

## Preliminary separation of phytosterols from sugarcane waste

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### Abstract

Sugarcane-phytosterols are obtained from filter cake-wax precipitation through reflux distillation. The post-product from reflux distillation was separated into two parts; supernatant and wax precipitate. The supernatant contains valuable phytosterols and a large number of impurities such as fatty acid, sterol ester, hydrocarbon and pigment. Crude supernatant was first removed the pigment by filtering through activate carbon. Liquid-liquid extraction was used as a separation method to separate phytosterol from other impurities. Crude supernatant was dissolved in solvent such as hexane to precipitate insoluble impurities. Co-solvent; methanol and ethanol were applied with different ratio. Separated solvent phases were screened the number of compound groups and impurities by thin layer chromatography and GC-MS. However, this research is still in the preliminary stage of isolating phytosterols where the results would be use for a further *in vitro* cell-base assay.

**Keywords:** sugarcane, phytosterols, liquid-liquid extraction, thin layer chromatography, gas chromatography-mass spectrometry,