

Inventions Available for Licensing Complete Listing

Ref. #: 1224DC

S-N-Hydroxy N-Methyl Carbamoyl Glutathione [glycyl]-O-ethyl Ester

This invention is a novel chemotherapeutic approach to cancer treatment that is based on a metabolic pathway that is dramatically different between cancer cells and normal cells has been proposed. The method involves inducing higher steady-state concentrations of cytotoxic methylglyoxal by inhibiting the enzymes that catalyze the conversion of methylglyoxal to D-lactate.

Issued US Patents:

5,616,563 4 /1 /1997

Glutathione N-Hydroxycarbamoyl Thioesters and Method of Inhibiting Neoplastic Growth

Ref. #: 1225BB

Bioassay for Environmental Quality

This invention is a biological, sublethal assay for determining the level of environmental stresses, such as the presence of chemical pollutants in an environment. The technology is based on the detection of elevated rates of the synthesis of shock proteins that are produced in response to physical, chemical, or biological stress. This detection can be either a rapid test of a few proteins or a comprehensive detection of many stress proteins.

Issued US Patents:

5,149,634 9 /22/1992

Bioassay for Environmental Quality

Ref. #: 1229EH

Critical Care Program

Critical care transport student manuals.

Ref. #: 2202JR

Collagen and Flexible Polymer Drug Delivery Device

This invention is a highly concentrated solution of negatively charged collagen molecules and a negatively charged flexible polymer at neutral pH. The principle feature of this

invention is that the combination or mixture of rigid-rod collagen and flexible coil polymers gives unique benefits in controlling the release of protein drugs. Rigid polymers, such as collagen, tend to reduce diffusion rates more effectively than flexible polymers when mesh sizes are similar, while flexible polymers, which have much smaller mesh sizes, can fill mesh spaces more effectively than rigid polymers when they are concentrated.

Issued US Patents:

5,928,667 7 /27/1999

Drug Delivery Device and Method for Employing the Same

Ref. #: 2205UT

Stiffness Modulation-Angular Positioning Actuator

This invention is a new robotic actuator and motor that allows robots to perform work that involves contact related tasks. Currently, industrial robots are generally used for non-contact related tasks such as spray painting. They are limited in the range of tasks they can perform due to grasping limitations. This technology allows a robot to control the position and orientation of its skeleton.

Issued US Patents:

5,502,363 3 /26/1996

Apparatus for Controlling Angular Positioning and Stiffness Modulations of Joint of Robotic Manipulator

Ref. #: 2209CC

Tricognitron: A New Approach to Pattern Recognition for Line-Curve Configurations

This invention is a hierarchical neural network developed for handwritten text, document, target pattern and speech recognition. Called Tricognitron, it has the ability to recognize deformed visual patterns and to achieve shift, scale, deformation, and distortion invariance.

Issued US Patents:

5,784,485 7 /21/1998

Method and Apparatus for Automated Pattern Recognition

Ref. #: 2216SR

Immunotherapy of Tumors of MHC Class II and B7 Transfection

This invention is a tumor cell which is modified so that it expresses a second, non-antigen specific signal to induce full T cell proliferation, or costimulation, and the related method of using this modified tumor cell to treat a subject.

Issued US Patents:

5,858,776 1 /12/1999

Tumor Cells with Increased Immunogenicity and Uses Therefor

6,149,905 11/21/200

Tumor Cells with Increased Immunogenicity and Uses Therefor

6,319,709 11/20/200

Tumor Cells with Increased Immunogenicity and Uses Therefor

Ref. #: 2223MS

Two Charged Polymer/Polypeptide/Protein Mixture Drug Delivery Device

This invention is a novel drug delivery device. It is a composite made of highly concentrated solutions of two charged polymers or polypeptides or proteins at neutral pH. This composite matrix modulates the release rates of polypeptides, proteins and therapeutic drugs over a long period of time compared to conventional modes of administration.

Issued US Patents:

5,788,959 8 /4 /1998

Drug Delivery Device and Method for Employing the Same

Ref. #: 2229LT

The Process of Sequential Ion Implantation and Deposition

This invention is a novel material surface modification method that employs new plasma and ion beam techniques.

Issued US Patents:

6,083,567 7 /4 /2000

Sequential Ion Implantation and Deposition (SIID) Technique

6,209,481 4 /3 /2001

Sequential Ion Implantation and Deposition (SIID) System

6,280,844 8 /28/2001

Product Produced by Sequential Ion Implantation and Deposition (SIID) Technique

Ref. #: 2233JC

Reduction of Deep Level Impurities in Aluminum-Containing Compound Semiconductors by Low Se-doping

This invention is a method for obtaining pure aluminum-containing compound semiconductors, such as aluminum gallium arsenide, by a process that does not include purification. This is possible by adding certain amounts of selenium in the crystal growth process to deactivate all deep level impurities. The efficiency and performance of devices that contain aluminum-based semiconductors are adversely affected by the presence of impurities such as oxygen and germanium.

Issued US Patents:

5,653,801 8 /5 /1997

Method for Reducing Contamination in Semiconductors by Selenium Doping

Ref. #: 2237MH

Photorefractive Polymer Waveguide Two Beam Coupling (WTBC) Device

This invention is a device that allows all-optical amplification of signals. Amplification is currently achieved by changing an optical signal into an electric signal, amplifying it, and then changing it back into an optical signal.

Issued US Patents:

5,724,460 3 /3 /1998

Photorefractive Thin Film Polymer Waveguide Two Beam Coupling (WTBC) Device

Ref. #: 2247MS

Technique for Increasing the Catalytic Rate of the Starch Hydrolase, Glucoamylose

A patented method for increasing the catalytic activity of starch hydrolases using polyethylene glycol. This invention has potential to decrease the amount of time required to hydrolyze maltodextrins, increase the capacity of reaction vessels, or reduce the amount of enzyme required to hydrolyze a given amount of maltodextrins. This invention has applications in the corn wet milling industry and the production of high fructose corn syrup.

Issued US Patents:

5,888,781 3 /30/1999

Method for Increasing the Hydrolytic Activity of the Starch Hydrolases

Ref. #: 2253FC

High Performance Simple Structure Integrated Coherent Transceivers

This invention is in the field of coherent receivers that have high receiving sensitivity and densely spaced wavelength division multiplexing (“WDM”) capability. A special cavity design gives this technology a higher sensitivity and a simpler structure than other existing integrated coherent receivers.

Issued US Patents:

5,847,855 12/8 /1998
Integrated Coherent Transceiver

Ref. #: 2254LY

Mode Locking of Hybrid Lasers

The invention is a new laser operation that uses two or more laser media in a single laser cavity and utilizes the complimentary properties of different laser media to achieve better mode locking performance than can be achieved using a single laser medium. It offers a new approach to generating ultrashort laser pulses. Conventional lasers contain a single laser medium in their resonators or contain more than one laser medium but laser independently.

Issued US Patents:

5,956,354 9 /21/1999
Dual Media Laser with Mode Locking

Ref. #: 2257DF

Method for Eliminating the Displacer Component in Displacement Chromatography Through the use of a Retained pH Gradient

This invention is a novel technique of displacement chromatography in which the traditional displacer component is eliminated. Displacement chromatography is a well-established practice of preparative scale and process scale chromatography.

Issued US Patents:

5,851,400 12/22/1999
Method for Eliminating the Displacer in Displacement Chromatography of Proteins

Ref. #: 2260GR

Fluorescence Lifetime-Based Sensor for Solvent Polarity

This invention is a metal-ligand complex molecule that shows changes in its fluorescence lifetime characteristics as a function of the hydrophobicity of its environment.

Issued US Patents:

6,699,717 3 /2 /2004

Luminescent Transition Metal-Ligand Complex and Sensor, Probe System and Method Based Thereon for Detecting Polar Solvents

Ref. #: 2264EG

Reduction of Collision-induced Timing Jitter by Periodic Dispersion Management in Soliton WDM Transmission

Collisions between solitons in different frequency channels are one of the major sources of errors in transmission systems that utilize wavelength division multiplexing (WDM). Because standard transmission lines have lumped amplifications, the four-wave mixing fields from Soliton collisions grow uncontrollably and add amplitude and timing jitter. It was found that by using proper dispersion management, it is possible to significantly reduce the collision-induced timing jitter and to improve system performance, even in comparison with that provided by an ideal, exponentially decreasing dispersion fiber.

Issued US Patents:

6,243,181 6 /5 /2001

Reduction of Collision Induced Timing Jitter by Periodic Dispersion Management in Soliton WDM Transmission

6,407,841 6 /18/2002

Reduction of Collision Induced Timing Jitter by Periodic Dispersion Management in Soliton WDM Transmission

Ref. #: 2270LZ

A Novel Gene Construct that Causes Increased Stress Tolerance in Plants

The invention is a gene construct that increases stress resistance in transgenic cultured carrot cells and tomato plants by combining a known promoter and a heat shock gene in a construct capable of transforming a variety of plants.

Issued US Patents:

5,922,929 7 /13/1999
Thermotolerance Enhancing Protein

Ref. #: 2273CC
Automatic Target Detection and Classification for High- Dimensional Remotely Sensed Images Within Blind Environment

This invention is a computer program that provides a means for finding and detecting a desired number of target signatures in a completely blind environment. The technology solves several challenging problems that currently exist.

Ref. #: 2277DC
Carbasulfoxide Anticancer Agent

This invention is a chemical compound which provides a new and more efficient method for generating cytotoxic inhibitors of glyoxase I inside tumor cells. This chemical can be used to suppress or inhibit tumorous or metastatic growth in humans.

Issued US Patents:

5,969,174 10/19/1999
Competitive Inhibitors of Glyoxalase I and Method of Generating Such Competitive Inhibitors Inside Tumor Cells

Ref. #: 2280RC
Novel WDM Wavelength Monitoring Devices

This invention is a real time multi-channel wavelength monitoring circuit which is based on a novel phased array wavelength grating design. The circuit wavelength range of the circuit is greater than that of existing technologies because the circuit is capable of fully utilizing a pass bandwidth above the broadband backup noise. The invention also is an addressable, tunable wavelength division multiplexing ("WDM") laser source for use in the monitoring circuit of WDM communications networks. The laser source can provide very accurate wavelength locking.

Issued US Patents:

6,055,078 4 /25/2000
Real Time Wavelength Monitoring Circuit

Ref. #: 2284CF
Enhanced Detection of Cells by Bioaffinity Capture Mass Spectrometry

This invention is a novel method for the analysis of intact prokaryotic, eukaryotic cells, and viruses by mass spectrometry. A major obstacle in mass spectrometric analysis of these species is that they are often present in a complex sample matrix, making direct analysis difficult or impossible.

Ref. #: 2285CF

Direct Viral Characterization by Mass Spectrometric Detection of Capsid Proteins

This invention is a new application for matrix-assisted laser desorption/ionization (“MALDI”) mass spectrometry. The technology utilizes specific organic acids with MALDI mass spectrometry to directly detect capsid proteins from intact viral particles. Capsid proteins are an abundant homogenous viral biomarker that is uniquely characteristic to the virus species.

Issued US Patents:

6,037,118 3 /14/2000

Viral Characterization by Direct Detection of Capsid Proteins

Ref. #: 2286CF

Glycerol/Cobalt Matrix for Laser Desorption Ionization Mass Spectrometry of Microorganisms

This invention is a new use for liquid glycerol and cobalt (Co) powder as a matrix for the laser desorption/ionization mass spectrometry to analyze microorganisms. Using liquid matrices circumvents the problems associated with forming inhomogeneous crystalline phase lead to the existence of “sweet spots”. These problems include when there are decreases in the ion signal if there are decreases in the number of laser shots on a given sample spot and when the solid matrix does not separate soluble compounds of microorganisms.

Issued US Patents:

5,948,610 9 /7 /1999

Use of Matrices Comprising Liquids and Light Absorbing Particles for Analysis of Microorganisms by Spectrometry

Ref. #: 2288FC

Using Surface Emitting Light of Edge-Emitting Lasers for Device Monitoring and Automatic Testing

This invention is a method for using the surface-emission light of an edge-emitting laser to monitor device characteristics and to test automatic on-wafer lasers. The technology achieves both in-situ monitoring of laser characteristics during device facet treatment and very high single mode yield in DFB laser fabrications.

Issued US Patents:

6,337,871 1 /8 /2002

Multiple Edge-Emitting Laser Components Located on a Single Wafer and the On-Wafer Testing of the Same

6,668,000 12/23/200

System and Method of Optically Testing Multiple Edge-Emitting Semiconductor Lasers Residing on a Common Wafer

Ref. #: 2302CC

Linear Constrained Minimum Variance Beamforming Methods in Remote Sensing Image Analysis

This invention, the Linearly Constrained Minimum Variance Method (“LCMVM”), can detect and classify objects that Constrained Energy Minimization (“CEM”) cannot due to its noise sensitivity. The classification results can be displayed using different colors to aid visualization.

Ref. #: 2303CC

Method and Apparatus of Restoration of Low Resolution Digital Document and Text Images

This invention is a novel approach to restoring low-resolution digital documents and text images. This method can reconstruct image information deteriorated by low-resolution devices and can refine the original low spatial resolution to significantly improve image quality.

Ref. #: 2312HE

JAVA Tutoring System

This invention is a computer program which allows students to learn the principles of JAVA.

Ref. #: 2320CC

A Computer Automated System for Microcalcifications Detection

This invention is computer-aided diagnostic system used for mammography screening.

Ref. #: 2323BB

Dynamic Protein Expression Signature Assay

This invention is a method and diagnostic kit for determining environmental quality. An organism exposed to an environmental stressor is assayed to determine proteins produced in response to the stress. A statistical analysis of the amount of each protein produced provides a quantified set of proteins that can be used as a template for comparison.

Issued US Patents:

6,653,135 11/25/200

Dynamic Protein Signature Assay

Ref. #: 2325DA

Abrasive Waterjet Deposition Surface Treatment

This invention is a method and device for preparing a textured surface on metals that allows for better fixation of prosthetic orthopedic implants.

Issued US Patents:

6,502,442 1 /7 /2003

Method and Apparatus for Abrasive Fluid Jet Peening Surface

Ref. #: 2329LK

Pressure-Sensitive Luminescent Polymers

This technology is new composition of polymeric materials that change luminescence when subjected to a change in applied pressure. It can be used as a luminescent paint.

Ref. #: 2332DB

Development of a Polymer Based System for Long-Term Administration of Protein C

This invention is a process for using biodegradable polymer microspheres for the sustained deliveries of protein C, in particular for extended periods of time.

Ref. #: 2334FC

Adaptive Equalization for Multimode Fiber Transmission

This invention is a method for using adaptive equalization technique to combat Differential Mode Dispersion (“DMD”) and to increase the transmission distance to nearly any desired length. All previously installed multimode fibers (“MMFs”) can be utilized for high-speed data

Issued US Patents:

6,718,087 4 /6 /2004

System and Method for Reducing Differential Mode Dispersion Effects in Multimode Optical Fiber Transmissions

Ref. #: 2335CC

Constrained Least Squares Linear Spectral Mixture Analysis Methods for Material Abundance Estimation, Discrimination, Detection, Classification, Identification, Recognition and Quantification, Data Compression and Noise Estimation in Hyperspectral...

This invention is a method for material abundance estimation, discrimination, detection, classification, identification, recognition and quantification, data compression, and noise estimation in hyperspectral and multispectral imagery. The method is based on a least square error (“LSE”) criterion that minimizes the quality of a fit between a linear mixture model and estimated abundance fractions.

Ref. #: 2341RC

Optical CDMA Spectral Encoder/Decoder Applying Arrayed Waveguide Gratings

This invention is a programmable spectral amplitude encoder/decoder for use in optical code division multiple access (“O-CDMA”) systems. The device has programmable coding/decoding and bit weight control capabilities and is capable of generating high extinction bit patterns for required optical correlation process in an incoherent O-CDMA

Issued US Patents:

6,807,372 10/19/2000

Integrated Spectral Encoder/Decoder for Optical CDMA Communication System

Ref. #: 2345FC

Broadband Semiconductor Materials for Wide-Band Optical Amplifiers and Widely Tunable Lasers

This invention is a new type of semiconductor waveguide material for broadband amplification. This material can be used with the increased channel numbers of today’s wavelength division multiplexing (“WDM”) systems.

Ref. #: 2346FC

Integrated Analog Transmitters

This invention is a high performance RF-lightwave transmitter which can provide greater than 10 dB RF insertion gain at less than 0 dBm optical power with spur-free dynamic range and low noise in analog fiber links.

Issued US Patents:

7,076,170 7 /11/2006

System and Method for Generating Analog Transmission Signals

Ref. #: 2347FC

Widely Tuning Mechanisms

This invention is a new type of tuning mechanism for widely tunable lasers. This tuning mechanism uses the array waveguide grating (“AWG”) technique to provide a digital and wide tuning mechanism.

Issued US Patents:

6,657,780 12/2 /2003

Widely Tunable and Integrated Optical System and Method

Ref. #: 2349FC

Separated Temperature Controls of Wavelength Tunable Devices to Better Performance

This is an improvement on thermally tuned wavelength tunable devices. It uses a novel approach to managing thermal flow, which improves performance.

Issued US Patents:

6,727,598 4 /27/2004

Improved Thermally Tunable System

Ref. #: 2353MO

Procedure for Neural Network Analysis of Microarray Data Chips with Specific Application to the Diagnosis and Prognosis of Lymphoma Patients

Neural networks are particularly well suited to drawing summary conclusions from large-scale (1000's of genes) microarray experiments in that they are tasked to adjust the

weights on each input neuron (gene) until they can correctly classify the entire training set. These networks, once trained, can then be numerically differentiated to provide specific information about the relative contribution of particular genes in a given context; this offers a more specific alternative to the commonly used statistical grouping methods.

The identification of specific genes associated with a particular biological characteristic such as malignant phenotype would be useful in many settings, for example: 1) T cell and antibody-mediated immunotherapy may be efficacious approaches for limiting tumor growth in cancer patients. At present there is a paucity of known tumor rejection antigens that can be targeted. Neural net analysis may identify a panel of tumor encoded genes shared by many patients with the same type of cancer and thereby provide a repertoire of potentially novel tumor rejection antigens. 2) Precise classification and staging of tumors is critical for the selection of the appropriate therapy. At present, classification is accomplished by morphologic, immunohistochemical, and limited biological analyses. Neural net analysis in the form of specific donor profiles could provide a fine structure analysis of tumors characterizing them by a precise weighting of the genes which they express differentially. Neural net profiling may identify gene panels which are stage specific. 3) At present, only subsets of patients with a given type of tumor respond to therapy. Networks trained to distinguish responders from non-responders would allow a comparison of tumor-expressed genes in responders and non-responders to find those genes most predictive of response. Given the significant impairment in the quality of life for many patients undergoing chemotherapy and/or radiation therapy, such prospective information would be extremely beneficial. 4) For many patients with autoimmune disease the target antigen(s) is unknown. Enhanced identification of cell-type specific markers of the target organ through neural net profiling could identify potential target antigens as candidate molecules for testing and tolerance induction.

We believe neural networks will be an ideal tool to assimilate the vast amount of information contained in microarrays. Indeed, the trained neural network may, in the form of its weight matrix, have the best possible take on the very broad statement being made in the microarray, a view which is accessible with the differentiation of the network. In this study, that viewpoint suggested a small subset of genes which proved sufficient to give a near- perfect classification. This approach should be suitable for any microarray study which contains sufficient training data.

Ref. #: 2354GR

Method and Apparatus for Discrimination of Fluorescence Lifetimes

The method and apparatus disclosed allows for the use of low-cost LED light sources to detect an optical signal in a noisy environment. The invention has possible uses for transdermal sensing applications and bioprocess measurements.

Issued US Patents:

7,041,986 5 /9 /2006

Device for Discrimination of Fluorescence Lifetimes and Uses Therefor

Ref. #: 2355YS

Quantum Lithography

This technology uses entangled N-photon states to improve the resolution of classical lithography by a factor of two.

Ref. #: 2357RC

Method for Characterizing and Acquiring Amplitude and timing Jitters of Ultra-High Repetition Rate Optical Return to Zero Signals

This invention relates to the measurement of the amplitude and timing jitters of ultra-fast optical signals.

Ref. #: 2372FC

A Method to Implement Low-Crosstalk Semiconductor Optical Amplifiers (SOAs), Switches, and/or Gain Materials

This invention introduces a new and practical method to achieve exponential carrier distribution and provide an exponentially increased (or decreased) gain along an optical waveguide amplifier. This kind of optical amplifiers will have very low crosstalks between wavelength division multiplexed (WDM) channels, which are passing through the amplifier along one direction.

Issued US Patents:

6,944,197 9 /13/2005

Low Crosstalk Optical Gain Medium and Method for Forming Same

Ref. #: 2386MM

Cyclic Pulse - Pause Feeding

Filamentous fungi are one of the workhorses for industrial microbiology, as they are used for the commercial production of many different therapeutics, commodity chemicals, and commercial enzymes. Despite extensive study, there has been relatively little success in altering fungal morphology to reduce broth viscosity in industrial-scale systems. In fact, the most common approaches to reduce fungal broth viscosity have been to add water to dilute the broth or to increase agitation to fragment the mycelia. Neither of these methods have proven to be consistently effective.

Ref. #: 2388CC

Apparatus and Methods of Anomaly Detection and Classification

Anomaly detection has been widely used in the field of surveillance and monitoring in unknown environments. Prior art in this area has one big limitation, they do not discern the targets they detect. This invention extends anomaly detection to anomaly classification. This greatly enhances the amount and type of information that is gathered by allowing for the classification and distinguishing of detected anomalies.

Ref. #: 2406WL

Vacuum Membrane Extraction System

A vacuum pump is used to create a reduced pressure on the side of a micro-porous membrane.

Issued US Patents:

7,028,562 4 /18/2006

Vacuum Membrane Extraction System

Ref. #: 2407CN

RAMSwitch

The RAMSwitch allows a cluster of computers connected by a switch, such as a Beowulf, to have some shared memory. This shared memory may be used to store temporary files, RAM disks, and other simple or complex data or file structures. The RAMSwitch improves the overall efficiency of data access in a Beowulf or similar system.

Ref. #: 2415WZ

An Iterative Method for Detecting Structural Damage Using Changes in Vibration Frequencies and Mode Shapes

This invention is a novel non-destructive testing method that utilizes an iterative method for detecting structural damage. Small to large levels of damage are detected from changes in the natural frequencies and/or mode shapes using an iterative algorithm. The technique is useful for detecting structural damage in large physical structures such as towers and bridges.

Ref. #: 2418DC

Bivalent T.- S. Analogue Antitumor Agent

This invention comprises transition state analogues that inhibit the activity of a recognized target in tumor cells. An embodiment of this invention is especially effective against prostate cancer cells. These analogues exhibit a significantly higher affinity for the target than previously developed

Ref. #: 2420CC

Field Programmable Gate Arrays (FPGA) Design for Real- Time Implementation of Hyperspectral Detection and Classification Algorithms

This invention is a Field Programmable Gate Array (FPGA) designed to implement in real time several commonly used hyperspectral detection and classification algorithms: Orthogonal Subspace Projection (OSP), Constrained Energy Minimization (CEM) and RX-Algorithm. FPGAs offer a speed, cost and compactness advantage over the present slow and bulky image processing systems. Potential image processing markets include: biometrics, security, automotive collision avoidance, non-invasive medical imaging, commercial video compression and gaming industry.

Ref. #: 2422YH

Information and Assessment Systems (IASs)

This software program ensures continual improvement of candidate performance, program quality, and unit operations in an academic environment by tracking and presenting relevant data. The Information and Assessment System documents both qualitative and quantitative performance data through three integrated systems: (1) the Student Information and Service System, (2) the Performance Assessment System, and (3) the Electronic Portfolio System.

Ref. #: 2425JM

Dual Adaptive Importance-Sampling Technique for Estimating Probabilities of Very Rare Events in Coded Communication Systems

This technique uses algorithms to iteratively approximate the optimal biased probability distributions for performing importance-sampling Metropolis random-walk simulations of very rare events in coded communications systems, and combines the results of two complementary Metropolis random-walk simulations, unconstrained and constrained, to estimate the probability of the desired events.

Ref. #: 2432BC

Multiphoton Photoacoustic Spectroscopy

A novel optical spectroscopic technique employing multiphoton excitation and acoustic detection capable of subsurface chemical imaging of many different samples.

Ref. #: 2433WZ

A Random Impact Series Method for Modal Testing of Large Structures

A novel stochastic model is developed to describe the random impact series in modal testing of large structures.

Ref. #: 2434YS

Synchronization of Distant Clocks Using Entangled Photon Pairs

This invention is a novel technology for high-precision distant clocks synchronization, which is useful for precise time transfer applications.

Ref. #: 2435WZ

Vibration Damping for Moving Cables in Elevators

This invention is a method to dissipate the vibration of moving cables in elevators.

Ref. #: 2442DC

Enone Cancer Therapeutics

This invention is a new state of matter that should be particularly effective at selectively inhibiting multidrug resistance tumors.

Ref. #: 2446BC

Surface Enhanced Raman Spectroscopic Nanoimager

A new class of nano-biosensors have been developed based on surface enhanced raman spectroscopy.

Issued US Patents:

7,256,886 8 /14/2007

Surface Enhanced Raman Spectroscopy Nano-Imaging Probe and Uses Therefor

Ref. #: 2447BC

Multilayered Surface-Enhanced Raman Scattering (SERS) Substrates

These novel multilayers SERS substrates are easy to prepare, low in cost, possess a longer shelf life, and exhibit a higher degree of reproducibility.

Issued US Patents:

7,242,470 7 /10/2007

Multilayered Surface-Enhanced Raman Scattering Substrates

Ref. #: 2449DC

2-Dialkyloxymethyldiazene-2-cycloalkenone Anticancer Agents

A new class of 2-dialkyloxymethyldiazene-2-cycloalkenones have been prepared, which rapidly form nitric oxide in the presence of glutathione transferase.

Ref. #: 2455LT

Multi-Analyte Optical Sensing Using Novel Proteins as Biosensing Elements

This technique is adapted to low-cost, user-friendly instrumentation.

Ref. #: 2458WZ

Method for Determining the Forced Response of Moving Elevator Cables

This invention is a method for determining the forced response of moving elevator cables. .

Ref. #: 2462UT

A System to Orient Apples and Other Fruits for Visual Inspection and Other Purposes

This system orients apples and other fruits such that the stem axis is in the horizontal plain regardless of its initial rolling orientation.

Ref. #: 2464FC

Double-Side Heat Removing Thin Film Lasers

An object of this invention is to provide a thin-film semiconductor laser device with efficient heat dissipation. Another object of the present invention is to provide a thin-film semiconductor laser device with a double-sided heat removing architecture.

Ref. #: 2465YS

Ghost Telescope

This invention makes it possible to capture an image of a space object without carrying any imaging device into space.

Ref. #: 2466YS
3-D X-ray or Y-ray Magic Mirrors

This invention is a working "magic" mirror that could be used for 3-D X-ray or y-ray imaging purposes.

Ref. #: 2467CC
Fast Pixel Purity Index

This invention develops a fast algorithm to implement the PPI and improves PPI in many aspects.

Ref. #: 2470MM
Inducing and Repressing Autophagy to Increase Productivity of Secondary Metabolites in Filamentous Fungal Fermentation

This invention will characterize the function of fungal autophagy genes and the effect of autophagy on fungal cell walls and hyphal fragmentation, and identify novel effectors of fungal autophagy.

Ref. #: 2472LZ
An Interstitial Cooling Device for Selectively Cooling the Carotid Arterial Blood for Stroke Patients

This invention is a novel device for cooling the carotid arterial blood. Clinical studies have demonstrated the protective benefits of reducing temperature in brain tissue after stroke or head injury in humans.

Ref. #: 2473DC
Glyoxalase I Transition State Analogue Antimalarial Agents

This invention relates to the use of the prodrugs as antimalarial agents.

Ref. #: 2475DA
Apatite Air Jet for Remineralization of Hard Tissues

The technology provides a new method for remineralization of hard tissues including dentin, enamel, and bone. Preliminary research shows that the technique is capable of embedding micro and nano-scale particles beneath the surface of these tissues for targeted and prolonged delivery of desired minerals.

Ref. #: 2477CB

A Device and Method for Profiling Kinase Substrates

This invention consists of a polyacrylamide gel with a protein kinase cast in the gel. The method consists of an assay in which the device is used to profile substrates of the kinase in biological samples.

Ref. #: 2480WX

Integrated MAP Equalization and Turbo Product Coding for Optical Fiber Communications Systems

This technology characterizes the properties of a realistic optical fiber channel in the presence of a number of distortion mechanisms and integrated a compensation technique using this information with coding to improve the overall reliability of transmission.

Ref. #: 2482YK

Optical Alcohol Sensor

This invention describes an optical sensor for detection of alcohol concentrations.

Ref. #: 2485PF

A Software System for Automated Document Annotation Based on a WIKI Server

This system allows users to view documents stored on a server system, select the text to annotate and link the text to a wiki-based web site.

Ref. #: 2486AS

A Method and Process to Identify Cognitive or Physical Changes Using Keystroke Dynamics

Keystroke dynamics is a behavioral biometric traditionally used either with passwords to enhance security in the authentication process or to detect imposter attacks. This invention uses keystroke dynamics not to distinguish a legitimate user from an imposter, but to identify cognitive or physical changes in the legitimate user. The technology can be used to monitor for rapid changes (e.g., fatigue) or gradual changes (e.g., progressive

Ref. #: 2488JM

Instrument and Method for X-ray Diffraction, Fluorescence, and Crystal Texture Analysis Without Sample Preparation

This invention is an instrument and associated technique for measuring the atomic plane spacings of material samples using X-ray diffraction without the need for sample preparation.

Ref. #: 2496TF

Very Light Hybrid Materials with Substantial Resistance to Ballistic Penetration

This invention is a new concept for sandwich panel construction for body armor.

Ref. #: 2502JM

Algorithms for Noisy Background Estimation and Removal in Data

The algorithms invented are techniques used to isolate and enhance signals within data having an arbitrarily-varying noisy background.

Ref. #: 2506BA

Method of Remote Detection of Vapors

This invention describes the use of temporal and spatial focusing of ultra short light pulses to generate the third harmonic of the incident radiation.

Ref. #: 2510IK

Ratiometric Fluorescence Alcohol Sensor Based on Solvatochromic Polymeric Dyes

This invention is an optical sensor for alcohol using derivatized solvatochromic dye.

Ref. #: 2511LT

Fluorophore Based Temperature Sensor

This invention describes the use of fluorescent organo-europium complexes, whose decay time is temperature dependent.

Ref. #: 2513SR

Tumor Cells from Immune Privileged Sites as Base Cells for Cell-based Cancer Vaccines

This discovery explores immunotherapy as an alternative treatment for metastatic uveal melanoma.

Ref. #: 2514MM
Wind Turbine Electro-static Seal

This invention is an electrostatic seal that will protect the internal mechanisms of a wind turbine, and other rotating shaft devices from dust.

Ref. #: 2521CC
Constrained Band Selection

This invention provides a novel and completely different technique, called constrained band selection from traditional techniques developed for band selection.

Ref. #: 2523GR
Development and Validation of a Novel Antioxidant Capacity Assay Using *sodA::gfp* as a Living Sensor

A novel antioxidant capacity assay was developed based on ROS inducible *E. coli* strain which harbored fusion proteins *sodA::gfp*.

Ref. #: 2524RB
Optical Temperature Sensors Based on Ruthenium Dimine Complexes

Temperature sensing is of substantial biological and commercial significance and often needs to be measured concurrently with several analytes of interest. This invention is an optical temperature sensor based on ruthenium dimine complexes.

Ref. #: 2526GR
Integrated Oxygen Measurement and Control for Static Culture Vessels

This invention incorporates a vibratory mixer along with a non-invasive sensor providing the means to control oxygen levels within a static culture vessel.

Ref. #: 2527AJ
A Learning Context Aware Media Player

This system learns a person's musical preference in various contexts.

Ref. #: 2530TO

Real-time Identification of Operating Room State from Video

This invention is a method that uses machine learning techniques to enable the identification of the state of an operating room.

Ref. #: 2531RC

Cluster Node Design for a Degree of N Node in a Reconfigurable WDM Optical Network

A scalable and adaptable cluster node design for a degree of N node is presented in this invention.

Ref. #: 2532MB

Trait Modulation Technology by Transcription Factor Ubiquitylation

The present invention refers to the use of an ubiquitin protein ligase to modulate the activity of a natural transcription factor.
