

CENTRE OF LIPID ENGINEERING AND APPLIED RESEARCH (CLEAR)

LAB SERVICE



innovative • entrepreneurial • global

LAB SERVICE

A) Supercritical Fluid Extractor (SFE)

- ♦ 3 units of full operating SCCO₂ (CO₂) system with range from 10ml to 100ml
- ♦ Pressure range between CO₂ critical point to 800bar
- ♦ Type of Service:
 - Extraction
 - Optimization
 - Thermodynamic Studies
 - SCCO₂ Upscaling
- ♦ Price: RM250/Sample



CLEAR—SFE 1



CLEAR—SFE 2

APPLICATIONS

- Nutraceuticals Industry
- Healthcare Industry
- Essential Oils Company
- Pure Vitamin Production
- Pharmaceuticals Industry
- Production of Fine Chemicals



High Pressure Solvent Extraction Unit

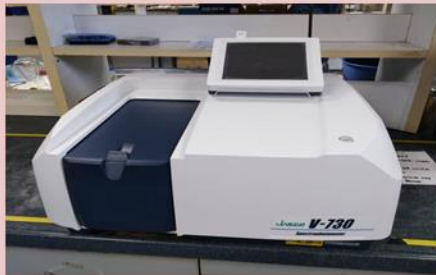
B) Freeze Dryer

- ♦ 1 Lab Scale Unit
- ♦ Purpose:
 - Sample pretreatment
 - Drying method
 - Encapsulation
 - Pre-storage
- ♦ Price: RM90/24 hour**



C) UV-VIS Spectrophotometer

- ♦ Features:
 - ♦ Double-beam spectrophotometer with single monochromator
 - ♦ Silicon photodiode detectors
 - ♦ Wide wavelength range – 190 to 1100 nm
 - ♦ Fixed band pass 1.0 nm for high resolution measurement
 - ♦ High-speed scanning up to 8,000 nm/min
 - ♦ Dedicated V-730 bio for bio-physical analysis
- ♦ Price: RM 40/ sample



V-730 UV-Visible Spectrophotometer



HALO VIS -10 Spectrophotometer

D) Laboratory Grinder and Sieving

- ♦ Sample Preparation of Particle size
- ♦ Purpose:
 - Food and Herbs Only
- ♦ Price: RM 50 /sample



F) High Voltage Demulsifier unit

- ♦ Patented Unit (MY 147287-A)
- ♦ Purpose:
 - Breaking of a emulsion into oil and water phases
- ♦ Price: RM 200/run@analysis



F) Furnace

- ♦ Two types:
 - 1) Box furnace
 - 2) Tube furnace (supplied with N2 and CO2 cylinders)
- ♦ Purpose
 - Pyrolysis and gasification
 - Proximate analysis
 - Ash determination
 - Carbonization
 - Physical and chemical activation
- ♦ Price : RM 50/Sample
RM 150/ Day

