

## Optimization and Thermodynamics of the Extraction of Yellow Oleander Seed Oil Using Soxhlet Extractor.(2017)

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### Abstract

Optimization of yellow oleander (*Thevetia peruviana*) oil extraction from yellow oleander seeds was done using the soxhlet extractor. The following parameters were studied in order to measure their influence on batch extraction using petroleum ether (60 –80°C); particle size, solid-solvent weight ratio, the effect of particle size and time, and temperature on yield, The maximum yield, and optimal conditions were obtained when using petroleum ether at a temperature of 343K with a contact time of 36 hours, average particles size >1 mm and meal to solvent ratio of 1:6. The thermodynamics study of the extracted oil showed that  $\Delta E_a$ ,  $\Delta G$  and  $\Delta H$  were positive while  $\Delta S$  was found to be negative, indicating that yellow oleander oil extraction process is not a spontaneous process at all temperatures.

Key words: Extraction, Yellow oleander seeds, Yellow oleander oil, Kinetics, Thermodynamics

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