* **[ZERO GRAVITY PROCESS DEVICE](https://patents.justia.com/patent/20180147552)**

**Publication number:**20180147552

**Abstract:**A physical, chemical and biological process device operating under zero gravity and shaken by low energy mechanical and magnetic means is disclosed.

**Type:**Application

**Filed:**November 28, 2016

**Publication date:**May 31, 2018

**Inventor:**Sarfaraz K. Niazi

* **[VEHICLE STEERING AND CONTROL DEVICE (VSCD)](https://patents.justia.com/patent/20180143754)**

**Publication number:**20180143754

**Abstract:**A steering and vehicle control device comprising a flat touch-sensitive electronic screen serving as a steering wheel and as a graphic user interface (GUI) to control operations of a vehicle by touching the screen.

**Type:**Application

**Filed:**November 22, 2016

**Publication date:**May 24, 2018

**Inventor:**Sarfaraz K. Niazi

* [**METHODS FOR COMPARING A STRUCTURE OF A FIRST BIOMOLECULE AND A SECOND BIOMOLECULE**](https://patents.justia.com/patent/20180024137)

**Publication number:**20180024137

**Abstract:**The present disclosure provides methods to assess structural similarity of a first biomolecule and a second biomolecule by detecting one or more responses of the first and second biomolecule to thermodynamic stress conditions induced by osmotic and dielectric changes including, detecting a shift in fluorescence emission and/or a change in the intensity of the emission.

**Type:**Application

**Filed:**September 29, 2017

**Publication date:**January 25, 2018

**Inventor:**Sarfaraz K. Niazi

* [**Faster aging of alcoholic beverages**](https://patents.justia.com/patent/9745545)

**Patent number:**9745545

**Abstract:**Aging of alcoholic beverages is expedited by increasing the exposed surface area of wood by introducing multiple wooden surfaces, improving mixing by reducing the spacing between wooden surfaces, maintaining the temperature of alcoholic beverage to optimal level and reducing the cost or production by working with larger volumes at a time.

**Type:**Grant

**Filed:**June 29, 2015

**Date of Patent:**August 29, 2017

**Inventor:**Sarfaraz K. Niazi

* [**MULTIPURPOSE BIOREACTOR**](https://patents.justia.com/patent/20170198246)

**Publication number:**20170198246

**Abstract:**A multiuse bioreactor that is a single-use bioreactor, a development bioreactor, a commercial manufacturing bioreactor, a batch, a fed-batch, a perfusion and continuous bioreactor, a convective heat bioreactor, a product capture bioreactor, an ISO 9 bioreactor, a eukaryotic bioreactor, a prokaryotic bioreactor, a technology transfer-free bioreactor, and an inexpensive bioreactor is disclosed.

**Type:**Application

**Filed:**January 12, 2017

**Publication date:**July 13, 2017

**Inventor:**Sarfaraz K. Niazi

* [**Harvesting and purification or perfusion yielder (HAPPY) device**](https://patents.justia.com/patent/9701933)

**Patent number:**9701933

**Abstract:**A modular device comprising one or more porous substrate subunits comprising a binding substrate that is capable of interacting with a target biological product, either during, or at the end of a manufacturing cycle; and methods of using the device to harvest or purify a biological product.

**Type:**Grant

**Filed:**September 19, 2014

**Date of Patent:**July 11, 2017

**Inventor:**Sarfaraz K. Niazi

* [**GAS HEATING APPARATUS FOR DISPOSABLE BIOREACTOR**](https://patents.justia.com/patent/20170191015)

**Publication number:**20170191015

**Abstract:**The present invention relates to an apparatus comprising a single-use circular bag having a sealed edge, capable of holding a nutrient media and designed to deliver heated or cooled air/gas into the media thereby aerating and maintaining the appropriate temperature for growth of a cell culture. In addition mixing is provided by the use of acoustic radiation devices located below a support structure.

**Type:**Application

**Filed:**January 4, 2016

**Publication date:**July 6, 2017

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**ANGLED PRINTED BOUND BOOK**](https://patents.justia.com/patent/20170136800)

**Publication number:**20170136800

**Abstract:**A method for improving readability and comprehension of printed text or image by printing at an angle as a mirror image on the left and right page of a bound book is disclosed.

**Type:**Application

**Filed:**December 19, 2016

**Publication date:**May 18, 2017

**Inventor:**Sarfaraz K. Niazi

* [**HARVESTING AND PERFUSION APPARATUS**](https://patents.justia.com/patent/20170101435)

**Publication number:**20170101435

**Abstract:**The present invention relates to an apparatus capable of harvesting a recombinant protein from a bioreactor having a porous container comprised of a chromatography medium capable of binding the recombinant protein and a method of use thereof.

**Type:**Application

**Filed:**October 13, 2015

**Publication date:**April 13, 2017

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Clean zone HVAC system**](https://patents.justia.com/patent/9593859)

**Patent number:**9593859

**Abstract:**A single-pass HVAC systems to isolate zones and to maintain a required clean air quality standard is provided that operates by producing a positive pressure in all zones, while exhausting on a minimal quantity of air required by law. The zones are kept clean by a recirculating fan filter in each zone. The exhaust air is used to exchange heat with incoming air to conserve energy further.

**Type:**Grant

**Filed:**May 20, 2015

**Date of Patent:**March 14, 2017

**Inventor:**Sarfaraz K. Niazi

* [**Bioreactor exhaust**](https://patents.justia.com/patent/9587214)

**Patent number:**9587214

**Abstract:**An exhaust system suitable for high volume exhaust from flexible disposable bags is described that prevents nutrient media volume loss and prevents cross-contamination without using any filters. The invention described here allows the use of disposable two-dimensional bioreactors for the cultivation of bacterial and other organisms and cells require high aeration.

**Type:**Grant

**Filed:**April 13, 2015

**Date of Patent:**March 7, 2017

**Assignee:**Adello Biologics, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Interconnected bioreactors**](https://patents.justia.com/patent/9587283)

**Patent number:**9587283

**Abstract:**A method of homogenously mixing the contents of a plurality of bioreactors by providing a receiving container capable of holding an appropriate quantity of the liquid and repeatedly raising and lowering the receiving container to a position above or below the position of the bioreactors resulting in mixing the contents of the bioreactors.

**Type:**Grant

**Filed:**June 12, 2015

**Date of Patent:**March 7, 2017

**Assignee:**Adello Biologics

**Inventor:**Sarfaraz K. Niazi

* [**RECIRCULATING BIOREACTOR EXHAUST SYSTEM**](https://patents.justia.com/patent/20170051243)

**Publication number:**20170051243

**Abstract:**A recirculating bioreactor exhaust apparatus designed to remove a gaseous element from the bioreactor exhaust, such as carbon dioxide, by freezing the gaseous element and then returning the remaining exhaust gas to the bioreactor and a method of use.

**Type:**Application

**Filed:**August 20, 2015

**Publication date:**February 23, 2017

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Universal bioreactors and methods of use**](https://patents.justia.com/patent/9550971)

**Patent number:**9550971

**Abstract:**Bioreactors suitable for housing a predetermined volume of culture medium comprising a plurality of containers of approximately equal internal volume in which the culture medium resides, wherein the predetermined volume of culture medium is retained in approximately equal amounts within each of the plurality of containers during operation of the bioreactor, and wherein the internal volume of each container is selected so that the amount of culture medium in each container exceeds 50 vol. % of the container internal volume during operation of the bioreactor, and related methods of use.

**Type:**Grant

**Filed:**April 14, 2009

**Date of Patent:**January 24, 2017

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**WINE PRESERVING AND AERATING CONTAINER**](https://patents.justia.com/patent/20170008747)

**Publication number:**20170008747

**Abstract:**A non-chemical leaching fluoropolymer container for dispensing, storing and aerating degradable wines.

**Type:**Application

**Filed:**July 8, 2015

**Publication date:**January 12, 2017

**Inventor:**Sarfaraz K. Niazi

* [**WINE PRESERVING PACKAGING**](https://patents.justia.com/patent/20170008751)

**Publication number:**20170008751

**Abstract:**A container and method for dispensing degradable beverages, such as wine, from a non-chemical leaching polymer container, while insuring that gaseous contaminants such as oxygen cannot enter the container.

**Type:**Application

**Filed:**July 7, 2015

**Publication date:**January 12, 2017

**Inventor:**Sarfaraz K. Niazi

* [**FASTER AGING OF ALCOHOLIC BEVERAGES**](https://patents.justia.com/patent/20160376538)

**Publication number:**20160376538

**Abstract:**Aging of alcoholic beverages is expedited by increasing the exposed surface area of wood by introducing multiple wooden surfaces, improving mixing by reducing the spacing between wooden surfaces, maintaining the temperature of alcoholic beverage to optimal level and reducing the cost or production by working with larger volumes at a time.

**Type:**Application

**Filed:**June 29, 2015

**Publication date:**December 29, 2016

**Inventor:**Sarfaraz K. Niazi

* [**Stationary bubble reactors**](https://patents.justia.com/patent/9499290)

**Patent number:**9499290

**Abstract:**Reactors that allow mixing and gasification by converting the entire floor of the reactor vessel to a sparge filter is described.

**Type:**Grant

**Filed:**July 31, 2011

**Date of Patent:**November 22, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Multiuse reactors and related methods**](https://patents.justia.com/patent/9500381)

**Patent number:**9500381

**Abstract:**A septum is positioned within a disposable vessel and defines a lower chamber and an upper chamber. The septum includes a plurality of apertures that provide fluid communication between the upper chamber and lower chamber. Compressed gas is introduced in the lower chamber to produce fine bubbles rising up throughout the vessel to produce a mixing and gasification needed for the growth of a biological culture and manufacture of a biological product in a nutrient medium. Adding a binding resin to the upper chamber allows harvesting, separation and purification of biological products in the reactor as a single unit operation.

**Type:**Grant

**Filed:**September 3, 2011

**Date of Patent:**November 22, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Non-invasive bioreactor monitoring**](https://patents.justia.com/patent/9469834)

**Patent number:**9469834

**Abstract:**A pair or receptacles capable of housing an emitter probe and a detector probe installed inside a bioreactor to monitor the properties of the nutrient media without contacting the nutrient media.

**Type:**Grant

**Filed:**August 28, 2013

**Date of Patent:**October 18, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Closed bioreactor**](https://patents.justia.com/patent/9469671)

**Patent number:**9469671

**Abstract:**Single-use closed bioreactors with recirculating exhaust gas that can be operated in an uncontrolled environment are reported for the manufacturing of biological products using genetically modified biological cultures that produces carbon dioxide or that requires carbon dioxide in their metabolic process.

**Type:**Grant

**Filed:**December 6, 2011

**Date of Patent:**October 18, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Single-use stationary bioreactors and mixing vessels**](https://patents.justia.com/patent/9469426)

**Patent number:**9469426

**Abstract:**Stationary bioreactors and mixing vessels fitted with single-use flexible bags utilizing wave hydrodynamic principle are described for use in every type of biological process and products.

**Type:**Grant

**Filed:**March 8, 2010

**Date of Patent:**October 18, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**VISUAL AXIS OPTIMIZATION FOR ENHANCED READABILITY AND COMPREHENSION**](https://patents.justia.com/patent/20160301828)

**Publication number:**20160301828

**Abstract:**The printed text is vertically aligned at 90 degrees, the visual axis of the reader does not align properly when the head is moved to read the left or the right page resulting in difficulties in readability and comprehension. These difficulties are resolved by printing the text at an angle.

**Type:**Application

**Filed:**June 21, 2016

**Publication date:**October 13, 2016

**Inventor:**Sarfaraz K. Niazi

* [**CONCENTRATOR FILTER**](https://patents.justia.com/patent/20160264930)

**Publication number:**20160264930

**Abstract:**A method and an apparatus for separating suspended matter from liquid includes a concentrator filter that draws the liquid out of the suspension while the filter kept unblocked by a sparging filter that allows scrubbing of the concentrator filter by gas bubbles. This invention can be used to replace cross-flow filtration and centrifugation in the bioprocess industry and to reduce the volume of suspensions to concentrate the yield of the end product in the chemical industry.

**Type:**Application

**Filed:**May 18, 2016

**Publication date:**September 15, 2016

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**DOWNSTREAM BIOPROCESSING DEVICE**](https://patents.justia.com/patent/20160237111)

**Publication number:**20160237111

**Abstract:**Large-scale downstream processing of secreted recombinant proteins is provided in a single device, wherein the contents of a plurality of bioreactors are combined simultaneous to their harvesting and purification resulting in significant savings of time and the cost of manufacturing.

**Type:**Application

**Filed:**April 21, 2016

**Publication date:**August 18, 2016

**Inventor:**Sarfaraz K. Niazi

* [**BUOYANT PROTEIN HARVESTING DEVICE**](https://patents.justia.com/patent/20160200761)

**Publication number:**20160200761

**Abstract:**A buoyant device containing chromatography media performs the function of protein harvesting replacing the steps of cell separation and volume reduction; the device can be loaded into columns for further purification.

**Type:**Application

**Filed:**March 21, 2016

**Publication date:**July 14, 2016

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**PIVOTING PRESSURIZED SINGLE USE BIOREACTOR**](https://patents.justia.com/patent/20160177248)

**Publication number:**20160177248

**Abstract:**Pressurized hermetically sealed bags disposed inside a cylindrical support and containing a septum with variable density of porosity and dividing the bag into two chambers are used to provide optimal mixing and gasification of nutrient media to grow a variety of biological cultures, particularly the cell cultures to produce a multitude of pharmaceutical and biotechnology products in a disposable system.

**Type:**Application

**Filed:**February 25, 2016

**Publication date:**June 23, 2016

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**PREPARATIVE CHROMATOGRAPHY COLUMN AND METHODS**](https://patents.justia.com/patent/20160166949)

**Publication number:**20160166949

**Abstract:**A chromatography column that captures components in a process liquid in a free flow state and allows elution in steps is described.

**Type:**Application

**Filed:**February 23, 2016

**Publication date:**June 16, 2016

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Concentrator filter**](https://patents.justia.com/patent/9364776)

**Patent number:**9364776

**Abstract:**A method and an apparatus for separating suspended matter from liquid includes a concentrator filter that draws the liquid out of the suspension while the filter kept unblocked by a sparging filter that allows scrubbing of the concentrator filter by gas bubbles. This invention can be used to replace cross-flow filtration and centrifugation in the bioprocess industry and to reduce the volume of suspensions to concentrate the yield of the end product in the chemical industry.

**Type:**Grant

**Filed:**February 27, 2014

**Date of Patent:**June 14, 2016

**Inventor:**Sarfaraz K. Niazi

* [**Pneumatically agitated and aerated single-use bioreactor**](https://patents.justia.com/patent/9339026)

**Patent number:**9339026

**Abstract:**A single-use round flexible mixing bag for use in bioprocessing in which a fluid is received and agitated using an internal fluid-agitating element comprising a radial flow impeller driven by an internal pneumatic vane motor is disclosed. The bag may include an integral sparger and sensor receiver. Related methods are also disclosed.

**Type:**Grant

**Filed:**June 14, 2012

**Date of Patent:**May 17, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Downstream bioprocessing device**](https://patents.justia.com/patent/9321805)

**Patent number:**9321805

**Abstract:**Large-scale downstream processing of secreted recombinant proteins is provided in a single device, wherein the contents of a plurality of bioreactors are combined simultaneous to their harvesting and purification resulting in significant savings of time and the cost of manufacturing.

**Type:**Grant

**Filed:**July 12, 2013

**Date of Patent:**April 26, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**PURIFICATION AND SEPARATION TREATMENT ASSEMBLY (PASTA) FOR BIOLOGICAL PRODUCTS**](https://patents.justia.com/patent/20160097073)

**Publication number:**20160097073

**Abstract:**An assembly capable of capturing and purifying expressed biological products during or at the end of a bioreaction cycle is disclosed wherein a binding resin is kept separated from the contents of the bioreactor allowing capturing, harvesting and purification of biological products in a bioreactor; the invention additionally provides means of removing undesirable metabolic products as well as provides for efficient loading of chromatography columns.

**Type:**Application

**Filed:**October 6, 2014

**Publication date:**April 7, 2016

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**HARVESTING AND PURIFICATION OR PERFUSION YIELDER (HAPPY) DEVICE**](https://patents.justia.com/patent/20160083685)

**Publication number:**20160083685

**Abstract:**A modular device comprising one or more porous substrate subunits comprising a binding substrate that is capable of interacting with a target biological product, either during, or at the end of a manufacturing cycle; and methods of using the device to harvest or purify a biological product.

**Type:**Application

**Filed:**September 19, 2014

**Publication date:**March 24, 2016

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Buoyant protein harvesting device**](https://patents.justia.com/patent/9290732)

**Patent number:**9290732

**Abstract:**A buoyant device containing chromatography media performs the function of protein harvesting replacing the steps of cell separation and volume reduction; the device can be loaded into columns for further purification.

**Type:**Grant

**Filed:**December 12, 2014

**Date of Patent:**March 22, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Pivoting pressurized single-use bioreactor**](https://patents.justia.com/patent/9284521)

**Patent number:**9284521

**Abstract:**Pressurized hermetically sealed bags disposed inside a cylindrical support and containing a septum with variable density of porosity and dividing the bag into two chambers are used to provide optimal mixing and gasification of nutrient media to grow a variety of biological cultures, particularly the cell cultures to produce a multitude of pharmaceutical and biotechnology products in a disposable system.

**Type:**Grant

**Filed:**March 24, 2012

**Date of Patent:**March 15, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Preparative chromatography column and methods**](https://patents.justia.com/patent/9284346)

**Patent number:**9284346

**Abstract:**A chromatography column that captures components in a process liquid in a free flow state and allows elution in steps is described.

**Type:**Grant

**Filed:**September 27, 2011

**Date of Patent:**March 15, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Baffled single use bioreactor**](https://patents.justia.com/patent/9238789)

**Patent number:**9238789

**Abstract:**A flexible disposable bioreactor having three, stagger-baffled compartments wherein the middle compartment houses a sparging rod is described to provide the highest degree of sparging and mixing to produce biological products.

**Type:**Grant

**Filed:**July 21, 2012

**Date of Patent:**January 19, 2016

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**VISUAL AXIS OPTIMIZATION FOR ENHANCED READABILITY AND COMPREHENSION**](https://patents.justia.com/patent/20150371120)

**Publication number:**20150371120

**Abstract:**While the printed text is vertically aligned at 90 degrees, the visual axis of the reader is not aligned with the printed or displayed axis of text resulting in difficulties in readability and comprehension of text and images that can be obviated by printing or displaying text and images at an angle to align with the axis of the eye.

**Type:**Application

**Filed:**June 18, 2014

**Publication date:**December 24, 2015

**Inventor:**Sarfaraz K. Niazi

* [**Separative bioreactor**](https://patents.justia.com/patent/9200335)

**Patent number:**9200335

**Abstract:**A bioreactor that combines the steps of recombinant expression and separation of a biological product by binding the secreted biological product with a resin, discarding the nutrient medium and eluting the biological product as a concentrated solution, eliminating the steps of sterile filtration and volume reduction. The method also allows loading of resin for column-purification, eliminating all steps of perfusion process and maintaining a sink condition of a toxic product in nutrient medium to optimize productivity of host cells. The instant invention also allows harvesting of solubilized inclusion bodies after the cells have been lysed and refolding of proteins inside the bioreactor.

**Type:**Grant

**Filed:**February 21, 2014

**Date of Patent:**December 1, 2015

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**AERATION DEVICE FOR BIOREACTORS**](https://patents.justia.com/patent/20150290597)

**Publication number:**20150290597

**Abstract:**An aeration and mixing device for disposable flexible bioreactors comprising a mesh of interconnected perforated disposable tubes to form a structure to cover essentially the entire bottom surface of a disposable flexible bioreactor and wherein a continuous flow of gases through the perforations in the tubes provides an aeration and a mixing function.

**Type:**Application

**Filed:**April 9, 2014

**Publication date:**October 15, 2015

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**INTERCONNECTED BIOREACTORS**](https://patents.justia.com/patent/20150275318)

**Publication number:**20150275318

**Abstract:**A method of homogenously mixing the contents of a plurality of bioreactors by providing a receiving container capable of holding an appropriate quantity of the liquid and repeatedly raising and lowering the receiving container to a position above or below the position of the bioreactors resulting in mixing the contents of the bioreactors.

**Type:**Application

**Filed:**June 12, 2015

**Publication date:**October 1, 2015

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL, LLC

**Inventor:**Sarfaraz K. Niazi

* [**CLEAN ZONE HVAC SYSTEM**](https://patents.justia.com/patent/20150253022)

**Publication number:**20150253022

**Abstract:**A single-pass HVAC systems to isolate zones and to maintain a required clean air quality standard is provided that operates by producing a positive pressure in all zones, while exhausting on a minimal quantity of air required by law. The zones are kept clean by a recirculating fan filter in each zone. The exhaust air is used to exchange heat with incoming air to conserve energy further.

**Type:**Application

**Filed:**May 20, 2015

**Publication date:**September 10, 2015

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**BIOREACTOR EXHAUST**](https://patents.justia.com/patent/20150210974)

**Publication number:**20150210974

**Abstract:**An exhaust system suitable for high volume exhaust from flexible disposable bags is described that prevents nutrient media volume loss and prevents cross-contamination without using any filters. The invention described here allows the use of disposable two-dimensional bioreactors for the cultivation of bacterial and other organisms and cells require high aeration.

**Type:**Application

**Filed:**April 13, 2015

**Publication date:**July 30, 2015

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. NIAZI

* [**THERMODYNAMIC EQUIVALENCE SURROGATE TEST (TEST) FOR BIOEQUIVALENCE**](https://patents.justia.com/patent/20150204834)

**Publication number:**20150204834

**Abstract:**A method for establishing bioequivalence of drug products by comparing the thermodynamic potential of the release of a drug substance from drug products according to a set of statistically differentiated dissolution profiles of an active drug substance contained in the drug product.

**Type:**Application

**Filed:**January 22, 2014

**Publication date:**July 23, 2015

**Inventor:**Sarfaraz K. Niazi

* [**Interconnected bioreactors**](https://patents.justia.com/patent/9068215)

**Patent number:**9068215

**Abstract:**A method of homogenously mixing the contents of a plurality of bioreactors by providing a receiving container capable of holding an appropriate quantity of the liquid and repeatedly raising and lowering the receiving container to a position above or below the position of the bioreactors resulting in mixing the contents of the bioreactors.

**Type:**Grant

**Filed:**May 13, 2011

**Date of Patent:**June 30, 2015

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**BUOYANT PROTEIN HARVESTING DEVICE**](https://patents.justia.com/patent/20150099293)

**Publication number:**20150099293

**Abstract:**A buoyant device containing chromatography media performs the function of protein harvesting replacing the steps of cell separation and volume reduction; the device can be loaded into columns for further purification.

**Type:**Application

**Filed:**December 12, 2014

**Publication date:**April 9, 2015

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**METHODS FOR COMPARING A STRUCTURE OF A FIRST BIOMOLECULE AND A SECOND BIOMOLECULE**](https://patents.justia.com/patent/20140356968)

**Publication number:**20140356968

**Abstract:**The present disclosure provides methods to assess structural similarity of a first biomolecule and a second biomolecule by detecting one or more responses of the first and second biomolecule to thermodynamic stress conditions induced by osmotic and dielectric changes including, detecting a shift in fluorescence emission and/or a change in the intensity of the emission.

**Type:**Application

**Filed:**August 7, 2013

**Publication date:**December 4, 2014

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**TURNING SIGNAL**](https://patents.justia.com/patent/20140225727)

**Publication number:**20140225727

**Abstract:**Turn signals for moving vehicles along both sides of the vehicle are reported.

**Type:**Application

**Filed:**February 11, 2013

**Publication date:**August 14, 2014

**Inventor:**Sarfaraz K. NIAZI

* [**CONCENTRATOR FILTER**](https://patents.justia.com/patent/20140175029)

**Publication number:**20140175029

**Abstract:**A method and an apparatus for separating suspended matter from liquid includes a concentrator filter that draws the liquid out of the suspension while the filter kept unblocked by a sparging filter that allows scrubbing of the concentrator filter by gas bubbles. This invention can be used to replace cross-flow filtration and centrifugation in the bioprocess industry and to reduce the volume of suspensions to concentrate the yield of the end product in the chemical industry.

**Type:**Application

**Filed:**February 27, 2014

**Publication date:**June 26, 2014

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**SEPARATIVE BIOREACTOR**](https://patents.justia.com/patent/20140170635)

**Publication number:**20140170635

**Abstract:**A bioreactor that combines the steps of recombinant expression and separation of a biological product by binding the secreted biological product with a resin, discarding the nutrient medium and eluting the biological product as a concentrated solution, eliminating the steps of sterile filtration and volume reduction. The method also allows loading of resin for column-purification, eliminating all steps of perfusion process and maintaining a sink condition of a toxic product in nutrient medium to optimize productivity of host cells. The instant invention also allows harvesting of solubilized inclusion bodies after the cells have been lysed and refolding of proteins inside the bioreactor.

**Type:**Application

**Filed:**February 21, 2014

**Publication date:**June 19, 2014

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Non-blocking filtration system**](https://patents.justia.com/patent/8663474)

**Patent number:**8663474

**Abstract:**A non-blocking filtration system wherein the suspension filtered continuously scrubs the filter, keeping it free of deposits of solid deposits while the filtrate is removed in a variety of biological and chemical applications, substantially reducing the cost of unit operations.

**Type:**Grant

**Filed:**April 3, 2013

**Date of Patent:**March 4, 2014

**Assignee:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Baffled Single Use Bioreactor**](https://patents.justia.com/patent/20140024105)

**Publication number:**20140024105

**Abstract:**A flexible disposable bioreactor having three, stagger-baffled compartments wherein the middle compartment houses a sparging rod is described to provide the highest degree of sparging and mixing to produce biological products.

**Type:**Application

**Filed:**July 21, 2012

**Publication date:**January 23, 2014

**Inventor:**Sarfaraz K. Niazi

* [**NON-INVASIVE BIOREACTOR MONITORING**](https://patents.justia.com/patent/20130344584)

**Publication number:**20130344584

**Abstract:**A pair or receptacles capable of housing an emitter probe and a detector probe installed inside a bioreactor to monitor the properties of the nutrient media without contacting the nutrient media.

**Type:**Application

**Filed:**August 28, 2013

**Publication date:**December 26, 2013

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**DOWNSTREAM BIOPROCESSING DEVICE**](https://patents.justia.com/patent/20130296538)

**Publication number:**20130296538

**Abstract:**Large-scale downstream processing of secreted recombinant proteins is provided in a single device, wherein the contents of a plurality of bioreactors are combined simultaneous to their harvesting and purification resulting in significant savings of time and the cost of manufacturing.

**Type:**Application

**Filed:**July 12, 2013

**Publication date:**November 7, 2013

**Inventor:**Sarfaraz K. Niazi

* [**NON-BLOCKING FILTRATION SYSTEM**](https://patents.justia.com/patent/20130220923)

**Publication number:**20130220923

**Abstract:**A non-blocking filtration system wherein the suspension filtered continuously scrubs the filter, keeping it free of deposits of solid deposits while the filtrate is removed in a variety of biological and chemical applications, substantially reducing the cost of unit operations.

**Type:**Application

**Filed:**April 3, 2013

**Publication date:**August 29, 2013

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**PIVOTING PRESSURIZED SINGLE-USE BIOREACTOR**](https://patents.justia.com/patent/20130171616)

**Publication number:**20130171616

**Abstract:**Pressurized hermetically sealed bags disposed inside a cylindrical support and containing a septum with variable density of porosity and dividing the bag into two chambers are used to provide optimal mixing and gasification of nutrient media to grow a variety of biological cultures, particularly the cell cultures to produce a multitude of pharmaceutical and biotechnology products in a disposable system.

**Type:**Application

**Filed:**March 24, 2012

**Publication date:**July 4, 2013

**Applicant:**THERAPEUTIC PROTEINS INTERNATIONAL LLC

**Inventor:**Sarfaraz K. Niazi

* [**SEPARATIVE HARVESTING DEVICE**](https://patents.justia.com/patent/20130143313)

**Publication number:**20130143313

**Abstract:**A harvesting device for capturing a biological product directly by binding the secreted biological product with a resin, discarding the nutrient medium and eluting the biological product as a concentrated solution, eliminating the steps of sterile filtration and volume reduction, thus allowing one to combine the steps of recombinant expression and separation of a biological product. The method allows loading of resin for column-purification, eliminating all steps of perfusion process and maintaining a sink condition of a toxic product in nutrient medium to optimize productivity of host cells. The instant invention also allows harvesting of solubilized inclusion bodies after the cells have been lysed and refolding of proteins inside the bioreactor.

**Type:**Application

**Filed:**January 30, 2013

**Publication date:**June 6, 2013

**Applicant:**Therapeutic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**Protein Harvesting**](https://patents.justia.com/patent/20120258519)

**Publication number:**20120258519

**Abstract:**Methods of harvesting proteins directly from bioreactors to avoid at several steps in the purification of recombinant drugs are disclosed.

**Type:**Application

**Filed:**April 10, 2011

**Publication date:**October 11, 2012

**Applicant:**Therapeutic Proteins Inc.

**Inventor:**Sarfaraz K. Niazi

* [**PNEUMATICALLY AGITATED AND AERATED SINGLE-USE BIOREACTOR**](https://patents.justia.com/patent/20120252108)

**Publication number:**20120252108

**Abstract:**A single-use round flexible mixing bag for use in bioprocessing in which a fluid is received and agitated using an internal fluid-agitating element comprising a radial flow impeller driven by an internal pneumatic vane motor is disclosed. The bag may include an integral sparger and sensor receiver. Related methods are also disclosed.

**Type:**Application

**Filed:**June 14, 2012

**Publication date:**October 4, 2012

**Applicant:**Therapuetic Proteins International, LLC

**Inventor:**Sarfaraz K. Niazi

* [**MULTIUSE REACTORS AND RELATED METHODS**](https://patents.justia.com/patent/20120231504)

**Publication number:**20120231504

**Abstract:**A septum is positioned within a disposable vessel and defines a lower chamber and an upper chamber. The septum includes a plurality of apertures that provide fluid communication between the upper chamber and lower chamber. Compressed gas is introduced in the lower chamber to produce fine bubbles rising up throughout the vessel to produce a mixing and gasification needed for the growth of a biological culture and manufacture of a biological product in a nutrient medium. Adding a binding resin to the upper chamber allows harvesting, separation and purification of biological products in the reactor as a single unit operation.

**Type:**Application

**Filed:**September 3, 2011

**Publication date:**September 13, 2012

**Applicant:**Therapeutic Proteins Inc.

**Inventor:**Sarfaraz K. Niazi

* [**WINDY CITY HAT**](https://patents.justia.com/patent/20120198600)

**Publication number:**20120198600

**Abstract:**A felt-hat that does not fly off in the wind having vents in the brim camouflaged by a porous or solid material is disclosed.

**Type:**Application

**Filed:**April 21, 2012

**Publication date:**August 9, 2012

**Inventor:**Sarfaraz K. Niazi

* [**Accelerated Aging of Wines and Sprits**](https://patents.justia.com/patent/20120164300)

**Publication number:**20120164300

**Abstract:**A method and a system for aging wines and spirits is disclosed using finely pulverized wood of less than 1 mm size and in such quantity to achieve equivalent aging in one-tenth to one-hundredth of the time required for traditional barrel aging and for instant aging prior to drinking.

**Type:**Application

**Filed:**December 23, 2010

**Publication date:**June 28, 2012

**Inventor:**Sarfaraz K. Niazi

* [**Non-blocking Filter System**](https://patents.justia.com/patent/20120152862)

**Publication number:**20120152862

**Abstract:**A non-blocking filtration system wherein the suspension filtered continuously scrubs the filter, keeping it free of deposits of solid deposits while the filtrate is removed in a variety of biological and chemical applications, substantially reducing the cost of unit operations.

**Type:**Application

**Filed:**February 23, 2012

**Publication date:**June 21, 2012

**Applicant:**Therapeutic Proteins International LLC

**Inventor:**Sarfaraz K. Niazi

* [**DOWNSTREAM BIOPROCESSING DEVICE**](https://patents.justia.com/patent/20120149885)

**Publication number:**20120149885

**Abstract:**Large-scale downstream processing of secreted recombinant proteins is provided in a single device, wherein the contents of a plurality of bioreactors are combined simultaneous to their harvesting and purification resulting in significant savings of time and the cost of manufacturing.

**Type:**Application

**Filed:**February 21, 2012

**Publication date:**June 14, 2012

**Applicant:**Therapeutic Proteins International LLC

**Inventor:**Sarfaraz K. Niazi

* [**Purification and Separation Treatment Assembly (PASTA) for Biological Products**](https://patents.justia.com/patent/20120142047)

**Publication number:**20120142047

**Abstract:**An assembly capable of capturing and purifying expressed biological products during or at the end of a bioreaction cycle is disclosed wherein a binding resin is kept separated from the contents of the bioreactor allowing capturing, harvesting and purification of biological products in a bioreactor; the invention additionally provides means of removing undesirable metabolic products as well as provides for efficient loading of chromatography columns.

**Type:**Application

**Filed:**November 29, 2011

**Publication date:**June 7, 2012

**Applicant:**Therapeutic Proteins, Inc.

**Inventor:**Sarfaraz K. Niazi

* [**Closed Bioreactor**](https://patents.justia.com/patent/20120077243)

**Publication number:**20120077243

**Abstract:**Single-use closed bioreactors with recirculating exhaust gas that can be operated in an uncontrolled environment are reported for the manufacturing of biological products using genetically modified biological cultures that produces carbon dioxide or that requires carbon dioxide in their metabolic process.

**Type:**Application

**Filed:**December 6, 2011

**Publication date:**March 29, 2012

**Inventor:**Sarfaraz K. Niazi

* [**Noninvasive Bioreactor Monitoring**](https://patents.justia.com/patent/20120040331)

**Publication number:**20120040331

**Abstract:**A pair or receptacles capable of housing an emitter probe and a detector probe are installed inside a bioreactor to monitor the properties of the nutrient media without contacting the nutrient media.

**Type:**Application

**Filed:**October 21, 2011

**Publication date:**February 16, 2012

**Applicant:**Therapeutic Proteins, Inc.

**Inventor:**Sarfaraz K. Niazi

* [**PREPARATIVE CHROMATOGRAPHY COLUMN AND METHODS**](https://patents.justia.com/patent/20120018380)

**Publication number:**20120018380

**Abstract:**A chromatography column that captures components in a process liquid in a free flow state and allows elution in steps is described.

**Type:**Application

**Filed:**September 27, 2011

**Publication date:**January 26, 2012

**Applicant:**Therapeutic Proteins Inc.

**Inventor:**Sarfaraz K. Niazi

* [**BUOYANT PROTEIN HARVESTING DEVICE**](https://patents.justia.com/patent/20120016113)

**Publication number:**20120016113

**Abstract:**A buoyant device containing chromatography media performs the function of protein harvesting replacing the steps of cell separation and volume reduction; the device can be loaded into columns for further purification.

**Type:**Application

**Filed:**September 26, 2011

**Publication date:**January 19, 2012

**Applicant:**Therapeutic Proteins Inc

**Inventor:**Sarfaraz K. Niazi

* [**Single-container manufacturing of biological products**](https://patents.justia.com/patent/20120006526)

**Publication number:**20120006526

**Abstract:**A single-pass HVAC systems to isolate zones and to maintain a required clean air quality standard is provided that operates by producing a positive pressure in all zones, while exhausting on a minimal quantity of air required by law. The zones are kept clean by a recirculating fan filter in each zone. The exhaust air is used to exchange heat with incoming air to conserve energy further.

**Type:**Application

**Filed:**September 19, 2011

**Publication date:**January 12, 2012

**Applicant:**Therapeutic Proteins Inc.

**Inventor:**Sarfaraz K. Niazi

* [**Concentrator Filter**](https://patents.justia.com/patent/20110290745)

**Publication number:**20110290745

**Abstract:**A method and an apparatus for separating suspended matter from liquid includes a concentrator filter that draws the liquid out of the suspension while the filter kept unblocked by a sparging filter that allows scrubbing of the concentrator filter by gas bubbles. This invention can be used to replace cross-flow filtration and centrifugation in the bioprocess industry and to reduce the volume of suspensions to concentrate the yield of the end product in the chemical industry.

**Type:**Application

**Filed:**May 31, 2011

**Publication date:**December 1, 2011

**Applicant:**Therapeutic Proteins Inc

**Inventor:**Sarfaraz K. Niazi

* [**Air scrubbing system**](https://patents.justia.com/patent/8066947)

**Patent number:**8066947

**Abstract:**An air scrubber for eliminating an associated airborne contaminants and sterilizing air provided to protect against nocosomial infections, environmental allergens, weapons of biological and chemical attacks and operations requiring clean environment. The air scrubber includes a housing containing an alkali solution at pH 14 through which air passes and suspended liquid particles removed; provides are made for use in central air-conditioning systems, stand-alone applications and portable use along with respirators.

**Type:**Grant

**Filed:**June 16, 2009

**Date of Patent:**November 29, 2011

**Inventor:**Sarfaraz K. Niazi

* [**Stationary Bubble Reactors**](https://patents.justia.com/patent/20110287404)

**Publication number:**20110287404

**Abstract:**Reactors that allow mixing and gasification by converting the entire floor of the reactor vessel to a sparge filter is described.

**Type:**Application

**Filed:**July 31, 2011

**Publication date:**November 24, 2011

**Applicant:**Therapeutic Proteins Inc.

**Inventor:**Sarfaraz K. Niazi

* [**Single-use Stationary Bioreactors and Mixing Vessels**](https://patents.justia.com/patent/20110217767)

**Publication number:**20110217767

**Abstract:**Stationary bioreactors and mixing vessels fitted with single-use flexible bags utilizing wave hydrodynamic principle are described for use in every type of biological process and products.

**Type:**Application

**Filed:**March 8, 2010

**Publication date:**September 8, 2011

**Inventor:**Sarfaraz K. Niazi

* [**Interconnected Bioreactors**](https://patents.justia.com/patent/20110217690)

**Publication number:**20110217690

**Abstract:**A method of combining the content of bioreactors allowing homogeneous mixing in accordance with CFR21 is described that allows processing of variable size batches using a single validated bioreactor is described.

**Type:**Application

**Filed:**May 13, 2011

**Publication date:**September 8, 2011

**Applicant:**Therapeutic Proteins Inc

**Inventor:**Sarfaraz K. Niazi

* [**Bioreactor Exhaust**](https://patents.justia.com/patent/20110207170)

**Publication number:**20110207170

**Abstract:**An exhaust system suitable for high volume exhaust from flexible disposable bags is described that prevents nutrient media volume loss and prevents cross-contamination without using any filters. The invention described here allows the use of disposable two-dimensional bioreactors for the cultivation of bacterial and other organisms and cells require high aeration.

**Type:**Application

**Filed:**May 1, 2011

**Publication date:**August 25, 2011

**Applicant:**Therapeutic Proteins Inc

**Inventor:**Sarfaraz K. Niazi

* [**Gas Scrubbed Perfusion Filter**](https://patents.justia.com/patent/20110201050)

**Publication number:**20110201050

**Abstract:**Fine gas bubbles traveling at fast speed are employed to scrub a hard-surface filter for harvesting liquids from suspensions including those consisting of nutrient media and cell culture, on a continuous basis without clogging the filters.

**Type:**Application

**Filed:**April 26, 2011

**Publication date:**August 18, 2011

**Applicant:**Therapeutic Proteins Inc.

**Inventor:**Sarfaraz K. Niazi

* [**Separative Bioreactor**](https://patents.justia.com/patent/20110198286)

**Publication number:**20110198286

**Abstract:**A bioreactor that combines the steps of recombinant expression and separation of a biological product by binding the secreted biological product with a resin, discarding the nutrient medium and eluting the biological product as a concentrated solution, eliminating the steps of sterile filtration and volume reduction. The method also allows loading of resin for column-purification, eliminating all steps of perfusion process and maintaining a sink condition of a toxic product in nutrient medium to optimize productivity of host cells. The instant invention also allows harvesting of solubilized inclusion bodies after the cells have been lysed and refolding of proteins inside the bioreactor.

**Type:**Application

**Filed:**April 24, 2011

**Publication date:**August 18, 2011

**Applicant:**Therapeutic Proteins Inc

**Inventor:**Sarfaraz K. Niazi

* [**BIOREACTORS FOR FERMENTATION AND RELATED METHODS**](https://patents.justia.com/patent/20110117538)

**Publication number:**20110117538

**Abstract:**Bioreactors suitable for housing a predetermined volume of liquid comprising nutrient medium and biological culture comprising: (a) a container having at least one interior wall; (b) at least one nutrient medium inlet; (c) at least one liquid outlet; (d) at least one gas inlet; (e) at least one gas outlet; and (f) at least one cylindrical sparging filter attached to the at least one gas inlet, wherein the sparging filter comprises a plurality of pores along its axis which permit gas to be emitted radially from the sparging filter into the liquid, wherein the diameter of the plurality of pores does not exceed about 50 ?m, and wherein the orientation of the at least one sparging filter within the container provides for immersion of the plurality of pores within the liquid and substantially uniform distribution of emitted gas throughout the liquid, and related methods of using said bioreactors to prepare various biological products.

**Type:**Application

**Filed:**November 13, 2009

**Publication date:**May 19, 2011

**Inventor:**Sarfaraz K. Niazi

* [**UNIVERSAL BIOREACTORS AND METHODS OF USE**](https://patents.justia.com/patent/20100261226)

**Publication number:**20100261226

**Abstract:**Bioreactors suitable for housing a predetermined volume of culture medium comprising a plurality of containers of approximately equal internal volume in which the culture medium resides, wherein the predetermined volume of culture medium is retained in approximately equal amounts within each of the plurality of containers during operation of the bioreactor, and wherein the internal volume of each container is selected so that the amount of culture medium in each container exceeds 50 vol. % of the container internal volume during operation of the bioreactor, and related methods of use.

**Type:**Application

**Filed:**April 14, 2009

**Publication date:**October 14, 2010

**Inventor:**Sarfaraz K. Niazi

###### [Compositions and methods for reducing or controlling blood cholesterol, lipoproteins, triglycerides, and sugar and preventing or treating cardiovascular diseases](https://patents.justia.com/patent/20040253327)

**Publication number:**20040253327

**Abstract:**This invention provides compositions and methods related to the administration of psyllium husk, Î2-sitosterol, guggul tree extract, guar gum and chromium as a combination to reduce or control blood cholesterol, triglycerides, low density lipoproteins, blood sugar or increasing or controlling high density lipoproteins in a mammal, to reduce arterial plaque build-up, atherosclerosis, in a mammal which may be associated with cardiovascular, cerebrovascular, peripheral vascular, or intestinal vascular disorders.

**Type:**Application

**Filed:**June 12, 2003

**Publication date:**December 16, 2004

**Inventors:**Sarfaraz K. Niazi, Anjum Niazi

###### [Pharmaceutical preparation for the treatment of topical wounds and ulcers](https://patents.justia.com/patent/6555118)

**Patent number:**6555118

**Abstract:**A pharmaceutical preparation for the treatment of wounds and ulcers in humans and animals and a method of preparation of the same are provided here. The composition consists of an alcoholic extract of Huangqin, Huanglian, Huangbai, Opuntia, Dilong, and &bgr;-sitosterol (from Soybean extract), in a vegetable oil-wax base, from where the alcohol is essentially removed by evaporation. The composition is used as a topical ointment for the treatment of wounds in its preferred embodiment. Wounds, in particular those occurring in the skin as second and third degree burns, stasis ulcers, trophic lesions, such as decubitus ulcers, diabetic ulcers, surgical wounds, severe cuts, diaper rash, cracked nipples and abrasions which are commonly resistant to the natural healing process, may be treated with this composition.

**Type:**Grant

**Filed:**February 22, 2001

**Date of Patent:**April 29, 2003

**Inventor:**Sarfaraz K Niazi

###### [Composition and method for the treatment of hypercholesterolemia and hyperlipidemia in mammals](https://patents.justia.com/patent/20030059487)

**Publication number:**20030059487

**Abstract:**A pharmaceutical composition suitable for the treatment of a condition selected from the group consisting of atherosclerosis, post-angioplasty restenosis, coronary artery disease, angina, small artery disease and other diseases caused by or are the result of hypercholesterolemia, or combination thereof comprising of a specific botanical plant. Specifically, the present invention relates to compositions comprising the herb or botanical Zizyphus jujube or extract thereof, which is useful in treating cardiovascular disorders, particularly those associated with elevated LDL and overall serum cholesterol levels. A method of preparing the pharmaceutical compositions of the invention and a method for treating a patient therewith are also disclosed.

**Type:**Application

**Filed:**September 21, 2001

**Publication date:**March 27, 2003

**Inventor:**Sarfaraz K. Niazi

###### [Herbal composition for the treatment of alopecia](https://patents.justia.com/patent/6495174)

**Patent number:**6495174

**Abstract:**Described here a composition comprising of alcoholic extracts of herbs RHIZOMA ZINGIBERIS RECENS, RHIZOMA PINELLIAE, FLOS CARTHAMI, RADIX REHMANNIAE, RADIX ANGELICAE SINESIS, RADIX PAENOIAE RUBRA, CACUMEN BIOTAE, SEMEN SESAMI NIGRUM, RADIX POLYGONI MULTIFLORI, FRUCTUS MORI combined with TINCTURE CAPSICUM, TINCTURE CANTHARIDINATE, and OLEUM RICINI for direct application to scalp for the treatment of all kinds of alopecia in humans. Alternately, the herbs listed here can be used individually.

**Type:**Grant

**Filed:**February 21, 2001

**Date of Patent:**December 17, 2002

**Inventor:**Sarfaraz K. Niazi

###### [Pharmaceutical composition for the treatment of alopecia](https://patents.justia.com/patent/20020183297)

**Publication number:**20020183297

**Abstract:**Pharmaceutical compositions containing phystosterols and/or blood flow stimulants are described to promote hair growth through stimulation of follicular cells, bulb cells and stem cells in the scalp to treat the condition of alopecia in humans and animals.

**Type:**Application

**Filed:**February 15, 2002

**Publication date:**December 5, 2002

**Inventor:**Sarfaraz K. Niazi

###### [Suppository base](https://patents.justia.com/patent/6462083)

**Patent number:**6462083

**Abstract:**This invention provides a suppository base composition of erucic acid and beeswax with improved chemical stability, moldability, and shelf-life. The inventive suppository base also stimulates localized blood flow to the administration site.

**Type:**Grant

**Filed:**November 13, 2001

**Date of Patent:**October 8, 2002

**Inventor:**Sarfaraz K. Niazi

###### [Pharmaceutical composition for the prevention and treatment of scar tissue](https://patents.justia.com/patent/6447820)

**Patent number:**6447820

**Abstract:**The disclosed is a treatment of existing and prevention of new skin scars in humans and animals using a topical application containing alcoholic extracts of Cortex Phellodendri and Opuntia ficus indica in a specific combination.

**Type:**Grant

**Filed:**January 22, 2001

**Date of Patent:**September 10, 2002

**Inventor:**Sarfaraz K Niazi

###### [Composition and method for the treatment of diaper rash using natural products](https://patents.justia.com/patent/6419963)

**Patent number:**6419963

**Abstract:**Provided here is a pharmaceutical composition containing beeswax, olive oil, &bgr;-sitosterol and the herb Coptis chinesis Franch for safe and quick treatment for infant and adult diaper rash. Also provided here is a methodology for the treatment of diaper rash wherein the treatment consists of compositions that contain naturally derived anti-inflammatory agents, an antimicrobial agents and such components that they provide an occlusive coating when applied to the afflicted surface.

**Type:**Grant

**Filed:**April 22, 2001

**Date of Patent:**July 16, 2002

**Inventor:**Sarfaraz K Niazi

###### [Pharmaceutical preparation for the treatment of gastrointestinal ulcers and hemorrhoids](https://patents.justia.com/patent/6365198)

**Patent number:**6365198

**Abstract:**A pharmaceutical preparation for the treatment of gastrointestinal ulcers and hemorrhoids in humans and animals and a method of preparation for this composition are provided here. The preferred composition consists of an alcoholic extract of Huangqin, Huanglian, Huangbo, Opuntia and Pheretima dissolved in vegetable oil from where alcohol is essentially removed by evaporation. The composition is then packaged in a soft gelatin capsule for oral administration or mixed with wax to make an ointment suitable for rectal administration.

**Type:**Grant

**Filed:**January 28, 2001

**Date of Patent:**April 2, 2002

**Assignee:**Gulf Pharmaceutical Industries

**Inventor:**Sarfaraz K. Niazi

###### [Composition and method of use in treating sexual dysfunction using cGMP-specific phosphodiesterase type 5 inhibitors](https://patents.justia.com/patent/6338862)

**Patent number:**6338862

**Abstract:**The inhibitors of cyclic guanosine monophosphate (cGMP) phosphodiesterases type 5 (cGMP-PDE5) such as sildenafil citrate (Viagra®) act by increasing the level of cGMP in sexual organs to produce enhanced blood flow and an erectile response of sexual organs. Though sildenafil citrate is a specific inhibitor of cGMP-PDE5, its effects on other body organs produce many side effects including fatalities. Described here is a method of combining cGMP-PDE5 inhibitors with natural sources of nutrients that instantly enhance the levels of endogenous cGMP and thus reduce the therapeutic dose and therefore the side effects of cGMP-PDE5 inhibitors. We have discovered that if sildenafil citrate, as a prototype of cGMP-PDE5, is combined with L-arginine, ginseng, vitamin B6, vitamin B12, and folic acid, all natural and safe ingredients, the dose requirements for sildenafil citrate can be reduced substantially.

**Type:**Grant

**Filed:**March 26, 2001

**Date of Patent:**January 15, 2002

**Inventor:**Sarfaraz K Niazi

###### [Method for instantaneous removal of warts and moles](https://patents.justia.com/patent/6312735)

**Patent number:**6312735

**Abstract:**Disclosed here is a method for the removal of all types of human and animal skin warts using a technique of cauterization wherein slaked lime is applied to wart and then the surface of wart is scratched by using the stem of betel leaf.

**Type:**Grant

**Filed:**February 9, 2001

**Date of Patent:**November 6, 2001

**Inventors:**Sarfaraz K. Niazi, Riaz K. Niazi

###### [Pharmaceutical composition containing psyllium fiber and a lipase inhibitor](https://patents.justia.com/patent/6251421)

**Patent number:**6251421

**Abstract:**The present invention provides orally administrable pharmaceutical compositions containing an inhibitor of gastrointestinal lipase, and at least one compound selected from the group consisting of psyllium husk, its seeds and leaves thereof. Methods are provided for preventing and treating anal leakage of oil in a patient to whom a composition containing an inhibitor of gastrointestinal lipase is orally administered.

**Type:**Grant

**Filed:**September 25, 2000

**Date of Patent:**June 26, 2001

**Inventor:**Sarfaraz K. Niazi

###### [Use of fluorocarbons for the prevention of surgical adhesions](https://patents.justia.com/patent/6235796)

**Patent number:**6235796

**Abstract:**Method for the prevention and inhibition of adhesion between tissues comprising the use of fluorocarbons are disclosed. The method provides for the introduction of a fluorocarbon into the surgical site of a mammalian body, such as a human, to minimize friction and enhance the mobility of the surrounding tissues and organs. The fluorocarbons introduced may be in various forms including liquid and emulsions, and provides a coating, film or barrier thereby reducing the surface tension associated after surgery. The subject invention further discloses the use of perfluorodecalin as a preferred fluorocarbon compound used as the primary anti-adhesion agent.

**Type:**Grant

**Filed:**June 26, 2000

**Date of Patent:**May 22, 2001

**Inventor:**Sarfaraz K. Niazi

###### [Analgesic, anti-inflammatory and skeletal muscle relaxant compositions](https://patents.justia.com/patent/6235314)

**Patent number:**6235314

**Abstract:**Disclosed is a local skeletal muscle relaxant and a non-steroidal anti-inflammatory drug in a topical composition for topical application to a patient for relief of pain. More particularly and in its preferred form, the invention involves a combination of diazepam and diclofenac in a composition for topical application to the skin of a patient as a colorless transparent gel.

**Type:**Grant

**Filed:**August 8, 2000

**Date of Patent:**May 22, 2001

**Inventor:**Sarfaraz K. Niazi