FCR 5

Office of the President
December 11, 2001

Members, Board of Trustees:

PATENT ASSIGNMENT REPORT

Recommendation: that the patent assignment report for the period June 30 through November 30, 2001, be accepted.

Background: FCR 5, dated March 4, 1997, authorized that all future copyright and patent filings and prosecutions be conducted by the University of Kentucky Research Foundation (UKRF), and that the Vice President for Research and Graduate Studies or his designee be authorized to execute any needed documents to obtain appropriate patent or copyright protection. Quarterly reports on patent and copyright applications are to be submitted to the Finance Committee of the Board.

Action Taken: ❑ Approved ❑ Disapproved ❑ Other _____

PATENT ASSIGNMENT
QUARTERLY FOR THE PERIOD June 1 through November 30, 2001

Patents

The following assignments on behalf of the Board of Trustees to the University of Kentucky Research Foundation have been executed:

1. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "NOVEL LONG ACTING, REVERSIBLE VETERINARY SEDATIVE & ANALGESIC AND METHOD OF USE." Inventor: Thomas Tobin. This invention is a veterinary composition comprising a guanidine derivative, *e.g.*, guanabenz or guanabenz acetate which produces a rapid acting and long lasting sedative and analgesic effect in a subject animal that is selectively reversible. The use of guanabenz in the horse provides a safe, effective, long lasting and rapidly reversible sedative and analgesic which can be used on the standing animal. Methods of use of the compositions of the invention are also provided.

2. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "BICYCLIC TERPENES AND SYNTHESIS THEREOF." Inventors: H. Peter Spielmann and Joseph Chappell. This invention discloses thirteen-membered rings containing terpenoid analog compounds synthesized from analinogeranylpyrophosphate using 5-epi-aristolochene synthase as a reaction catalyst. The method provides a generalized procedure for making high-ordered ring structures having various substituent groups. The products can be used in assays for 5-epi-aristolochene synthase activity, and as precursors and intermediates for biologically active substances.

3. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "MIXING AND DISPERSION OF NANOTUBES BY GAS OR VAPOR EXPANSION." Inventors: Francis J. Derbyshire, Rodney Andrews and Bouchra Safadi. This invention provides novel methods and compositions for coating target surfaces with non-entangled multi-wall carbon nanotubes. In one aspect, the methods and compositions of the invention comprise dispersion of non-entangled multi-wall carbon nanotubes in solvent, and application of the non-entangled multi-wall carbon nanotube/solvent mixture to a surface by spraying. In another aspect, the methods and compositions of the invention comprise dispersion of non-entangled multi-wall carbon nanotubes in solvent, and applying the nanotube/solvent mixutre to a suitable matrix by spraying to form a surface coating which is substantially contiguous with the surface of the matrix. The compositions of the invention are substantially free of metal oxides and sulfur, and do not require harsh oxidative treatments.

4. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "POLYMETHYLMETHACRYLATE AUGMENTED WITH CARBON NANOTUBES." Inventors: David A. Pienkowski and Rodney Andrews. This

invention provides an augmented synthetic resin. The resin includes carbon nanotubes dispersed in a polymethylmethacrylate matrix. The invention also provides a method of preparing this synthetic resin including the mixing and disaggregation of the carbon nanotubes.

5. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "MOLECULAR FUNCTIONALIZATION OF CARBON NANOTUBES AND USE AS SUBSTRATES FOR NEURONAL GROWTH." Inventors: Robert C. Haddon, Mark P. Mattson and Apparao M. Rao. This invention discloses a cell and substrate system and nerve regeneration implant including a carbon nanotube and a neuron growing on the carbon nanotube. Both unfunctionalized carbon nanotubes and carbon nanotubes functionalized with a neuronal growth promoting agent may be utilized in the invention. A method is also disclosed for promoting neuronal growth.

6. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "METHOD OF PREPARING A COMPOSITE POLYMER AND SILICA-BASED MEMBRANE." Inventors: Dibakar Bhattacharyya, Stephen M. Ritchie, Leonidas G. Bachas, Jamie A. Hestekin and Subhas K. Sikdar. This invention provides a method for preparing a chemically activated or polyamino acid functionalized membrane and includes the steps of permeating a silica-based membrane with a solution of silane and a solvent so as to react methoxy groups of hte silane with silanol groups of the membrane to incorporate epoxide groups and attaching a polyamino acid to the membrane by reacting a terminal amine group of the polyamino acid with one of the epoxide groups on the membrane.

7. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "PREPARING AND REGENERATING A COMPOSITE POLYMER AND SILICA-BASED MEMBRANE." Inventors: Dibakar Bhattacharyya, Stephen M. Ritchie, Leonidas G. Bachas, Jamie A. Hestekin and Subhas K. Sikdar. This invention discloses a method for preparing and regenerating a chemically activated or polyamino acid functionalized membrane including the steps of permeating the silica-based membrane with a solution of silane and a solvent so as to react methoxy groups of the silane with silanol groups of the membrane to incorporate epoxide groups and attaching a polyamino0 acid to the membrane by reacting a terminal amine group of the polyamino acid with one of the epoxide groups on the membrane. The membrane is regenerated after metal entrapment by utilizing helix-coil properties of polyamino acids.

8. U.S. Patent Serial Number: (to be assigned), filed (to be filed), titled "IODO-NONOXYNOL-9-DERIVATIVES AND METHODS FOR THEIR USE." Inventors: George Digenis, Philip T. Fowler, Kazuya Matsumoto and Gustavo F. Doncel. This invention provides mono- and di- iodinated nonoxynol - 9-derivatives and methods for their use as anti-spermicidals and to reduce or prevent transmission of sexually transmitted diseases.

9. U.S. Patent Serial Number: (to be assigned), filed (to be filed), “AGMATINE AND AGMATINE ANALOGS IN THE TREATMENT OF EPILEPSY, SEIZURE AND ELECTROCONVULSIVE DISORDERS.” Inventor: Peter A. Crooks, Aimee K. Bence and David R. Worthen. This invention provides pharmaceutical preparations containing agmatine, congeners, analogs or derivatives thereof for use in preventing or treating epilepsy, seizures and other electroconvulsive disorders. Embodiments include administering an effective amount of agmatine, and agmatine analog or a pharmaceutically acceptable salt thereofto a human subject in need of treatment or prevention of epilepsy, seizure or other electroconvulsive disorder to treat, reduce, or prevent the disorder in the subject.