

# Characterization of *Saraca thaipingensis*'s leaf powder in terms of functional groups and ion exchange capacity

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## ABSTRACT

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The aim of this research is to determine the functional groups and ion exchange capacity of a natural biosorbent using its leaf powder. The natural biosorbent used is *Saraca thaipingensis*. The part of plant that was used is leaf. The leaves were dried and ground into powder. The pH of the leaf powder was determined using pH meter. The pH *Saraca thaipingensis*'s leaf powder was 4.58. Both acidic and basic functional groups of this leaf powder were determined by conducting Boehm's titration method. The amount of acidic functional groups of *Saraca thaipingensis*'s leaf powder was 0.00177 mol/g whereas the amount of basic functional groups was 0.00055 mol/g. Besides that, the total ion exchange capacity of leaf powder was determined where separate tests were conducted for both cation and anion. The total cation exchange capacity and total anion exchange capacity for *Saraca thaipingensis*'s leaf powder were 37.5 meq/g and 50.0 meq/g respectively. Therefore, characterization of functional groups and ion exchange capacity of leaf powder of *Saraca thaipingensis* were successfully determined and analyzed.

Keywords: Biosorbent; *Saraca thaipingensis*; Boehm's titration method; Ion exchange capacity