This study was carried out to determine and compare the phytochemical content in peel and seed of kaffir lime (C. histrix), calamondin (C. microcarpa) and key lime (C. aurantifolia) extracts. The extracts from peel and seeds of samples were prepared and the phytochemical screening was done to determine the presence of phenolic, flavanoid, tannin and saponin content. All the peel and seed of kaffir lime (C. histrix), calamondin (C. microcarpa) and key lime (C. aurantifolia) indicate the presence of phenolic, flavanoid, tannin and saponin. The phytochemical contents that were analysed are total phenolic content, total flavanoid content, total tannin content and total saponin content.

Porous silicon (PS) is actually the formation of chemical element that has a nanoporous holes in its microstructure. The sample of porous silicon (PS) were prepared by electrochemical etching technique of 2 X 2 cm² size p-type silicon (Si) wafer with <100> orientation. This process using a constant current density 20 mA/cm² and a constant etching time of 20 minutes. The solution used for electrochemical etching was composed of hydrofluoric acid (HF) 48% and ethanol solution (C₂H₅OH) in 1:1 ratio by volume. The sample was doped with erbium (Er) by using spin on and thermal diffusion technique through a diffusion furnace at constant temperature of 300°C and constant time 1 hour.

The objectives of this study were to determine the physicochemical properties of olein and stearin fractions obtained from the 50:50 non-interesterified (NIE), chemically interesterified (CIE) and enzymatically interesterified (EIE) palm oil and palm kernel oil blend that are suitable for certain food applications. Stearin and olein fractions were obtained through the first stage of dry fractionation process at 25°C.

Egg yolk is considered as food rich in low density lipoprotein (LDL) cholesterol which is a bad type of cholesterol. Currently, consumers are looking for healthier food to be consumed. The objectives of this study are to remove cholesterol from the egg yolk by using γ-cyclodextrin and to characterise inclusion complex formed using Fourier Transform Infrared Spectroscopy (FTIR) and Field Emission Scanning Electron Microscope (FE-SEM). The analysis method consist of 4 stages: formation of inclusion complex by γ-CD, extraction of cholesterol from egg yolk, determination of cholesterol content in egg yolk supernatant by using Gas Chromatography (GC) analysis and characterisation of the inclusion complex formed by FTIR and FE-SEM.
THE STUDY OF STRUCTURAL MORPHOLOGY AND IMPEDANCE SPECTROSCOPY OF ACRYLATES / CARBON NANOTUBE COMPOSITE COATING
MUHAMMAD RASHID MAHMUD
1007378
CALL NO : TA418.9.N35 M84 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Carbon nanotubes (CNTs) already mentioned has unique properties and large applications mainly in coating industry. In this paper, CNTs was prepared using thermal-CVD method and CNTs was synthesized in powders form. The acrylate / CNTs were blended to get composite in film form was prepared using spin-coating method. For the characterization purpose, FESEM, impedance, Raman and UV visible spectroscopy were used to perform these investigations respectively.

PRODUCTION OF INSTANT FISH AND MAIZE SOUP POWDER BY EXTRUSION PROCESS
NURASYIKIN BINTI ABU KHORI
1007018
CALL NO : TJ1450 .N87 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

This study was conducted to produce a healthy instant soup powder by using local fish and corn grit. The purpose of this study as to determine the physicochemical analysis of instant snakehead fish and maize soup such as moisture, protein, ash, and fat, physical properties of soup such as viscosity and colour; and to evaluate the sensory attributes. The local fish selected from Channa striatus species due to its nutritional value and medicinal properties. The fish and corn grit were obtained from local market and processed into four formulations (10% fish + 65% com grit, 15% fish + 60% com grit, 20% fish + 55% com grit, and 25% fish + 50% com grit).

PRODUCTION OF INSTANT FISH RICE PORRIDGE BY USING SINGLE-SCREW EXTRUDER
JALILAH BINTI JAMALUDIN
1006926
CALL NO : TJ1450 .J35 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Fish rice porridge is made by incorporating fish flesh of mackerel (Rastrelliger kanarguta) into rice by using single screw extruder. There are five formulations which are control, formulation 1, formulation 2, formulation 3 and formulation 4. Different amounts of fish flesh were used to produce the extrudate. The control of instant fish rice porridge do not contain any fish flesh while formulation 1 contained 10% of fish flesh, formulation 2 contained 20% of fish flesh, formulation 3 contained 30% of fish flesh and formulation 4 contained 40% of fish flesh. The moisture content of the mixture was adjusted to 18-20% before it was fed into the single screw extruder.

PRODUCTION OF FISH CORN SNACK BY EXTRUSION
NOR HASMAH BINTI OSSEN
1007014
CALL NO : TJ1450 .N67 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Extruded fish snacks were prepared from fish mince and corn grit by using a singlescrew extruder. The temperature of the compression and the die section were adjusted at 100°C and 120°C respectively. The screw speed was maintaining at 115 to 125 rpm. The experiments were designed to determine the effect of different formulation of fish and corn in fish snack, to study the physico-chemical characteristics of different formulation of corn and fish in fish snack, also to determine the consumer acceptance of the product. The objective of this study was to examine the effect of different ratios of fish mince to corn grit on the proximate analysis, texture, colour and sensory evaluation.
**Production of Fish-Based Biscuit Using Extruder**

Ahmad Kamil Bin Masrudin

**Call No:** TJ1450 .A36 2013

**Location:** PTAR Utama

Bahan Harta Intelek

Torpedo scad (Megalaspis cordyla) which is a dark meat fish of the pelagic family of fish was used as an ingredient in the production of extruded fish biscuit. The percentage of fish used in biscuit formulations were 18%, 21%, 24% and 27%. Chemical composition, texture, colour and also the sensory acceptability of extruded fish biscuit were evaluated. The protein content, moisture content and ash content increased with the increase of percentage of fish used in biscuit formulation while the fat content decreased. The colour analysis indicated that increasing percentage of fish increased the redness of extruded fish biscuit.

**Total Phenolic and Flavonoid Content of Three Species of Gynura**

Nuradila Marini Bt. Morat

**Call No:** QD341.P5 N87 2013

**Location:** PTAR Utama

Bahan Harta Intelek

Natural products have the potential to be developed into new drugs for the treatment of various diseases. Gynura bicolor, Gynura divaricata and Gynura procumbens are plants that belong to the genus Gynura and contains variety of natural antioxidant which can inhibit the production of free radicals in human body. The objective of this study is to determine the total phenolic and flavonoid content of ethanolic extracts of three species of Gynura. In this study, Gynura bicolor, Gynura divaricata and Gynura procumbens were extracted with 95% of ethanol. Total phenolic content was determined by using Folin Ciocalteu’s reagent. Total phenolic content of ethanolic extracts of Gynura bicolor, Gynura divaricata and Gynura procumbens were determined by extrapolation of gallic acid calibration curve and were expressed in milligrams of gallic acid, mg (GAE)/g.

**Preparation and Characterization of Hybrid TiO$_2$/PVA Nano-Fiber by Electrospinning**

Noor Amalina Ahmad

**Call No:** TS1548.5 .N66 2013

**Location:** PTAR Utama

Bahan Harta Intelek

In this study, the hybrid TiO$_2$/PVA nanofiber by electrospinning technique was successfully synthesized. The TiO$_2$ particle was prepared by sol-gel method and heated at 800ºC for three hours. Other than that, the TiO$_2$ particle was also agglomerate. The size of TiO$_2$ particle was approximate 818.8 nm. The solution concentrations of PVA were prepared at various solution concentrations which were 6 wt%, 7 wt%, 8 wt%, 9 wt% and 10 wt%. All the PVA solution has been electrospin to produce nanofiber and investigate the relationship between the solution concentration of PVA and the diameter of nanofiber produced by electrospinning technique.
PREPARATION AND CHARACTERIZATION OF NANOHYBRID PMMA/TiO2
NOOR AADILA ABD AZIZ
1007342
CALL NO : TA418.9.N35 N66 2012
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Titanium Dioxide (TiO2) is the material with wide application due to its optical and electronic properties. Titanium dioxide nanoparticles were synthesized by the sol-gel method. Poly methyl methacrylate (PMMA) is one of the best organic optical materials, and has been widely used to make a variety of optical devices. Nanohybrid PMMA/TiO2 are characterized by Field Emission Scanning Electron Microscope (FESEM), Atomic Force Microscope (AFM), Ultraviolet Visible Spectroscopy (UVVis) and Raman Spectroscopy.

STUDENT UNDERSTANDING OF ELECTRICITY AND MAGNETISM CONCEPTS
NURUL FATIHAH BT CHE OTHMAN
1007237
CALL NO : QC518 .N87 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Student difficulties in electricity and magnetism are well documented in many physics education researches. This study investigates student understanding of electricity and magnetism concepts in a Malaysian public university. The instrument selected for this research is the 32-item conceptual survey of electricity and magnetism (CSEM) due to its established validity, reliability, and its reasonable difficulty and discrimination index.

TO STUDY THE EFFECT OF THE ANTENNA LENGTH BESIDES THE POWER SUPPLY IN A SIMPLE MULTI BAND RECEIVER
CHE MOHAMAD FAIZ BIN CHE NOH
1007251
CALL NO : TK7871.6 .C44 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Simple multiband circuit was made from TDA 7000 integrated circuit. TDA 7000 integrated circuit is a monolithic integrated circuit for mono FM portable radios, where a minimum on peripheral components is important. In order to study the effect of the antenna length to the VOLtagc gain besides the power supply, two examples length of antenna L=20cm and 40cm have been analyzed by connect the copper wire to the circuit, then observed on the oscilloscope by referred the shape of the sinusoidal graph.

TOXICOLOGICAL EVALUATION OF PERESKIA BLEO EXTRACTS BY ACUTE TOXICITY TEST IN SPRAGUE DAWLEY RATS
ATHIRAH BINTI MD ZAINUDIN
1007047
CALL NO : QV602 .A84 2013
LOCATION : PTAR UTAMA
BAHAN HARTA INTELEK

Although medicinal plants may produce several biological activities in humans, generally very little is known about their toxicity and the same applies for Pereskia bleo. The aim of this study is to determine the toxicity of Pereskia bleo extracts by acute toxicity test. This study was conducted in male Sprague Dawley rats. The extract of Pereskia bleo was administered in single doses of 2000 mg/kg and 5000 mg/kg and was observed for 14 days according to the OECD 423 guidelines.
In this study, the total flavonoid and total phenolic contents of banana peel extract were determined. The study found that banana peel extract possessed considerable amounts of flavonoids (12.6 mgRE/g of extract) and (18.65 mgGAE/g of extract) of phenolic. The 1,1-diphenyl-2-picrylhydrazyl (DPPH) radical scavenging and reducing power between banana peel extract and BHT/BHA were examined. However, the banana peel extract in free radical scavenging of DPPH and reducing power were significantly not as superior as BHT/BHA. The antioxidant effect of banana peel extract and synthetic antioxidant (BHT/BHA) on lipid oxidation and physicochemical properties of beef meatball stored for 9 days at 4 °C were investigated.

In this project, we are using the microemulsion polymerization method to produce the Latex Nanoparticles Film (LNP). To produce the film, we can use glass substrate that must be cleaned first. This is important to make a good adhesion of coatings on the substrate and to obtain a uniform thickness layer. To investigate the characterization successfully, some instrument will be used, such as Electrochemical Impedance Spectroscopy (EIS), Atomic Force Microscopy (AFM), and Field Emission Scanning Electron Microscope (FESEM).

The chemical properties of the banana peel flour made from the stage 7 maturities were being analysed. The incorporation of banana peel flour and minced chicken in the production of dried noodle was evaluated in relation to physicochemical characteristics and product acceptability by sensory evaluation. The proximate analysis has been done for the banana peel flour. The banana peel flour produced contained 59.91% carbohydrates, 10.92% crude fibre, 3.23% crude fats, 4.29% crude protein, 10.36% ash and 11.29% moisture content.

Titanium Dioxide (TiO2) and also known as Titania are familiar use for cleansing agent as one of their application. This material has three crystalline forms such as anatase, rutile and brookite. These three phases will have different properties and applications. In this research, the parameters that will affect the size of particles will be determined by manipulating the temperature and duration of the annealing. This research will start from preparation the sample of TiO2 powder then the sample will be characterize with three specific devices such as XRD, FESEM and photocatalytic activity with UV lamp.