetic anhydride in alkali condition. 2) 2-Hydroxyacetophenone derivatives were achieved by heating phenyl acetate derivatives with aluminium chloride. 3) Chromone-3-carboxaldehyde derivatives were obtained by the reaction of 2-hydroxyacetophenone derivatives with phosphorous oxychloride and dimethylformamide. 4) Chromone-3-carboaldoxime derivatives were obtained by the reaction of chromone-3-carboxaldehyde derivatives and hydroxylamine hydrochloride. 5) Chromone-3-carboaldoxime derivatives were dehydrated with acetic anhydride to afford chromone-3-carbonitrile derivatives . 6) Chromone-3-carboxylic acid derivatives were accomplished by heating chromone-3-carbonitrile derivatives with 55% sulfuric acid. 6-Chlorochromone-3-carboxylic acid found to be

active against S. aureus while 7-Chloro-6-fluorochromone -3-carboxylic acid was active against E. coli (Table 1). These results made the chromone-3-carboxylic acid derivatives to be the compounds of interest for the future study.