

# Environmental patents

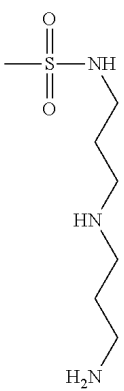
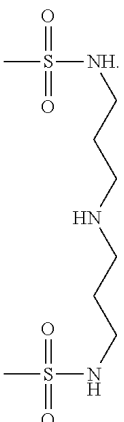
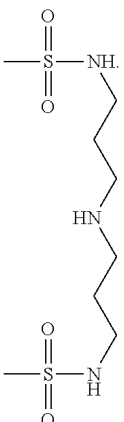
براءات الاختراع ( البيئه )

S.N.	Inventors Name	Patent No.	Issue Date	Title	Abstract	Patent Office	Patent Document
1.	Ali Aldalbahi Bushra Ibarahim Alabdullah Manal Ahmed Gasmelseed Awad Shaykha Mohammed Alzahly Zainah Ali Alqahtani Shorouq Mohsen Alsaqqaf Hessa Abdullah Aljasser Hind Ali Abdullah Alshehri	11643334	9/5/2023	Copper oxide nanoparticles synthesized using Rhatany root extract	The copper oxide nanoparticles synthesized using Rhatany root extract involves preparing the Rhatany root extract by adding powdered Rhatany roots to boiling water, allowing the mixture to soak overnight, and removing any solid residue by filtering to obtain the aqueous extract. The copper oxide nanoparticles are prepared by mixing equal volumes of the aqueous Rhatany root extract and 0.1 M aqueous copper sulfate, heating the mixture at 80° C. for 40 minutes, and adding 1 M sodium hydroxide dropwise to the mixture to precipitate CuO. The precipitate is removed by centrifuge, washed with ethanol, dried, and calcined at 400° C. for 4 hours to obtain the copper oxide nanoparticles. The resulting nanoparticles proved effective in degrading wastewater dyes, showed anticancer activity against human cervical cancer by cell viability assay, and showed antibacterial activity against various strains of bacteria by agar diffusion.	USPTO	<a href="#">US 11643334</a>
1.	Ali Aldalbahi Raneem Aldawish Manal Ahmed Gasmelseed Awad Noura Saleem Aldosari Reem Hamad Alshathri Leen Abdullah Aldwihi Raghad Alammari Khloud Ibrahim Bin Shoqiran	11718537	8/8/2023	Synthesis of copper oxide nanoparticles	A method of synthesizing copper oxide nanoparticles includes preparing a liquid extract of Rumex vesicarius, dissolving copper salt in the liquid extract to provide a solution with copper nanoparticles, adding a base to the solution with copper nanoparticles to form a precipitate including copper oxide nanoparticles. Copper oxide nanoparticles prepared according to the method are effective photocatalysts for degrading organic dyes and antibacterial agents and exhibit anticancer activities.	USPTO	<a href="#">US 11718537</a>
1.	Salah Ud-Din Khan Sajjad HAIDER Usma Ali Rana	11621095	4/4/203	Method for developing radiation shielding compositions	A computational method for development of radiation shielding compositions, as described herein, can include selecting at least one polymer and at least one metal for each of a plurality of radiation shielding compositions, selecting a polymer:metal ratio for each composition, performing computational analysis to calculate an attenuation coefficient associated with a given radiation dose for each composition, identifying a best candidate composition for radiation shielding based on the calculated attenuation coefficients, and preparing a radiation shielding material including the at least one polymer, the at least one metal, and the polymer metal ratio associated with the best candidate composition.	USPTO	<a href="#">US 11621095</a>

1.	Taieb Aouak Mohamed Ouladsmane Ahmed Yacine Badjah Hadj Ahmed Zeid Abdullah Alotzman	11617989	4/4/2023	Extraction of benzene from benzene/cyclohexane mixture	The extraction of benzene from benzene/cyclohexane mixture described herein is a process that removes benzene from a benzene/cyclohexane mixture with high selectivity, resulting in an enriched cyclohexane content in the retentate. The process involves adding an aqueous solution of poloxamer 188 to the benzene/cyclohexane mixture and waiting for the mixture to partition into an organic layer above an aqueous layer. Benzene, being more polar than cyclohexane, is selectively drawn into the aqueous layer. Benzene is then removed from the aqueous layer by pervaporation through a composite PDMS (polydimethylsiloxane)/polystyrene membrane. Cyclohexane is recovered from the retentate by drawing off the organic layer of the retentate by any known method. About 97% of benzene has been removed from a 50-50 wt % mixture by pervaporation in the static mode, and about 99% by pervaporation in the continuous mode.	USPTO	<a href="#">US 11617989</a>
1.	Mu Naushad Tansir Ahamad Ayoub Abdullah Alqadami Ayman Abdelghafar Ahmed Zeid Abdullah Alotzman	11618004	4/4/2023	Melamine-formaldehyde derived porous carbon adsorbent	A melamine-formaldehyde derived porous carbon adsorbent may be prepared from melamine-formaldehyde derived porous carbon disposable products. The melamine-formaldehyde derived porous carbon effectively removes organic pollutants from aqueous media. Parameters of contact time, solution pH, initial adsorbate concentration and desorption rate affect efficacy. Adsorption capacities of exemplary melamine-formaldehyde derived porous carbon for MG and MB dyes at 298 K were up to 25 mg/g and 35 mg/g, respectively.	USPTO	<a href="#">US 11618004</a>
1.	Manal Ahmed Gasmelseed Awad Promy Virk Maj Abdelrahman Elobeid Wagealla Sarah Saleh Abdulla Alsaif Awatif Ahmed HENDI Khalid Mustafa Osman Ortashi Rabia Qindeel	11617719	4/4/2023	Moringa oleifera nanoparticles	The Moringa oleifera nanoparticles may be synthesized by harvesting Moringa leaves, drying the Moringa leaves, powdering the dried Moringa leaves, suspending the powdered Moringa leaves in a solution, and spraying the solution into boiling water under ultrasonic conditions to obtain Moringa nanoparticles. The Moringa nanoparticles may be encapsulated by dissolving the Moringa nanoparticles and gum olibanum in ethanol to produce a mixture, injecting the inert organic phase of the mixture into an aqueous solution containing PVA, and homogenizing the aqueous solution. The Moringa nanoparticles may be useful in preventing the growth of cancer cells and in treating diabetes by inhibiting $\alpha$ -glucosidase and/or $\alpha$ -amylase activity.	USPTO	<a href="#">US 11617719</a>
1.	Naiyf Sultan Helial Alatoi Alharbi Jamal Mohammed Ali Khaled Mohamed Salah El-Din Hodhud Shine Moosa Kadaikunnan Ahmed Saad Alobaidi	11806790	7/11/2023	Biosynthesis of metal nanoparticles	A method of preparing metal nanoparticles using a fungal extract includes providing an aqueous solution including a metal salt; and combining the fungal extract with the aqueous metal salt solution to produce the metal nanoparticles. The fungal extract can be an aqueous extract of the manglicolous fungi The metal salt can be copper sulfate (CuSO4) and the metal nanoparticles can be copper nanoparticles. The metal nanoparticles can have a mean diameter in the range of from about 5 nm to about 100 nm. The copper nanoparticles can be used as an antimicrobial agent.	USPTO	<a href="#">US 11806790</a>
1.	Maged N. Shaddad Prabhakarn Arunachalam Abdullah M. Almayouf	11807948	7/11/2023	Method of producing hydrogen peroxide using nanostructured bismuth oxide	The method of producing hydrogen peroxide using nanostructured bismuth oxide is an electrochemical process for producing hydrogen peroxide using a cathode formed as oxygen-deficient nanostructured bismuth oxide deposited as a film on the surface of a conducting substrate. An anode and the cathode are immersed in an alkaline solution saturated with oxygen in an electrolytic cell. An electrical potential is established across the cathode and the anode to initiate electrochemical reduction of the oxygen in the alkaline solution to produce hydrogen peroxide by oxygen reduction reaction.	USPTO	<a href="#">US 11807948</a>
1.	Saeed Mohammed AL-ZAHRANI Arfat Anis Ranjan Kumar Dwari	11638923	2/5/2023	Flotation reagents from acidic olive oil	The flotation reagents from acidic olive oil are made by transesterification of acidic olive oil. Acidic olive oil is olive oil having an acid value high enough to render it unsuitable for consumption, typically greater than 3.3% and/or between 3.3-7%. Transesterification of the olive oil with methanol converts fatty acids in the olive oil to an ester fraction and a glycerol fraction. The ester fraction may be sulfonated and used as the collector in a reverse flotation process, selectively removing the carbonate gangue from phosphate-carbonate rock in the froth, leaving phosphates in the sink. The glycerol fraction may be used without modification as the collector in the reverse flotation process. Both fractions are highly selective for carbonates, substantially reducing loss of phosphates in the froth.	USPTO	<a href="#">US 11638923</a>

1.	Mohamad Saleh Alsaihi Sandhanasamy Devanesan Rawan Ibrahim Salem Alkhalaf Hajer Saad Abdullah Allayed Nasser Raqe Rashed Alqhtani Mohammed Ghazi Alkindi Osama Ghurmullah Mohammed Alghamdi	11696925	11/7/2023	Calcium hydroxide nanoparticles synthesized with carob pulp extract	hexagonal nanoparticles with a diameter ranging from about 31.22 nm to about 81.22 nm. The Ca(OH) <sub>2</sub> NPs may be synthesized by heating ethylene glycol, adding calcium hydroxide to the ethylene glycol to provide a first mixture, heating the first mixture, adding a carob pulp aqueous extract to the first mixture to form a second mixture, heating the second mixture, adding sodium hydroxide (NaOH) to the second mixture to form a third mixture, heating the third mixture, resting the third mixture at room temperature after heating, centrifuging the third mixture, collecting a colloid sediment, extracting any unwanted contaminants from the colloid sediment, and drying the colloid sediment to obtain Ca(OH) <sub>2</sub> NPs.	USPTO	<a href="#">US 11696925</a>
1.	Husain Abbas Tarek Almusallam Yousef Al-Salloum	10927548	23/2/2021	Fiber Elements for Soil Stabilization	The fiber elements for soil stabilization include a combination of rigid and flexible fibers that are adapted to be added to soil in order to stabilize the soil to improve the geotechnical characteristics thereof. Each fiber element includes a rigid fiber having opposed first and second ends, at least the first end defining a first ring. A plurality of flexible fibers are attached to the first ring. When mixed with soil, the rigid fibers provide stiffness to the soil mass, and the flexible fibers provide deformability. For purposes of packaging, prior to addition to soil, the plurality of flexible fibers may be at least partially secured to one another by a water soluble material, such as a water soluble glue, water soluble thread or the like. A plurality of the fiber elements may be secured to one another by the water soluble material, forming a fiber module.	USPTO	<a href="#">US 10927548</a>
2.		13207	9/7/2023	SAIP		<a href="#">SA 13207</a>	
1.	Ali Kanakhir Aldalbahi Manal Ahmed Gasmelseed Awad Khalid Mustafa Osman Ortashi Shaykha Mohammed Alzahly	10689257	23/6/2020	Bio buckypaper synthesized with fish scales	A bio buckypaper synthesized with fish scales may be manufactured by mixing carrageenan with a bio waste solution to provide a first mixture, adding carbon nanotubes to the first mixture produce a second mixture, sonicating the second mixture, and evaporative-casting the second mixture to produce the bio buckypaper. In an embodiment, the carrageenan may be T-carrageenan. In an embodiment, the carbon nanotubes may be single walled carbon nanotubes (SWCNTs) or multi-walled carbon nanotubes (MWCNTs). In an embodiment, the bio waste solution may be derived from fish scales.	USPTO	<a href="#">US 10689257</a>
2.		12987	6/6/2023	SAIP		<a href="#">SA 12987</a>	
1.	Khaled Issa Muhammad Ahmed Ashraf Waleed Tariq Sethi Habib Fathallah Saleh Alshebelli	10483640	19/11/2019	Omnidirectional ultra-wideband antenna	The omnidirectional ultra-wideband antenna is a variant on a monocone antenna, particularly including a supplemental radiating element. The omnidirectional ultra-wideband antenna includes an electrically conductive conical surface having a vertex end and a base end, and a supplemental radiating element having a first portion and a second portion. The first portion extends from the base end of the electrically conductive conical surface, the first portion being positioned between the base end of the electrically conductive conical surface and the second portion. The vertex end of the electrically conductive conical surface is positioned adjacent to, and spaced apart from, a first surface of a ground plane plate. At least one electrically conductive rod is provided, a first end of the rod being secured to the second portion, and a second end of each rod being mounted on the first surface of the ground plane plate.	USPTO	<a href="#">US 10483640</a>
2.		13209	29/7/2023	SAIP		<a href="#">SA 13209</a>	
1.	Hany Mohamed Yehia Manal Ahmed Gasmelseed Awad Mohamed Fekry Serag El-Din Hatem Salama Mohamed Ali Reem Atta Alajmi Dina Mahmoud Metwally Hasanin Wafa Abdullah Al-Megrin Manal Fawzy Elkhadragy	10898533	26/11/2021	Mangosteen Nanoparticles	Mangosteen nanoparticles and methods of synthesizing Mangosteen nanoparticles are provided. The Mangosteen nanoparticles may be synthesized by drying Mangosteen, Garcinia mangostana fruit, grinding the dried Mangosteen to form powdered Mangosteen, suspending the powdered Mangosteen in a solvent to form a first Mangosteen solution, spraying the Mangosteen solution into boiling water under ultrasonic conditions to form a second Mangosteen solution, resting the second Mangosteen solution at room temperature (about 20° C.), and freeze-drying the second Mangosteen solution to obtain Mangosteen nanoparticles. The drying step may include either air-drying or freeze-drying the Mangosteen. The Mangosteen fruit peel may be used in the drying step instead of the inner Mangosteen fruit. The resulting nanoparticles may be used in pharmaceutical compositions, and may be useful for their antioxidant and antibacterial activities.	USPTO	<a href="#">US 10898533</a>
2.		12689	15/3/2023	SAIP		<a href="#">SA 12689</a>	
1.	Abdullah M. Al-Enizi Tansir Ahamad Ayman Yousef	10456776	29/10/2019	Method of Fabricating a Photocatalyst for Water Splitting	The method of fabricating a photocatalyst for water splitting includes electrospinning a Zn-based solution mixed with CdS nanoparticles and then calcining to produce CdS nanoparticle decorated ZnO nanofibers having significant photocatalytic activity for water splitting reactions. The photocatalyst fabricated according to the method can produce H <sub>2</sub> at a rate of 820 μmolh <sup>-1</sup> g <sup>-1</sup> catalyst from aqueous solution under light irradiation.	USPTO	<a href="#">US 10456776</a>
2.		11991	15/11/2023	SAIP		<a href="#">SA 11991</a>	
1.	Mohamed Ramy Abdel-Rahman Mohammad Abdulaziz Alduraibi Bourouai Ilahi	10648865	12/5/2020	Thermal sensing layer for microbolometer and method of making the same	The thermal sensing layer for a microbolometer includes a Ge <sub>1-x</sub> Sn <sub>x</sub> film layer, where 0.17≤x≤0.25. The Ge <sub>1-x</sub> Sn <sub>x</sub> film layer may be deposited on a substrate layer, such as pure silicon. An additional layer of silicon dioxide may be added, such that the silicon dioxide layer is sandwiched between the silicon substrate and the Ge <sub>1-x</sub> Sn <sub>x</sub> film. In order to make the Ge <sub>1-x</sub> Sn <sub>x</sub> thin film layer, germanium (Ge) and tin (Sn) are simultaneously sputter deposited on the substrate, where the atomic ratio of germanium to tin is between 0.83:0.17 and 0.75:0.25 inclusive. The sputter deposition may occur in an argon atmosphere, with the germanium having a deposition rate of 9.776 nm/min, and with the tin having a deposition rate between 2.885 nm/min and 4.579 nm/min.	USPTO	<a href="#">US 10648865</a>
2.		11951	10/11/2023	SAIP		<a href="#">SA 11951</a>	
1.	Khalid Mustafa Ortashi Manal Ahmed Awad	10588929	17/3/2020	Method of synthesizing watermelon seed particles	The watermelon seed nanoparticles may be synthesized by dissolving powdered watermelon seeds in a solvent to produce a first mixture, adding the first mixture dropwise to boiling water under ultrasonic conditions to produce a second mixture, sonicating the second mixture and drying the second mixture to produce watermelon seed nanoparticles. In an embodiment, the watermelon seeds may be Citrullus lanatus seeds. In an embodiment, the watermelon seed nanoparticles may be included in a pharmaceutical composition, such as an antimicrobial or anti-cancer composition.	USPTO	<a href="#">US 10588929</a>
2.		11950	10/11/2023	SAIP		<a href="#">SA 11950</a>	

1.	Naiyf Sultan Helial Alatoi Alharbi Jamal Mohammed Ali Khaled Mohamed Salah El-Din Hodhod Shine Moosa Kadaikunnan Ahmed Saad Alobaidi	10590438	17/3/2020	Biosynthesis of metal nanoparticles	A method of preparing metal nanoparticles using a fungal extract includes providing an aqueous solution including a metal salt; and combining the fungal extract with the aqueous metal salt solution to produce the metal nanoparticles. The fungal extract can be an aqueous extract of the manglicolous fungi The metal salt can be copper sulfate (CuSO4) and the metal nanoparticles can be copper nanoparticles. The metal nanoparticles can have a mean diameter in the range of from about 5 nm to about 100 nm. The copper nanoparticles can be used as an antimicrobial agent.	USPTO	<a href="#">US 10590438</a>
2.		12023	17/11/2023			SAIP	<a href="#">SA 12023</a>
1.	Husain Abbas Nadeem A. Siddiqui Baha M. A. Khateeb Tarek H. Almusallam Yousef A. Al-Salloum	10954662	23/3/0221	System and method for connecting a square concrete-filled steel tubular column to a reinforced concrete footing	The system and method for connecting a square concrete-filled steel tubular column to a reinforced concrete footing includes a short steel pipe partially embedded in the footing, the pipe having a top end having flanges extending radially therefrom, the top end extending into a cavity in the footing having an elliptical top opening and circular base, the flanges extending above the base. An elliptical base plate is welded to the bottom of the tubular steel column, the base plate having a circular opening defined therein and a plurality of spaced flange slots depending therefrom. The bottom end of the column is lowered into the cavity, the elliptical base plate passing through the elliptical opening in the cavity, and the column is rotated 90° to interlock the flanges with the flange slots. The cavity is filled with concrete grout, and the square or rectangular steel column is filled with concrete.	USPTO	<a href="#">US 10954662</a>
2.		12028	17/11/2023			SAIP	<a href="#">SA 12028</a>
1.	Nabil Ahmed Qassim Al-Zeqri Isra Abd Alrhman Aboasbah Ali Mohammed Alsalmeh Mohammed Suleiman Shtaya Iyad Atallah Saadeddin Abdelkader Zarrouk Ismail Khalil Warad	10494722	3/1/2/2019	Sulfonamide corrosion inhibitors	The sulfonamide corrosion inhibitors are compounds of formula A or formula B, as follows:	USPTO	<a href="#">US 10494722</a>
2.		11989	15/11/2023			SAIP	<a href="#">SA 11989</a>

					 	A		
						B		
					<p>A method of synthesizing the sulfonamide corrosion inhibitors includes functionalizing a polyamine precursor with a sulfonyl chloride derivative by dehydrochlorination. The polyamine precursor may be bis(3-aminopropyl)amine and the sulfonyl chloride derivative may be methanesulfonyl chloride. The sulfonamide corrosion inhibitors may be applied alone or in any combination as corrosion inhibitors of a metal and are shown to be effective inhibitors of corrosion of iron or iron alloys in acidic conditions.</p>			
1.	Awad Mohamed Salaheldin Ehab	10768363	8/9/2020	Plasmonic infrared optical antenna	<p>The plasmonic infrared optical antenna includes an upper layer of a metallic material (such as gold) capable of supporting a plasmonic electromagnetic field, a thin middle layer of an infrared absorption material, and a bottom supporting layer of a thick substrate. The upper layer has a 2-dimensional periodic array of micron-sized plasmonic antenna cells defined therein. Each antenna cell has the shape of a Bundt baking pan, including a conical antenna horn having an inverted frusto-conical upper portion and a cylindrical stem or lower portion depending from the upper portion. The upper layer includes a post concentrically disposed in the cylindrical lower portion, the post having a conical upper</p>	USPTO	<a href="#">US 10768363</a>	
2.		12146	26/11/2023			SAIP	<a href="#">SA 12146</a>	

					portion extending into the horn, a cylindrical middle portion defining an annular waveguide of 50 nm clearance between the post and the stem of the conical horn, and a conical wedge base embedded in the thin layer of infrared absorption material.		
1.	Maged N. Shaddad Prabhakarn Arunachalam Abdullah M. Almayouf	10683577	16/6/2020	Method of producing hydrogen peroxide using nanostructured bismuth oxide	The method of producing hydrogen peroxide using nanostructured bismuth oxide is an electrochemical process for producing hydrogen peroxide using a cathode formed as oxygen-deficient nanostructured bismuth oxide deposited as a film on the surface of a conducting substrate. An anode and the cathode are immersed in an alkaline solution saturated with oxygen in an electrolytic cell. An electrical potential is established across the cathode and the anode to initiate electrochemical reduction of the oxygen in the alkaline solution to produce hydrogen peroxide by oxygen reduction reaction.	USPTO	<a href="#">US 10683577</a>
2.		12003	15/1/2023			SAIP	<a href="#">SA 12003</a>
1.	Moonis Ali Khan Ayoub Abdullah Alqadami Masoom Raza Siddiqui Zeid Abdullah Allothman	10557098	11/2/2020	Synthesis of hydrochar from jackfruit	A method of producing hydrochar from jackfruit peel biomass includes hydrothermal carbonization of jackfruit peel biomass by autoclaving at 150° C.-250° C. for about 3 hours to produce a hydrochar. The hydrochar can be activated by treatment with phosphoric acid (H3PO4), hydrogen peroxide (H2O2), or a combination thereof. The hydrochar produced according to the method is particularly effective at removing azo-dyes, and specifically methylene blue, from aqueous solutions such as industrial waste water.	USPTO	<a href="#">US 10557098</a>
2.		12027	17/1/2023			SAIP	<a href="#">SA 12027</a>
1.	Mohammad Alrubaidi Husain Abbas Hussein M. Elsanadey Tarek H. Almusallam Yousef A. Al-Salloum	10900215	26/1/2021	Reinforced joint for beam-column connection	The reinforced joint for a beam-column connection is provided for improving the resistance of steel-framed buildings against progressive collapse. Flange stiffening plates reinforce flanges of structural beams, with beam web stiffeners being attached to and extending between the flange stiffening plates. Additional column web stiffeners are attached to and extend between flanges of a structural column. A longitudinal cover stiffening plate is attached to the column stiffeners and the flange stiffening plates, extending across the joint and at least partially covering the beam web stiffeners. The reinforced joint between the structural beams and the structural column develops catenary action in the structural beams in the event of collapse.	USPTO	<a href="#">US 10900215</a>
2.		12724	23/3/2023			SAIP	<a href="#">SA 12724</a>
1.	Manal Ahmed Gasmelseed Awad Moudi Abdullah Rashed Alwehaibi Jamilah Hamed Alshehri Manal Mohammed Alkhalafi Noura Saleem Aldosari Khalid Mustafa Osman Ortashi Awatif Ahmed HENDI	10751802	25/8/2020	Method of producing silver nanoparticles using red sand	The method of producing silver nanoparticles using red sand may include the steps of adding red sand to water, mixing the red sand in the water, removing a supernatant from the red sand in water mixture after the mixture has settled, adding sodium hydroxide to the supernatant to form an alkaline solution, adding silver nitrate (AgNO3) to the solution, and isolating a precipitated reaction product including the silver nanoparticles. The silver nanoparticles produced according to this method have antibacterial activity, whether used alone or in combination with standard antibiotics.	USPTO	<a href="#">US 10751802</a>
2.		12279	7/2/2023			SAIP	<a href="#">SA 12279</a>
1.	Abdullah Nasser Alodhayb Hamad Abdulaziz Albrithen Khaled Zouher Shamma	10871580	22/12/2020	Metal oxide based radiation sensor	A metal oxide based radiation sensor includes a titanium dioxide (TiO2) thin film layer on a microcantilever surface. The TiO2 thin film layer initially comprises anatase and rutile crystal structures. Exposure to radiation, such as gamma radiation, results in changes in structural features and mechanical behaviors of the metal oxide based radiation sensor. In particular, the resonant frequency changes with exposure to radiation dosages. The structural and mechanical behaviors of the metal oxide based radiation sensor change proportionally with dosage within a range of dosages.	USPTO	<a href="#">US 10871580</a>
2.		12690	15/3/2023			SAIP	<a href="#">SA 12690</a>
1.	Mohamad Saleh Alsalmi Sandhansamy Devanesan Rawan Ibrahim Salem Alkhalaf Hajer Saad Abdullah Allayed Nasser Raqe Rashed Alqhtani Mohammed Ghazi Alkindi Osama Ghurmullah Mohammed Alghamdi	10780111	22/9/2020	Calcium hydroxide nanoparticles synthesized with carob pulp extract	Calcium hydroxide nanoparticles (Ca(OH)2NPs) synthesized using carob pulp extract may be hexagonal nanoparticles with a diameter ranging from about 31.22 nm to about 81.22 nm. The Ca(OH)2NPs may be synthesized by heating ethylene glycol, adding calcium hydroxide to the ethylene glycol to provide a first mixture, heating the first mixture, adding a carob pulp aqueous extract to the first mixture to form a second mixture, heating the second mixture, adding sodium hydroxide (NaOH) to the second mixture to form a third mixture, heating the third mixture, resting the third mixture at room temperature after heating, centrifuging the third mixture, collecting a colloid sediment, extracting any unwanted contaminants from the colloid sediment, and drying the colloid sediment to obtain Ca(OH)2NPs.	USPTO	<a href="#">US 10780111</a>
2.		12691	15/3/2023			SAIP	<a href="#">SA 12691</a>
1.	Saradh Prasad Rajendra Mohamad Saleh Alsalmi Mamduh Jamil Aljaafreh	10541506	21/1/2020	Conjugated polymer laser with temperature-controlled power output	The conjugated polymer laser with temperature-controlled power output uses a triphenylamine dimer-based conjugated polymer as the laser medium to produce an output laser beam having a beam energy tunable between approximately 20 μJ and approximately 325 μJ over a temperature range of the triphenylamine dimer-based conjugated polymer between approximately 40° C. and approximately 85° C. The triphenylamine dimer-based conjugated polymer laser medium is a solution of poly[N,N'-bis(4-butylphenyl)-N,N'-bis(phenyl)benzidine], known as poly-TPD(4B), dissolved in toluene. Poly-TPD(4B) has a long side chain of butyl (C4H9), providing temperature-dependent dimerization, which may not be found with shorter chains of butyl, such as in poly-TPD(4E) or poly-TPD(4M). The molar concentration of the poly-TPD in the solution is between approximately 5 μM and approximately 100 μM. Additional adjustable tuning of the molar concentration of the poly-TPD in the solution provides for wavelength tuning of the output laser beam between approximately 415 nm and approximately 445 nm.	USPTO	<a href="#">US 10541506</a>
2.		12692	15/3/2023			SAIP	<a href="#">SA 12692</a>
1.	Mohamed Ali Ghanem Abdullah Mohamed Al-Mayouf Mabrook Saleh Ali Saleh	11990	15/1/2023	Low-symmetry mesoporous titanium dioxide electrode	The low-symmetry mesoporous titanium dioxide (lsm-TiO2) for use in an electrode for direct sensing of hydroxide ions may be prepared by evaporation-induced self-assembly followed by two stages of annealing. An electrode made of a conductive substrate coated with the lsm-TiO2 detects electrochemical oxidation of hydroxide ion solution by an oxidation peak for hydroxide ions at a lower potential than other metal electrodes. The oxidation process is irreversible under diffusion-control, the peak current linearly increases with hydroxide concentration within the concentration range	SAIP	<a href="#">SA 11990</a>

					from 1.0 to 50 mM, the detection limit may be 0.05 mM and the current sensitivity may be 0.181 mA/mM. The peak current is linearly dependent on alkaline solution pH and the dissociation constant of the hydroxide ion precursor. The electrode can be used in hydroxide sensing performed in nitrate, fluoride, chloride or sulfate supporting electrolyte, which makes the electrode a superior sensor for voltammetric hydroxide determination.		
1.	Mohammed Abdulaziz Al-Khamis	49532	16/5/2023	Method and apparatus for storing energy	An energy storing system, which includes a plurality of weights, a first storing unit and a second storing unit, wherein the first storing unit is arranged below the second storing unit and each of the storing units includes a guiding track on which weights can be placed and along which weights can be moved, wherein each of these guiding tracks includes a first portion and a second portion, wherein the second portion is arranged below the first portion, and a loading unit configured to lift at least one weight from the first storing unit to the second storing unit during a first period thereby converting electrical energy to potential energy.	USPTO	<a href="#">US 49532</a>
1.	Saeed Mohammed AL-ZAHRANI Arfat Anis Ranjan Kumar Dwari	11638923	2/5/2023	Flotation reagents from acidic olive oil	The flotation reagents from acidic olive oil are made by transesterification of acidic olive oil. Acidic olive oil is olive oil having an acid value high enough to render it unsuitable for consumption, typically greater than 3.3% and/or between 3.3-7%. Transesterification of the olive oil with methanol converts fatty acids in the olive oil to an ester fraction and a glycerol fraction. The ester fraction may be sulfonated and used as the collector in a reverse flotation process, selectively removing the carbonate gangue from phosphate-carbonate rock in the froth, leaving phosphates in the sink. The glycerol fraction may be used without modification as the collector in the reverse flotation process. Both fractions are highly selective for carbonates, substantially reducing loss of phosphates in the froth.	USPTO	<a href="#">US 11638923</a>
1.	Taleb Auouk Mohamed Ouladsmane Ahmed Yacine Badjah Hadj Ahmed Zeid Abdullah Alotman	11617989	4/4/2023	Extraction of benzene from benzene/cyclohexane mixture	The extraction of benzene from benzene/cyclohexane mixture described herein is a process that removes benzene from a benzene/cyclohexane mixture with high selectivity, resulting in an enriched cyclohexane content in the retentate. The process involves adding an aqueous solution of poloxamer 188 to the benzene/cyclohexane mixture and waiting for the mixture to partition into an organic layer above an aqueous layer. Benzene, being more polar than cyclohexane, is selectively drawn into the aqueous layer. Benzene is then removed from the aqueous layer by pervaporation through a composite PDMS (polydimethylsiloxane)/polystyrene membrane. Cyclohexane is recovered from the retentate by drawing off the organic layer of the retentate by any known method. About 97% of benzene has been removed from a 50-50 wt % mixture by pervaporation in the static mode, and about 99% by pervaporation in the continuous mode.	USPTO	<a href="#">US 11617989</a>
1.	Mu Naushad Tansir Ahamad Ayoub Abdullah Alqadami Ayman Abdelghafar Ahmed Zeid Abdullah Alotman	11618004	4/4/2023	Melamine-formaldehyde derived porous carbon adsorbent	A melamine-formaldehyde derived porous carbon adsorbent may be prepared from melamine-formaldehyde derived porous carbon disposable products. The melamine-formaldehyde derived porous carbon effectively removes organic pollutants from aqueous media. Parameters of contact time, solution pH, initial adsorbate concentration and desorption rate affect efficacy. Adsorption capacities of exemplary melamine-formaldehyde derived porous carbon for MG and MB dyes at 298 K were up to 25 mg/g and 35 mg/g, respectively.	USPTO	<a href="#">US 11618004</a>
1.	Manal Ahmed Gasmelseed Awad Promy Virk Mai Abdelrahman Elobeid Wagealla Sarah Saleh Abdulla Alsaif Awatif Ahmed HENDI Khalid Mustafa Osman Ortashi Rabia Qindeel	11617719	4/4/2023	Moringa oleifera nanoparticles	The Moringa oleifera nanoparticles may be synthesized by harvesting Moringa leaves, drying the Moringa leaves, powdering the dried Moringa leaves, suspending the powdered Moringa leaves in a solution, and spraying the solution into boiling water under ultrasonic conditions to obtain Moringa nanoparticles. The Moringa nanoparticles may be encapsulated by dissolving the Moringa nanoparticles and gum olibanum in ethanol to produce a mixture, injecting the inert organic phase of the mixture into an aqueous solution containing PVA, and homogenizing the aqueous solution. The Moringa nanoparticles may be useful in preventing the growth of cancer cells and in treating diabetes by inhibiting $\alpha$ -glucosidase and/or $\alpha$ -amylase activity.	USPTO	<a href="#">US 11617719</a>
1.	Hany M. Yehia Hatem Salama ALI Ebtesam Mohammed Al Olayan	10946055	16/3/2021	Method of synthesizing custard apple peel nanoparticles	The custard apple peel nanoparticles may be manufactured by extracting custard apple peels in a solvent, spraying the custard apple peel extracts into boiling water under ultrasonic conditions to produce a first mixture, sonicating the mixture, stirring the mixture, and drying the mixture to obtain custard apple peel nanoparticles. In an embodiment, the custard apple peel may be peel of Annona reticulata. In an embodiment, the custard apple peel nanoparticles may have improved antibacterial or antioxidant properties.	USPTO	<a href="#">US 10946055</a>
2.	Manal Fawzy Elkhadragy Mohamed Fekry Mansour Serag Eldin Manal Ahmed Awad	11031	2/10/2022			SAIP	<a href="#">SA 11031</a>
1.	Abdullah Mohammed Al-Mayouf Matar Naif Al-Shalwi	10488323	26/11/2019	Steel panel with an integrated corrosion sensor	The steel panel with an integrated corrosion sensor is a steel panel having an integrated sensor for monitoring dissolution of a magnetite layer during acid cleaning of the steel panel. The steel panel has an opening formed therethrough, and a hollow insulator is secured to the steel panel within the opening. The hollow insulator is formed from an electrical insulation material and electrically isolates the steel panel from a steel core, which is mounted within the hollow insulator. A reference electrode is positioned near the steel panel. A voltmeter is electrically connected between the reference electrode and a first surface of the steel core. An opposed second surface of the steel core has a layer of magnetite formed thereon. An alarm is in electrical communication with the voltmeter, such that the alarm generates an alarm signal when the voltmeter detects a corrosion potential at a preset threshold potential.	USPTO	<a href="#">US 10488323</a>
2.		11602	6/12/2022			SAIP	<a href="#">SA 11602</a>
1.	Wajhul Qamar Mohammad A. Altamimi	10568300	25/2/2020		The testing chamber for laboratory animals includes multiple testing points to provide multiple tests and testing zones within the same chamber. The testing chamber for laboratory animals provides for study, testing and assessment of cognitive and motor skills of laboratory test subjects, such as mice, rats and the like. The multiple tests performed within	USPTO	<a href="#">US 10568300</a>

2.		1609	7/12/2022	Testing chamber for laboratory animals	the testing chamber may be used for an overall characterization of the neurobehavioral activities of the test animals. The testing chamber for laboratory animals includes a housing divided into first and second zones. A beam for balance beam-style travel from the first zone to the second zone is provided. A volume of water may be contained in the first zone, and the second zone may contain platforms and ramps for the laboratory animal to travel over. A passage from the first zone to the second zone may be further provided.	SAIP	<a href="#">SA 11609</a>
1.	Tansir Ahamad Mu. Naushad Abdullah M. Al-Enizi Saad M. Alshehri	10600583	24/3/2020	Method of making a porous nitrogen-doped carbon electrode from biomass	The method of making a porous nitrogen-doped carbon electrode from biomass is a chemical activation-based method of making a porous graphite carbon electrode for supercapacitors and the like. Date palm pollen grains are used as a precursor biomass carbon source for producing the porous graphite carbon. A volume of date palm (Phoenix dactylifera L.) pollen grains is mixed into an aqueous solution of potassium hydroxide to produce a precursor carbon solution. The precursor carbon solution is dried to produce precursor carbon, and the precursor carbon is heated in an inert atmosphere to produce porous nitrogen-doped graphite carbon. The porous nitrogen-doped graphite carbon is washed, dried and mixed with a polyvinylidene difluoride binder, carbon black, and a solvent to form a slurry. The slurry is then coated on nickel foam to form a porous nitrogen-doped carbon electrode. The porous nitrogen-doped carbon electrode is dried, weighted and pressed into a sheet electrode.	USPTO	<a href="#">US 10600583</a>
2.		11416	16/11/2022			SAIP	<a href="#">SA 11416</a>
1.	Abdulrahman Ibrahim Almansour Suresh Kumar Raju Arumugam Natarajan Rajapandiyam Krishnamoorthy Ali A. Alshatwi	10590147	17/3/2020	Spirooxindole-pyrrolothiazole heterocyclic hybrids	The spirooxindole-pyrrolothiazole heterocyclic hybrids are compounds having the formula:  6a, R = H, R' = F 6b, R = F, R' = H wherein R is hydrogen and R' is fluorine (compound 6a) or R is fluorine and R' is hydrogen (compound 6b). The hybrids may be obtained using a chemical synthesis process involving 1,3-dipolar cycloaddition of 3,5-bis(4/2-fluorobenzylidene) piperidin-4-ones with isatin and 4-thiazolidinecarboxylic acid in a suitable solvent, preferably 1-butyl-3-methyl-imidazolium bromide ([bmim]Br), and preferably under microwave irradiation. Both of these new hybrids demonstrate antimicrobial activity against both gram positive and gram negative drug resistant and non-resistant bacterial pathogens, although compound 6a exhibits more potent antibacterial activity than compound 6b.	USPTO	<a href="#">US 10590147</a>
2.		11032	2/10/2022			SAIP	<a href="#">SA 11032</a>
1.	Zeyad Abdulwahid Ghaleb Haidar	10815965	27/10/2020	Multi-piston bladeless wind turbine	The multi-piston bladeless wind turbine creates electrical energy using hydraulically connected pistons. The system may include a disk, a small piston in fluid communication with a large piston, and a crankshaft attached to the large piston. The disk transfers forces from the wind to the small piston. Hydraulic fluid then transfers the forces to the larger piston. When the disk and associated small piston have been forced to the end of their stroke by the wind, a gate in the disk is opened to reduce wind force on the disk by allowing air to travel through the disk. Subsequently, the disk and associated small piston are pushed back to the beginning of the stroke by the pressure created by the large piston's weight. This process is repeated by closing the gate in the disk. A crankshaft powering an electric generator is turned by the movement of the large piston.	USPTO	<a href="#">US 10815965</a>
2.		11600	6/12/2022			SAIP	<a href="#">SA 11600</a>
1.	Manal Ahmed Gasmelseed Awad Ali Kanakhir Aldalbahi Khalid Mustafa Osman Ortashi	10934175	2/3/2021	Method of making zinc oxide nanoparticles using red sand	The method of producing zinc oxide nanoparticles (ZnO NPs) using red sand includes mixing red sand with water to form an aqueous suspension of red sand, removing the supernatant from the suspension, centrifuging the supernatant and retaining a second supernatant from the centrifuged suspension, dissolving a solution of zinc nitrate in the second	USPTO	<a href="#">US 10934175</a>



2.	Taghrid Saad Omar Alomar Najla Saad Almasoud	11498	28/11/2022		supernatant to form a precursor solution, and adding 1M NaOH dropwise to the precursor solution to precipitate the zinc oxide nanoparticles. The precipitate may be washed, dried and calcined to provide the red sand synthesized ZnO NPs. The red sand synthesized ZnO NPs have photocatalytic activity and can be used, for example, to degrade organic dyes in aqueous environments.	SAIP	<a href="#">SA 11498</a>
1.	Ehab Saiaheidin Awad Mohamed	10048441	14/8/2018	Variable optical splitter system	The variable optical splitter system includes a V-shaped optical splitter for use in planar lightwave circuits (PLCs), photonic integrated circuits (PICs), etc. The V-shaped optical splitter has first and second optically transmissive branches sharing a common optically transmissive base, where the first and second optically transmissive branches each define an optical waveguide. The first and second optically transmissive branches are symmetrically angled about a central longitudinal axis. A light source directs a light beam to a laterally extending input surface of the optically transmissive base. The light beam travels parallel to the central longitudinal axis. The optical power splitting ratio is directly proportional to the input beam's displacement from the central longitudinal axis, permitting selective tuning of the ratio during design of the splitter.	USPTO	<a href="#">US 10048441</a>
2.		11033	2/10/2022			SAIP	<a href="#">SA 11033</a>
1.	Shaker Saeed Abdullah-Alaqel Nader Shaif Esmail Saleh Rageh Saadallah Ali Saeed Eidwin Djajadinata Abdulelah Ibrahim Abdulaziz Alswaiyd Hany Abdulrahman AL-ANSARY Sheldon Moseley Jeter Abdelrahman Mahmoud Elleathy Obida Mohamed Zeitoun Zeyad Abdurhman Alsuhaibani Syed Noman Danish Said Ibrahim Abdel-Khalik Saeed Mohammed AL-ZAHIRANI	10788021	29/9/2020	Particle-to-working fluid heat exchanger and solar power generator using the same	The particle-to-working fluid heat exchanger is a particle-to-working fluid counter-flow direct contact heat exchanger formed from a heat exchange chamber having opposed upper and lower ends. A diameter of the heat exchange chamber decreases from the upper end to the lower end, with a fluid inlet positioned adjacent the lower end for receiving a stream of fluid. The stream of fluid is tangentially and upwardly directed within the heat exchange chamber. The heat exchange chamber also has a fluid outlet positioned adjacent the upper end thereof. A distribution manifold for the heat exchange chamber produces a plurality of streams of heated particles which exchange thermal energy with the stream of fluid to generate a stream of heated fluid and a volume of cooled particles. A solar power generator, in the form of a solar tower, is further provided, which incorporates the particle-to-working fluid counter-flow direct contact heat exchanger.	USPTO	<a href="#">US 10788021</a>
2.		11028	2/10/2022			SAIP	<a href="#">SA 11028</a>
1.	Muhammad Khurram Khan Tengfei WU Leng Lu	11501580	15/11/2022	Methods and systems for implementing secure biometric recognition	The present disclosure provides a method for facilitating implementing biometric recognition. Further, the method may include receiving two or more biometric images of one or more biometric identifiers of one or more individuals from one or more devices. Further, the two or more biometric images may be in two or more spectrums. Further, the method may include analyzing the two or more biometric images using one or more deep hashing network models. Further, the method may include extracting two or more discriminative deep hashing codes from the two or more biometric images based on the analyzing. Further, the method may include generating a biometric template based on the two or more discriminative deep hashing codes. Further, the method may include generating a biometric key for the one or more biometric identifiers using a fuzzy commitment scheme based on the biometric template. Further, the method may include storing the biometric key.	USPTO	<a href="#">US 11501580</a>
1.	Rabab Abd El Moneim Khalil El Dib Shaza Mohamed Adel Al-Massarani Manal Ahmed Gasmelseed Awad Ali Ali Hasan Elgamal	10947266	16/3/2021	Synthesis of ursolic acid nanoparticles	The synthesis of ursolic acid nanoparticles includes dissolving ursolic acid powder in methanol, boiling water for five minutes, and adding the methanol solution to the boiled water dropwise at a flow rate of 0.1-0.3 ml/min under ultrasonic conditions. After sonication for 20 minutes, the contents are stirred for about 15 minutes, and then dried. Particle size distribution studies and TEM micrographs confirm the resulting product comprises nanoparticles. In vitro testing confirms the ursolic acid nanoparticles exhibit greater anticancer activity than conventional-size particles, and that the nanoparticles exhibit antimicrobial effect against gram positive and gram negative bacteria, as well as fungi.	USPTO	<a href="#">US 10947266</a>
2.		10808	13/9/2022			SAIP	<a href="#">SA 10808</a>
1.	Khalid Mustafa Osman Ortashi Manal Ahmed Gasmelseed Awad Awatif Ahmed HENDI	10856559	8/12/2020	Method of producing eggshell-derived nanoparticles	The method of producing eggshell-derived nanoparticles may include steps of adding eggshell powder to methanol to form a solution; adding the solution dropwise to boiling water under ultrasonic conditions; incubating the resulting solution under continuous stirring at 200-800 rpm; and drying the resulting solution to obtain the eggshell-derived nanoparticles. The method produces nanoparticles of between 5 and 100 nm. Cytotoxicity testing shows that the nanoparticles exhibit anticancer activity against human breast cancer and lung cancer cell lines.	USPTO	<a href="#">US 10856559</a>
2.		10839	14/9/2022			SAIP	<a href="#">SA 10839</a>
1.	Manal Ahmed Gasmelseed Awad Awatif Ahmed HENDI Khalid Mustafa Osman Ortashi Amnah Bader Alanazi Batool Ali Marzouq Alzhrani Dina Wafiq Awad Soliman	10184033	22/1/2019	Synthesis of silver-PMMA nanocomposite film	The synthesis of a silver-PMMA nanocomposite film includes mixing an aqueous extract of Trigonella foenum-graecum (also known as Helba and fenugreek) seeds with an aqueous solution of silver nitrate, thereby reducing the silver ions to silver metal nanoparticles. A solution of the silver nanoparticles is added to a solution of PMMA (poly (methyl methacrylate)) in N,N-dimethylformamide (DMF) with stirring at 90° C. A light brown solution of silver colloids develops, which is cast in a glass plate and the DMF is evaporated at room temperature, leaving a silver-PMMA nanocomposite film. Testing on water shows the silver-PMMA nanocomposite film prevents or inhibits growth of microbes, suggesting use as an antimicrobial or antibacterial agent, e.g., in water purification.	USPTO	<a href="#">US 10184033</a>
2.		10511	4/8/2022			SAIP	<a href="#">SA 10511</a>
1.	Veeramani Chinnadurai Khalid S. Al-Numair Mohammed A. Alsaif	10729719	4/8/2020	Fruit-derived core-shell nanospheres	The fruit-derived core-shell nanospheres uses mixing silver nitrate and Pouteria caimito extract as a method for the green synthesis of silver nanoparticles, followed by coating the nanoparticles with silica. These core-shell nanospheres may be produced by aqueous extraction of dried P. caimito fruit and mixing and incubating the resulting P. caimito	USPTO	<a href="#">US 10729719</a>

2.		10986	26/9/2022		extract with silver nitrate to produce a nanoparticle composition including the silver nanoparticles. The nanoparticles may be subsequently coated with silica by mixing with a silica precursor. The core-shell nanospheres show activity against oral cancer.	SAIP	<a href="#">SA 10986</a>
1.	R. Jothi Ramalingam Hamad Al Lohedan	10828328	10/11/2020	Method of preparing biogenic silver nanoparticles	The method of preparing biogenic silver nanoparticles includes preparing an aqueous plant extract by boiling cut leaves of <i>Alternanthera bettzickiana</i> (Regel) G. Nicholson in distilled water, retaining the aqueous extract. The aqueous plant extracts were mixed with aqueous solutions of silver ions derived from different silver salt precursors (e.g., silver nitrate, silver sulfate, etc.). The resulting biogenic silver nanoparticles exhibit antimicrobial activity against various strains of gram-positive and gram-negative organisms, including some strains of drug-resistant microorganisms. The biogenic silver nanoparticles also exhibit anticancer activity against certain human cancer cell lines. Surprisingly, biogenic silver nanoparticles prepared from nitrate precursor exhibited greater anticancer activity than nanoparticles from sulfate precursor, while biogenic silver nanoparticles prepared from sulfate precursor exhibited greater antibacterial activity than nanoparticles from nitrate precursor.	USPTO	<a href="#">US 10828328</a>
2.		10838	4/9/2022			SAIP	<a href="#">SA 10838</a>
1.	Husain Abbas Abdullah H. Alsabhan Yousef A. Al-Salloum Abobaker S. Binyahya	10480149	19/11/2019	System for constructing a retaining wall	The system for constructing a retaining wall can be used to construct a segmental retaining wall for retaining earth, on either side, at two different levels. The system includes a plurality of blocks. Each block has laterally opposed first and second end portions, a central portion and a neck portion. The central portion is positioned between the first end portion and the neck portion, and the neck portion is positioned between the second end portion and the central portion. The central portion has a longitudinal length less than a longitudinal length of the first end portion, the second end portion has a longitudinal length less than the longitudinal length of the central portion, and the neck portion has a longitudinal length less than the longitudinal length of the second end portion. A plurality of pegs can vertically interlock adjacent blocks. Tie connectors can connect the blocks to an external pipe.	USPTO	<a href="#">US 10480149</a>
2.		10989	27/9/2022			SAIP	<a href="#">SA 10989</a>
1.	Manal Ahmed Gasmelseed Awad Awatif Ahmed HENDI Khalid Mustafa Osman Ortashi	9789146	17/10/2017	Synthesis of <i>adansonia digitata</i> nanoparticles	A method of preparing <i>Adansonia digitata</i> nanoparticles includes dissolving <i>Adansonia digitata</i> plant powder in an organic solvent to form a solution; spraying the solution in boiling water while applying ultrasonic energy to form a mixture; and stirring the mixture for at least about 15 minutes at a speed of about 200-800 rpm to obtain the <i>Adansonia digitata</i> nanoparticles.	USPTO	<a href="#">US 9789146</a>
2.		10461	28/7/2022			SAIP	<a href="#">SA 10461</a>
1.	Zeyad Abdulwahid Ghaleb Haidar	10183233	22/1/2019	Solar desalination system	The solar desalination system is a hybrid system combining a Fresnel solar concentrator with a solar desalination still. The solar still includes an absorber base, at least one sidewall, and a hollow cover. The hollow cover has an inlet port for receiving seawater such that the seawater passes through an interior of the hollow cover and exits through at least one outlet port into an open interior region of the solar still. At least one collection duct is secured to an inner face of the at least one sidewall for collecting pure water condensate. A vacuum pump is in communication with the open interior region of the solar still through a vacuum port for selectively lowering the pressure within the open interior region of the solar still. The solar still is suspended above a linear Fresnel reflector array such that the absorber base is positioned at a focal point thereof.	USPTO	<a href="#">US 10183233</a>

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2.		10462	28/7/2022			SAIP	<a href="#">SA 10462</a>
1.	Hany Mohamed Yehia Mohamed Fekry Serag El-Din Hatem Salama Mohamed Ali	10500244	10/12/2019	Synthesis of black eggplant (Solanum melongena) skin antioxidant nanoparticles	The black eggplant skin antioxidant nanoparticles may be manufactured by extracting black eggplant skins in a solvent, spraying the black eggplant skin extracts into boiling water under ultrasonic conditions to produce a first mixture, sonicating the mixture, stirring the mixture, and drying the mixture to obtain black eggplant skin antioxidant nanoparticles. In an embodiment, the black eggplant skin may be skin of Solanum melongena. In an embodiment, the black eggplant skin nanoparticles may have improved antibacterial or antioxidant properties.	USPTO	<a href="#">US 10500244</a>
2.	Mohamed Saleh Alamri Wafa Abdullah Al-Megrin Manal Fawzy Elkhadragy Manal Ahmed Gasmelseed Awad	10987	26/9/2022			SAIP	<a href="#">SA 10987</a>
1.	Manal Ahmed Gasmelseed Awad Promy Virk Rabia Qindeel	10398744	3/9/2019	Synthesis of mustard seed nanoparticles	The mustard seed nanoparticles may be synthesized by washing mustard seeds, drying and crushing the washed mustard seeds, extracting the crushed mustard seeds to produce a mustard seed extract, spraying the mustard seed extract into boiling water, sonicating the mustard seed extract and boiling water mixture, and centrifuging the mustard seed extract and boiling water mixture to obtain mustard seed nanoparticles. The mustard seed nanoparticles may be used in a pharmaceutical composition.	USPTO	<a href="#">US 10398744</a>
2.	Khalid Mustafa Osman Ortashi Mai Abdelrahman Elobeid	9723	10/4/2022			SAIP	<a href="#">SA 9723</a>
1.	Manal Ahmed Gasmelseed Awad Rabia Qindeel Khalid Mustafa Osman Ortashi Awatif Ahmed HENDI	10384945	20/8/2019	Method of producing silica nanoparticles using sand	A method of producing silica nanoparticles using sand can include mixing white sand with H2SO4 and H3PO4 to form a mixture. The mixture can be stirred in an ice bath. KMnO4 can then be added to the mixture while maintaining the temperature of the mixture below 5° C. The resulting suspension can be reacted for about 3 hours to about 5 hours on ice. The suspension is stirred in an ice bath and then maintained in a water bath at a temperature of 40° C. for about 90 minutes to about 120 minutes. Afterwards, the temperature is adjusted to and maintained at 98° C. for another period of about 90 minutes to about 120 minutes while adding water. H2O2 can be added to the suspension after adding the water to produce a reaction product with a precipitate. The reaction product can then be dried and calcinated to provide the silica nanoparticles.	USPTO	<a href="#">US 10384945</a>
2.		9728	10/4/2022			SAIP	<a href="#">SA 9728</a>
1.	bander saud hamoud aldoheim	9929	8/5/2022	Method of preparing an art watercolor containing nano-pigment	The researcher conducted a scientific experiment, subjecting it to scientific standards to achieve nano colors by understanding the extent of the effect of nano grinding method on the structural composition of the traditional red color in order to improve its formative capabilities and benefit from nano technology in enhancing the processes related to the design structure of the contemporary decorative panel (enriching the decorative panel with scientific discoveries and technological developments). The experiment included a sample of 20 students from the College of Education, Department of Art Education at King Saud University. The sample was divided into two groups, a control group and an experimental group. The decorative shape was colored using old watercolors and watercolors with nanotechnology. The experiment found statistically significant differences at a level of (0.05) or less between the average ranks of the pre and post measurements for the experimental group. There were also statistically significant differences at a level of 0.01 or less between the experimental and control groups in the post measurement. As the experiment results showed, the watercolor with nanotechnology features precise color characteristics that enhance its effectiveness in gradient shading, thus helping to add a bright color to the shape.	SAIP	<a href="#">SA 9929</a>

1.	Mohamad Saleh Alsahhi Sandhanasamy Devanesan Akram Ahmed Alfuraydi Mysoon M.F. Al-Ansari	10000	15/5/2022	Synthesis of silver nanoparticles using sesame oil cake	A method of synthesizing silver nanoparticles includes using sesame (Sesamum indicum) oil cake extract as a reducing agent. The silver nanoparticles can range in size from about 6 nm to about 15 nm. The silver nanoparticles can have an average particle size of about 10 nm.	SAIP	<a href="#">SA 10000</a>
1.	Ali Ali Hassan Elgamel Manal Ahmed Gasmelseed Awad Rabab El Dib	10086027	2/10/2018	Green synthesis of katononic acid nanosheets	The synthesis of katononic acid nanosheets is a method of extraction of katononic acid from the n-hexane fraction of Nuxia oppositifolia. The katononic acid isolated from N. oppositifolia may be suspended in methanol and added dropwise to boiling water, sonicated, stirred, and freeze dried to form katononic acid nanosheets. These katononic acid nanosheets may be used to kill cancer cells or microorganisms.	USPTO	<a href="#">US 10086027</a>
2.	Shaza Mohamed Adel Al-Massarani Omer Ahmed Basudan	9998	15/5/2022			SAIP	<a href="#">SA 9998</a>
1.	Manal Ahmed Gasmelseed Awad Manal Mohammed Alkhulaifi Ali Kanakhir Aldalbahi Noura Saleem Aldosari Shaykha Mohammed Alzahly	9750	13/4/2022	Method of synthesizing antimicrobial silver nanoparticles using pigeon dung	The method of synthesizing antimicrobial silver nanoparticles using pigeon dung includes collecting pigeon dung and suspending the pigeon dung in water to produce a pigeon dung aqueous extract, filtering the pigeon dung aqueous extract, adding a solution including a silver source to the pigeon dung aqueous extract to produce a mixture, and resting the mixture to allow silver nanoparticles to form. In an embodiment the antimicrobial pigeon dung nanoparticles may be incorporated in a pharmaceutical composition.	SAIP	<a href="#">SA 9750</a>
1.	Ayman Sadek Ahmed El-Faham Zeid Abdullah Mohammed Al Othman Sameh Mohamed Mahmoud Osman	9873153	23/1/2018	Synthesis of metal nanoparticles using modified MPEG polymer	The synthesis of metal nanoparticles using a modified mPEG (methoxy polyethylene glycol) polymer includes the steps of: preparing a methanolic solution of a polymer; providing an aqueous solution including a metal salt; and combining the methanolic solution of the polymer with the aqueous metal salt solution to produce the metal nanoparticles, where the metal salt is AgNO <sub>3</sub> , CuCl <sub>2</sub> , NiCl <sub>2</sub> , CoCl <sub>2</sub> , Pd(Ac) <sub>2</sub> , or HAuCl <sub>4</sub> and wherein the metal nanoparticles are silver, copper, cobalt, palladium, nicker or gold nanoparticles having a size between 1 nm and 100 nm in diameter.	USPTO	<a href="#">US 9873153</a>
2.		9722	10/4/2022			SAIP	<a href="#">SA 9722</a>
1.	Ali Abdullah Alshatwi Jegan Athinarayanan Periasamy Vaiyapuri Subbarayan	9721	10/4/2022	Fortified date fruit product	A fortified date fruit product includes date fruit sugar and one or more mineral phosphate nanostructures. The mineral phosphate nanostructures can be selected from one or more of calcium phosphate, zinc phosphate, and iron phosphate nanostructures, among others. The mineral phosphate nanostructures can have a particle size ranging from about 5 nm to about 100 nm, e.g., about 5 nm to about 20 nm, about 50 nm to about 100 nm, and about 75 nm to about 100 nm.	SAIP	<a href="#">SA 9721</a>
1.	Mohd Aftab Alam Fahad Ibrahim Al-Jenoobi Mohamed Hamed M. Al-Agamy	10379016	13/8/2019	Apparatus for inoculating agar plate	The apparatus for inoculating agar plates includes a spray chamber having an upper opening for receiving an atomized microbial suspension and a lower opening for receiving an agar plate. The apparatus also includes an atomizer including a reservoir and a fluid tube for delivering the microbial suspension to the atomizer nozzle. A containment feature extends around an inner surface of the spray chamber to catch any drop that may form on its inner wall and advance down towards the lower opening. The spray chamber allows multiple agar plates to be quickly inoculated without cross-contamination of agar habitats, without contaminating the outside of the plates, and without contaminating the work area.	USPTO	<a href="#">US 10379016</a>
2.		9725	10/4/2022			SAIP	<a href="#">SA 9725</a>
1.	Mohd Aftab Alam Fahad Ibrahim Al-Jenoobi	10330596	25/6/2019	Apparatus and method for testing the ability of materials to protect photolabile materials	The apparatus and method for testing the ability of materials to protect photolabile materials provides an accurate measurement by directly observing the degradation level in a photolabile material. The apparatus is an assembly having primary and secondary cells and a light source. The primary and secondary cells are arranged in different configurations with respect to one another such that any light that reaches the photolabile materials must first go through the protective material under test. The method includes placing a protective material under test in the primary cell, placing a photolabile material in the secondary cell; subjecting the assembly to a light source for a predetermined amount of time; and removing and testing the photolabile material for degradation.	USPTO	<a href="#">US 10330596</a>
2.		9930	8/5/2022			SAIP	<a href="#">SA 9930</a>
1.	Abd El-Galil E. Amr Mohamed A. Al-Omar Ahmed M. Naglah	9975917	22/5/2018	Pentacyclic triterpenoidal derivatives	A pentacyclic triterpenoidal derivative can include 3,11-dioxo-24(phenyl)-urs-12-en-24-one (4), 24-norurs-12-en-24(phenyl)-3,11-dione (5), 3,11-dioxo-24(Phenyl)-urs-1,12-diene-24-one (6), or 24-nor-urs-1,12-diene-24(phenyl)-3,11-dione (7). The pentacyclic triterpenoidal derivative demonstrates highly potent 5-lipoxygenase inhibition activity.	USPTO	<a href="#">US 9975917</a>
2.		9997	15/5/2022			SAIP	<a href="#">SA 9997</a>
1.	Zeyad Abdulwahid Ghaleb Haidar	10233095	19/3/2019		The solar desalination and power generating system is a hybrid system combining a Fresnel solar concentrator with a solar desalination still, and further including at least one concentrating photovoltaic cell for simultaneously generating electrical power. The solar still includes an absorber base, at least one sidewall, and a hollow cover. The hollow cover	USPTO	<a href="#">US 10233095</a>

2.		9437	28/2/2022	Solar desalination and power generating system	has an inlet port for receiving seawater, which passes through an interior of the hollow cover and exits through at least one outlet port into an open interior region of the solar still. At least one collection duct collects pure water condensate. A vacuum pump selectively lowers the pressure within the open interior region of the solar still. The solar still is suspended above a linear Fresnel reflector array such that the at least one concentrating photovoltaic cell, mounted to a lower surface of the absorber base, is positioned at a focal line thereof.	SAIP	<a href="#">SA 9437</a>
1.	Manal Ahmed Gasmelseed Awad Awatif Ahmed HENDI Khalid Mustafa Osman Ortashi Nawal Ahmad Abdu Madkhali	9518	13/3/2022	Dye-sensitized solar panel	A dye-sensitized solar panel includes a titanium nanoparticle layer and a plant-derived photo-sensitizer supported on the titanium nanoparticle layer. The photo-sensitizer can be extracted from chard (the <i>cicla</i> cultivar group of <i>B. vulgaris</i> subsp. <i>cicla</i> ), and the titanium nanoparticle layer includes titanium nanoparticles synthesized using henna ( <i>Lawsonia inermis</i> ). The titanium nanoparticle layer can, in addition to titanium nanoparticles, include zinc oxide nanoparticles.	SAIP	<a href="#">SA 9518</a>
1.	RAJABATHAR JOTHI RAMALINGAM JUDITH VIJAYA HAMAD AL-LOHEDAN SIVA CHIDAMBARAM	119410172	2021-10-17	METHOD OF MAKING A SUPERCAPACITOR USING POROUS ACTIVATED CARBON FROM COW DUNG	The method of making a supercapacitor using porous activated carbon from cow dung includes converting cow dung to porous activated carbon by, in a first step, preparing the dung waste by washing and drying the dung waste, and heating the dung waste in a vacuum environment to form pre-carbonized carbon. In a second step, the pre-carbonized carbon is impregnated with phosphoric acid to form a slurry, which is dried, ground, and heated in a vacuum to between 600-900°C to form porous activated carbon. The porous activated carbon is mixed with a binder, acetylene black, and an organic solvent to form a paste, which is dried on a conductive metal foil to form an electrode. Two such electrodes (an anode and cathode) are coated with an electrolyte gel (e.g., aqueous potassium hydroxide) and separated by a polymer (e.g., PTFE) membrane to form the supercapacitor.	SAPTO	<a href="#">SA119410172*</a>
1.	TANSIR AHAMAD SAAD ALSHEHRI ABDULLAH AL-ENIZI MU NAUSHAD	118400265	2021-12-05	Oxygen Reduction Reaction Electrocatalyst	The oxygen reduction reaction electrocatalyst is a Pt/N/C electrocatalyst that provides an efficient ORR catalyst suitable for use in polymer electrolyte membrane (PEM) fuel cells, for example. The oxygen reduction reaction electrocatalyst is in the form of platinum nanoparticles embedded in a nitrogen-enriched mesoporous carbon matrix, particularly a nitrogen-enriched graphite matrix. The nitrogen-enriched graphite matrix has an average surface area of 240.4 m <sup>2</sup> /g, and the platinum nanoparticles each have an average diameter between 10 nm and 12 nm.	SAPTO	<a href="#">SA118400265*</a>
1.	MOHAMMED SAAD AHMED ALMOHAMMADI ALTHAKAFI	116370323	2021-11-30	Three stages evaporative cooler with humidity control and method of using	The invention relates to air-cooling device in several stages leading to cooler temperatures as low using direct evaporation cooling in a way that allows to control the moisture technique and method of using, and mainly consists of pneumatic ventilators and electric pump in addition to the metal longitudinal sliced thin 24 each quilted fabric absorbent liquids 33.34, and are monitoring slides to form cells in the form of 21.22 columns and divide the cell into two categories within each column, cooling occurs by passing air into each category cells, which are parts of which contain wetted fabric, and leads to repeat the heat exchange between the two in several stages to reach the degree of cooling is low , as the separation between the two categories of cells leads to the possibility of choosing dry or wet cooling air as well as controlling the rate of humidity. Through the air control paths inside the machine and in the air vents enter and exit the possibility of cooling the room air o	SAPTO	<a href="#">SA116370323*</a>

1.	AYOUB ABDULLAH ALQADAM TANSIR AHAMAD ZEID ABDULLAH ALOTHMAN SAAD ALSHEHRI MU NAUSHAD	US 15/722,898	2017.10.02	CARBOXYLIC FUNCTIONALIZED MAGNETIC NANOCOMPOSITE	Carboxylic functionalized magnetic nanocomposites can include a magnetic compound, such as Fe <sub>3</sub> O <sub>4</sub> , that is encapsulated by a plurality of amino organosilane groups. The organosilane groups can include 3-(2-(2-Aminoethylamino)ethylamino)propyl- trimethoxysilane (TAS). At least some of the organosilane groups can have amino and carboxylic acid substituents. The organic pollutants can include malachite green dye. The carboxylic functionalized magnetic nanocomposites can adsorb dye from solution, such as wastewater. The carboxylic functionalized magnetic nanocomposites can be separated from the solution using an external magnetic material. Fig. 1.	USPTO	<a href="#">US 15/722,898</a>
2.		SA 8980	2021-11-30			SAPTO	<a href="#">SA 8980</a>
1.	RABAB ABD EL MONEIM EL DIB SHAHA MOHAMED AL-MASSARANI ALI ALI EL-GAMAL MANAL AHMED AWAD	118400112	2021-12-05	Method of Synthesizing of 3-Oxolupenal Nanoparticles	A method for synthesizing 3-oxolupenal nanoparticles including isolating 3-oxolupenal from a fraction of Nuxia oppositifolia plant, reducing the 3-oxolupenal to obtain a powder of 3-oxolupenal, dissolving the powder of 3-oxolupenal in methanol to form a first solution, adding the first solution to boiling water to form a second solution, sonicating the second solution, and freeze-drying after sonication to obtain the synthesized 3-oxolupenal nanoparticles. The synthesized 3-oxolupenal nanoparticles exhibited cytotoxic effects and antimicrobial effects. FIG. 1.	SAPTO	<a href="#">SA118400112</a>
1.	PROMY VIRK KHALID MUSTAFA ORTASHI AWATIF AHMED HENDI MANAL AHMED AWAD MAI ABDELRAHMAN ELOBEID	119410028	2021-11-30	FABRICATION OF PROBIOTICS NANOWHISKERS USING CHEESE	A method of fabricating probiotics nanowhiskers using cheese comprises cutting and grinding cheese to produce cheese powder; mixing the cheese powder with sulfuric acid to produce a solution; stirring the solution to produce a stirred solution; and filtering the stirred solution to produce the probiotics nanowhiskers. The fabricated probiotics nanowhiskers possess antioxidant, anti-inflammatory, antitumor, and antimicrobial properties. The probiotics nanowhiskers may reduce cadmium concentration in a patient's liver. The probiotics nanowhiskers may also ameliorate the oxidative stress assessed as a decrease in the serum MDA levels in a patient. Fig. 7.	SAPTO	<a href="#">SA119410028</a>
1.	RAJABATHAR JOTHI RAMALINGAM HAMAD AL-LOHEDAN	118400040	2021-11-30	COMPOSITE ELECTRODE MATERIAL FOR SUPERCAPACITORS	The composite electrode material for supercapacitors includes mesoporous manganese dioxide (MnO <sub>2</sub> ), graphene oxide, and nanoparticles of molybdenum disulfide (MoS <sub>2</sub> ). The composite material is prepared by preparing mesoporous manganese dioxide, preferably by surfactant-assisted precipitation, then mixing graphene oxide with the mesoporous MnO <sub>2</sub> in ethanol and ultrasonication, and finally nanoparticles of MoS <sub>2</sub> are mixed with the suspension of graphene oxide and mesoporous MnO <sub>2</sub> to form the composite electrode material. The capacitance of the material may be varied by changing the concentration of MoS <sub>2</sub> nanoparticles. Samples of the composite electrode material exhibited good supercapacitance values, such as 527 and 1160 F/g. Figure 1B.	SAPTO	<a href="#">SA118400040</a>
1.	KHALID MUSTAFA ORTASHI REEMA ABDULLAH ALNAMLAH ALI KANAKHIR ALDALBAHI AWATIF AHMED HENDI MANAL AHMED AWAD	120410328	2021-10-17	Synthesis of Zinc Oxide Nanoparticles Using Cymbopogon Proximus Extract	A method of synthesizing zinc oxide nanoparticles includes preparing a liquid extract of Cymbopogon proximus, dissolving zinc salt in the liquid extract to provide an extract with zinc salt, adding a base to the extract with zinc salt to form a precipitate including zinc oxide nanoparticles. The method overcomes the drawbacks associated with prior chemical methods of synthesizing nanoparticles, while providing increased yield of the nanoparticles. FIG. 6A	SAPTO	<a href="#">SA120410328</a>

1.	FOZEYAH SALEH ALMIMAN	120410335	2021-10-14	Method of Synthesizing Silver Nanoparticles Using Mint Extract	A method of synthesizing silver nanoparticles using mint can include providing a solution including silver nitrate, providing an extract of mint, mixing the silver nitrate solution and the extract solution to form an aqueous mixture, and resting the aqueous mixture for a period of time to form the silver nanoparticles. The mint can be mint grown and harvested in Medina, Saudi Arabia. FIG. 9A	SAPTO	<a href="#">SA120410335-</a>
1.	AMNAH EL-ENAZY PROMY VIRK RABIA QINDEEL AWATIF AHMED HENDI MANAL AHMED AWAD MAI ABDELRAHMAN ELOBEID	120410327	2021-10-17	Synthesis of Probiotic Nanoparticles	A method of preparing probiotic nanoparticles can include dissolving formulated probiotics in methanol, spraying the methanol solution into boiling water under ultrasonic conditions to provide a sonicated solution, and stirring the sonicated solution to obtain probiotic nanoparticles. The probiotic nanoparticles may be cluster or rod-shaped. The probiotic nanoparticles may be administered to a subject to reduce oxidative stress or to treat diseases associated with oxidative stress. FIG. 1	SAPTO	<a href="#">SA120410327-</a>
1.	KHALID MUSTAFA ORTASHI ALI ALDALBAHI AWATIF AHMAD HENDI MANAL AHMED AWAD WADHA KHALAF ALENAZI	119410086	2021-10-14	Synthesis of Titanium Dioxide Nanoparticles Using Cymbopogon Proximis	Synthesis of titanium dioxide (TiO <sub>2</sub> ) nanoparticles (NPs) includes mixing Cymbopogon proximis (Maharab) grass extract with Titanium (IV) isopropoxide (TTIP). The synthesis is simple and occurs at a rapid rate. The synthesized TiO <sub>2</sub> nanoparticles can be effective in degrading Rhodamine B dye under UV light irradiation. Accordingly, the TiO <sub>2</sub> nanoparticles can be useful in purifying drinking water.	SAPTO	<a href="#">SA119410086-</a>
1.	KHALID MUSTAFA ORTASHI DINA WAFIQ SOLIMAN AWATIF AHMAD HENDI MANAL AHMED AWAD	119400637	2021-10-17	SYNTHESIS OF SILVER-PMMA NANOCOMPOSITE FILM USING HERBAL EXTRACT	The synthesis of a silver-PMMA nanocomposite film using herbal extract includes mixing an aqueous extract of Aristolochia bracteolata buds with an aqueous solution of silver nitrate, thereby reducing the silver ions to silver metal nanoparticles. A solution of the silver nanoparticles is added to a solution of PMMA [poly (methyl methacrylate)] in N,N-dimethylformamide (DMF) with stirring at 80°C. A brown solution of silver colloids develops, which is cast in a glass plate and the DMF is evaporated at room temperature, leaving a silver-PMMA nanocomposite film. Testing on water shows the silver-PMMA nanocomposite film prevents or inhibits growth of microbes, suggesting use as an antimicrobial or antibacterial agent, e.g., in water purification. In addition, testing by disc diffusion against E. coli and Bacillus cereus showed zones of inhibition, also suggesting use as an antimicrobial or antibacterial agent.	SAPTO	<a href="#">SA119400637-</a>
1.	ZEYAD ABDULWAHID HAIDAR	119400454	2021-10-14	Solar Desalination System	The solar desalination system is a hybrid system combining a Fresnel solar concentrator with a solar desalination still. The solar still includes an absorber base, at least one sidewall, and a hollow cover. The hollow cover has an inlet port for receiving seawater such that the seawater passes through an interior of the hollow cover and exits through at least one outlet port into an open interior region of the solar still. At least one collection duct is secured to an inner face of the at least one sidewall for collecting pure water condensate. A vacuum pump is in communication with the open interior region of the solar still through a vacuum port for selectively lowering the pressure within the open interior region of the solar still. The solar still is suspended above a linear Fresnel reflector array such that the absorber base is positioned at a focal point thereof.	SAPTO	<a href="#">SA119400454-</a>
1.	ALI ABDULLAH ALSHATWI PERIASAMY VAIYAPURI SUBBARAYAN JEGAN ATHINARAYANAN	118400039	2021-10-14	Synthesis of Nanostructures from Phoenix Dactylifera Agro-Wastes	A method of synthesizing nanostructures from agro-waste include providing powdered Phoenix dactylifera agro-waste; mixing the powdered Phoenix dactylifera agro-waste with a liquid to provide a Phoenix dactylifera agro-waste solution; heating the Phoenix dactylifera agro-waste solution in a hydrothermal autoclave to provide a heated solution; and centrifuging the heated solution to provide a liquid fraction and a solid fraction. The liquid fraction include a first	SAPTO	<a href="#">SA118400039-</a>



					plurality of nanostructures. The first plurality of nanostructures include C-dots. The solid fraction further processed to provide a second plurality of nanostructures and a third plurality of nanostructures. The second plurality of nanostructures include lignin nanoparticles. The third plurality of nanostructures include cellulose nanocrystals. The nanostructures used in various applications, such as three dimensional cell culture, UV -protecting textiles, and bio-imaging.		
1.	KHALID S AL-NUMAIR VEERAMANI CHINNADURAI MOHAMMED A ALSAIF	118400008	2021-10-14	BIOMIMETIC SYNTHESIS OF ANTIHYPERGLYCEMIC SILVER NANOPARTICLES	A biomimetic synthesis of antihyperglycemic nanoparticles using silver nitrate and <i>Lavatera cretica</i> is a method for the green synthesis of silver nanoparticles. These nanoparticles may be produced by extraction of fresh <i>L. cretica</i> leaves and mixing and incubation of the resulting <i>L. cretica</i> extract with silver nitrate to produce a nanoparticle composition including the silver nanoparticles. The nanoparticle composition may protect against hyperglycemia.	SAPTO	<a href="#">SA118400008</a>
1.	AYMAN ATTA HAMAD AL-LOHEDAN ABDELRAHMAN EZZAT MOHAMED HASAN WAHBY MAHMOOD ABDULLAH	119400615	2021-09-14	Modification Of Sand With Superhydrophobic Silica/Wax Nanoparticles	The modification of sand with superhydrophobic silica/wax nanoparticles may provide for water storage, applicable, for example, in desert environments. In particular, highly thermal stable superhydrophobic coats for sand are made of nanoparticles composed of superhydrophobic silica capped with paraffin wax. Superhydrophobic sand modified by such nanoparticles addresses issues of water storage in desert environments, capitalizing on sand resource utilization. Superhydrophobic sand, as modified, has excellent water repellency and great water-holding capacity. The superhydrophobic sand modified with superhydrophobic silica/wax nanoparticles can be applied for the desert water storage for agriculture and planting.	SAPTO	<a href="#">SA119400615</a>
1.	AYMAN NAFADY SAEED AL-ZAHRANI USMAN ALI RANA ARFAT ANIS KHAN	118400011	2021-09-14	NITROGEN AND PHOSPHORUS CO-DOPED CRYSTALLINE CARBON MATERIALS	The nitrogen and phosphorus co-doped crystalline carbon materials are prepared by a template-free method that includes pyrolyzing a precursor mixture including a carbon source, a nitrogen source, and a phosphorus source. The method involves mixing known amounts of the precursor components, dissolving the precursor mixture in deionized water, distilling solvent from the aqueous mixture, and vacuum drying the residue to a dry solid mixture. The mixture is then carbonized by pyrolysis at 900°C in an argon atmosphere to obtain a nitrogen and phosphorus co-doped crystalline carbon material. The principles of the method are illustrated by a precursor mixture of sucrose, urea, and ammonium dihydrogen phosphate (NH <sub>4</sub> H <sub>2</sub> PO <sub>4</sub> ). The amount of ammonium salt in the precursor mixture plays a key role in controlling the crystallinity, morphology, and composition of the N/P co-doped crystalline carbon material.	SAPTO	<a href="#">SA118400011</a>
1.	HAMAD ZAID ALKHATHLAN ABDULLAH MOHAMMED AL-MAYOUF MAHMOOD MOHAMMED ABDULLAH MERAJUDDIN AINUDDIN KHAN	118400111	2021-09-27	Method of Protecting Metal from Corrosion Using Plant-Derived Anti-Corrosion Agents	Extracts of <i>Matricaria aurea</i> flowers are shown to exhibit anticorrosive activity when used with mild steel in acidic media. A process is shown for obtaining such anticorrosive extracts from the flowers of <i>M. aurea</i> . In particular, certain methanolic, aqueous methanolic and water extracts, as well as ethyl acetate and n-butanol fractions, of <i>M. aurea</i> flowers are shown to demonstrate particular anticorrosive activity when used with mild steel in acidic media. An isolated flavonoid compound from <i>M. aurea</i> flowers, designated as apigenin-7-O-β-D-glucoside, is particularly useful for anticorrosive activity when used with mild steel in acidic media. Figure 1.	SAPTO	<a href="#">SA118400111</a>
1.	ISMAIL KHALIL WARAD ALI MOHAMMED ALSALME MUJEEB ABDULLAH SULTAN NABIL AHMED AL-ZAQRI	118400050	2021-09-14	METHOD OF MAKING PALLADIUM NANOPARTICLES	The method of making palladium nanoparticles is a microwave thermolysis-based method of making palladium nanoparticles from a complex of palladium(II) acetate Pd(O <sub>2</sub> CCH <sub>3</sub> ) <sub>2</sub> (or Pd(OAc) <sub>2</sub> ) and a ligand. The complex of palladium(II) acetate and the ligand is melted in oleic acid and dichloromethane to form a solution. The ligand is 1-(pyridin-2-ylidiazenyl)naphthalen-2-yl (C <sub>15</sub> H <sub>11</sub> N <sub>3</sub> O), which has the structure: The solution is stirred for two hours under an inert argon atmosphere, and then irradiated with microwave radiation to produce palladium nanoparticles.	SAPTO	<a href="#">SA118400050</a>

1.	JAMAL TAGELSIR ELSHEIKH ADEL RABIE USMAN MOHAMMAD IBRAHIM ALWABEL	118400030	2021-08-04	Encapsulated Sustained Release Urea Fertilizer	The encapsulated sustained release urea fertilizer is a urea fertilizer and a stabilizer encapsulated in fumed silica. The stabilizer may be a gellan gum hydrogel or biochar. The encapsulated sustained release urea fertilizer allows for both immediate and sustained nitrogen release over time and displays reduced nitrogen volatilization and increased water holding capacity.	SAPTO	<a href="#">SA118400030+</a>
1.	AYMANM ATTA HAMAD AL-LOHEDAN MAHMOOD ABDULLAH	118390626	2021-07-28	Composition and method for enhanced oil recovery	The composition for enhanced oil recovery includes metal oxide or carbonate nanoparticles capped or encapsulated by a water soluble poly(ionic liquid) (PIL). The nanoparticles may be, e.g., CaCO <sub>3</sub> , TiO <sub>2</sub> , Cu <sub>2</sub> O-Fe <sub>3</sub> O <sub>4</sub> , or ZrO <sub>2</sub> . The poly(ionic liquid) may be a copolymer of 2-acrylamido-2-methyl-1-propanesulfonic acid (AMPS) with N-isopropyl acrylamide, N-vinyl pyrrolidone, methacrylic acid, or acrylamide. The composition is made by synthesizing the metal oxide or carbonate nanoparticles in the presence of the PIL. The resulting nanocomposite or nanomaterial alters the wettability of carbonate rock in a carbonate reservoir, releasing asphaltenic crude oil from the surface of the carbonate rock and replacing oil in the pores of the rock, thereby enhancing secondary and tertiary oil recovery.	SAPTO	<a href="#">SA118390626+</a>
1.	AMEL LAREF KHALID MUSTAFA ORTASHI AWATIF AHMED HENDI FATMAH YAHIA AL-ABBAS LENA JASSIM MANAL AHMED AWAD NAWAL AHMED MADKHALI HAJAR ABDULLAH ALDAKHIL	118390374	2021-07-27	Synthesis of Reduced Graphene Oxide Nanoparticles	The synthesis of reduced graphene oxide nanoparticles includes the steps of: mixing soot with an acid to obtain a solution; adding a first oxidant gradually into the solution to oxidize the carbon source and obtain a suspension; stirring the suspension while maintaining a temperature of the suspension at about 35 °C; raising the temperature of the suspension to about 60 °C; adding water into the solution; adding a second oxidant into the suspension while stirring resulting in the oxidation of the carbon source to form the reduced graphene oxide nanoparticles; and isolating the resulting reduced graphene oxide nanoparticles by centrifugation. The acid is preferably an acid mixture including, for example, sulfuric acid (H <sub>2</sub> SO <sub>4</sub> ) and phosphoric acid (H <sub>3</sub> PO <sub>4</sub> ). The first and second oxidants can be potassium permanganate (KMnO <sub>4</sub> ) or hydrogen peroxide (H <sub>2</sub> O <sub>2</sub> ). Fig. 1.	SAPTO	<a href="#">SA118390374+</a>
1.	IBRAHIM MUTASIM IBRAHIM KHALIL MUTASIM IBRAHIM KHALIL	118390365	2021-07-27	Green Method for Coating A Substrate with Silver Nanoparticles	The method for coating a substrate with silver nanoparticles includes reducing a silver nitrate solution with an ethanol extract of the traditional Indian medicinal plant ( <i>Curcuma Longa L.</i> ), a naturally abundant antioxidant, to form a final solution, and contacting the final solution with the substrate to provide the silver nanoparticle coating. Formation of the silver nanoparticle coating on the substrate can be determined when a mirror in the final solution is observed. The thickness of the coating layer can be less than 125 nm. The coated substrates can be highly conductive. Fig. 1.	SAPTO	<a href="#">SA118390365+</a>
1.	ALI AHMED MUSTAFA ALI MUSTAFA ABDALLA SALIH MUTASIM IBRAHIM KHALIL	119410057	2021-07-07	Extract of Vicia Faba Beans	The extract of Vicia faba beans is prepared by soaking beans in distilled water overnight and then boiling in a water bath to reduce the volume of aqueous extract, which is then homogenized and filtered. The filtrate is concentrated to a smaller volume, lyophilized, and powdered. The lyophilized powder is extracted with hexane to remove oils and lipids. The oil-free lyophilized powder is dissolved in ethanol solvent and extracted for eight hours under reflux, and filtered. The volume of ethanol is reduced by a rotary evaporator, and a first off-white precipitate (sample A-1) is collected, washed with ethanol, and dried at 80°C. Mass spectrometry shows a molecular weight of 200.16447 g mol <sup>-1</sup> , and an empirical formula of C <sub>9</sub> H <sub>16</sub> N <sub>2</sub> O <sub>3</sub> is assigned. Intraperitoneal injection of mice with 50 mg/kg of A-1 twenty minutes prior to injection with strychnine protected the mice from strychnine-induced convulsions to the same extent as phenobarbitone (phenobarbital).	SAPTO	<a href="#">SA119410057+</a>

1.	IBRAHIM HOTAN ALSOHAMI AYMAN A GHFAR AYOUB ABDULLAH ALQADAMI MOONISALI KHAN ZEID ABDULLAH ALOTHMAN MAZOOM RAZA SIDDIQUI	119410035	2021-07-27	Magnetic Polymer Nanocomposite for Removal of Divalent Heavy Metal Ions from Water	The magnetic polymer nanocomposite for removal of divalent heavy metal ions from water is magnetic nanocomposite having a core of magnetite (Fe <sub>3</sub> O <sub>4</sub> ) in a shell of branched polyhydroxystyrene (BHPS), designated as Fe <sub>3</sub> O <sub>4</sub> @BHPS. The nanocomposite is synthesized by co-precipitation in alkali solution. Testing showed the nanocomposite reached 93% and 80% Pb(II) and Cd(II) adsorption, respectively, in 30 minutes, attaining equilibrium in 120 minutes. The maximum adsorption capacities of Pb(II) and Cd(II) at 298K were 186.2 and 125 mg/g, respectively. After adsorption, the nanocomposite with the heavy metal(s) adsorbed thereto was easily removed from aqueous solution by application of a magnetic field.	SAPTO	<a href="#">SA119410035</a>
1.	AHMED ABD ELREHIM ALI BASEM SAYED AHMED ABDULLAH AL-DOSS MOHAMMED ZAKRI MOHAMMED AL-SALEH	118400188	2021-07-27	Nanobody Against Begomoviruses	A nanobody directed against begomoviruses is capable of selectively binding to ToLCSDV viral particles, TYLCV particles, and/or other begomoviruses. The nanobody includes an amino acid sequence of SEQ ID NO: 2.	SAPTO	<a href="#">SA118400188</a>
1.	TANSIR AHAMAD JAHANGEER AHMED ZEID A AL-OTHMAN SAAD M ALSHEHRI MU NAUSHAD	117390141	2021-07-04	METHOD FOR PREPARING ADSORBENT FOR REMOVING ORGANIC POLLUTANTS FROM WATER	A method for preparing an adsorbent for removing organic dyes from water includes reacting egg white with hydrochloric acid. The reaction can include mixing egg white with water to form a solution, and adding the acid to the solution to form a precipitate. The precipitate can be filtered, washed, and dried to provide the adsorbent. The adsorbent can be contacted with wastewater contaminated with organic pollutants to remove the organic pollutants from the wastewater. The organic pollutants can include p-nitrophenol. FIG. 1	SAPTO	<a href="#">SA117390141</a>
1.	AHMED MOHAMMED NABAWY ELSAYED MOHMED SHERIF KHALIL ABDELRAZEK KHALIL	118390442	2021-07-27	Method of Preparing A Metal Matrix Nanocomposite	A method for synthesizing a metal matrix nanocomposite (MMNC) is an in-situ synthesis technique for preparing a metal matrix with ceramic reinforcements dispersed homogenously therein. The method includes mixing a base metal matrix material with two or more ceramic-forming elements to form a mixture; blending the mixture; drying the mixture; ball milling the mixture with a plurality of milling balls to form a milled mixture; using induction heating to form a melt flow and induce electromagnetic forces; and initiating a plurality of stirring vortexes in the melt flow to form the metal matrix nanocomposite. Fig. 1.	SAPTO	<a href="#">118390442</a>
1.	AYMAN ATTA HAMAD AL-LOHEDAN ABDELRAHMAN EZZAT MAHMOOD ABDULLAH	118390457	2021-07-28	Synthesis of bimetallic oxide nanocomposites	A method of synthesizing bimetallic oxide nanocomposites includes the steps of: providing a first metal salt solution; adding an oxidizing agent to the first metal salt solution while degassing the solution with an inert gas; heating the first metal salt solution; adding a second metal salt solution to the heated first metal salt solution to form a reaction mixture; adding a solution comprising a poly (ionic liquid) into the reaction mixture; adding a first base into the reaction mixture; adding a second base while stirring and maintaining a temperature ranging from about 40°C to about 65°C to provide a solution including a bimetallic oxide nanocomposite precipitate. The first metallic salt solution can include FeCl <sub>3</sub> dissolved in water. The second metallic salt solution can include CuCl <sub>2</sub> dissolved in water. The bimetallic oxide nanocomposites can be combined with epoxy resin to coat a steel substrate. Fig. 1.	SAPTO	<a href="#">118390457</a>
1.	TANSIR AHAMAD JAHANGEER AHMED ZEID A AL-OTHMAN SAAD M ALSHEHRI MU NAUSHAD	117390140	2021-07-27	METHOD FOR PREPARING AN ADSORBENT FOR REMOVINGORGANIC DYES FROM WATER	A method for preparing an adsorbent for removing organic dyes from water includes providing a volume of egg white, adding a volume of formaldehyde to the volume of egg white to form a mixture, maintaining a pH of the mixture at about pH 8.5, stirring the mixture until a viscous product is formed, and washing and drying the product to provide the adsorbent. FIG. 1.	SAPTO	<a href="#">117390140</a>

1.	CHANDRASEKAR BALACHANDRAN SAVARIMUTHU IGNACIMUTHU VEERAMUTHU DURAI PANDIYAN NAIF ABDULLAH AL-DHABI	118400264	2021-06-02	Process For Obtaining A Naphthoquinone Derivative From Streptomyces Sp	The process for obtaining a naphthoquinone derivative from Streptomyces sp. includes providing a seed inoculum of a strain of Streptomyces sp.; culturing the Streptomyces sp. in a culture nutrient medium; centrifuging the culture nutrient medium to provide a supernatant and a biomass precipitate; admixing a water immiscible solvent to the supernatant to produce a water immiscible solvent extract layer and a water layer; and isolating the antimicrobial and cytotoxic compound from the water immiscible solvent extract layer by performing silica gel chromatography.	SAPTO	<a href="#">SA118400264+</a>
1.	AMEL LAREF KHALID MUSTAFA ORTASHI AWATIF AHMED HENDI MANAL AHMED AWAD	118390613	2021-06-07	GREEN SYNTHESIS OF REDUCED GRAPHENE OXIDE USING NIGELLA SATIVA SEED EXTRACT	The green synthesis of reduced graphene oxide nanoparticles using Nigella sativa seed extract comprises the steps of mixing a quantity of soot or other carbon source in an acid solution while stirring to obtain a solution; adding a first oxidant gradually into the solution to oxidize the soot and obtain a suspension; stirring the suspension while maintaining the temperature of the suspension at about 35°C; adding Nigella sativa seed extract to the suspension while raising the temperature of the suspension to about 60°C; adding hydrogen peroxide to the suspension; and isolating the reduced graphene oxide nanoparticles by centrifugation.	SAPTO	<a href="#">SA118390613+</a>
1.	KHALID MUSTAFA ORTASHI RABAB ABD EL MONEIM EL DIB SHAZA MOHAMED AL-MASSARANI AWATIF AHMED HENDI MANAL AHMED AWAD	117390017	2021-02-17	SYNTHESIS OF NANOPARTICLES USING BALANITES AEGYPTIACA	A method of preparing nanoparticles from desert date can include providing a metal salt solution comprising metal ions; providing desert date extract solution that comprises a reducing agent, and combining the metal ion solution and the desert date extract solution while stirring at a temperature in the range of 25 °C to 100 °C to produce metal or metal oxide nanoparticles. The metal nanoparticles can be gold nanoparticles. The metal oxide nanoparticles can be zinc oxide nanoparticles. The nanoparticles can be used to inhibit the growth or proliferation of a cancer cell and/or microorganisms. Fig. 1.	SAPTO	<a href="#">SA117390017+</a>
1.	AYMAN EL-FAHAM [SA]; ZEID ALOTHMAN [SA]; KAREEM YOUSSEF MAHMOUD [SA] +	117380667	2021-04-11	Functionalizable Monolithic Platforms	The method of preparing a functionalizable monolithic platform includes the steps of: functionalizing the silanol groups on a support having silanol groups or the ketone groups on a support having ketone groups with an organic compound having a vinyl group; and copolymerizing the alkenyl-functionalized silanol or ketone groups with itaconic anhydride monomers and vinyl monomers and/or a crosslinker having at least two vinyl reactive groups in a solvent by adding a suitable initiator for a time and temperature or radiation energy sufficient to thereby complete the copolymerization reaction process. FIG 1B.	SAPTO	<a href="#">SA117380667+</a>
1.	PROMY VIRK [SA]; AWATIF AHMED HENDI [SA]; LULWAH SALEH AL-HASSAN [SA]; MANAL AHMED AWAD [SA]; MAI ABDELRAHMAN ELOBEID [SA]; NOUF ABDALLAH AL-GI-IAMDI [SA] +	117380666	2021-03-04	Method of Synthesizing Nanoparticles Hesperetin	The present invention relates to bio-nanotechnology and particularly, to a method of preparing non-metal hesperetin nanoparticles for use in antioxidant therapy to treat lead-induced stress in mammals includes dissolving hesperetin in an organic solvent to form a solution; spraying the solution in boiling water while applying ultrasonic energy to form a mixture; and stirring the mixture for at least about 15 minutes at a speed of about 200-800 rpm to obtain the hesperetin nanoparticles. FIG. 1 A	SAPTO	<a href="#">SA117380666-</a>
1.	REFAT AHMED EL-SHEIKHY [SA]; MOSLEH ALI AL-SHAMRANI [SA] +	117380722	2021-03-02	EXPANSIVE SOIL RESISTANT FOUNDATION SYSTEM	The expansive soil resistant foundation system includes a foundation frame having footings forming a grid pattern. The grid pattern contains a plurality of spaces within the pattern. Each space defines a main swell duct. Each main swell duct may be provided with one or more sub-swell ducts. The swell ducts permit free expansion and contraction of the expansive soil. A vent extends from each swell duct to expel trapped air. A drainage system is distributed throughout the foundation frame to eliminate accumulation of underground water. The swell ducts, vents, and the drainage system alleviate potential pressures that can be exerted on the foundation	SAPTO	<a href="#">117380722</a>

					from the expansion and contraction of the expansive soil, which can lead to cracks and structural failure. FIG. 1A		
1.	RAJABATHAR JOTHI RAMALINGAM [SA]; JUDITH VIJAYA [SA]; JESU DOSS [SA]; HAMAD AL-LOHEDAN [SA] +	119400913	2021-06-07	Template-Free Method of Preparing Zeolites from Biomass	A template-free method of preparing zeolites from biomass can include using rice husk ash waste material as a precursor material. The zeolites can include ZSM-5 zeolites, such as, hierarchical pure zeolites and metal-loaded (Cu, Ni) ZSM-5 zeolites. This method allows for production of zeolites in a low cost and environmentally friendly manner. These ZSM-5 zeolites may be used for numerous applications, including killing cancer cells. The cancer cells may be human lung cancer cells.	SAPTO	<a href="#">SA119400913+</a>
1.	AYMAN ATTA [SA]; HAMAD AL-LOHEDAN [SA]; MAHMOOD ABDULLAH [SA] +	119400652	2021-06-09	Hydrophobic Nanoparticle Compositions for Crude Oil Collection	Hydrophobic nanoparticle compositions include silica nanoparticles capped with asphaltene succinimide alkoxy silane (ASAS). The nanoparticles can have a particle size ranging from about 20 nm to about 1 0000 11m. The nanoparticle compositions can be used as a coating for raw sand to provide a super-hydrophobic sand. The nanoparticle compositions can be used as a coating for a polyurethane (PU) sponge to provide a super-hydrophobic sponge. The super-hydrophobic sand and/or super-hydrophobic sponge can be used to collect crude oil deposited in aquatic environments as a result of petroleum crude oil spills.	SAPTO	<a href="#">SA119400652+</a>
1.	RAJABATHAR JOTHI RAMALINGAM [SA]; JUDITH VIJAYA [SA]; HAMAD AL-LOHEDAN [SA]; SIVA CHIDAMBARAM [SA] +	119400351	2021-06-23	Method of Making a Porous Nano-Carbon Electrode from Biomass	The method of making a porous carbon electrode is a chemical activation-based method of making a porous nanocarbon electrode for supercapacitors and the like. Recycled jackfruit (Artocarpus heterophyllus) peel waste is used as a precursor carbon source for producing the porous nanocarbon. A volume of jackfruit (Artocarpus heterophyllus) peel is collected, dried and then heated under vacuum to produce precursor carbon. The precursor carbon is mixed with phosphoric acid (H3PO4) to form a mixture, which is then stirred, dried and heated to yield porous nanocarbon. The porous nanocarbon is mixed with a binder, such as poly(vinylidenedifluoride), acetylene black, and an organic solvent, such as n-methyl pyrrolidinone, to form a paste. This paste is then coated on a strip of nickel foil to form the porous carbon electrode.	SAPTO	<a href="#">SA119400351+</a>
1.	HATEM SALAMA ALI [SA]; KHALID MUSTAFA ORTASHI [SA]; ZEINAB KORANY MOHAMMED HASSAN [SA]; AWATIF AHMAD HENDI [SA]; MOHAMED FEKRY SERAG ELDIN [SA]; MOHAMED MAHMOUD HAFZ [SA]; MANAL AHMED AWAD [SA]; HANY MOHAMED YEHIA [SA] +	118400307	2021-06-07	Method of Synthesizing Doum Nanoparticles	Doum nanoparticles can be synthesized by drying Doum fruit, reducing the dried Doum fruit to a powder or flour, and subjecting the powder to acid hydrolysis or alcohol hydrolysis to provide Doum nanoparticles. The Doum nanoparticles can be used as a food preservative. When compared to bulk Doum particles, the Doum nanoparticles can provide substantially increased antibacterial activity.	SAPTO	<a href="#">SA118400307+</a>
1.	MOHAMED AL-OMAR [SA]; MASHOOQ AHMAD BHAT [SA] +	119400352	2021-06-23	DIHYDROPYRIMIDINONE DERIVATIVES	A dihydropyrimidinone derivative includes a compound having a chemical structure according to Formula 1: wherein Z is selected from O, S and N; Y is N X is selected from O and S; and R represents aryl, substituted aryl, heteroaryl, or substituted heteroaryl, wherein the substituted aryl or substituted heteroaryl have one or more substituents selected from the group consisting of halogen, alkyl, haloalkyl, alkoxy, haloalkoxy, nitro, hydroxyl, alkylthio, alkylamino, heteroaryl, aryloxy, haloaryloxy, arylthio, arylamino, and pharmaceutically acceptable salts thereof. Fig. 1.	SAPTO	<a href="#">SA119400352+</a>
1.	MOHAMED AL-OMAR [SA]; MASHOOQ AHMAD BHAT [SA] +	118390677	2021-06-09	DIHYDROPYRIMIDINONE DERIVATIVES	A dihydropyrimidinone derivative includes a compound having a chemical structure according to Formula 1: Wherein Z is selected from Ch2, O, and N; X is selected from O and S; and R represents aryl, substituted aryl, heteroaryl, or substituted heteroaryl, wherein the substituted	SAPTO	<a href="#">SA118390677+</a>

					aryl or substituted heteroaryl have one or more substituents selected from the group consisting of halogen, alkyl, haloalkyl, alkoxy, haloalkoxy, nitro, hydroxyl, alkylthio, alkylamino, heteroaryl, aryloxy, haloaryloxy, arylthio, arylamino, and pharmaceutically acceptable salts thereof. The present subject matter also relates to a method of making a dihydropyrimidinone derivative, a method of treating a gastrointestinal disease, a method of treating an ulcer, a pharmaceutical composition, and a method of making a pharmaceutical composition.		
1.	JAMAL MOHAMMED ALI KHALED [SA]; HAZEM AHMED GHABBOUR [SA]; SALIM S AL-SHOWIMAN [SA]; MUJEEB ABDULLAH SAEED SULTAN [SA]; NAIYF SULTAN HELIAL ALHARBI [SA]; YAHIA NASSER MABKHOT [SA] +	118390667	2021-06-07	SYNTHESIS AND ANTIMICROBIAL USE OF A TRITHIOCARBONATE DERIVATIVE	A method for preparing a trithiocarbonate derivative compound includes reacting ethyl cyanoacetate, carbon disulfide (CS <sub>2</sub> ) and ethyl chloroacetate in the presence of potassium carbonate (K <sub>2</sub> CO <sub>3</sub> ) in an organic solvent to produce 2,2'-(thiocarbonylbis(sulfanediy))diacetate compound, represented by the structural formula:	SAPTO	<a href="#">SA118390667</a>
1.	AYMAN ATTA [SA]; HAMAD ALKATHLAN [SA]; HAMAD AL-LOHEDAN [SA]; ABDULRAHMAN EZZAT [SA]; MAHMOUD SAEED ABDULLAH [SA]; MERAJUDDIN KHAN [SA] +	118400009	2021-06-09	Biosynthesized Magnetic Metal Nanoparticles For Oil Spill Remediation	The biosynthesized magnetic metal nanoparticles for oil spill remediation are magnetic nanoparticles capped with an extract of <i>Anthemis pseudocotula</i> . The magnetic nanoparticles are formed by co-precipitation of ferric chloride hexahydrate and ferrous chloride tetrahydrate in an ethanol solution of the extract with the dropwise addition of ammonium hydroxide to raise the pH to between 8 and 11. The extract may be an extract of the aerial parts of <i>Anthemis pseudocotula</i> in a low polar extraction solvent, such as an n-alkane solvent or mono-di-, or trichloromethane. The extract is hydrophobic, improving dispersion of the magnetic nanoparticles in oil spills in seawater, resulting in 90% removal of oil for a 1:10 ratio of nanoparticles:oil by weight.	SAPTO	<a href="#">SA118400009</a>
1.	HATEM SALAMA ALI [SA]; DINA METWALLY HASANIN [SA]; REEM ATTA ALAJMI [SA]; MOHAMED SERAG EL-DIN [SA]; MANAL AHMED AWAD [SA]; MANAL FAWZY ELKHADRAGY [SA]; HANY YEHIA [SA] +	119410038	2021-04-11	Methanol Extract of Grape Seed Nanoparticles	The methanol extract of grape seed nanoparticles is prepared from grape seeds washed in distilled water and oven-dried at 60°C for 12 hours. The seeds are milled or ground to a powder and sieved to a maximum size of 0.355 mm. The powder is added to concentrated HCl and stirred at 3000 rpm at 30°C for one hour, and then distilled water is added with stirring for an additional 2 hours. The mixture is filtered, and the marc is dried to recover grape seed nanoparticles. The nanoparticles are added to methanol at the rate of 100 mg/ml, left in a shaker for 24 hours at room temperature, centrifuged, filtered, and the resulting extract (the supernatant) is recovered. Agar well diffusion testing showed that the nanoparticle extract exhibited greater antibacterial activity than a methanol extract of grape seeds alone, and testing showed greater antioxidant levels in the nanoparticle extract as well.	SAPTO	<a href="#">SA119410038</a>
1.	PERIASAMY VAIYAPURI SUBBARAYAN [SA]; JEGAN ATHINARAYANAN [SA]; ALI ABDULLAH ALSHATWI [SA] +	117390045	2021-03-04	Method Of Making A Three-Dimensional, Leaf-Based Scaffold	The method of making a three-dimensional, leaf-based scaffold for three-dimensional cell cultures includes washing a quantity of <i>Ficus religiosa</i> leaves, then treating the washed <i>Ficus religiosa</i> leaves in a sodium hydroxide solution to obtain alkali-treated <i>Ficus religiosa</i> leaves. The alkali-treated <i>Ficus religiosa</i> leaves are washed, and then superficial tissue is removed from the alkali-treated <i>Ficus religiosa</i> leaves to obtain <i>Ficus religiosa</i> leaf skeletons. The <i>Ficus religiosa</i> leaf skeletons are dried and then consecutively immersed in distilled water, a phosphate buffer saline solution, and plain Dulbecco's modified Eagle's medium (DMEM) to form the three-dimensional scaffolds for three-dimensional cell cultures. Each three-dimensional scaffold can be used for growing three-dimensional cell cultures, such as human mesenchymal stem cell cultures. Fig. 1.	SAPTO	<a href="#">SA117390045</a>

