Thesis Title	Chemical Constituents from the Root of *Mucuna macrocarpa* Wall., Antibacterial and Antioxidation Properties.
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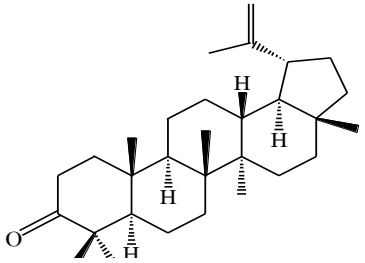
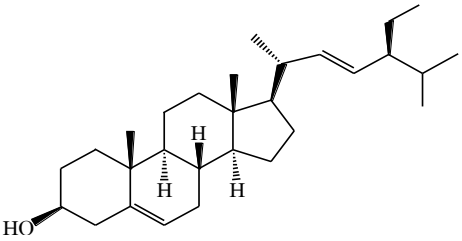
ABSTRACT

Chromatographic separation of the roots of *Mucuna macrocarpa* led to the isolation of nine compounds. They were four triterpenoids: lupenone, lupane, betulinic acid and lupeol, two steroids: stigmasterol and β-sitosterol, one anthraquinone: vismiaquinone C, one alkaloid: murrayanine and one benzaldehyde: 4-methoxybenzaldehyde. Their structures were elucidated on the basis of spectroscopic techniques.

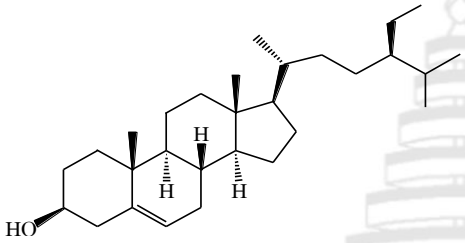
Bioactivity assays showed that the compounds lupenone and vismiaquinone C exhibited antibacterial activities against *Bacillus cereus*, *Pseudomonas fluorescens* and *Salmonella typhimurium* with the minimum inhibition concentrations (MICs) values of 32-64 µg/mL. The crude methanolic extracts (on 2002 and 2006) showed strong antioxidation activities (IC_{50} 0.31 and 0.88 mg/mL, respectively). The crude acetone extracts (on 2002 and 2006) showed good antioxidation activities with the IC_{50} of 1.32 and 3.30 mg/mL, respectively. The crude dichloromethane extracts showed weak activity in 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical assay. All of the compounds showed weak antioxidative activities when tested with DPPH radical and less than 10% for radical scavenging activity.



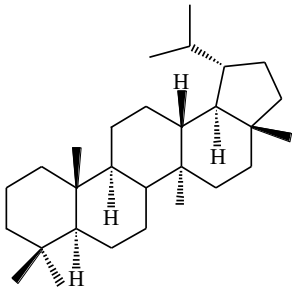
Lupenone



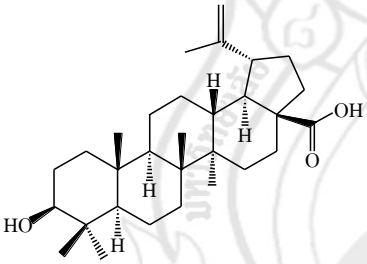
Stigmasterol



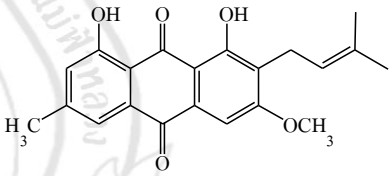
β-Sitosterol



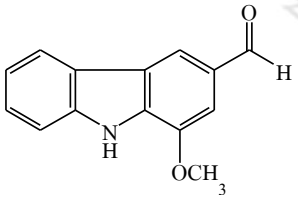
Lupane



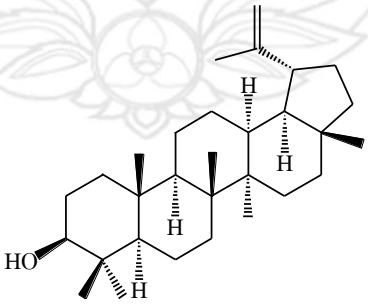
Betulinic acid



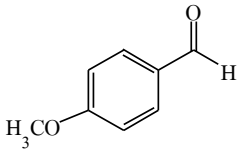
Vismiaquinone C



Murrayanine



Lupeol



4-Methoxybenzaldehyde

Keywords: *Mucuna macrocarpa* / antibacterial / antioxidation