PERCENT COMPOSITION AND PHYTOCHEMICAL SCREENING OF CULTIVATED AND TISSUE CULTURE FROM ESSENTIAL OIL OF *Pogostemon cablin*

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ABSTRACT

PERCENT COMPOSITION AND PHYTOCHEMICAL SCREENING OF CULTIVATED AND TISSUE CULTURE FROM LEAVES OF NILAM (POGOSTEMON CABLIN)

The composition of the essential oils extracted by solvent extraction using hexane and methanol from cultivated *Pogostemon cablin* and tissue culture of *Pogostemon cablin* were analyzed by Gas Chromatography-Mass Spectroscopy (GC-MS). The major component in *Pogostemon cablin* in hexane solution from cultivated *Pogostemon cablin* is 36.55 % of patchouli alcohol and the major components in methanol solution from cultivated *Pogostemon* oil is 16.12 % of patchouli alcohol and the major components in tissue culture *Pogostemon cablin* in methanol solution from tissue culture *Pogostemon* oil is 11.96% of cyclononasiloxane and the yields from of the hexane extract in cultivated, methanol extract in cultivated and methanol extract in tissue culture were (6.67 %), (8.0 %) and (50 %) respectively. Phytochemical screening test on cultivated plant , methanol extract possessed alkaloid, saponin and flavonoid.

CHAPTER 1

INTRODUCTION

1.1 Background of Study

Plant cells can be grown in isolation from intact plants in tissue culture systems. The cells have the characteristics of callus cells, rather than other plant cell types. These are the cells that appear on cut surfaces when a plant is wounded and which gradually cover and seal the damaged area.

Pieces of plant tissue will slowly divide and grow into a colorless mass of cells if they are kept in special conditions. These are included initiated from the most appropriate plant tissue for the particular plant variety, presence of a high concentration of auxin and cytokinin growth regulators in the growth media, a growth medium containing organic and inorganic compounds to sustain the cells and aseptic conditions during culture to exclude competition from microorganisms

The plant cells can grow on a solid surface as friable, pale-brown lumps (called callus), or as individual or small clusters of cells in a liquid medium called a