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**A PRELIMINARY STUDY OF PHYTOCHEMICAL CONTENTS**

**IN COMMERCIAL MALAYSIAN BLACK TEA EXTRACT**

**USING QUANTITATIVE AND QUALITATIVE TESTS**

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## **ABSTRACT**

Black tea (*Camellia sinensis*) is a flavoured, functional, and therapeutic non-alcoholic drink that is consumed by two-thirds of the world's population. In this study, the bioactive compounds in black tea leaves were extracted using two different solvents which are methanol and acetone before being further characterized with FTIR to identify the functional groups. The presence of active compounds such as gallic tannin, catechol tannin, phenol and flavonoid compounds were further tested with qualitative and quantitative methods. Based on FTIR results, the best solvent to extract tea leaves was acetone. The frequency obtained for phenolic –OH stretch was 3390.5 cm

-1

, while alkane –CH<sub>3</sub> stretch appeared at 2921.4 cm<sup>-1</sup>

and  
2850.7 cm<sup>-1</sup>

. The UV-Vis spectrum was obtained and the  $\lambda$  max from the spectrum is 270 nm. Qualitative analysis involving ferric chloride and lead acetate test showed positive results for the presence of gallic tannin, catecholins, flavonoid and phenols in the tea leaves extract. From the quantitative test, the total phenolic content was 0.9217 mg gallic acid equivalent (GAE)/L while the concentration of flavonoid content was 0.7792 mg quercetin/L and total tannin content 0.13 g/g respectively.

**Key words:** Organic extracts, black tea, phytochemical, phenolic, flavonoid