and their typical SPR absorption bands has not undergone undesirable change. Pegylated gold nanorods could be utilized for in-vivo applications, such as drug delivery with higher circulation time, photothermal therapy, and nanobiosensors of more specificity in the upcoming research fields of nanobiotechnology.

Keywords: Nanobiosensor, Gold Nanorods, Surface plasmon Resonance.

Abstract No.251

Lipase Applying in Soybean Oil to Biodiesel Production and Comparison with Chemical Method

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Nowadays, biodiesel is well accepted as a renewable energy. Biodiesel is a fuel comprised of monoalkyl esters traditionally derived from vegetable oils or animal fats. There is currently an unprecedented increased interest , demand for biodiesel and other fuels derived from renewable biomass .Our study was conducted to investigate the optimum conditions for biodiesel formation from soybean oil with chemical reaction and lipase enzyme. The results indicated that increasing of temperature is important factor in both methods. In this study through experimental investigation of reaction conditions such as, reaction temperature which are deemed to have main impact on reaction conversion efficiency. The oil conversion was influenced by the methanol/oil molar ratio. The technical tools and processes for monitoring the transesterification reactions like GC have also been summarized. The experimental results showed that in chemical method a 1:8 molar ratio of methanol and ethanol to oil, addition of 1% wt KOH catalyst, 60 ºC reaction temperature gave the best results, and the biodiesel yield exceeded 95% at 90 min. In enzymatic a 1:4 molar ratio of methanol to oil, 45 ºC reaction temperature are best condition in biodiesel production. Enzyme stability and activity was investigated in present of methanol and tert-butanol. Methanol play a reducing role in affecting enzyme stability but tert-butanol increased the enzyme activity.

Keywords: Biodiesel, Triglyceride, Gas Chromatography, Transesterification, Base Methods.

Abstract No.252

Effect of DMSO & Triton on G-quadruplex-Hemin Interaction

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It has been reported that complexes formed by hemin and some G-quadruplexes can be developed as a new class of DNAzyme with peroxidase activity. DNA in single-stranded form has the ability to fold into complex structures that serve as highly specific catalysts. Here, we report metal ions induced guanine quadruplex formation with d(GTG3TAG3CG3T2G2), which shows peroxidase function upon complexation with hemin.DNA oligomers were heated at 88°C in distilled water and gradually cooled. The DNAs were then treated in HEPES buffer in the presence and absence of DMSO and Triton and both of them were kept at room temperature to allow proper folding. An equivalent volume of hemin was added to the G-quadruplex solution, and incubated to form DNAzyme complex.Spectroscopic measurements were carried out in order to characterize complex formation. The UV-vis spectroscopy results showed that the uncomplexed hemin has a soret absorption band centered at 397 nm. Upon incubation with G-DNA, in the presence of DMSO and Triton, the absorption center showed a slight red shift to 404 nm with hyperchromisity. This characteristic has been used to investigate the hemin-DNA interaction. However, in the absence of Triton and DMSO, only hyperchromicity and considerable blue shift was observed. By using Triton and DMSO alone, the significant results were obtained. There was no change in the intensity of Hemin-G-quadruplex interaction when using DMSO and hyperchromacity was not observed. But after using Trion in the buffer composition hyperchromacity and red shift was observed in comparison with DMSO.

Keywords: Hemin, Deoxyribozyme, Peroxidase, DMSO, DNAzyme.
