Fresh

PerkinElmer®
For the Better

HUMAN HEALTH | ENVIRONMENTAL HEALTH

VOLUME 4 spring-summer edition 2009
INDIA ANALYTICAL SCIENCES-BIO DISCOVERY-GENETIC SCREENING

What's Fresh inside...!!

Analytical Sciences

- Analysis of anti-diabetic drugs using RamanStation 400
- Camouflage fabric analysis using Lambda 950 UV VIS NIR
- Pharmaceutical class 1 solvent OVI detection using Clarus GC & TMHS
- Molecular Biomarkers confirmations using GCMS system.
- Co-polymers determinations using DSC
- Determination of Mercury, Arsenic at low concentration in potable water
- New Swafer technology for PerkinElmer GCs

Bio-Discovery

- TriCarb 3180TR for Bioethanol
- Aequorin Assays using EnVision™ Multilabel Plate Reader with Dispenser

Genetic Screening

- PerkinElmer DELFIA Express system for genetic screening

Fresh

Message from the President

I take an opportunity to reach out to you through this FRESH news letter. The goal of our new communication tool is to keep you posted about the activities at PerkinElmer India operations as well as new interesting applications. We hope that such communication will increase information flow and strengthen our relationship with Indian customers. This edition of news letter will cover some new field applications exercised by our team of India application specialists for all our focus areas starting from Analytical sciences, Bio-discovery and Genetic screening.

There is no secret that the World is going through a challenging economical situation. We in PerkinElmer believe that true customer focus with emphasis on the betterment of the mankind will always remain relevant and close to everyone's heart.

For that reason we will continue to focus on improving human and environmental health. That includes developing solutions for earlier insights in health conditions and more effective therapies as well as solutions for cleaner water and safer buildings. PerkinElmer touches the lives of millions of people around the world every day. Through science, innovation and applications expertise we are committed to transforming risk into safety, mystery into knowledge and ideas into action for a healthier today and a better tomorrow.
Our impact extends beyond the science and technologies:

- As the global leader in neonatal screening, we save 40 babies a day
- Our environmental monitoring and renewable energy testing technologies are leading the drive for a cleaner planet
- Our sensors reduce CO2 emissions by 22 million tons per year
- With the world's largest portfolio of biological and functional technologies for cellular science research, we're driving the development of tomorrow's most effective drug treatments
- As the world's leading supplier of amorphous silicon digital x-ray detectors, we help preserve healthy tissue and speed recovery time for cancer patients.
- With over 400 multi-vendor customers and over 10 years of multi-vendor experience, we are the most experienced multi-vendor service organization in the analytical industry
- Our Xenon lighting technology delivers ideal visualization for some of medicine's most demanding applications, including endoscopic surgery
- We operate in 150 countries worldwide and employ approximately 9,100 employees. Seventy-five percent of our products are in the number one or number two position in their market

More over for India and Indian sub-continent customers we have established Technology innovation centre in Mumbai which will provide the highest class of training and application support through competent people from the industry and institutions. Our Global technology centre provides the ready to use systems through the EcoAnalytix solutions.

Over and above we have launched the state of the art service training academy and logistics centre to provide the best services and quick spares supplies to Indian customers. All these investments are only for one reason and that is making the life of our valued customers easier in this challenging times. I invite you to strengthen the relationship through the healthy business and a very long partnership.

Wishing you the best and happy reading.

Dr. Fedja Bobanovic
President
PerkinElmer India (P) Ltd

India Service Training academy & Logistic Centre Inaugurated at Mumbai

It is with great pleasure that we can share with you all. On Wednesday 18th March 2009, after many weeks of hard work by internal and external people, we took the momentous step forward in our internal growth and our customer support in India.

The New Service Training Academy and Logistic Centre was inaugurated by the PerkinElmer's President of Laboratory Services, Dusty Tenney in a colourful and exciting ceremony.

The opening of this facility in Mumbai will have a major impact on the service department in the following ways.

It will ensure that we can provide focused training to our entire service team, grow our competencies and ensure we have the skills to meet the ever changing demands of a dynamic growing customer base.

We will now have targeted inventory in India for the first time in the history of our organisation, allowing us to meet and exceed our customer's expectations for the supply of requested spares, consumables and allow us to respond to emergency calls with greater efficiency. The initial batch of inventory has been targeted at GC, HS & MS and we are in the process of mapping our other install bases to ensure that the inventory grows in a targeted manner. This inventory will give us a great advantage for enhancing our Comprehensive Service Contract Base and assuring our customers maximum uptime for these products.

This facility is entirely dedicated to the support of the service organisation in India. This facility can be utilized for conducting service training courses, for testing, troubleshooting of parts and assemblies, in-house repairs etc.

Bioethanol 14C- Content System

Tax incentives are introduced in many countries to promote the use of biofuels. Therefore, it is key to know the primary origin of the base material, whether it be biofuel or fossil fuel, and to determine the fuel's content of biological components. Bioethanol or Biodiesel which was derived from living material contains 14C. If it is made from crude oil it will not contain 14C since this has decayed in fossil fuels. The PerkinElmer's TriCarb® Liquid Scintillation Analyzers are used today for characterization of the biofuel component and determination of the fuel's biocarbon content. This analysis determines whether the 14C present is in compliance with ASTM D6866-05. This solution, part of our extensive biofuels development and testing portfolio, is made possible by EcoAnalytix™ by PerkinElmer®.

How can we help you?

Compliance Conform to established methodology for the analysis of 14C (ASTM D6866-05)
Rapid Ramp-Up Complete solution (instrumentation, consumables, and qualification procedures) for rapid setup and sample testing
Experience Provider of dedicated biodiesel and bioethanol solutions worldwide
Assurance Global leader in service, support and training

EcoAnalytix Solutions from PerkinElmer

Biodiesel
- Biodiesel Glycerin and Methanol Analyzer & System
- Biodiesel Methanol GC Recommended Configuration
- Biodiesel Glycerin System
- Biodiesel FAME GC Recommended Configuration
- Biodiesel Trace Metals Analyzer
- Biodiesel IR FAME Analyzer
- Biodiesel Oxidation Stability DSC Recommended Configuration

Bioethanol
- Bioethanol Alcohol GC Recommended Configuration
- Bioethanol Fermentation LC Recommended Configuration
- Bioethanol Trace Metals ICP Recommended Configuration - Bioethanol ^{14}C Conte LSC Recommended Configuration
- LABWORKS 6 greenLIMS

Identification of Polymorphs of an Anti Diabetic Drug Using Raman Spectroscopy

By: Garfield Rebello
Application Specialist
-Molecular Spectroscopy

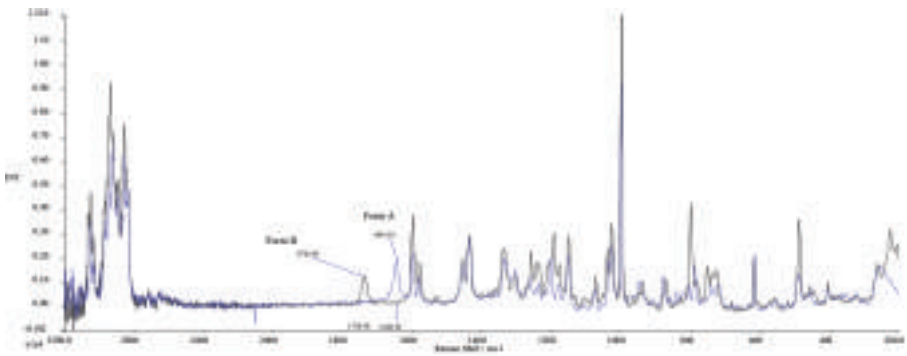
PerkinElmer RamanStation 400 has unique instrumentation and optical design which is used for the analysis of anti-diabetic drugs having mixture of polymorphs which are formed during the manufacturing process. Anti Diabetic Drug used in analysis contained two Polymorphs. Polymorph A is toxic and Polymorph B, which is the required form for Manufacture. The Analysis to distinguish between the two forms was initially carried out using FTIR with KBr Disc technique. But from this it is very difficult to conclude as both samples shows same spectra, when pressed into KBr disc at high pressure. The samples were also analyzed using diffuse reflectance with FTIR but the results were not conclusive. Hence the Samples were analyzed using Raman Spectrometer which yielded the desired results successfully with no sample preparation

Procedure: Place a small amount of sample on to a glass slide and place glass slide onto the holder Video focus on the sample using the stage control keys to get a clear visible image. This is done keeping the shutter open. After clear image is obtained close shutter and check spectral preview. Scan sample using the above conditions.

Experiment Conditions:
- Scan Range: 3200-200 cm-1
- Data Interval : 2 cm-1
- Total Scan Time: 20s
- Number of Scans: Auto Calculated
- Time of Scan : Auto Calculated

Observations and Conclusions:
Form B and Form A can be easily distinguished. Form B has a Peak at 1736 cm-1 which is absent in Form A. Whereas Form A has a peak at 1643cm-1.

Fig 1: Overlay Spectra of two Forms of Anti-Diabetic drug



Analysis of Camouflage Cloth Using Lambda 950 UV/Vis/NIR Spectrometer

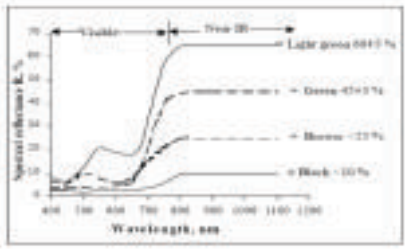
The world is undergoing tremendous stage of terrorism. This lead to many conflicts and wars. The wars also have gone high tech in terms of arms and ammunitions. After the world war II united nations passed many resolutions and made provisions for the security and security men to protect their lives. The invention of camouflage cloth was one of the solutions made available to soldiers to shelter them from the spying devices and vision cameras. In order to obtain satisfactory concealing properties of the camouflage cloth in NIR spectral range, the values of spectral reflectance of the main – green color must be 40 % ~ 55 %, of brown color <25 % and of black color <10%. The difference between dominant values of spectral reflectance of brown and black colors must be more than 7 %. There are various norms from different defense departments and countries

UV-Vis-NIR Conditions

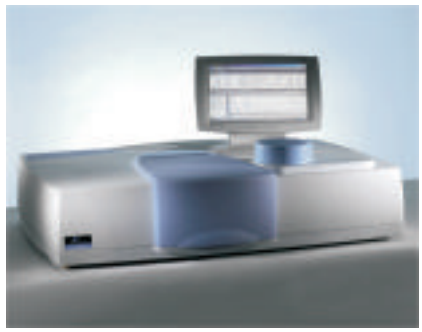
- Instrument: Lambda950 with
- Integrating Sphere Accessory.
- Range: 1400-700nm
- Data Interval: 1nm
- Cycles: choose appropriate
- Gain : 4
- Slit: Fixed : 4
- Servo: Auto

Procedure

- Take Background by keeping Teflon Disc.
- Place Desired color of cloth in beam path and scan



Observations and Conclusions:
Samples of camouflage materials having different spectral reflectance values for particular pattern colors were developed and tested for reflectance properties. It was determined, that to achieve camouflage effectiveness in the NIR spectral range, the spectral reflectance of each color of pattern should match the appropriate spectral reflectance of particular environment. From the above Graph, the % of reflectance of the camouflage cloth can be seen for different colors. This is an important optical property of camouflage material.



By: Garfield Rebello
Application Specialist
-Molecular Spectroscopy

To identify the Class 1 solvents by Method A (as per USP) by Clarus Gas Chromatograph & Turbomatrix head space sampling

Umesh Talekar
-Application s pecialist
-Chromatography

The organic volatile impurities (OVI) has become a buzz word in the pharmaceutical manufacturing, especially the companies who follow the international norms of US pharmacopeia or BP or WHO guidelines. Various attempts made to standardize the method to regulate the restrict the quantity of the OVI below the desired limits. Due to non availability of the good technique to detect the solvents it was not possible to achieve good RSD and detection levels. PerkinElmer Clarus GC with Turbomatrix head space sampling devices was successful to provide the solution to these problems due to its pressure balancing technique which eventually appeared as guideline in USP 31.

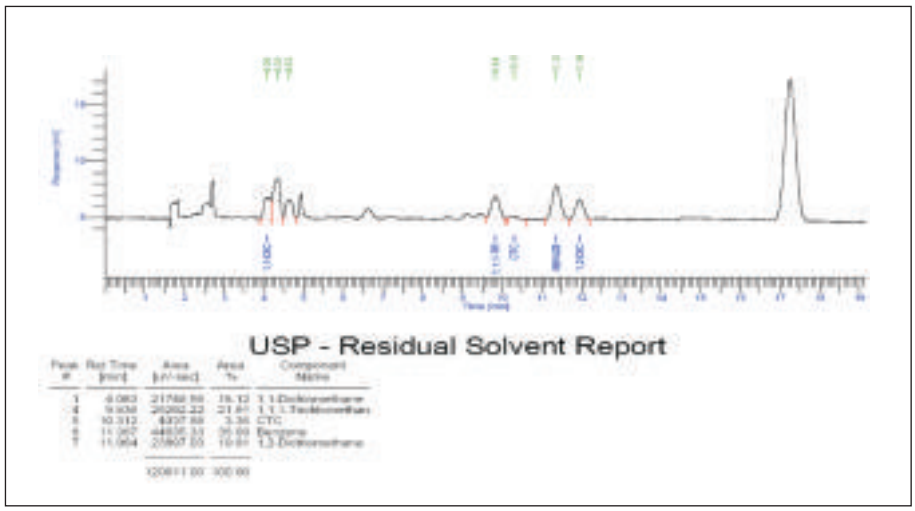
The OVI method described here is implemented using PerkinElmer® TurboMatrix™ HS 40 Automated Headspace Sampler and a Clarus®600 Gas Chromatograph (GC) configured with a Flame Ionization Detector (FID), as shown in Figure 1. With the following GC and HS parameter the resolution between benzene and 1,2 dichloroehane is achieved as well as the signal for carbon tetrachloride is also satisfactory. To identify the class 1 solvents in the pharmaceutical sample various parameter were experimented using the instrumentation available with Turbomatrix head space sampler. Primarily the multiple head space extraction technique and overlapping technique allowed us to establish and validate the method very well.

The ruggedness of the method also can be established on similar lines by using PerkinElmer Clarus GC and Turbomatrix Head space sampler. We could establish the method using PerkinElmer Elite capillary column (30mt X 0.53mm X 3u). The separation seen is very good with optimum chromatography conditions and HS parameters.

Fig. 1 TurboMatrix Automated Headspace Sampler (right) with the Clarus 500 Gas Chromatograph (left).

Conclusion

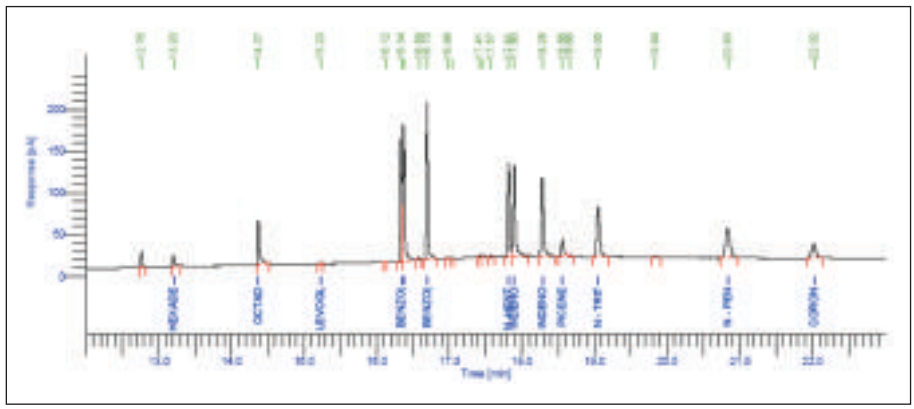
With this method the resolution between benzene and 1,2 dichloroehane is more than 1.0 and the signal for carbon tetrachloride is also more than set by US Pharmacopeia.



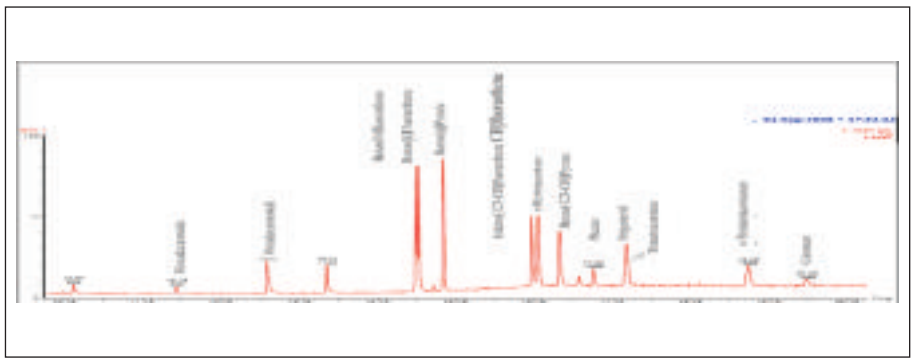
Analysis of Molecular Biomarkers using GC FID/MS

Dr. Manoj Surwade
Application Specialist
-Chromatography

Bio molecular markers are a group of organic compounds which shows little or no change in their chemical structure from their parent organic molecule. These compounds are characterized by their restricted occurrence, source specific, molecular stability, and suitable concentration for analytical detection. The present study briefs the analysis of mix standards of Molecular markers in air: containing Alkanes, Hopanes, Alkanoic acid, and PAHs, using GCFID and their structures were confirmed using GCMS. Basically these group of compounds are analyzed using technique other than gas chromatography. An effort was made to analyses all the components using single GC run.



GC Chromatogram for the analysis of mix standard (500 ppb) 13 different Biomolecular Marker



Confirmation of all 13 bio molecular markers using GCMS.

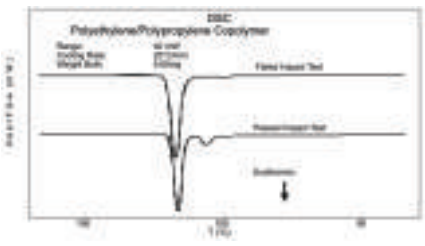
Conclusion:
Objective of the present study is to achieve analysis of molecular bio markers in air as sample, usually such type of analysis is done by using series of instruents like HPLC, GCMS, UV VIS. But the present study highlights the advantage of use of single instrument GCFID which is novel work as it reduces cost and time of analysis. Single run analysis for mix standard molecular markers were successfully achieved on GC FID at 500 ppb level (13 compounds). Structure of compounds (13 Compounds identified by GCFID) were confirmed by Mass spectroscopy.

Polyethylene / Polypropylene Co-polymer – Crystallization & Melting Behavior to co-relate the impact -test using DSC.

Dr. Yogesh Satpute
Application Specialist
-Thermal Systems

Dr. P. S. Jain
General Manager
-Material
Characterization

It is not always possible to separate melting peaks for blends, or block or graft copolymers, as melting peaks may indeed overlap. DSC, however, does offer an additional possibility because of the capability of the DSC to program cool. In some instances, polymers will super cool to different degrees and the crystallization peaks of the homopolymers will be separated. An example of this procedure is presented in Figure 1 for two samples of polyethylene /polypropylene copolymers (these are the same samples as used in the previous example). Here the propylene segments crystallize first, followed by the crystallization of the ethylene segments.
Fig 1:Polyethylene /Polypropylene Copolymer - Crystallization

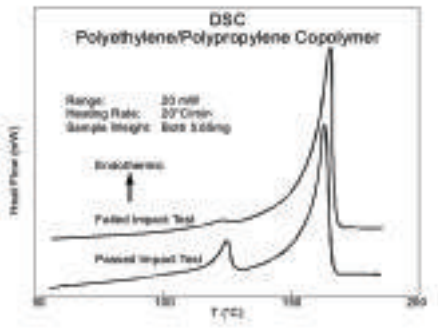


It may be necessary to try different cooling rates or to crystallize the sample isothermally at two different temperatures to achieve separation. Two additional areas of interest in the analysis of polymers are the temperatures and rates of crystallization. This may include, for example, the effect of nucleating agents. Since the DSC is not only qualitative, but also directly quantitative, these studies are readily carried out.

MELTING BEHAVIOUR OF CO-POLYMERS

While polyethylene is often blended with polypropylene, it is more frequently copolymerized with polypropylene to form block copolymers of ethylene/propylene. These block copolymers contain major segments of polypropylene, which preserve the Crystallinity and high temperature properties of the homopolymer, and more or less regularly spaced segments of polyethylene that contribute to the impact performance. This type of block copolymer is typically used in injection molding applications
Fig 2: DSC Analysis of Co polymers –Melting Behaviors

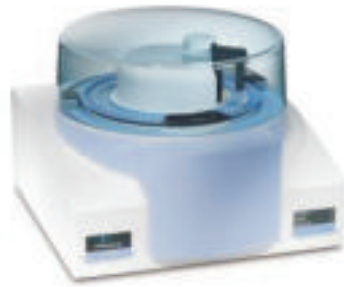
Figure 2 illustrates two DSC scans on the melting behavior of two



different samples of ethylene/isotactic propylene block copolymers, one of which passed impact testing, the other of which failed. The lower temperature peak is due to the melting of the ethylene segments of the block while the higher temperature peak is due to the isotactic propylene segments in the block.

These two DSC scans indicate not only the differences between the two samples but also the reason for impact failure. In this instance, failure was caused by the smaller amount of ethylene which was present in the low impact copolymer (the areas under the respective melting peaks are proportional to the amount of each homopolymer present in the copolymer).

Power Compensation DSC



Heat Flux DSC

Determination of Mercury and Arsenic in potable water using ICP-FIAS Technique

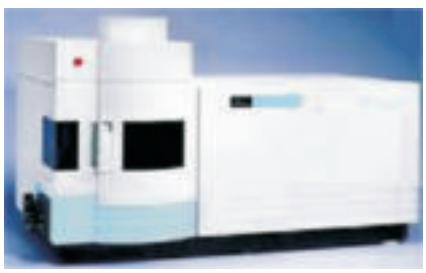
Dr. Nagesh Pai
Application Specialist
- Atomic Spectroscopy

Sachin Salunkhe
Application Specialist
-Atomic Spectroscopy

Arsenic and Mercury in potable water causes bladder, lung and skin cancer, and may cause kidney and liver cancer. It is found that arsenic harms the central and peripheral nervous systems, as well as heart and blood vessels, and causes serious skin problems. It also may cause birth defects and problems related to reproductive system. Most arsenic and Mercury enters water supply either from natural deposits in the earth or from industrial and agricultural pollution.

The concentration of such toxic elements varies from ppm to ppb levels. Analysis of Hg and As up to ppb level is possible with ICP-OES with Flow Injection Analysis (FIAS); where we can could enhance the detection levels to sub ppb levels.

To do this type of analysis the PerkinElmer Dual view ICP spectrometer with shear gas and chiller was used in combination with FIAS 100/400 flow injection system as shown in the figure.



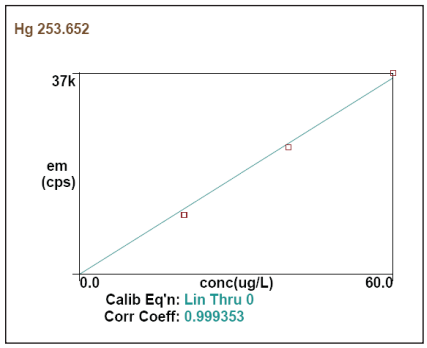
Optima ICP-OES Spectrometer

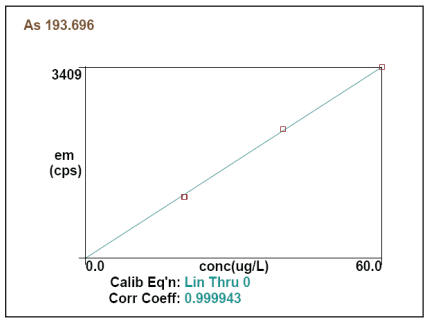
The FIAS 400 provides extensive flexibility

Standard and sample preparation:

1. Sample and standards are first reduced by adding 5% of KI and 5% of Ascorbic acid and then diluted with 10% HCl solution.
2. 0.2% of NaBH4 is prepared in 0.05% of NaOH solution. The plasma conditions and nebulizer flow conditions were optimized for the calibration of the instrument. Since Optima ICP Spectrometer is having very high speed of analysis; we could also include other elements as well. The plasma was stable within 12 minutes from the ignition and thus saved the consumption of Argon gas and energy. The graph below shows the best linearity and very good reproducibility along with low RSD for every replicate of the readings even at such low level concentrations.

Calibration Graph:





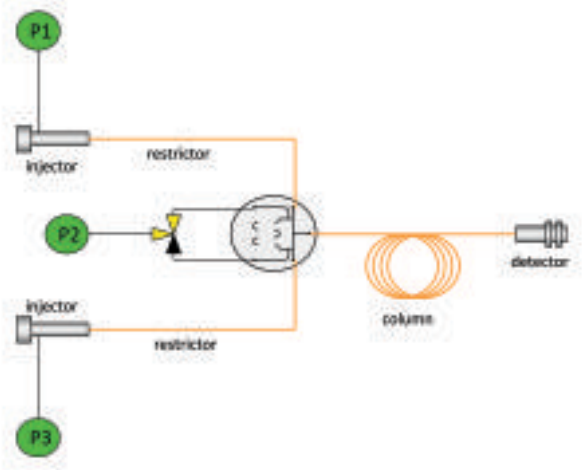
Sr.No	Element	Concentration in ug/L
1	Mercury	0.1
2	Arsenic	0.3

From the observed results metal ion such as Mercury and Arsenic which are very toxic in nature for environment as well as human health can be detected in very low ppb level with the help of FIAS and ICP-OES. PerkinElmer Optima ICP spectrometer with FIAS 100/400 is the best available solution in the market for variety of inorganic analysis in different matrices.

New Micro-channel Switches for GC

D-Swafer Dean's Fluidic Switch
PerkinElmer's Swafer™ platform is a micro-channel wafer technology, providing Clarus® 500 and 600 GC users with additional application flexibility, while delivering richer sample information, increased sensitivity, lower maintenance costs and increased sample throughput. The D-Swafer is based on the classical Deans' Switch principle, but may be configured in multiple ways to provide a variety of features:

- Inlet, column, and detector switching and isolation – provide maximum application flexibility
- Heart cutting (Deans Switch) – allows separation of selected peaks within a complex sample matrix
- Solvent venting/column-bleed venting – removes undesirable materials from the GC system
- Sample back flushing – for removing heavy sample residue or carrier gas swapping
- Polarity tuning – allows tweaking of column selectivity during chromatography to optimize difficult separations
- Selective peak attenuation – enables specific peaks to be attenuated to monitor a larger dynamic range



S-Swafer Fluidic Splitting Switch
PerkinElmer's Swafer™ platform is a micro-channel wafer technology, providing Clarus® 500 and 600 GC users with additional application flexibility, while delivering richer sample information, increased sensitivity, lower maintenance costs and increased sample throughput. The S-Swafer is a scalable splitting device designed for sample-stream splitting between a range of detectors or columns. The programmable pressure regulator increases the flow rates of gas into the splitter outlets, enabling higher split ratios to be applied. The S-Swafer can be configured in multiple ways, offering a variety of additional features:

- Column effluent splitting between up to four detectors – for chromatographic monitoring on multiple detectors
- Inlet splitting between columns – allows different separations on multiple columns
- Sample backflushing – for removing heavy sample residue
- Column isolation – allows injector maintenance without shutting down the GC
- Mass spectrometer (MS) isolation – enables GC columns to be exchanged while a MS detector is still under vacuum
- Polarity tuning – allows tweaking of column selectivity during chromatography to optimize difficult separations

Aequorin Assays using EnVision™ Multilabel Plate Reader with Dispenser

By: Niraj Khurana
Marketing Leader
-Bio Discovery

The EnVision™ multilabel plate reader has been equipped with dispense options to meet the needs of cell-based drug discovery assays. Detection of GPCR-mediated calcium signaling, using the Aequorin technology, where signal levels peak in seconds and decay in tens of seconds require measurement of the emitted light to be monitored kinetically at the same time as dispensing.

INSTRUMENT FEATURES

2104 EnVision™ Multi label Plate Readers features modular label-specific optical mirror modules, high energy flash lamps, and high speed detectors. The instrument is designed to provide the greatest configuration flexibility possible, including accepting micro plates from 6 to 1536 wells. EnVision™ can handle kinetic measurements for enzyme assays and scanning of the well area for cellular assays. The dispenser unit is equipped with two pumps. The dispense can be done in 96 or 384-well format with volumes ranging between 2- and 475 µL. The dispense speed can be adjusted from gentle for cellular assays to fast, and it can be done in real time or it can be a pre- or post measurement dispense. Calcium assays are used to study activation of a GPCR following stimulation by a agonist compound. Aequorin is a photo protein originating from the jellyfish Aequorea Victoria. The apo-enzyme (apoaequorin) is a 21 kD protein that needs a hydrophobic prostethic group, coelenterazine, to be converted to aequorin, the active form of the enzyme. This enzyme has calcium binding sites which controls its activity. When calcium binds,

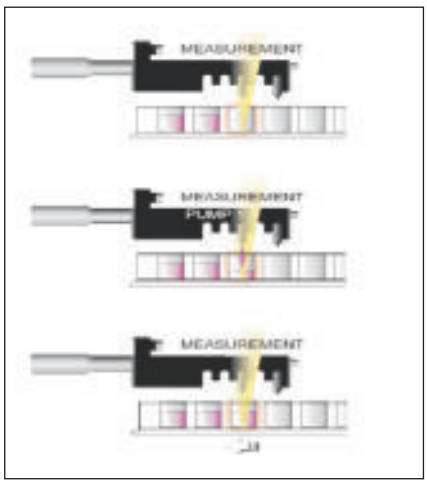
aequorin oxidizes coelenterazine into coelenteramide with production of CO2 and emission of light. The instrument used for aequorin calcium assays needs to have the capability to dispense and read at the same time as the response in the cells happens a few seconds after dispensing and is typically over within 30 seconds.

EnVision is ideal for developing Aequorin based GPCR Calcium assays:

2 channel dispenser with stirred reservoir allowing cells to be maintained in solution up to and during dispensing. Ultra high sensitivity enhanced luminescence mode.
The dispenser unit is equipped with 2 pumps. Integrated hot plate (from ambient + 4C to + 65C) and magnetic stirrer (100 – 400 rpm). Dispensing up to 384-well plates. Volumes between 2 uL and 500 uL. Dispensing times with 2 tips (5 uL including plate loadings): 96-well plate 50 sec, 384-well plate 100 sec. Dispensing speed from gentle for cellular assays to fast for other applications. Accuracy (2-500 uL): 0.05% Low dead volume < 750 uL Real-time dispensing, pre- and post dispensing. Simultaneous dispensing with 2 tips to maximize throughput.

Tipmount 5

is used for real-time measurement 'with Dispense Measurement' operation. It is used for assays where simultaneous dispense-and-read is needed e.g. assays with fast kinetics, or live cell assays. Simultaneous dispense-and-read can only take place at the middle position of the Tipmount (position 3). This is the standard detector position used to measure FI, FP, Luminescence, and TRFs.
Tipmount 5, 'Dispense Measurement' operation with Real-time tip, pump1dispenses simultaneously in the middle of



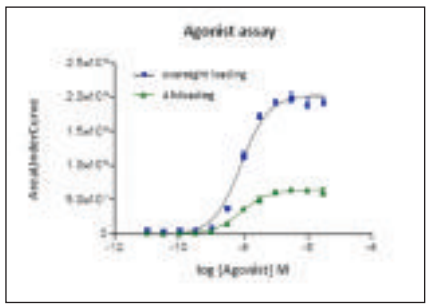
repeat measurement (the tip for real-time measurement is in the middle position).

One of the benefits of using EnVision™ for Aequorin assays is the fact that the reading time can be set to 0.1 sec which gives readings with shorter intervals when detailed studies of the kinetic response curve is required.

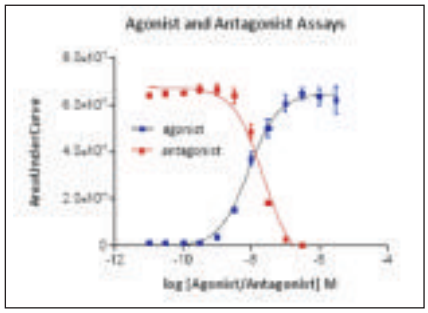
Different versions of the Aequorin Assay on EnVision

The AequoScreen™ cells used in this study were double stable CHO-K1 cells expressing Aequorin as well as the histamine H1 receptor. For the Aequorin assays, the cells were loaded in suspension with 5uM coelenterazie h for 4 hours or overnight at room temperature under constant rotation. The cells were then diluted to the appropriate working concentration and kept in suspension using the magnetic stirrer plate on the EnVision dispense unit. The cell suspension was equilibrated for at least 1 hour after dilution to final working solution.

Agonist Assay	Agonist Assay	
	A	B
Agonist in plate - *Dispensed offline*	Agonist in plate - *Dispensed offline*	Agonist in plate - *Dispensed offline*
EnVinion - Dispense cells using pump 2 & real time tip	EnVinion - Dispense cells using pump 2 & pre-tip	*Dispense cells offline*
	EnVinion - Dispense Agonist EC_{80} using pump 1 & real time tip	EnVinion - Dispense Agonist EC_{80} using pump 1 & real time tip



Coelenterazine	overnight	4h
pEC_{50} (histamine)M	8.07	8.06



pEC_{50} (histamine)M	pIC_{50} (*trans*-tripolidine)M
8.06	7.64

PerkinElmer Genetic Screening

Subhamoy Dastidar
-Sales Leader Genetic Screening

DELFIA® Xpress system

Did you know?

1 in 5 pregnancies suffer major complications?

Every 3 ½ minutes a baby is born with defects?

1 in 8 babies born are premature?

Over 50 newborns disorders can be detected?

PerkinElmer's goal is to ensure Health from Conception to Early Childhood
One of the key offerings to of PerkinElmer in the area of Human Health is Genetic Screening. More and more countries understand the need to shift the healthcare system towards a preventive healthcare model. Here, Genetic Screening is becoming one the strategic tool to implement the same.

PerkinElmer Genetic Screening has the following focus area:

1) **Maternal Health:** The age of females undergoing their pregnancy continues to rise, ans risk of complication Increase strongly with age. PerkinElmer offers comprehensive methods for assessing the well being of both mothers-to-be and fetuses, and is a leading partner of healthcare providers building infrastructures for prenatal screening
2) **Newborn health:** Neonatal screening is used to detect in babies congenital diseases that are treatable only when identified during the first days of life. PerkinElmer supplies all of the products needed to establish and maintain an effective screening program.
3) **Child health:** Today, PerkinElmer Genetic Screening has expanded its horizon from screening of prenatal and newborn to cord blood banking, Genetic and prenatal service lab and cytogenetics.

PerkinElmer Genetic Screening: Global Credentials

- World leader in providing neonatal screening systems for the detection of inherited metabolic disorders
- World leader in first trimester pre-natal screening
- # 2 provider of umbilical cord blood for use to treat 40 life-threatening diseases
- Extensive capabilities in cytogenetics
- PerkinElmer is close associated with Fetal Medicine Foundation (FMF, UK), the pioneer body in prenatal medicine
- PerkinElmer Genetic Screening has a strong pipeline of new products specially in the area of maternal health and child health

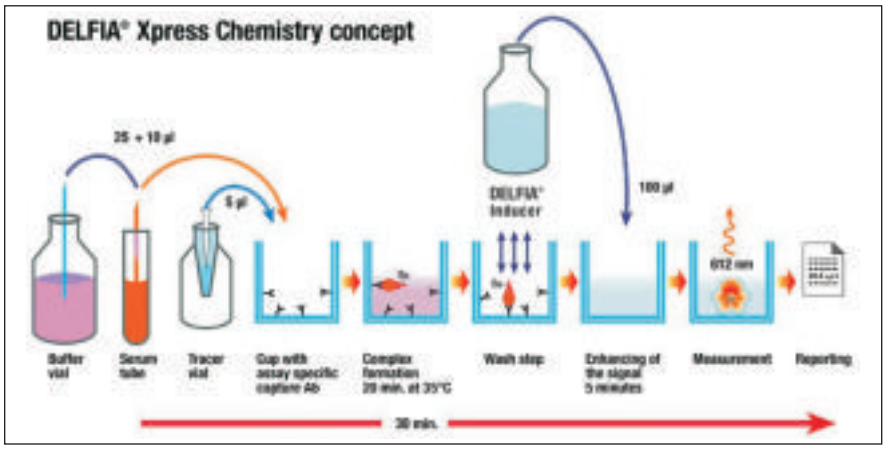
In 2007 alone, more than 14 000 babies were saved with intervention of PerkinElmer

So far, 270 MILLION babies have been screened with PKI products

110 000 newborns have been identified with disorders

Thanks to early diagnosis and successful treatment 37 babies are rescued EVERY DAY !

Summary of the assay procedure



1. The user places sample tubes in sample racks in the sample carousel and activates the scanning.
2. The user starts the process by pressing the start/pause button on the instrument or by using the PC workstation.
3. DELFIA Xpress performs all assay stages including sample dilution (in assays where this is needed) without user intervention.
4. The analyte concentrations for the tested sample are calculated, displayed and, optionally, printed.
5. The concentrations can be automatically transferred to LifeCycle with Elipse, and a risk calculated.

PerkinElmer Genetic Screening in India:

With an estimation of 25 million babies being born per annum in India, today we are country with the largest birth rate. With 1.2 billion populations, it is very important to ensure the babies born are healthy and are able to be productive to the society and country in future.

To implement Newborn screening program in India, PerkinElmer has collaborated with Indian Council of Medical Research (ICMR), under government of India to do a pilot project on 100,000 babies in 5 centers across the country. The project is on.

PerkinElmer screening service is available in Mumbai, Pune, Delhi, Chandigarh, Kolkata, Ranchi, Bangalore, Chennai and Hyderabad.

Also, many large hospitals in Metros and key government institute and medical colleges have started implementing PerkinElmer First Trimester prenatal screening for detecting chromosomal aberration during delivery mainly “Down's syndrome”

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INDIA ANALYTICAL SCIENCES-BIO DISCOVERY-GENETIC SCREENING

Unprecedented performance for the most demanding applications

PerkinElmer Analytical Sciences Product Overview

Atomic Spectroscopy
- Atomic Absorption
- ICP Optical Emission
- ICP Mass Spectrometry
- Sample Digestion


AAnalyst™ 200


ELAN® DRC™ II ICP-MS


Optima™ 7x00 Series ICP-OES


Multiwave™ 3000 Sample Digestion

Chromatography
- Gas Chromatography
- GC Mass Spectrometry
- Liquid Chromatography
- Headspace and
- Thermal Desorption


Clarus® 600 GC


Clarus® 600 GC/MS

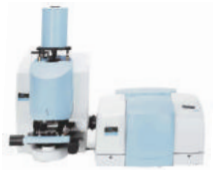

Series 275 HRes™ LC Systems


TurboMatrix™ Headspace & Thermal Desorption

Molecular Spectroscopy
- High-speed FT-IR Imaging
- FT-IR, FT-NIR and FT-FIR
- Spectroscopy
- Raman Spectroscopy
- UV/Vis and UV/Vis/NIR
- Spectrophotometers
- Fluorescence Spectroscopy


RamanStation™ 400 with RamanMicro™ 300


LAMBDA™ 1050 UV/Vis/NIR Spectrophotometer


Spotlight™ 400 FT-IR Imaging with Spectrum™ 100 Spectrometer


Spectrum™ 400 FT-IR/ FT-NIR Spectrometer

Thermal and Elemental Analysis
- DSC
- TGA
- DMA/TMA
- Simultaneous TGA/DTA
- CHNS/O and N2 Analyzers


2400 Series II CHNS/O


DSC


STA 6000 TGA/DTA


DMA 8000

Consumable Products Overview

Atomic Spectroscopy
- Hollow Cathode Lamps
- Atomic Spectroscopy Standards
- HGA Graphite Tubes
- ICP-MS Cones


Hollow Cathode Lamps


Atomic Spectroscopy Standards


HGA Graphite Tubes


ICP-MS Cones

Chromatography
- GC Capillary Columns
- HPLC Columns
- Vials, Caps & Septa
- Gas Generators & Leak Detector


Capillary Columns


HPLC Columns


Vials, Caps & Septa


Gas Generators & Leak Detector

Material Characterization
- UV, Tungsten & Xenon Source Lamp
- DSC Sample Pans & Covers
- Fluorescence & UV Cells
- Polarimeter Consumables Source Lamp & 100 mm Cells


UV, Tungsten & Xenon Source Lamp


DSC Sample Pans & Covers


Fluorescence & UV Cells


Source Lamp & 100 mm Cells

Infrared Spectroscopy
- Disposable & Rechargeable Desiccant Kits
- Liquid Cells & Windows
- Educational Packages and Sampling Kits

CHNSO Consumables


Disposable & Rechargeable Desiccant Kits


Liquid Cells & Windows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CHNSO Consumables

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