

**EXTRACTION AND CHARACTERIZATION OF POLYPHENOLIC
POLYSACCHARIDE CONJUGATES FROM THE LEAVES OF
*Plectranthus amboinicus***

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ABSTRACT

EXTRACTION AND CHARACTERIZATION OF POLYPHENOLIC POLYSACCHARIDE CONJUGATES FROM *Plectranthus amboinicus*

Plectranthus amboinicus has been used in folk medicine to treat asthma and relieve colds, headaches, and fevers. It is frequently used due to its inexpensive cost, ease of availability, and low risk of adverse effects. The leaves have been shown to be potentially used as a bronchodilator and anti-*Mycobacterium tuberculosis* in guinea pigs. Other than that, *P. amboinicus* can be a possible antitussive drug since the presence of polyphenolic polysaccharide (PP) conjugates in *Lythrum salicaria* and *Erigeron canadensis* produces antitussive properties in treating cough. Therefore, this study aims to extract the polyphenolic polysaccharide conjugates from *P. amboinicus* using reflux, to determine the functional groups of polyphenolic polysaccharide conjugates of *P. amboinicus* using Fourier-transform infrared (FTIR) spectroscopy, and to evaluate the concentration of total phenolic content (TPC), total carbohydrates content (TCC), and protein content using the colorimetric analysis. In this study, the percentage yield of polyphenolic polysaccharide conjugates from *P. amboinicus* is 1.5 %. The FTIR spectrum showed the hydroxyl (O-H) groups for saccharides and phenolic, C=C for alkene groups in phenolic, C-O and C-OH for alcohol groups of the saccharide rings, and COO- ester groups for saccharides. The total phenolic content for *P. amboinicus* leaves extract is 44.66 mg GAE/g extract, the carbohydrate content observed is 13.9%, and the protein content obtained is 0.08 mg/ml. Based on these findings, *P. amboinicus* extract contains polyphenolic polysaccharide conjugates. Overall, this study is a preliminary study to develop *P. amboinicus* polyphenolic polysaccharide conjugates from *P. amboinicus* leaves as antitussive drugs.