

NEW PATENTS

METALS AND ALLOYS

Magneto/Optical Storage Element

SHARP K.K. *European Appl.* 192,256A

The element has a multi-layer structure including a reflective layer of Al-Ni alloy, or an alloy of Al with Pd, Pt, Cr or Mo. These alloys have a lower coefficient of thermal conductivity than Al alone; therefore recording sensitivity and quality of reproduction are maintained.

Reversible Hydrogen Storage

STANDARD OIL CO. (OHIO) *European Appl.* 198,599A

A reversible H₂ storage medium comprises an amorphous metal alloy A_nM_bM'_c where A is one or more of Pd, Pt, Ag, Au and Hg, M is one or more of Ru, Cu, Cr, Zn, etc., and M' is one or more of C, Mg, Ti, rare earths, etc. A substantial portion of A is disposed on the surface of the material. The composition can be efficiently cycled without embrittlement.

Multi Phase Cermet Compositions

U.S. DEPT. OF ENERGY *U.S. Patent* 4,605,440

A B carbide-Al cermet has at least four phases and its composition comprises these plus a β carbide-reactive metal component where the reactive metal is chosen from Os, Pd, Pt, Ir, Rh, Ru, Se, Si, Sr, etc. A multiphase microstructure is produced with the ceramic phases homogeneously distributed in the metallic phases and with strong adhesive forces at the ceramic/metal interfaces.

Porous Fine Powder Production

ALLIED CORP. *U.S. Patent* 4,615,736

Salts of Pt, Pd, Ru, Rh, Ag, Au, Hg, Ir, Os, Re, As, and their mixtures are used to produce fine metallic powder by reduction under hypercritical temperature and pressure to form a fluid phase and the metal powder, which is then separated off.

Permanent Magnet Manufacture

TOSHIBA K.K. *Japanese Publ. Appl.* 61/156,706

A R-Fe-B alloy (where R is at least one of Y and rare-earths and Fe can be substituted by Ru, Rh, Pd, Ir, Os, Re, Co, Cr, Al, etc.) is ground into a grain size of 2–10 μ m, moulded in a magnetic field, sintered at 1000–1200°C and cooled to 400°C at 10°C/min; the magnets produced have high magnetic flux density, high coercive force and a variety of uses.

Magnetic Recording Medium

NEC CORP. *Japanese Publ. Appl.* 61/204,914

The medium has a magnetic film made from an Fe-Nd alloy containing Pt and optionally Ti. It is prepared by sputtering in Ar on a glass base. The medium has perpendicular magnetic recording properties and good corrosion resistance.

Shape Memory Alloy

TOHOKU METAL IND. LTD.

Japanese Publ. Appl. 61/217,544

Actuators operated at high temperatures, such as steam regulation valves use Ti-Ni-Ru.

Soft Palladium Manufacture

MITSUBISHI METAL K.K.

Japanese Publ. Appl. 61/221,336

Pd bonding wire, used as a substitute for Au when assembling semiconductor equipment, is refined by zone melting Pd to a hardness of 50Hv or under.

CHEMICAL COMPOUNDS

Dibenzalacetone Palladium Complexes

CIBA GEIGY A.G.

European Appl. 190,998A

New Pd complexes are copolymerisable with epoxy resin products and heat activated hardeners and/or curing catalysts for use as adhesives for example, but especially in the production of electrically conductive coatings and circuit patterns onto which metals can be deposited electrolessly.

ELECTROCHEMISTRY

Methane Production

GAS RES. INST.

U.S. Patent 4,609,440

CH₄ is produced by the electrochemical reduction of CO₂ in aqueous solutions, using a Ru cathode. Current efficiencies of up to 30% can be achieved.

Electrolysis of Halide Solutions

STANDARD OIL CO.

U.S. Patent 4,609,442

Halogens are generated from halide containing solutions by using a cell containing an amorphous metal alloy with good electrochemical activity and corrosion resistance. The anode comprises preferably Fe₅₅Ta₄₀Pt₅, Ti₇₀Pt₃₀, Zr₆₀Pt₄₀, etc.

Noble Metal Electrode

W. C. HERAEUS G.m.b.H. *German Offen.* 3,508,485

The electrode comprises a C particle-impregnated plastic, for example polyethylene, polypropylene, PTFE or PVC, base covered with electrolytically precipitated noble metal, of Ru, Rh, Pd, Ir and/or Pt. The coating has good adhesion to the plastic and the H₂-embrittlement problem is overcome.

Electrode Preparation

OGRYZKO-ZHUKOVSKAYA *Russian Patent* 1,203,130

Electrodes for use in an electrolyser where H₂ is evolved from water are made of Ti with 30% porosity plated with a 2 μ m Pd coating which extends inside the pores. The working life of the electrodes is increased 2.5 times.

ELECTRODEPOSITION AND SURFACE COATINGS

Coating for Glass Fibre

TORAY SILICONE K.K. *European Appl.* 192,275A
The coating composition consists of: (a) an organopolysiloxane, (b) a vinylated polysiloxane, (c) and organohydrogenpolysiloxane and (d) a Pt catalyst. The compositions are used for coating optical fibres for long-distance communications, and exhibit high tensile strength.

Ruthenium Chalcogenide Thin Film

CNRS CENT. NAT. RECH. SCI. *World Patent Appl.* 86/5,824A
Doped Ru sulphide, selenide or telluride are formed as a thin film by chemical vapour deposition using organometallic Ru derivatives. Products can be used in the semiconductor industry, especially in hostile environments and for passivation.

Ceramic Metallisation

AGENCY OF IND. SCI. TECH. *Japanese Publ. Appl.* 61/146,778
Ceramics are metallised by coating with a mixture of Cu salt (CuCO_3 , CuSO_4 , CuS , CuO , CuCl_2), SiO_2 and/or kaolin and at least one of Pd, Pt oxide, or Pt chloride, by heating at 900–1300°C in an oxidising atmosphere, and then reducing. The metallisation layer has adhesive strength and chemical resistance.

Surface Activation of Glass Fibre

NITTO BOSEKI K.K. *Japanese Publ. Appl.* 61/186,250
A glass fibre surface is activated by applying a liquid containing Ti coupling agent and dibenzonitrile Pd chloride, and then reducing the fibre to deposit Pd nuclei to act as a metal plating catalyst. The fibre can be electrolessly coated and has bond strength.

Plastic Antistatic Treatment

HITACHI K.K. *Japanese Publ. Appl.* 61/190,900
Plastic surfaces are rendered antistatic by forming a sputtered film of conductive material, such as Pd, Au, stainless steel, SnO_2 , etc. Sputtering lowers the electrical resistance of the surface.

Palladium Coatings on Steel

MITSUBISHI MOTOR CORP. *Japanese Publ. Appl.* 61/201,781
Excess urea is added to PdCl_4 to prepare aqueous solutions of pH 2–3, and then clean steel is immersed therein, removed, dried and fixed to coat Pd onto the steel which now has improved heat and oxidation resistance.

Plating Hydraulic Cement

DENKI KAGAKU KOGYO K.K. *Japanese Publ. Appl.* 61/210,182
Cement material is surface activated with a platinum group metal compound in a bath to produce a catalytic layer, and is then plated electrolessly with Cu, Ni, Cr, Co, Sn, Ag or Au, etc.

Metal Plating Process

AGENCY OF IND. SCI. TECH. *Japanese Publ. Appl.* 61/277,175

The process for use with insulation printed circuit boards, magnetic shielding, etc., involves depositing a Pd organosol dispersed in an organic solvent on the article being plated, evaporating the solvent to form a Pd colloid on the article and then plating.

Tinted Coatings

BAIKOV METALLURGY INST. *Russian Patent* 1,227,711
Evenly tinted corrosion- and wear-resistant coatings for jewellery, optical mechanisms, etc., are made by depositing In onto a Pd-In substrate. The tints are a range of colours from lemon to violet.

LABORATORY APPARATUS AND TECHNIQUE

Chemical Detector

MINNESOTA MINING MFG. CO. *European Appl.* 195,648A
The detector comprises a photoluminescent semiconductor having a metal, preferably Pd, coating on a radiation emitting surface, the height of the Schottky barrier of the diode varying when H_2 is absorbed by the metal layer; a source of actinic radiation and a means for detecting changes in the radiation emitted from the surface.

Pressure Transmitting Device

TOSHIBA K.K. *Japanese Publ. Appl.* 61/194,326
A pressure differential transmitting device includes a diaphragm which consists of a thin sheet of elastic metal to detect the pressure of a fluid. The sheet is an alloy of formula $(M-M')\text{TbY}$, where M is Fe, Co or Ni, M' is Pd, Rh, Ir, Pt, Re, W, etc., and Y is Si, B, P, etc. The device is lightweight and has good environmental and corrosion resistance.

Optical Hydrogen Sensor

AGENCY OF IND. SCI. TECH. *Japanese Publ. Appl.* 61/204,545
The sensor is composed of (a) a substrate with a monolithically embedded optical waveguide, (b) a light-absorbing layer formed on the waveguide area of the substrate and composed of a dielectric substance with dissociated H_2 , part of which may be $\text{Ir}(\text{OH})_n$, $\text{Rh}_2\text{O}_3 \cdot x\text{H}_2\text{O}$, WO_3 , MoO_3 , V_2O_5 , TiO_2 , heptyl viologen, etc., and (c) an absorbing layer capable of dissociating adsorbed H_2 , for example Pd or Pt.

Moisture Content Probe

ERNO RAUMFAHRTECH G.m.b.H. *German Offen.* 3,510,379
A probe for measuring moisture content in a substance has a carrier with a Pt resistance temperature sensor mounted on it. The output signal is dependent upon the thermal conductivity of the substance, and one example of use is for plant-rearing-chamber nutritive media.

Galvanic Gas Humidity Sensor

BELOUSSIAN LENIN UNIV. *Russian Patent* 1,223,120

The sensor contains an electrochemical cell with a solid electrolyte and two platinised metal grid electrodes covered in Pt black. Crystal hydrates with or without an anhydrous compound are placed in the cell, and Cr dihydro-tripolyphosphate is used as the solid electrolyte. The sensor determines the relative humidity of a gas from -20 to 100°C .

HETEROGENEOUS CATALYSIS

Optical Fibre Cable

TELEPHONE CABLES LTD. *British Appl.* 2,172,410A

The cable has H_2 -trapping powder, such as Pd/C, running longitudinally within the protective cover to catalyse the reaction of H_2 and O_2 to form H_2O , and it is mixed with H_2O -sorber or blocking substance. The powder is supported on a tape to prevent its interference with the movement of the fibres.

Preparation of Oxalic Acid Diester

ROHM G.M.B.H. *British Appl.* 2,173,794A

Diesters of oxalic acid are prepared by oxidative carbonylation of an alcohol at a pressure of $1-700$ atm and at $20-250^{\circ}\text{C}$ in the presence of a catalyst system comprising Pd, at least one metal halide and activated charcoal. High yields are obtained over short times.

Ammonium Nitrate Removal from Waste Water

OSAKA GAS K.K. *European Appl.* 196,597A

Treatment is effected by contacting waste water with a supported catalyst of Ru, Rh, Pd, Os, Ir, Pt or Au at $100-370^{\circ}\text{C}$ and pH $3-11.5$, in order to oxidise the NH_3 . The process is especially applicable to waste water from U processing, or reprocessing U fuel.

Ethanol and Propanol Production

BP CHEMICALS LTD. *European Appl.* 198,681A

The preparation is achieved by vapour phase hydrogenation of acetic or propionic acid over a catalyst comprising a Group VIII metal, preferably Pd or Ru, and Re/C or SiO_2 . High long lasting activity and selectivity are attained at $1-150$ bar.

Alcohol or Ester Preparation

B.P. CHEMICALS LTD. *European Appl.* 198,682A

The preparation involves contacting a $2-12\text{C}$ carboxylic acid at increased temperature and pressure with H_2 in the presence of a heterogeneous catalyst comprising Mo or W and preferably Pd, Rh or Ru.

Reforming Catalyst

CHEVRON RESEARCH CO. *European Appl.* 198,721A

The catalyst comprises a large-pore zeolite containing 1 atomic proportion of Pt and at least 0.1 atomic proportions of promoter metal, consisting of at least one of Fe, Co and Ti. The catalyst is highly active and selective for dehydrocyclisation.

Catalytic Combustion of Light Hydrocarbon

NIPPON SHOKUBAI KAGAKU *European Appl.* 198,948A

$1-4\text{C}$ Hydrocarbon fuels are combusted using a two stage noble metal catalyst system. The first stage catalyst comprises Pd/Pt or Pd/Pt/NiO and effects sufficient combustion to give a temperature high enough to induce secondary combustion with Pt or Pt/Pd. CH_4 can be burned without emission of CO , NO_2 or hydrocarbons.

One Step Esterification

STANDARD OIL CO. (OHIO) *European Appl.* 199,530A

The process under mild reaction conditions, involves reaction with O_2 in the presence of a Pd based intermetallic catalyst, such as $\text{PdTe}_{0.25}\text{Zn}_{0.25}$, supported or unsupported. The aldehyde is preferably (meth)acrolein and the alcohol is preferably methanol.

Deuterated (Meth)acrylic Acid Production

MITSUBISHI RAYON K.K. *European Appl.* 203,588A

(Meth)acrylic acid is deuterated directly by exchange of H in the presence of a catalyst, preferably Pd, Ru, Ir, Rh or Pt or their compounds at $60-200^{\circ}\text{C}$. The resultant acids can be esterified to give deuterated (meth)acrylates for use in the production of low light loss optical fibres.

Hydrogen Production

PHILLIPS PETROLEUM CO. *U.S. Patent* 4,602,988

H_2 is produced from alkaline aqueous solvents of H_2S by irradiation with light at $300-700$ nm in the presence of catalytic amounts of ZnO-RuO_2 , ZnO , ZnS , ZnSe or CuGaS_2 .

Dehydrogenation Catalyst

UOP INC. *U.S. Patent* 4,608,360

A catalyst for paraffin dehydrogenation comprises Pt, Pd, Ir, Rh, Os, Ru, a co-formed Group IVA metal, such as Ge, Sn, or Pb, and an alkali(ne earth) metal, for example Cs, Rb, K, Na, etc., on an Al_2O_3 support. The products can be used in the manufacture of detergents, high octane petroleum, pharmaceuticals and plastics.

Propylene Acetoxylation Catalyst

PHILLIPS PETROLEUM CO. *U.S. Patent* 4,608,362

The catalyst comprises K, Bi and Pd on a support, together with Rh as a promoter. Acetoxylation of propylene is effected with higher selectivity, conversion and space time yield.

Methane Production

DOW CHEMICAL CO. *U.S. Patent* 4,609,679

High methane yields from synthesis gas are effected using a supported Ru catalyst along with at least one oxide of Ta, Nb or V. The calcination temperature during support production is such that no crystalline metal oxide is detectable by X-ray diffraction before Ru deposition.

Staging Reforming Catalysts

EXXON RES. & ENG. CO. *U.S. Patent* 4,613,423

The octane quality of a naphtha is improved by reforming in the presence of H_2 in a reforming unit comprising several reactors in series, with a Pt or Pt/Re catalyst in each. The catalyst of the last reactor contains Pt and Re and sufficient Ir to increase the 5C+ liquid yield.

Hydroisomerisation Catalyst

MOBIL OIL CORP. *U.S. Patent* 4,615,997

The catalyst containing a highly dispersed noble metal, preferably Pt, Pd, Os, Re or Ru and comprising a zeolite of Constraint Index <2, and a binder, is prepared by (a) incorporating noble metal with the zeolite and binder (b) calcining and (c) contacting with a stream of inert gas containing Cl_2 . The catalyst is used for low pressure isomerisation of paraffin.

Engine Exhaust Filter

TOYOTA JIDOSHA K.K. *Japanese Publ. Appl.* 61/146,314

A filter for removing C particles from engine exhaust consists of a honeycomb cordierite base with Pd and/or Rh catalysts and alkali metal oxide(s) deposited on it. C particles are trapped and burned at a combustion efficiency of 85%.

I.C.E. Purification Catalyst

NISSAN CHEM. IND. K.K.

Japanese Publ. Appl. 61,197,038

The catalyst consists of a monolithic support carrying a catalyst of CeO_2 , Pr_6O_{11} , a platinum group metal and activated Al_2O_3 , preliminarily loaded with Ce. It can remove hydrocarbons, CO and NO_x simultaneously.

Waste Gas Purification Catalyst

MATSUSHITA ELEC. IND. K.K.

Japanese Publ. Appl. 61/230,737

The catalyst consists of a glass fibre sheet whose SiO_2 content is increased above 95% by acid- or heat-treatment, and a layer of inorganic oxide, which is mainly $\gamma-Al_2O_3$, where Pt and/or Pd, and TiO_2 are supported on the surface. It can be used for clarifying waste gas from domestic petroleum heaters.

Supported Catalyst Preparation

HOECHST A.G. *German Offen.* 3,533,250

The catalyst for exhaust gas purification, hydrogenation and isomerisation reactions is produced by applying Ru, Pd, Rh, Ir or Pt onto a ceramic honeycomb provided with an Al_2O_3 layer. The honeycomb is soaked in aqueous NH_3 solution and at least one noble metal salt, dried and tempered.

Production of Hydroxylamine Sulphate

GRODNO AZOT COMBINE *Russian Patent* 1,214,584

N oxide is reduced with H_2 in a 6-vessel cascade reactor using a reaction medium of 18.5–20.0% H_2SO_4 in the presence of a catalyst of 0.3–0.5% Pt/graphite. Fresh catalyst is added continuously and spent catalyst removed regularly for regeneration and recycling.

HOMOGENEOUS CATALYSIS

Methanol Conversion Catalyst

BRITISH PETROLEUM P.L.C. *British Appl.* 2,171,924A

A catalyst for converting syngas to methanol has formula $M_3ThA_bO_x$ (I), where M is at least one of Pd, Pt and Ag, preferably Pd, and A is alkali metal. The production of a precursor to (I) is also claimed.

Pd(II)/PPh₃ Containing Catalyst

SHELL INT. RES. Mij. B.V. *European Appl.* 194,707A

A catalyst used in the hydrocarboxylation of alkynes with enhanced reaction rates and high selectivity comprises a divalent Pd compound and a tri-organic phosphine (II). The reaction is with CO and carboxylic acid in the liquid phase.

Aldehyde Production

SOC. CHIM. CHARBONNAGES

World Patent Appl. 86/5,415A

A catalyst system for the production of aldehydes comprises: (a) a Pt complex $LPtX_2$, L is an organic compound containing at least 2 P atoms, X = halogen, (b) a complex combination of Sn and an alkylene carbonate. Aldehydes are produced by the hydroformylation of an ethylenically unsaturated compound with a mixture of CO and H_2 .

1–4C Alkanol Production

TEXACO INC.

U.S. Patent 4,622,343

Synthesis gas is contacted at a pressure of at least 30 atm and at least 150°C with a trimetallic catalyst comprising compounds of Ru, Co and Mn dispersed in a low melting quaternary phosphonium salt.

FUEL CELLS

Fuel Cell Electrodes

ELEC. POWER RES. INST. INC. *U.S. Patent* 4,610,938

Improved performance with H_3PO_4 acid electrolyte fuel cells is obtained by coating the Pt/C electrode with a perfluorinated acid-containing addition polymer.

Catalyst for Fuel Cells

UNITED TECHNOLOGIES CORP. *U.S. Patent* 4,613,582

A ternary metal alloy catalyst for fuel cell electrodes, and for other uses, which increases the work done by a fuel cell is formed from a finely divided noble metal, preferably Pt/C black, with Co and transition metal compound solutions, followed by reduction in N_2 .

GLASS TECHNOLOGY

Press-Mould for Glass

MATSUSHITA ELEC. IND. K.K. *European Appl.* 191,618A

Glass optical elements are press-moulded from softened glass using two moulds made from a high heat resistant base coated with a film of Ir, Ru, an alloy of Ir with Pt, Ru, Os, Rh or Re, or an alloy of Ru with Pt, Ru, Os, Rh or Re.

Optical Glass Mould

MATSUSHITA ELEC. IND. K.K.

Japanese Publ. Appl. 61/146,724

Pressure shaping surfaces for high accuracy optical glass are coated with a thin membrane comprising an alloy of Pt, Ir, Os, Pd, Rh, Ru and a B compound, such as TiB_2 , ZrB_2 , NiB_2 , Fe_2B , etc.

ELECTRICAL AND ELECTRONIC ENGINEERING

Electrochromic Element

NIPPON KOGAKU K.K. *Japanese Publ. Appl. 61/144,630*

The element consists of an opaque electrode, a reductively colouring electrochromic layer, a transparent ion-conductive layer and opposite electrode, the latter comprising a dispersed phase of metal or Ir (hydr)oxide and transparent solid electroconductive dispersion medium.

Slide Contact Device

TANAKA KIKINZOKU KOGYO

Japanese Publ. Appls. 61/156,648-78

The device comprises a brush and commutator or slip ring. The brush is of alloy comprising, in wt. %: 68-72Au, 3-7Pt, 8-12Ag, 12-16Cu and 0.1-2Ni; 20-70Pd and 30-80Ag; or 32-38Pd, 8-12Au, 8-12Pt, 27-33Ag, 12-16Cu and 0.1-2Zn, etc. The device has less wear and a stable, but low contact resistance. Addition of C improves wear resistance.

Platinum Resistance

SHARP K.K.

German Offen. 3,603,784

A resistance for temperature measurement comprises an insulating substrate coated with a Pt film and then a thin protective Al_2O_3 film possessing high thermal conductivity, chemical stability, heat resistance stability and electrical insulation.

MEDICAL USES

Platinum Anti-Cancer Complexes

YEDA RES. & DEV. CO. LTD. *European Appl. 190,464A*

Complexes of Pt compounds, such as K_2PtCl_6 , cis-platin, diaquodiammine Pt nitrate and a physiologically acceptable macromolecular carrier, for example a polysaccharide, or a polyamino acid are useful in anti-tumour treatment. Pt is released gradually in vivo thus reducing toxicity. Pt targeting can use anti-tumour antibodies as carriers.

Optical Sensor for Oxygen Monitoring

GOULD INC.

European Appls. 190,829/30A

An extremely small monitoring device, which responds to light, comprises an optical waveguide, an O₂-sensitive medium preferably including a phenanthroline salt of Ru(II) perchlorate, which fluoresces in response to light, where fluorescence is dependent on O₂ partial pressure. The device gives rapid, accurate, precise measurement for remote sensing, for example in arteries, blood vessels or catheters.

The Conjugation of Metallothionine to Bioactive Molecules

DU PONT DE NEMOURS CO. *European Appl. 196,669A*

The production involves conjugating a bioactive molecule, such as an antibody or fragment, steroid, hormone, prostaglandin, etc., to a heterobifunctional crosslinker and then conjugating the product with the metallothionine, the metal of which may be a non-tracer such as Ru, Pt, Bi, Pb, Hg, Au, etc., or at least a part-exchanged tracer, Ru⁹⁷, Pd¹⁰³, Hg¹⁹⁷, Pb²⁰³, Ag¹¹¹, Au¹⁹⁸, etc. The conjugate is useful in diagnosis and radiotherapy.

Preventing Bone Calcium Resorption

SLOAN-KETTERING INST. *European Appl. 201,804A*

The treatment consists of the administration of a suitable metal-containing compound, such as Ga acetate, nitrate or fluoride, diamminedichloro Pt(II), cis-diammine-1,1-cyclobutane dicarboxylate Pt(II), etc.

X-Ray Emitting Implant

NUCLEAR MED. INC. *World Patent Appl. 86/4,248A*

A particle for in vivo tumour-implantation contains Pd enriched in Pd¹⁰². This is activated by exposure to neutron flux giving a fraction of X-ray-emitting Pd¹⁰³. The particle is non-toxic and biocompatible, and facilitates localised exposure.

Implantable Corneal Prosthesis

T. C. WHITE

U.S. Patent 4,612,012

An implantable corneal prosthesis comprises a lenticular transparent central portion and a peripheral portion with an outer tissue-contacting surface, preferably such as Pt, Au or polymer. All parts must be biologically compatible.

Malonato Pt (II) Complexes

JERUSALEM UNIVERSITY

U.S. Patent 4,614,811

The complexes with anti-tumour activity are of formula $L_2Pt(II)(OCO)_2CH-NH_2$, where L is a mono- or bidentate amine ligand. The complexes are chemically stable and can be injected intravenously.

Blood Gas Sensor

SUMITOMO ELEC. IND. K.K.

Japanese Publ. Appl. 61/128,945

The sensor has an electrode component made of concentric electrodes comprising a pH electrode, a noble metal electrode, preferably Pt or Au and an Ag/AgCl electrode, which is between the first two. Simultaneous accurate determination of blood O₂ and CO₂ by skin application is possible.

New Anti-Oncotic Organic Pt Compounds

AJINOMOTO K.K. *Japanese Publ. Appl. 61/152,625*

Pt(II) complexes with 1,5-cyclooctadiene and cyclooctene-5-yl-acetic acid derivatives show growth inhibitory action to cancer and leukaemia cells.

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