

OBJETIVOS DE DESARROLLO SOSTENIBLE



BOLETÍN BIOCIRCULARIDAD: BIOENERGÍA Y BIOPRODUCTOS

Reutilización de los residuos de la industria olivarera

La industria olivarera constituye una de las actividades agroalimentarias más emblemáticas y relevantes de los países de la cuenca mediterránea. España, Italia, Grecia y Túnez son líderes mundiales en este sector, desempeñando un papel clave tanto en sus economías nacionales como en la preservación de su identidad cultural. En particular, España destaca como el mayor productor mundial de aceite de oliva y uno de los principales productores de aceituna de mesa, con más de 2,5 millones de hectáreas dedicadas al cultivo del olivo y una infraestructura agroindustrial altamente desarrollada.

No obstante, este liderazgo también conlleva importantes responsabilidades y desafíos. La producción de aceite de oliva y de aceitunas de mesa genera cada año millones de toneladas de residuos agroindustriales, tanto sólidos como líquidos. Solo en España se producen anualmente alrededor de 6 millones de toneladas de alperujo y más de 1,25 millones de toneladas de hojas de olivo. A ello se suma una cantidad considerable de residuos generados durante la producción de aceituna de mesa, cuyo impacto ambiental requiere también una atención prioritaria. Estos residuos, si no se gestionan adecuadamente, pueden causar contaminación del suelo, agua y aire, debido a su elevado contenido de materia orgánica, sales, compuestos fenólicos y ácidos grasos.

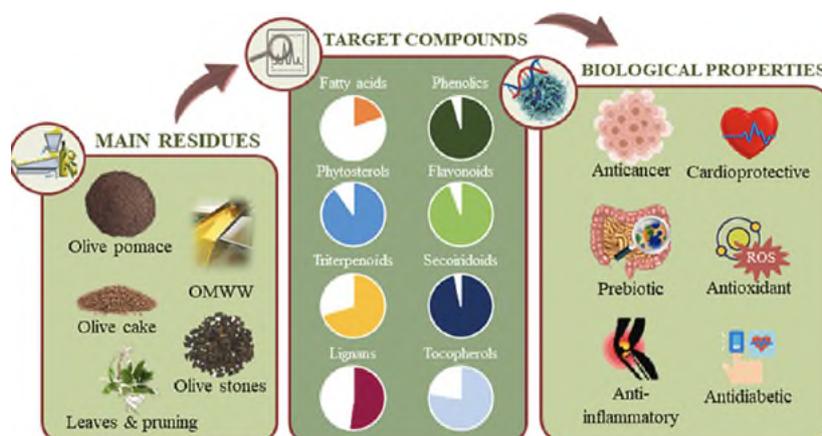


Figura 1. Aprovechamiento de residuos del olivo para usos bioactivos y terapéuticos. Fuente: Paz Otero et al.

"Applications of by-products from the olive oil processing: Revalorization strategies based on target molecules and green extraction technologies" Trends in Food Science & Technology Vol. 116, Oct 2021

Durante décadas, la eliminación de estos subproductos se ha realizado mediante prácticas como la quema de hojas o el vertido de aguas residuales, contribuyendo a la degradación de los ecosistemas locales. Sin embargo, en los últimos años, el auge de la economía circular y el desarrollo de tecnologías limpias han impulsado un creciente interés por su valorización. Por ejemplo, las hojas de olivo son una fuente rica en compuestos fenólicos como la oleuropeína y el hidroxitirosol, con conocidas propiedades antioxidantes, antiinflamatorias y antimicrobianas, lo que les confiere un alto potencial en las industrias farmacéutica, alimentaria y cosmética. De manera similar, el alperujo puede aprovecharse como fuente de energía renovable, fertilizante orgánico o materia prima para la obtención de biocompositos. Incluso las aguas residuales, a pesar de su toxicidad, contienen más de 50 tipos de polifenoles que podrían extraerse y utilizarse como ingredientes funcionales en diversos sectores.

Este panorama abre nuevas oportunidades para el aprovechamiento económico de los residuos de este sector, fomentando un modelo productivo más sostenible y eficiente. En este contexto, la Tabla 1 presenta una selección de documentos de patente recientes, solicitados por entidades europeas y publicados en los últimos tres años. Esta recopilación permite obtener una primera visión de la innovación tecnológica actual y de las oportunidades emergentes asociadas a la gestión y valorización de los residuos generados por la industria olivarera. Al hacer doble clic en el número de publicación, se puede acceder al texto completo de cada documento a través de la base de datos Espacenet.

Tabla 1. Documentos de Patente pertenecientes a solicitantes europeos

<p>Epoxidized oil production from olive pomace oil and waste edible oils with the help of boric/perboric acid Nº publicación: WO2025023913A1 Solicitante/s: Relab Arge Teknolojileri Anonim Sirketi (Turquía) Fecha de publicación: 30-01-2025 Concedida: No</p>
<p>Method of obtaining a fermented olive pomace paste, fermented olive pomace paste, saccharomyces cerevisiae and uses thereof Nº publicación: WO2025018947A1 Solicitante/s: Medical Farm Ilac ve Saglik Ueruenleri Sanayi ve Ticaret Ltd Sirketi (Turquía) Fecha de publicación: 23-01-2025 Concedida: No</p>
<p>Method of obtaining a fermented olive pomace paste, fermented olive pomace paste, saccharomyces cerevisiae and uses thereof Nº publicación: WO2025008670A1 Solicitante/s: Universidad de Oporto y REQUIMTE – Red de Química y Tecnología (Portugal) Fecha de publicación: 09-01-2025 Concedida: No</p>
<p>Exosomes isolated from Olea europaea leaves, uses and methods of their isolation Nº publicación: ES2988915A1 Solicitante/s: Alodia Farm SL y Universidad Autónoma de Madrid (España) Fecha de publicación: 22-11-2024 Concedida: No</p>
<p>Antimicrobial hydrodistillates from olive pomace and cosmetic and/or dermatological compositions containing same Nº publicación: ES2977206A1 Solicitante/s: Universidad de Vigo (España) Fecha de publicación: 20-08-2024 Concedida: No</p>
<p>Cigarette filter functionalized with olive tree polyphenols Nº publicación: EP4434362A1 Solicitante/s: Magis Lab SRL (Italia) Fecha de publicación: 25-09-2024 Concedida: No</p>

<p>Use of hydroxytyrosol (HT) or its derivatives as a phyto regulator Nº publicación: ES2975990A1 Solicitante/s: Biopharma Research SA (España) Fecha de publicación: 19-07-2024 Concedida: No</p>
<p>Method for the production of oil with a high antioxidant content and antioxidant concentrate Nº publicación: PT118300A Solicitante/s: Silva Pinto Agro Lda (Portugal) Fecha de publicación: 30-04-2024 Concedida: No</p>
<p>Production of vegan leather (aegiaus) with silicone polymer additives from olive pomace and vegetable wastes Nº publicación: WO2024076334A1 Solicitante/s: Relab Arge Teknolojileri Anonim Sirketi (Turquía) Fecha de publicación: 11-04-2024 Concedida: No</p>
<p>Artificial turf infill with thermally treated olive pit material Nº publicación: EP4335968A1 Solicitante/s: Polytex Sportbelaege Produktions GmbH (Alemania) Fecha de publicación: 13-03-2024 Concedida: Sí</p>
<p>Method for obtaining an enriched oleacein extract from olive leaves Nº publicación: EP4299068A1 Solicitante/s: Robertet SA (Francia) Fecha de publicación: 30-01-2024 Concedida: No</p>
<p>Sanitizing product for cleaning and disinfecting animal feeding tubes Nº publicación: EP4253512A1 Solicitante/s: García Páez David (España) Fecha de publicación: 04-10-2023 Concedida: No</p>
<p>Method of sustainable and integrated treatment and exploitation of residues derived from oil extraction - production of high added value products Nº publicación: GR1010529B Solicitante/s: Vlysidis Apostolos Georgiou y Vlysidis Anestis Apostolou (Grecia) Fecha de publicación: 29-08-2023 Concedida: Sí</p>
<p>High nutritional value products derived from olive by-products - production method of said products Nº publicación: GR1010469B Solicitante/s: Gkalitsopoulou Avgoustina Mina y Elaiones Chalkidikis AE (Grecia) Fecha de publicación: 31-05-2023 Concedida: Sí</p>
<p>Procedure for obtaining high-quality graphene from graphene oxide using the antioxidant extracts obtained from the olive tree as reducing reagents Nº publicación: ES2937646A1 Solicitante/s: Molekia Xoc SL (España) Fecha de publicación: 30-03-2023 Concedida: No</p>
<p>Procedure for obtaining a phenolic extract from alpeorujo Nº publicación: ES2935844A1 Solicitante/s: CSIC y Universidad de Sevilla (España) Fecha de publicación: 10-03-2023 Concedida: Sí</p>

<p>A production method of cellulose acetates from olive pomace Nº publicación: TR2022014081A2 Solicitante/s: Relab Arge Teknolojileri Anonim Sirketi (Turquía) Fecha de publicación: 21-10-2022 Concedida: No</p>
<p>Method of producing a natural product rich in flavor and phenolic ingredients, from the vegetation water of an olive mill and from olive cake Nº publicación: EP4049543A1 Solicitante/s: Stymon Natural Products (Grecia) Fecha de publicación: 31-08-2022 Concedida: Sí</p>
<p>A process for obtaining an extract comprising oleosomes from olive paste Nº publicación: EP3967156A1 Solicitante/s: Innovation & Tech Provider (Italia) Fecha de publicación: 16-03-2022 Concedida: Sí</p>
<p>Polyphenols extraction process Nº publicación: WO2022013282A1 Solicitante/s: Cappelli Alessio (Italia) Fecha de publicación: 20-01-2022 Concedida: No</p>

PATENTES BIOENERGÍA

Biocombustibles sólidos (pellets, biochars, bio RDFs, bio SRFs, etc.)		
Nº Publicación	Solicitante (País)	Contenido técnico
WO2025076047A1	Carbon Tech Holdings Llc (US)	Water-resistant and durable biocarbon pellets, and methods for making and using the same. Water-resistant, high-durability, and high-density biocarbon pellets are described. In some variations, a process for producing biocarbon pellets comprises: pyrolyzing a biomass-containing feedstock in a pyrolysis reactor, thereby generating a solid biocarbon-containing material and a pyrolysis vapor; introducing the pyrolysis vapor to a separation system configured to recover a pyrolysis condensate in liquid form separated from non-condensable gases; capturing pyrolysis condensate as a polyphenolic material; contacting the solid biocarbon-containing material with the polyphenolic material, thereby generating an intermediate mixture; introducing the intermediate mixture to a densification unit, thereby generating a biocarbon pellet precursor; and at least partially drying the biocarbon pellet precursor, thereby generating biocarbon pellets characterized by a 24-hour water uptake of about 20 wt% or less, measured at 25°C and 1 bar. The biocarbon pellets can be stockpiled outside, which is logistically convenient at manufacturing sites, such as industrial metal-making plants that feed the biocarbon pellets into the process.
WO2025108949A1	Carbonex Tech (FR)	Pyrolysis reactor with integrated fluid network. A pyrolysis reactor incorporating an inlet duct and an outlet duct configured to allow heat to be transferred from an inlet gas stream (G2) circulating in the inlet duct to an outlet gas stream (G6) circulating in the outlet duct. A pyrolysis facility and method using such a reactor.
ES3015421A1	Centro Empresarial Parque Roma SL (ES)	High-performance solid polyfuel boiler. It is a solid combustion boiler that can burn wood, pellets, chips, almond shells, in short, all biofuels that exist on the market, whose main characteristic is the gas recirculation system located below its main combustion chamber (2) formed by a series of steel tubes (18, 20) located in several horizontal rows that make the fumes go from the back to the front and vice versa, increasing the performance substantially with respect to conventional boilers that are patented by the same applicant of the current invention and that also incorporates in this invention a cooking chamber (1) or burning chamber that does not exist and that is the main reason for the invention that allows burning biofuels without complex mechanisms while maintaining the flame and permanent fire.
WO2025122608A1	Mira Biotech Inc (US)	Fuel pellets. A fuel pellet is disclosed. The fuel pellet comprises a plant fiber and a lignin modifying enzyme exogenous to the plant fiber. In some embodiments, the plant fiber is a Tracheophytes plant fiber. In some embodiments, the plant fiber is a monocot plant fiber. In some embodiments, the plant fiber is a Poaceae plant fiber. In some embodiments, the plant fiber is a Saccharum plant fiber. In some embodiments, the plant fiber is sugarcane bagasse plant fiber. In some embodiments, the pellet does not contain a binding agent. In embodiments without a binding agent, the fuel pellet is held together by lignin, which is present in the plant fiber and modified to hold the plant fibers together. In some embodiments, the lignin modifying enzyme is a lignase. In some other embodiments the lignin modifying enzyme is a laccase. The disclosure further provides a method of making a fuel pellet.
WO2025133935A1	Stora Enso OYJ (FI)	Modified lignin and method for lignin modification. The present invention is directed to modified lignin having a decreased tendency to swell when heated. The invention is also directed to a method for modifying lignin to achieve the decreased swelling tendency. In the method lignin in solid form is provided and immersed in an acidic aqueous solution having a pH below 1.0, wherein the temperature of the acidic aqueous solution during the immersion is in the range of from 90°C to 130°C, until the swelling tendency of the lignin, measured as the ratio of the volume of the lignin, in dry form, after being subjected to heating from 20°C to 250°C, at a temperature increase rate of 25°C/min, to the volume of the lignin before being subjected to the heating, is in the range of from 0.8 to 3.0, to obtain modified lignin that is separated from the acidic aqueous solution.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025106900A1	Suncoke Tech & Development Llc (US)	Pelletized products and associated systems, devices, and methods. Production systems and methods for producing pellets or pellet products, which can be used, e.g., in an electric arc furnace (EAF) to produce metal alloys, are disclosed herein. In some embodiments, a method for forming coke pellets includes (i) blending biomass with a set of materials to form an input blend, (ii) preconditioning the input blend by hydrating the input blend to generate a first plurality of particles, (iii) charging the first plurality of particles into an oven to produce a second plurality of particles via pyrolysis, (iv) post-conditioning the second plurality of particles to produce a third plurality of particles by exposing the second plurality of particles to a binder, and (v) physically altering the third plurality of particles to form coke pellets. The biomass can have a first volatility and the set of materials can have a second volatility lower than the first volatility.
WO2025120998A1	Suntory Holdings Ltd (JP)	Combustion furnace system and method for burning biomass fuel. The present invention comprises: a combustion device 2 that uses biomass fuel T as fuel; a drying unit 32 that dries the biomass fuel T; and a supply device 7 that supplies, to the drying unit 32, heat medium gas containing at least one of exhaust gas from the combustion device 2 and gas heated by heat exchange with the exhaust gas. The supply device 7 controls at least one of a flow rate and a temperature of the heat medium gas supplied to the drying unit 32 on the basis of the moisture content of the biomass fuel T.
WO2025091104A1	Titan Clean Energy Projects Corp (CA)	System and method of manufacturing biocarbon and activated carbon extruded pellets. A pyrolysis plant processes organic waste to manufacture biocarbon pellets, and more specifically to manufacture activated biocarbon pellets by slow pyrolysis. The process to produce the pellets involves using biocarbon powder, bio-oil, and pyrolytic acid produced from the pyrolysis plant to provide an improved activated biocarbon pellet. The activated biocarbon pellet comprises a biocarbon powder blended with a bio-oil at a ratio of 5% to 35% with a moisture content of 8% or less and a ball-pan hardness of greater than 90.
EP4552733A1	Totalenergies Onetech (FR) et al.	Method for producing wood pellets from fines. The manufacturing process involves passing wood fragments through a die to compress the wood fragments into pellets. At least 25% by mass of the wood fragments are fines with a particle size less than or equal to 2 mm. The process involves, prior to passing through the die, a step of humidifying the wood fragments.
WO2025109006A1	Voestalpine Stahl Donawitz GmbH (AT)	Reducing agent in powder form, use thereof and method for producing said reducing agent. The invention relates to a reducing agent in powder form, the use thereof and a method for producing said reducing agent from biomass preferably provided as a starting substance. The method for producing this reducing agent comprises the following steps in the following order: compressing the biomass at a pressure ≥ 150 MPa, pyrolysing the compressed biomass at a pyrolysis temperature $\geq 280^\circ\text{C}$ and comminuting the pyrolysed biomass into powder. The obtained powder grains of the reducing agent have a sphericity S50,3, measured by means of dynamic image analysis in accordance with ISO 13322-2:2021, of > 0.7 , preferably > 0.8 .

Syngas

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025073011A1	Biocarbon Pty Ltd (AU)	Biomass pyrolysis system. A pyrolysis system using three different sections combined in series, of a vertical drying and gas scrubbing section, 2, a transitional section 3, and an extended horizontal high temperature reactor zone 4 based on top of a step grate furnace. The system is to efficiently convert various biomass materials into high Fixed Carbon material, clean syngas and valuable condensates by controlling feed down the vertical drying & gas scrubbing section in a packed bed-counter flow heat exchange arrangement where residence time and gas volume can be controlled through 3 feeding rate, 5 air injection, 6 & 14 recirculating gas injection. Radiant heat at 12 provides additional energy for drying the wet feed material.
WO2025109496A1	BP PLC (GB)	Entrained flow gasification process. A method of generating syngas is provided. The method includes introducing a dry feedstock of solid biomass to a mill, the dry feedstock of solid biomass having a moisture content of at least 2% and a biogenic carbon content of at least 90%. The method also includes milling the dry feedstock of solid biomass to form a milled output of solid particles, where at least 95% of the solid particles in the milled output have a size less than 2 mm. The method further includes gasifying at least a portion of the milled output in an entrained flow gasifier to form syngas.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025125637A1	Fives Pillard (FR)	Gasification plant and use thereof. One aspect of the invention relates to a gasification system comprising a fuel injection (5) comprising at least one fuel injection point (11) arranged above a primary air injection inlet (4), the primary air injection inlet (4) being arranged such that a gasification air flow (F1) is injected into the reactor (2) in a direction substantially tangential to the wall (3) of the reactor (2), the wall (3) comprising a substantially cylindrical upper portion (6) and a substantially frustoconical lower portion (7), the primary air injection (4) and the fuel injection point (11) being provided through the lower portion (7) of the wall (3).
WO2025088919A1	Mitsubishi Heavy Ind Ltd et al. (JP)	Gasification furnace system and method for controlling gasification furnace system. Provided is a gasification furnace system that allows continuous operation over a long period of time. The present invention comprises: a gasification furnace that generates a synthesis gas from a biomass raw material; a high-temperature scrubber (70) to which the synthesis gas generated in the gasification furnace is introduced; a medium-temperature scrubber (80) to which the synthesis gas discharged from the high-temperature scrubber (70) is introduced; and a control device which performs control such that the temperature of scrubber water (W1) stored in the high-temperature scrubber (70) is 80°C to 95°C. The control device performs control such that the temperature of scrubber water (W2) stored in the medium-temperature scrubber (80) is 20°C to 40°C.
WO2025113756A1	Sempercycle APS (DK)	Improved syngas production process with internal hydrogen production. The invention relates to a method for producing syngas from carbonaceous feedstock comprising two or more different compositions of carbonaceous material (e.g. plastics, textiles, biomass, organic matter, natural gas, biogas, carbon dioxide, waste gases), the method comprising: Gasification of the waste feedstock by feeding the feedstock into a primary reaction zone, hereby generating a first output stream; Feeding the first output stream from the first reactor into a secondary reaction zone hereby generating a second output stream; Feeding the second output stream into a cleaning and conditioning reaction zone, hereby generating a third output stream Feeding the third output stream from the cleaning and conditioning reaction zone into a product synthesis reaction zone hereby generating a fourth output stream; Separating the fourth output stream from the product reaction into a fifth liquid crude product stream which is sent for further treatment (e.g., distillation) and at least a sixth and a seventh gas stream; At least part of the sixth gas stream is recycled to the product synthesis reaction zone; At least part of the seventh gas stream is looped back to the primary reaction zone for further conversion; Gasification parameters for the first and the second reaction zones are controlled to take into account the composition and amount of the recycled gas streams; and where part output-stream downstream the second reaction zone is separated and led into a reaction zone performing a water gas shift process (WGSR) to produce a H2 enriched stream, where at least part of the produced H2 stream is used for balancing, to a desired level, the ratio between C/H prior to the product synthesis reaction zone.
WO2025124669A1	Sempercycle APS (DK)	Improved gasification process with reduced carbon deposits. The invention relates to a method for producing syngas from carbonaceous feedstock comprising two or more different compositions of carbonaceous material (e.g. plastics, textiles, biomass, organic matter, natural gas, biogas, carbon dioxide, waste gases), the method comprising: Gasification of the waste feedstock by feeding the feedstock into a primary reaction zone, hereby generating a first output stream; Feeding the first output stream from the first reactor into a secondary reaction zone hereby generating a second output stream; Feeding the second output stream into a cleaning and conditioning reaction zone, hereby generating a third output stream Feeding the third output stream from the cleaning and conditioning reaction zone into a product synthesis reaction zone hereby generating a fourth output stream; Separating the fourth output stream from the product reaction into a fifth liquid crude product stream which is sent for further treatment (e.g., distillation) and at least a sixth and a seventh gas stream; At least part of the sixth gas stream is recycled to the product synthesis reaction zone; At least part of the seventh gas stream is looped back to the primary reaction zone for further conversion; Gasification parameters for the first and the second reaction zones are controlled to take into account the composition and amount of the recycled gas streams; and Where a stream of CO ₂ containing gas is fed into the first reaction zone in an amount sufficient to balance the relative amounts of C, O and H to a level where the formation of coke is reduced.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025132844A1	Topsoe AS (DK)	Method and system for improving carbon efficiency in production of syngas and synthetic fuels. The invention relates to a method and system for enhancing carbon efficiency in syngas and synthetic fuel production. This is achieved by utilizing a syngas unit designed to use at least syngas from gasification and Fischer-Tropsch (FT) tail gas as feedstock and integrating one or more reverse water gas shift (RWGS) reactor(s) within the syngas section to recover carbon from the FT-tail gas. The syngas section can be configured to boost syngas production by processing the FT-tail gas. The RWGS reactor(s) are adapted to reduce CO ₂ emissions by converting CO ₂ in the FT-tail gas and in raw syngas back into CO and by converting CH ₄ in the FT-tail gas back into CO and H ₂ . One or more gasifiers produce raw syngas (2) from a carbon-source feed, such as waste or biomass. The syngas section operates without significant amounts of renewable hydrogen from electrolysis.

Biogás

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025132650A1	Air Liquide (FR)	Plant and method for producing gaseous biomethane and liquid CO₂. In a plant and method for producing gaseous biomethane (24) and liquid carbon dioxide (11) from biogas (2), the plant comprises a first compressor (3), a first membrane separation unit (5a), a second membrane separation unit (5b), a third membrane separation unit (5c) and a conduit (23) for recycling the second permeate to upstream of the first compressor, an apparatus (9) for separating and liquefying the first permeate, a device (7) for regulating the pressure of the first permeate, and a conduit (17) for recycling non-condensable gases, which extends from the top of the distillation column downstream of the first compressor.
WO2025096515A1	Air Prod & Chem (US)	Bio LNG production using membranes. Disclosed herein are methods and systems for producing a liquefied methane product from a methane- and carbon dioxide-containing feed stream, in which a plurality of membrane stages comprising gas separation membranes that are more permeable to carbon dioxide than methane are used to remove carbon dioxide from the feed and form a retentate stream that is enriched in methane, said retentate stream being then cooled and liquefied to provide the liquefied methane product. In particular, the disclosed methods and systems may be used for producing liquefied biomethane from a biogas feed.
WO2025068472A2	Basf SE (DE)	Method for preparing biogas from a residue of a polymer blend comprising a cellulose based polymer. In a first aspect, the invention relates to a method for preparing biogas comprising providing a polymer blend, which comprises (i) a polyester and (ii) optionally one or more component(s) selected from the group consisting of a second polymer, a colorant, and a filler; (iii) a cellulose based third polymer; wherein the optional second polymer (ii) and the cellulose based third polymer (iii) are different from each other and different from the polyester of (i); the method comprising: a step (e), related to preparing biogas from the residue of the polymer blend, which is depleted of polyester and comprises the cellulose based third polymer and optionally the filler or a part of the filler, obtained in a preceding step (c).
EP4567120A1	Biofuel Tech Holding APS (DK)	A method and a system for production of biogas from lignocellulose material. The present invention relates to an integrally combined method and a corresponding plant for production of biogas from raw material comprising lignocellulose material, in particular from raw material with high amount of lignocellulose material in an energy and resource saving manner, by applying multiple fermentation steps and optimized recycling steps.
EP4563689A1	Bioville OY (FI)	A bioreactor and a method for producing biogas. The bioreactor comprises a tank (10) for receiving biomass, said tank having a bottom (14), a side wall (16), an upper edge (17) bordering an opening (18), a substantially gas-tight deck (12) covering said opening and means for exhausting produced biogas from the bioreactor. The bioreactor further comprises means for producing and maintaining an operating pressure inside the bioreactor, which operating pressure is lower than the atmospheric pressure. The means for exhausting produced biogas from the bioreactor may act as means for producing and maintaining an operating pressure inside the bioreactor.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025118070A1	logen Corp (CA)	Biogas production from lignocellulosic feedstock. A process for producing upgraded biogas, wherein lignocellulosic feedstock is fed to an anaerobic digestion that produces biogas and digestate, wherein at least some of the biogas is provided for biogas processing that produces upgraded biogas, wherein at least some of the digestate is subjected to processing including one or more thermochemical processes. The processing of the digestate produces carbon-containing material (e.g., carbon dioxide) provided for carbon capture and storage and produces one or more co-products (i.e., at least energy product). The export of energy product from the process is avoided such that a greenhouse gas removal resulting from the carbon capture and storage is associated with the upgraded biogas and is not shared with the co-product.
WO2025077985A1	Landia AS (DK)	A method and a system for increasing methane gas yield from a biogas reactor tank. 1. Method (100) of increasing methane gas (32) yield from one or more biogas reactor tanks (1) comprising a biomass (22) and a reservoir (12) of biogas (28) above the surface of the biomass (22) inside one or more biogas reactor tanks (1), the method (100) comprising the steps of: a) drawing (104b) biomass (22) from a source of biomass (22); b) providing (102) an external gas from a resource of external gas (30); c) creating (106) a supply composition comprising small gas bubbles (24) by mixing biomass (22) and external gas (30); and d) supplying (108) the supply composition comprising small gas bubbles (24) to the one or more biogas reactor tanks (1).
WO2025078994A1	Negri Nicola (IT)	Apparatus and method for upgrading biogas and producing liquefied biomethane. An apparatus for upgrading biogas and producing liquefied biomethane, which comprises: - at least one supply duct (2) for the biogas to be treated; - at least one dehumidification stage (3), connected in input to the at least one supply duct (2) and configured to perform the removal of the water contained in the biogas to be treated; - at least one separation stage (4), configured to perform an at least partial removal, by desublimation, of the carbon dioxide contained in the biogas in output from the dehumidification stage (3); and at least one liquefaction stage (6), configured to perform the liquefaction by condensation of the biogas in output from the separation stage (4). The apparatus is characterized in that the separation stage (4) is in a heat exchange relationship with means for circulating at least one heat exchange fluid. The circulation means are interposed between the separation stage (4) and means for varying the temperature of the heat exchange fluid.
EP4570356A1	Opure BV (NL)	Process and apparatus for the purification of biogas. The present disclosure pertains to a process for the removal of carbon dioxide from biogas comprising the following steps: a. carbon dioxide-containing biogas is washed in a gas scrubber (1) by contacting the carbon dioxide-containing gas with a liquid dialkali carbonate-containing buffer solution (3) in the gas scrubber (1), forming: i) a carbon dioxide-poor biogas stream, and ii) a liquid stream comprising carbonate-rich buffer solution, b. the carbonate-rich buffer solution is regenerated by feeding it to an aeration tank (2) in which it is contacted with air to form regenerated dialkali carbonate-containing buffer solution and carbon dioxide. Compared to processes described in the prior art this process may be conducted with relatively inexpensive equipment, is energy efficient and is already cost-effective at lower capacities.
WO2025114510A1	Univ lille et al. (FR)	Method for producing biomethane. The present invention relates to a method for producing biomethane from a gas mixture comprising carbon dioxide and methane, which method comprises bringing said mixture into contact with a ruthenium-based catalyst in a hydrogen atmosphere.

Bioalcoholes (bioetanol, biometanol, etc.)

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025119976A2	Agrana Beteiligungs AG (AT)	Combined method for producing bioethanol and an oilseed protein product. The invention relates to a combined method, comprising a first method for producing bioethanol (10) and a second method for producing an oilseed protein product (31, 45), the first method comprising the steps of (a) providing a slurry (7), wherein the slurry (7) contains a carbohydrate-containing feedstock (1), in particular a grain, (b) fermenting the slurry (7) in order to obtain a fermented liquor (9) containing bioethanol (10), and (c) separating at least some of the bioethanol (10) from the fermented liquor (9); and the second method comprising the steps of (i) providing an oilseed feedstock (4), (ii) extracting the oilseed feedstock (4) using a first extraction agent (39), in order to obtain a first miscella (26) and a first extraction product (27), (iii) splitting the first extraction product (27) into a first mixture (30, 46) containing the oilseed protein product (31, 45) and a second mixture (32, 47) containing the oilseed secondary product (5), (iv) separating at least some of the oilseed protein product (31, 45) from the first mixture (30, 46), and optionally separating at least some of the oilseed secondary product (5) from the second mixture (32, 47); wherein the slurry (7) provided in step (a) of the first method contains at least some of the oilseed secondary product (5) obtained in the second method, wherein the first extraction agent (39) contains bioethanol (10) produced in the first method, wherein the first miscella (26) contains at least some of the first extraction agent (39), and wherein at least some of the first extraction agent (39) contained in the first miscella (26) is separated from the first miscella (26) and is used in step (c) of the first method.
CN119736107A	Beijing Qing Chuang Jin Hua Tech Co Ltd (CN)	System for preparing green methanol from biomass. The invention discloses a system for preparing green methanol from biomass. The system mainly comprises a boiler power generation unit, an air separation unit, a gasification unit, a conversion unit, a desulfurization and decarbonization unit, a compression unit, a synthesis unit and a rectification unit. Pneumatic dense-phase conveying is adopted for biomass feeding of the gasification unit. CO ₂ of the desulfurization and decarbonization unit is selected as conveying gas, the biomass smashing particle size, the conveying density and the temperature and pressure of the conveying gas are controlled, and the biomass conveying stability is guaranteed. The gasification furnace adopts a waste heat boiler technology, sensible heat byproduct saturated steam of high-temperature synthesis gas can be recycled, purge gas of a synthesis unit is overheated to generate power to serve as system power, and the purge gas of the synthesis unit can be supplemented through byproduct superheated steam of a gas boiler when the electric quantity is insufficient. Biomass is adopted as an energy source instead of traditional fossil fuel, dependence on the fossil fuel can be remarkably reduced, carbon emission is reduced, the energy utilization efficiency is improved, the green electricity requirement is met, and a basis is provided for green methanol certification.
WO2025079414A1	Green Earth Inst Co Ltd (JP)	Method and apparatus for producing target substance. The present disclosure provides a method and an apparatus with which a target substance can be produced more efficiently from a lignocellulose-based material. The target substance is produced by: (a) allowing saccharification and a microbial reaction to proceed in parallel in a reaction solution containing a pretreated lignocellulose-based material, at least one saccharifying enzyme, and a microorganism, thereby producing at least one target substance; (b) subjecting at least a portion of the reaction solution to a solid-liquid separation treatment during or after the saccharification and the microbial reaction in step (a), thereby obtaining a fraction (X) containing the at least one saccharifying enzyme and a fraction (Y) containing the microorganism and a reaction residue; and (c) circulating at least a portion of the at least one saccharifying enzyme contained in the fraction (X) obtained in step (b) back to the reaction solution in step (a).
WO2025131896A1	IFP Energies Now (FR)	Method for treating a lignocellulosic biomass. The invention relates to a method for treating a lignocellulosic biomass, with a) an optional step of impregnating the biomass (1), b) a step of cooking (3) the biomass (1) in the presence of water vapor (2) in order to obtain a mixture comprising the biomass (5) and water vapor (4a), c) a separation step in order to obtain the pretreated biomass (5) and the water vapor (4a), d) a step of condensing (17) the water vapor (4a) from the cooking step b) to liquid effluent (4b), e) an enzymatic hydrolysis step (6) in order to obtain a hydrolyzed biomass (7), f) a step of fermenting (8) the hydrolyzed biomass (7) in order to obtain a mixture comprising a fermented biomass (9) and a solid residue, then at least one step of washing said mixture or said solid residue obtained in step f), using the liquid effluent resulting from the condensation step d).

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WO2025109194A2	Liyf AG (CH)	Process, system and reactor for producing 2g bioethanol. The present invention refers to an ultrasonic baffled hydrothermal (UBH) reactor for the pretreatment of lignocellulosic biomass, using rotating baffles (180) and blades (182) driven by a motor (73), surrounding heating coils (181) and ultrasonic probes (177, 123). The invention also refers to immobilized cellulase using metal-organic frameworks (MOF). This invention also refers to the counter-current saccharification process. The invention further refers to a thermosiphon which can be used couples with a falling film in a distillation. Additionally, it also refers to a process for producing bioethanol using said UBH reactor, the immobilized cellulase in a counter-current process and a falling film e coupled with the thermosiphon. A system for producing bioethanol comprising the UBH reactor, a saccharification counter-current process, falling films and a thermosiphon is also presented. The uses of the UBH reactor, the enzyme and the thermosiphon are also proposed.
CN120005950A	Petrochina Co Ltd (CN)	The invention relates to the technical field of fuel ethanol production, and in particular to a method for producing fuel ethanol by immobilizing a mixed enzyme. The method comprises the following steps: step 1, raw material crushing; step 2, liquefaction; step 3, preparation of yeast activation solution; step 4, preparation of sodium alginate solution; step 5, preparation of calcium lactate solution; step 6, mixed enzyme immobilization; step 7, simultaneous saccharification and fermentation. The present invention realizes the immobilization of saccharifying enzyme and acid protease to prepare immobilized enzyme gel, and during fermentation, the enzyme gel is added to perform synchronous saccharification and fermentation, which can effectively control the saccharification rate of saccharifying enzyme and avoid the inhibition of yeast by excessively high sugar concentration, and realizes the recycling of saccharifying enzyme and acid protease, reduces the amount of enzyme preparation added, saves costs, reduces the enzyme residue in the fermentation product, and improves the feed quality.
WO2025125822A1	Purifire Labs Ltd (GB)	System and method for converting waste carbon material into bio-methanol using hydrothermal gasification and catalytic methanol synthesis. Disclosed is a system for converting waste carbon material into bio-methanol using hydrothermal gasification and catalytic methanol synthesis. The system comprises a mixing and recirculation tank configured to receive the waste carbon material, a hydraulic pumping unit configured to mix waste carbon material with water and to increase the pressure of the mixture, a plug flow reactor configured to maintain the pressure of mixture of the waste carbon material and water, wherein the plug flow reactor comprises a preheater configured to increase temperature of the mixture of waste carbon material and water to obtain waste flow and a hydrothermal reactor unit configured to receive the waste flow from the preheater. The hydrothermal reactor unit may further comprise a heater for increasing the temperature of the waste flow using a plurality of heating formats and a conduit configured to partially recirculate waste heat into the hydrothermal reactor unit. The system further comprises a methanol reactor chamber in fluid communication with the plug flow reactor for receiving the syngas therefrom, the methanol reactor chamber housing a catalyst for converting syngas to methanol.
WO2025073616A1	1T07PLASTASTIC GmbH (DE)	Process and plant for producing ethanol e-fuels from heterogeneous mixes of bioplastic and halogen wastes. The present invention relates to a plant and a process for producing ethanol from heterogeneous mixes of bioplastic and halogen wastes.
US2025163362A1	Wisconsin Alumni Res Found (US)	Recombinant yeasts with recombinant xylose reductase, xylitol dehydrogenase, and/or xylulokinase genes and methods of using same. Recombinant yeasts comprising recombinant xylose reductase, xylitol dehydrogenase, and/or xylulokinase genes and methods of using same, such as for producing ethanol from xylose-containing feedstocks.

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CN119831178A	Zhongli Testing Co Ltd et al, (CN)	Carbon emission reduction method and system for preparing green fuel from multiple biomasses. The invention discloses a carbon emission reduction method and system for preparing green fuel from multiple biomasses. The method comprises the following steps: acquiring characteristic data of a biomass raw material to be processed; the full life cycle carbon emission # imgabs0 # of different biomass raw materials in unit mass and the methanol yield # imgabs1 # prepared from the biomass raw materials in unit mass are obtained respectively, and the methanol preparation carbon consumption output ratio # imgabs2 # = # imgabs3 #/# imgabs4 # of the biomass raw materials is calculated; grading the performance of preparing methanol from different biomass raw materials according to the results; based on the results, the complementarity of the biomass raw materials is analyzed; selecting a target biomass raw material according to the grading result of the biomass raw material; independently using the target biomass raw material as a biomass raw material for preparing methanol according to a grading result of the target biomass raw material; or, according to complementarity of the target biomass raw materials, one or more biomass raw materials complementary to the target biomass raw materials are selected, the mixing ratio of the biomass raw materials is adjusted, and the methanol yield and the carbon emission reduction effect of the biomass raw materials are improved.

Biodiésel

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CN119857444A	Dezhou Rongguang Biotechnology Co Ltd (CN)	Biodiesel microchannel reactor and reaction method thereof. The invention relates to the field of chemical reactors, and discloses a biodiesel microchannel reactor and a reaction method thereof. The biodiesel microchannel reactor is characterized by comprising a reactor shell; the connecting channels are arranged in the reactor shell, heat exchange channels are formed in the connecting channels, and every two adjacent heat exchange channels are communicated with each other; through reasonable feeding amount control, an efficient material replacement mechanism and accurate reaction time management, the reaction efficiency can be effectively improved, raw material waste is reduced, and the biodiesel production process is optimized. Meanwhile, under the condition that the overall structure size is not changed, the flow speed and reaction requirements are flexibly adjusted according to material characteristics, and compared with a traditional channel length adjusting mode, the structure is more compact, and material residues are effectively avoided.
CN119869418A	Dezhou Rongguang Biotechnology Co Ltd (CN)	Synthetic production equipment for biodiesel. The invention relates to the technical field of biodiesel synthesis, in particular to synthetic production equipment for biodiesel, which comprises a catalysis tank, and the top end of the catalysis tank is fixedly connected with a placing cover; the real-time detection mechanism comprises a stirring rod used for stirring, a plurality of detection shells are arranged on the outer wall of the stirring rod in a circumferential array mode, the detection shells are further arranged on the stirring rod in a linear array mode, and circumferential stirring plates are elastically hinged to the inner walls of the detection shells. During vertical stirring, the turnover degree of the upper and lower stirring plates pulls the detection spring, so that the detection value of the pressure sensor is changed, and high viscosity of raw materials and large turnover degree of the upper and lower stirring plates in the initial stage are reflected; along with the reaction, the viscosity of the raw materials is reduced, the turnover degree is reduced, and the PLC controls the motor to reduce the rotating speed according to the detection value of the pressure sensor when the reaction enters the middle stage from the initial stage or enters the later stage from the middle stage.
EP4541871A1	Galata Chemicals LLC (US)	Biofuel and process for preparation thereof. A process including either transesterifying seed oils or animal fats with an octanol selected from the group consisting of n-octanol, iso-octanol, 2-ethylhexanol or mixtures thereof in the presence of a catalyst selected from alkali metal n-octoxide, alkali metal iso-octoxide or alkali metal 2-ethylhexoxide, or esterifying fatty acids with an octanol in the presence of a sulfonic acid, thereby forming methanol-free and ethanol-free octyl esters of fatty acids.

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CN222729746U	Hebei Huide Renewable Resources Co Ltd (CN)	Colloid removing device for extracting biodiesel from illegal cooking oil. The utility model discloses a colloid removing device for refining biodiesel from illegal cooking oil, and belongs to the technical field of biodiesel refining. Comprising a stirring kettle, a stirring mechanism arranged in the stirring kettle and a bracket for supporting the stirring kettle, the lower portion of the stirring kettle is in a funnel shape, the lower end of the stirring kettle is connected with the filtering bin through a connecting pipe, the filtering bin comprises an upper bin and a lower bin which are connected through threads, supporting pins are arranged on the inner wall of the lower bin at equal angles, a filtering net is arranged above the supporting pins, the lower portion of the lower bin is in a funnel shape, and an oil discharging pipe is arranged below the lower bin. The filtering bin is arranged below the stirring kettle, a stirred solution can enter the filtering bin, then the device can process two batches of raw materials at the same time, and the filtering bin is divided into the upper bin body and the lower bin body which are in threaded connection, so that a filtering net of the device is convenient to clean.
CN119955574A	Hebei Huide Renewable Resources Co Ltd (CN)	The invention relates to the technical field of biodiesel, and specifically discloses biodiesel and a preparation method thereof. The preparation method of biodiesel provided by the present invention comprises the following steps: mixing waste cooking oil, methanol, an organic solvent and gemini quaternary ammonium salt modified montmorillonite, adding free lipase, carrying out heat preservation reaction at 40 DEG C to 60 DEG C, adding methanol and gemini quaternary ammonium salt modified montmorillonite, carrying out heat preservation reaction again, purifying the reaction liquid, and obtaining the biodiesel. The present invention, by adding gemini quaternary ammonium salt to modify montmorillonite and improving the process, can not only recycle free lipase, but also improve the biodiesel conversion rate, thereby achieving efficient utilization of resources.
WO2025134934A1	J Oil Mills Inc (JP)	Biofuel production method. Provided is a method in which palm oil mill effluent (POME) is used to produce a biofuel which contains a fatty acid methyl ester (FAME) and from which impurities have been removed. Specifically provided is a biofuel production method including a methyl esterification step in which palm oil mill effluent (POME) is reacted with an acid catalyst and methanol, and then reacted with a base catalyst and methanol to produce a fatty acid methyl ester (FAME).
US12319882B1	Jouf Univ (SA)	Eco-friendly biodiesel production method using waste olive oil and pulp-derived catalysts. A method of producing biodiesel using waste olive oil can include collecting an olive pulp; extracting olive oil from the olive oil pulp by soaking the olive oil pulp in a solvent to obtain an oil-solvent mixture; removing the solvent from the mixture through evaporation to provide olive oil and a residue pulp; separating the olive oil from the residue pulp; rinsing the residue pulp with deionized water; drying the residue pulp; sieving the dried residue pulp to obtain pulp particles; pyrolyzing the pulp particles to create a carbon powder; adding sulfuric acid to the carbon powder to obtain a mixture; stirring the mixture to obtain a solid; washing the solid with water until a pH of an effluent is neutral; drying the solid; obtaining a sulfonated olive carbon (SOC) catalyst; and using the sulfonated olive carbon (SOC) catalyst for transesterifying waste olive oil to biodiesel.
WO2025115596A1	Sanyo Chemical Ind Ltd (JP)	Low-temperature fluidity improver for fatty acid alkyl ester fuels, fatty acid alkyl ester fuel composition, and diesel fuel composition. This low-temperature fluidity improver for fatty acid alkyl ester fuels comprises a copolymer (A) containing, as essential constituent monomers, a (meth)acrylic acid alkyl ester monomer (a) having an alkyl group having 1 to 5 carbon atoms, a monomer (c) represented by general formula (1), and a (meth)acrylic acid alkyl ester monomer (b) that is other than the monomer (c) and has an alkyl group having 6 to 32 carbon atoms. The weight ratio (a/c) of the monomer (a) to the monomer (c) among the monomers constituting the copolymer (A) is 0.015 to 12.5. [In general formula (1), R1 represents a hydrogen atom or a methyl group, and R2 and R3 each independently represent a linear or branched alkyl group having 8 to 24 carbon atoms.]
WO2025122999A1	Univ California (US)	Methods for making diesel fuel using catalyst-free transesterification of vegetable oils. A method of making a diesel fuel includes combining tetraalkoxyborate with a triglyceride composition to form a reaction mixture, where the triglyceride composition includes one of a vegetable oil or an animal fat. The method also includes heating the reaction mixture above 40 °C to form a diesel fuel including fatty acid alkyl esters.

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CN119838539A	Univ Jiangsu (CN)	High-efficiency continuous biodiesel preparation device based on waste grease and working method. The invention discloses an efficient continuous biodiesel preparation device based on waste oil and a working method, and belongs to the technical field of biodiesel preparation. The device comprises a reaction assembly, a separation assembly and a recovery assembly, the reaction assembly comprises a reaction kettle and a raw material storage tank which are arranged at an interval, a metal shaft is rotationally connected in the reaction kettle, and the metal shaft is connected with a high-voltage power supply; the array needle electrodes are arranged on the metal shaft; the coil electrode sleeves the outer side of the array pin electrode in a clearance manner; the separation assembly comprises a first settling separation tank, a second settling separation tank, a biodiesel storage tank and a glycerol storage tank which are arranged at intervals; and the recovery assembly comprises a second hot steam pipeline and a methanol collecting tank. The array needle electrodes are arranged in the reaction kettle, so that the characteristic of heat and mass transfer between liquid and liquid is enhanced through the electric field under the condition of low-energy-consumption injection, and the reaction raw material mixture is placed in the high-voltage electric field, so that the ester exchange reaction process is quickly carried out in a short time.

Bio-jet fuels

Nº Publicación	Solicitante (País)	Contenido técnico
US2025163338A1	Duke Tech LLC (US)	Conversion of gums to naphtha, sustainable jet fuel, and diesel products. A method of treating non-petroleum or renewable feedstock is carried out by introducing a non-petroleum or renewable feedstock containing gums and/or resins into a reactor at a flow velocity of from 20 ft/sec to 100 ft/sec. The feedstock is heated within the reactor to a temperature of from 700° F. to 1100° F. to convert the feedstock to a reactor product. The reactor product is cooled to form a cooled reactor product. Gases, metals, and water from the cooled reactor product are separated and removed to form a final product. The final product has a gum or resin content that is reduced by 10 wt % to 100 wt % by weight of the initial gum and resin content of the feedstock.
WO2025132136A1	IFP Energies Now (FR)	Method for producing renewable kerosene by two-step hydroprocessing using a specific catalyst in the hydroconversion step with recycle of a heavy fraction. The present invention describes a method for treating a feedstock originating from a renewable source comprising a hydrotreatment step a), a step b) of separation of at least one portion of the effluent resulting from step a) into at least one light fraction and at least one hydrocarbon effluent, a step c) of hydroconversion of the hydrocarbon effluent resulting from step c), using at least one specific bifunctional catalyst comprising at least one noble metal from group VIII selected from among platinum and palladium, and a support comprising at least one zeolite selected from among the MTW zeolites and the IZM-2 zeolite, alone or in a mixture, and at least one binder, a step d) of separation of the effluent resulting from step c), which makes it possible to separate at least one gaseous fraction and at least one hydrocarbon liquid effluent, and a step e) of fractionation of the hydrocarbon effluent resulting from step d) into at least one kerosene cut and at least one heavy cut having an initial boiling point of between 250 and 300°C, wherein all or part of the heavy cut resulting from the step e) is recycled to the hydroconversion step c).
US2025154415A1	Marathon Petroleum Co LP (US)	Systems and methods for producing aviation fuel. Embodiments of systems and methods to produce aviation fuel are disclosed. An example of a method to produce aviation fuel includes fractionating a renewable diesel feedstock in a fractionator to produce a C8- fraction, a C8-18 fraction, and a C18+ fraction. Additionally, the method includes providing the C8-18 fraction to an isomerization reactor to produce an aviation fuel product. The method includes supplying at least a portion of the C18+ fraction to a hydrocracking reactor to produce a hydrocracked product. The method further includes recycling at least a portion of the hydrocracked product to the fractionator for fractionating along with the renewable diesel feedstock.
FI20236142A1	Neste Oyj (FI)	A method for producing transportation fuels and components thereto. The present invention concerns a method for producing jet fuel, diesel, or components thereto from a pretreated feed comprising at least 90 wt.-% liquid paraffins by hydroisomerization reaction using metal impregnated EU-2 based zeolite on a support as the catalyst. According to the method desired product distribution is adjusted by hydroisomerization reaction temperature.

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US2025188376A1	Sartec Corp (US)	Sustainable aviation fuels. Embodiments herein relate to sustainable fuels and methods for making the same. In an embodiment, a process for producing a sustainable aviation fuel composition is included. The process can include mixing a lipid feedstock with at least one branched chain alcohol to form a reaction mixture. In some embodiments the process can include mixing a branched carboxylic acid with at least one branched chain alcohol to form a reaction mixture. In some embodiments, combinations of different carboxylic acids and/or alcohols can be used. The process can further include contacting the reaction mixture with a catalyst at greater than room temperature and pressure to form reaction products. The catalyst can include a metal oxide catalyst, such as at least one selected from the group consisting of alumina, titania, zirconia, and hafnia. Other embodiments are also included herein.
WO2025080761A1	Standard Alcohol Company Of America Inc (US)	Processes and systems for production of sustainable aviation fuel from syngas via mixed alcohols. Technology to convert syngas into aviation fuel is described. Some variations provide a process comprising: providing a starting syngas stream comprising H ₂ and CO; purifying the syngas feed stream, if necessary; feeding the clean syngas stream to an alcohol-synthesis reactor, to catalytically convert syngas to a C ₁ -C ₁₀ mixed-alcohol stream; feeding the C ₁ -C ₁₀ mixed-alcohol stream to a dehydration reactor, to catalytically convert C ₁ -C ₁₀ mixed alcohols to C ₂ -C ₁₀ mixed olefins; feeding the mixed olefins to an oligomerization reactor, to catalytically convert the C ₂ -C ₁₀ mixed olefins to C ₅ -C ₁₆ mixed hydrocarbons; feeding the C ₅ -C ₁₆ mixed hydrocarbons and hydrogen to a hydrogenation reactor, to catalytically hydrogenate C=C double bonds within the C ₅ -C ₁₆ mixed hydrocarbons, thereby generating stabilized C ₅ -C ₁₆ mixed hydrocarbons; and recovering the stabilized C ₅ -C ₁₆ mixed hydrocarbons as aviation fuel. In preferred embodiments, the aviation fuel is sustainable aviation fuel (SAF) under ASTM D7566-24a.
CN119875678A	Univ China Mining (CN)	Method for preparing high-density aviation fuel from turpentine and phenolic compound. The invention discloses a method for preparing high-density aviation fuel from turpentine and phenolic compounds, which comprises the following specific steps: S1, under the catalysis of acid, adding the phenolic compounds and turpentine into a solvent for alkylation reaction to obtain an alkylation product with a bicyclic structure and a tricyclic structure; and S2, adding the alkylated product prepared in the step S1 into a solvent, and carrying out hydrodeoxygenation under the co-catalysis of Metal/C and a solid acid catalyst to generate the high-density aviation fuel. The high-density aviation fuel is prepared with high yield by taking the phenolic compound and turpentine as raw materials through a two-step method, the density of the aviation fuel is greater than 0.90 g/mL, and the aviation fuel is an aviation kerosene alkane compound with relatively excellent performance; biomass is used as a raw material, so that the method is a novel green route, and harmful substances are not generated.
CN119875686A	Univ Fuzhou (CN)	Method for preparing low-freezing-point biodiesel and aviation fuel through selective isomerization. The invention discloses a method for preparing low-freezing-point biodiesel and aviation fuel through selective isomerization. The method comprises the following steps: 1) waste oil passes through a filter and then enters a pre-esterification reactor together with alcohol and a liquid acid catalyst; 2) introducing the pre-esterified mixture into a liquid-liquid separator, separating out alcohol by a flash separator, and recovering the liquid acid catalyst to obtain a pre-esterified product I; 3) mixing the pre-esterification product I with a vulcanizing agent, hydrogen and HPA coated SiO ₂ , and carrying out hydrogenation to obtain a product II; 4) processing the product II through a gas-liquid-solid separator to obtain a gas phase, a liquid phase and a solid phase, and circulating a solid-phase catalyst; and 5) feeding the gas phase into a pressure swing adsorption tower to remove low-carbon hydrocarbon, CO and CO ₂ , then returning to the fixed bed reactor for hydrogen circulation, and feeding the liquid phase into a fractionator to obtain a final product. The low-freezing-point biodiesel and the aviation fuel are prepared on the basis of the waste oil and fat, long-term stable proceeding of the process is guaranteed, and meanwhile the method has the advantages of being wide in raw oil range, wide in catalyst application range and high in conversion rate.

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CN119859551A	Univ Southeast (CN)	Method for preparing sustainable aviation fuel component oil from biomass-based derivative. The invention discloses a method for preparing sustainable aviation fuel component oil by using a biomass-based derivative, and belongs to the technical field of biological aviation fuel preparation. The method comprises the following steps: carrying out aldol condensation on furfural and 2, 5-hexanedione to increase a carbon chain so as to obtain an oxygen-containing aviation oil precursor; performing pre-hydrogenation on the oxygen-containing aviation oil precursor by using an M1 catalyst to obtain a pre-hydrogenation product; carrying out catalytic hydrodeoxygenation, catalytic hydrocracking and catalytic isomerization on the pre-hydrogenation product by using an M2 catalyst, and fractionating to obtain aviation fuel component oil, the M1 catalyst is characterized in that Ni metal is loaded on a metal oxide carrier; the M2 catalyst is prepared by loading Ni metal on an acidic hierarchical pore molecular sieve carrier. The carbon number of the prepared aviation fuel component is in continuous normal distribution, and the sustainable aviation fuel component oil is prepared by taking common biomass-based platform derivatives as raw materials, so that the method has important significance on promoting green development of the aviation field.
US2025136876A1	UOP LLC (US)	Process for hydroprocessing a biorenewable feedstock. A process and apparatus for producing biofuel from biorenewable feedstock is disclosed. The process comprises hydrotreating the biorenewable feed stream in a hydrotreating reactor to hydrodeoxygenate a biorenewable feed stream to provide a hydrotreated effluent stream. The hydrotreated effluent stream is separated in a hot separator into a hot separated vapor stream and a hot separated liquid stream. A hydroisomerization feed stream is taken from the hot separated liquid stream and hydroisomerized in a hydroisomerization reactor to provide a hydroisomerized stream. All or a portion of a return stream taken from the hot separated vapor stream is recycled to the hydroisomerization reactor. The disclosed process and apparatus minimize the carryover of the normal C16 to the biofuel and maximizes the hydroisomerization of n-paraffin hydrocarbons in the hydrotreated effluent stream to produce a biofuel which meets the biofuel specification without affecting or compromising the biofuel yield.

Biohidrógeno

Nº Publicación	Solicitante (País)	Contenido técnico
US12319574B1	Imam Mohammad Ibn Saud Islamic Univ (SA)	Biomass derived nanocomposite for hydrogen production. A method of hydrolyzing a borohydride includes extracting nanocellulose from date palm waste and forming nanocellulose crystals. The method includes dispersing the NCC and bentonite powder in water, followed by adding a cross-linking acid solution and heating to form a nanocellulose catalyst in the form of a hydrogel. The method includes reacting a borohydride with water in the presence of the nanocellulose catalyst at a temperature ranging from 20 to 45° C. to produce hydrogen (H2) gas.
CN119875793A	Jiangxi Brother Pharmaceutical Co Ltd (CN)	Biological hydrogen production device. The invention discloses a biological hydrogen production device, and relates to the technical field of biological hydrogen production, the biological hydrogen production device comprises a working frame, a supporting plate is arranged on the surface of the working frame, a material containing disc is placed on the upper end face of the supporting plate, the upper end of the working frame is further fixedly connected with a shell, the upper end face of the shell is fixedly connected with a crushing box, and a crushing assembly is arranged in the crushing box; the upper end face of the crushing box fixedly communicates with a feeding port, the upper end face of the crushing box is fixedly connected with a dust cover, the screening assembly is arranged in the shell and used for screening substrates crushed by the crushing assembly, the cleaning assembly is arranged in the shell, and the cleaning assembly is in linkage with the screening assembly. The cleaning assembly is used for cleaning the residual substrate on the screening assembly, and the stirring assembly is arranged on the supporting plate and used for stirring the substrate, so that the substrate is more uniformly distributed in the material containing disc, and the problem that the use efficiency of the substrate is further influenced and the biological hydrogen production effect is influenced due to non-uniform distribution of microorganisms in the substrate is solved.
WO2025101178A1	Purdue Research Foundation (US)	Processes and systems for biological hydrogen production from organic waste using yeast. Processes and systems for biologically producing hydrogen gas from organic waste, including food waste. Such a process includes biologically producing hydrogen gas from organic waste by anaerobic fermentation of the organic waste with at least one strain of yeast.

Nº Publicación	Solicitante (País)	Contenido técnico
CN119819298A	Res Ct for Eco Environmental Sciences CAS (CN)	Rhodium catalyst for hydrogen production by ethanol reforming and preparation method thereof. The invention provides a rhodium catalyst for hydrogen production by ethanol reforming and a preparation method thereof, the preparation method comprises the following steps: mixing a rhodium source, a lanthanum source, a carrier and a solvent, removing the solvent and drying to obtain a mixture; the carrier comprises aluminum oxide and/or aluminum salt; and carrying out reduction roasting on the mixture to obtain the bioethanol reforming hydrogen production catalyst. According to the preparation method disclosed by the invention, a stable rhodium-lanthanum diatom structure loaded on the surface of the carrier can be obtained through impregnation and high-temperature reduction, so that the obtained rhodium catalyst can efficiently produce hydrogen in an ethanol steam reforming reaction, and keeps high stability in a harsh industrial condition.
WO2025110893A1	Saudi Arabian Oil Co (SA)	Fluid composition and method for generating hydrogen from flow-back hydraulic fracturing fluid. A method for generating hydrogen includes oxidizing a natural polysaccharide included in a fracturing fluid in a subterranean formation, extracting the fracturing fluid from the subterranean formation, purifying the fracturing fluid, and treating the fracturing fluid. The method further includes introducing at least one additive into the fracturing fluid, introducing at least one microbial biomass into the fracturing fluid, and biodegrading the natural polysaccharide in the fracturing fluid with the at least one microbial biomass to produce hydrogen, reaction products and non-degrading products. A fluid composition includes a natural polysaccharide, at least one microbial biomass, an oxidizing agent, at least one additive, and a fluid medium. The microbial biomass includes a hydrogen-producing bacteria. A method for producing a fluid composition includes sequentially adding an oxidizing agent, an additive, and a microbial biomass to a source fracturing fluid. The source fracturing fluid includes a natural polysaccharide and a fluid medium.
CN119799801A	Univ Dalian (CN)	Method for producing hydrogen by fermentation of rumen microorganisms. The invention discloses a method for producing hydrogen through rumen microorganism fermentation, and relates to the technical field of resources and environment. Comprising the following steps: inoculating fresh rumen fluid into a fermentation tank filled with a buffer solution according to a volume ratio of 5-10%, and after 24-36 hours, adding 10-30 g/L of biomass waste to start a fermentation reaction. When the content of H ₂ in a gas production component reaches 20%, the fermentation temperature is controlled to be 37-40 DEG C, the HRT is controlled to be 50-90 h, the SRT is controlled to be 6-10 d, the pH is controlled to be 5.5-6.0, biomass waste is added according to 1-3 g/L.d, the headspace pressure is kept to be 95 +/-5 kPa, and the system starts to continuously feed and discharge materials and feed and discharge water to produce hydrogen through fermentation. According to the method, cellulose biomass is used as a substrate, the hydrogen production amount is increased by 50-100% compared with that of a traditional anaerobic biological dark hydrogen production method, the retention time is shortened by 3-10 days, the hydrolysis, saccharification and hydrogen production processes can be achieved in the same reactor, and the production cost is reduced.
CN119753032A	Univ Dongguan Technology (CN)	Method for producing hydrogen and electricity by using biomass. The invention belongs to the technical field of microbial energy, and particularly relates to a method for producing hydrogen and electricity by using biomass. According to the method, the thermophilic saccharoanaerobacter is selected, the strain is easy to culture, various saccharides can be used as raw materials, a large amount of biomass can be converted into hydrogen energy and electric energy, and efficient resource utilization of lignocellulose is achieved. Meanwhile, the detoxified hydrolysate is directly adopted as an electron donor and can be used for the microbial fuel cell after simple dilute acid treatment, so that the environmental pollution caused by a detoxification process is avoided, the process steps are simple and easy to operate, only a single strain needs to be added, and the method has a relatively good application prospect. By adopting the synchronous hydrogen and electricity production process, the utilization efficiency of the hydrolysate can be remarkably improved, and the hydrogen yield and the electricity yield are further improved.

Nº Publicación	Solicitante (País)	Contenido técnico
CN119823790A	Univ Hefei Technology (CN)	Biomass in-situ catalytic gasification hydrogen production method based on sealed reactor. The invention relates to a biomass in-situ catalytic gasification hydrogen production method based on a sealed reactor. The sealed reactor comprises a pipeline system, a gas control system, a U-shaped tube reactor, a lifting heating system, a detection device and a water adding device. The method specifically comprises the following steps: uniformly mixing reactants and a catalyst in proportion, and feeding the mixture into the bottom of the U-shaped tube reactor; the U-shaped tube reactor is fixedly connected with the pipeline system, inert gas is introduced to exhaust air, and after exhaust, a valve is closed to enable the U-shaped tube reactor to be in a closed state; and heating the U-shaped tube reactor to carry out catalytic gasification hydrogen production reaction. When biomass is subjected to an in-situ catalytic gasification hydrogen production reaction in the U-shaped tube reactor, high-yield and high-selectivity preparation of hydrogen from the biomass can be realized at the same time under a relatively mild gasification condition, the hydrogen selectivity can reach the highest level in the biomass hydrogen production industry, and the hydrogen yield is also in the front of the industry; the method has great potential in industrial application of biomass catalytic gasification hydrogen production.
LU508810B1	Univ Henan Agricultural (CN)	Method for photo-fermentation hydrogen and methane co-production from tobacco waste. The present invention provides a method for photo-fermentation hydrogen and methane co-production from tobacco waste, which belongs to the technical field of biological hydrogen production and biological methane production. The method provided by the present invention includes: mixing harmful tobacco waste with a buffer solution and a hydrogen-producing culture medium to obtain a first mixture; adjusting a pH value of the first mixture to neutral, and mixing the first mixture with cellulase and HAU-M1 photosynthetic bacterial population liquid in a logarithmic growth phase to obtain a second mixture; performing photo-fermentation hydrogen production on the second mixture to obtain hydrogen and fermentation tailings; mixing the fermentation tailings with activated sludge to obtain a third mixture; and fermenting the third mixture to produce methane.
WO2025089238A1	Univ Kyushu Nat Univ Corp (JP)	Method for producing hydrogen gas. This method for producing hydrogen gas includes a step for obtaining hydrogen gas by irradiating with light a mixture containing a substrate that contains at least one selected from the group consisting of chitin, cellulose, hemicellulose, lignin, glucose, cellobiose, starch, and alcohol, and a catalyst that contains a base metal component.

Otros biocombustibles (bioaromáticos, renewable diesel, bio-oils, etc.)

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025090797A1	Chevron USA Inc (US)	High diesel selectivity during manufacture of renewable diesel. A method for selective renewable diesel production by hydrodeoxygenation of a lipid to form a product that is further processed with stripping, hydroisomerization and fractionation to produce a renewable diesel.
US2025197733A1	Council Scient Ind Res (IN)	Process for producing renewable hydrocarbon fuel from crude byproduct of animal wastes fat oil biodiesel. The present invention provides two types of low-value crude byproducts SOB and POB having various hydrocarbon contents i.e. huge amount of unconverted-TG,-FFA,-methanol along with -glycerol derived from slaughterhouses and poultry animal wastes fat oils biodiesel as novel bio-feedstocks for the production of C5+ hydrocarbons, especially bio-aromatics. The method demonstrates a vapor phase catalytic process for the direct conversion of such crude byproducts 10 SOB and POB to produce bio-aromatics suitable renewable fuel application, over a versatile Zn/SBZ extrudate shape micro-mesoporous zeolite catalyst in a fixed bed reactor unit under mild reaction conditions. The method is also for increasing the overall economy of the biodiesel industries by converting their low-value crude byproducts into high-value fuel-grade hydrocarbons.
US2025171697A1	Duke Tech LLC (US)	Sustainable diesel production from lignins. A method of treating non-petroleum or renewable feedstock containing lignins is carried out by introducing a lignin-containing feedstock into a reactor at a flow velocity of from 20 ft/sec to 100 ft/sec. The feedstock is heated within the reactor to a temperature of from 700° F. to 1100 OF to convert the lignin-containing feedstock into a reactor product. The reactor product is cooled to form a cooled reactor product. At least one of gases, metals, and water are separated and removed from the cooled reactor product to form a final product. The final product has a lignin content that is reduced by 10% to 100% by weight of the initial lignin incorporated into the feedstock.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025131896A1	IFP Energies Now (FR)	Production of synthetic fuels from carbon monoxide and carbon dioxide. The present invention relates to a method for converting a hydrocarbon feedstock, comprising: producing a syngas (14); separating CO (16) and CO ₂ (17) from the syngas; producing methanol (19) and then aromatics (23) from the CO ₂ ; alkylating the aromatics using ethanol (36) to produce an alkylation effluent (38); converting the CO in a Fischer-Tropsch reaction unit (7) to produce an FT effluent (29) comprising paraffins; separating and post-treating the FT effluent to produce at least one hydrocarbon cut (34); and mixing the hydrocarbon cut with the alkylation effluent to produce a synthetic fuel. The present invention also relates to a device for converting a hydrocarbon feedstock and also to a synthetic fuel formulation.
EP4574985A1	Selabtec Sciences SL (ES)	A process for preparing a biofuel composition, the biofuel composition obtainable by the process and the use of the same. The present invention relates to a process for preparing a biofuel composition, the biofuel composition obtainable by the process and the use of the biofuel. More specifically, the present invention is related to a process for producing, biofuel defined by a blend of fatty acid formal glycerol ester (FAGE) / fatty acid alkyl ester/acetal mixture/hydrotreated vegetable oil (HVO), the process being characterized by an enzymatic transesterification of fatty acid alkyl esters with glycerol formal and by the specific rates of the different components. The invention is also directed to the biofuel compositions obtained by said process as well as to the uses thereof.
EP4563678A1	Solariant Capital Co Ltd (JP) et al.	Biomass-containing fuel. The present invention aims to provide a biomass-containing fuel that has excellent combustion characteristics like fuels such as heavy oil. The present invention relates to a biomass-containing fuel containing a char produced by pyrolysis of plant biomass and a fuel oil.
WO2025104241A1	Totalenergies Onetech et al. (FR)	Stable hydrocarbon composition comprising a renewable base. The invention relates to a stable hydrocarbon composition comprising: (a) 10% to 30% by weight of a renewable base comprising at least one component selected from a biomass pyrolysis oil and a residue of the vacuum distillation of a biomass pyrolysis oil, (b) 70% to 90% by weight of a fossil base containing at least 1% by weight of asphaltenes and having an aromatics content of at most 54% by weight.
CN120082377A	Univ Northeast Forestry (CN)	The invention relates to a method for preparing biofuel from cellulose by photothermal synergistic catalysis, and belongs to the biomass energy industry. In order to solve the problems of high energy barrier, high energy consumption and low yield in the existing hydrothermal liquefaction for preparing bio-crude oil fuel, the present invention provides a method for preparing biofuel by photothermal synergistic catalysis of cellulose, wherein cellulose, bismuth oxychloride and methanol are placed in a closed reactor, pre-stirred and subjected to photothermal synergistic catalytic reaction under an inert atmosphere, the reaction temperature is 240-260°C, the light source is a xenon lamp light source, the solid-liquid mixture obtained by the reaction is filtered, the filtrate is subjected to rotary evaporation, and the viscous liquid after rotary evaporation is collected to obtain biofuel. The present invention achieves a higher biofuel yield under milder conditions through the photothermal synergistic effect. Meanwhile, the solvent used in the present invention is a green solvent and can be recycled and reused. The present invention provides a new resource utilization scheme for effectively utilizing cellulose biomass to produce biofuels.
CN119859557A	Univ Tianjin (CN)	Polycyclic high-energy fuel and preparation method thereof. The invention relates to a polycyclic high-energy fuel and a preparation method thereof. The preparation method of the polycyclic high-energy fuel comprises the following steps: by taking water as a solvent, under the combined action of a metal catalyst and a solid acid catalyst, enabling a lignin-derived phenolic compound to react in a hydrogen atmosphere, so as to obtain the polycyclic high-energy fuel. According to the method disclosed by the invention, water is taken as a solvent, and metal and solid acid are taken as catalysts, so that the lignin-derived phenolic compound is efficiently converted into the polycyclic high-energy fuel, and the yield of the polycyclic high-energy fuel is relatively high. And water is used as a solvent, the method is green and environment-friendly, the polycyclic high-energy fuel and water are in a two-phase system, and separation and purification of the product polycyclic high-energy fuel are facilitated.

Nº Publicación	Solicitante (País)	Contenido técnico
CN119799378A	Wuhan Jingyun New Energy Cloud Tech Co Ltd (CN)	Biomass liquid fuel and preparation method thereof. The invention relates to the technical field of biomass liquid fuels, in particular to a biomass liquid fuel and a preparation method thereof, and the biomass liquid fuel comprises the following components by weight: 40-60 parts of biomass-based methanol; 10 to 20 parts of biomass-based ethanol; 5 to 15 parts of biomass-based n-butyl alcohol; 5 to 10 parts of dimethyl ether; 10 to 20 parts of biodiesel; 1-5 parts of a lignin derivative; 0.1 to 0.5 part of an antioxidant; 0.1 to 0.5 part of a stabilizing agent; 0.5-2 parts of a purification dispersant; 1-3 parts of bio-based glycerol n-butyl ether; according to the invention, a plurality of alcohols (methanol, ethanol and n-butyl alcohol) are synergistically used, so that a series with the carbon chain length gradually increasing from C1 to C4 is formed. According to the design, the volatility and the energy density of the fuel are balanced, the oxygen content of the fuel is increased through hydroxyl (-OH) in alcohol molecules, and more complete combustion is promoted.

PATENTES BIOPRODUCTOS

Biomateriales (de construcción, medicina, embalaje, etc.)		
Biocomposites y biofibras		
Nº Publicación	Solicitante (País)	Contenido técnico
WO2025125868A1	Arcelormittal (LU)	A composite material comprising iron oxides and biomass. A composite material consisting of lignocellulosic biomass having a moisture content from 5 to 10% by weight and an iron material comprising at least 30% of iron oxides, the molar ratio Fe/C of said composite material being from 3 to 6.5.
EP4574873A1	K Maeleon Haus GmbH (DE)	Sustainable material composition and molded article thereof. The present invention relates to a material composition, preferably a building material composition, for the production of an insulating and/or building element, from or with plant materials, in particular from sustainable materials that use waste or by-products. In particular, various types of building materials are discussed, including wood fiber boards, natural fiber reinforced building materials and sandwich building materials with plant components. The invention may relate to improving the properties or characteristics of these building materials, e.g. B. on reducing costs, improving insulating properties or reducing thermal conductivity. The present invention also relates to a method for producing such a material composition and to building elements, in particular as heat-insulating molded bodies, soundproofing, moisture protection and/or (load-bearing) structural elements, and to the use of the material composition described herein for such building elements.
WO2025116266A1	Korea Atomic Energy Res (KR)	Composition for manufacturing wood composite comprising kenaf, wood composite using same, and manufacturing method thereof. The present invention relates to a composition for manufacturing a wood composite, a wood composite using same, and a manufacturing method thereof. More specifically, the present invention relates to: a composition for manufacturing a wood composite, the composition containing a thermoplastic resin, a silane compound represented by formula (1) and including an acrylate moiety, and a biomass mixture including kenaf powder and wood flour; a wood composite manufactured using same; and a method for manufacturing the wood composite. (In formula (1), R1, R2, and R3 are each independently selected from the group consisting of a C1-6alkoxy, a C1-6alkyl, halogen, a C1-6alkylsiloxy, an allyl, and a C1-6alkenyl; n is 0 to 15; and R4 is a C1-6alkyl.)
WO2025125730A1	Neste OYJ (FI)	Bioasphaltene conversion. The present invention relates to a method of processing liquefied biomass comprising a hydroliquefaction step of providing a liquefaction effluent by liquefying biomass in the presence of a hydrogen source and a slurry-type catalyst, and converting at least part of the bioasphaltenes into components of lower boiling points. The liquefaction effluent comprises oil product, bioasphaltenes and solids. The conversion step comprises recirculating at least a portion of the liquefaction effluent comprising bioasphaltenes to the hydroliquefaction step and/or subjecting at least a portion of the liquefaction effluent comprising bioasphaltenes to hydroprocessing.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025111213A1	Procter & Gamble (US)	Absorbent articles with short cellulosic fiber. A disposable absorbent article having a topsheet, a backsheet, and an absorbent core structure disposed therebetween. The absorbent core structure includes an upper nonwoven layer comprising polymer fibers and having a basis weight of from about 30 to about 85 gsm; a lower nonwoven layer comprising polymer fibers; and an inner core layer disposed between the upper and lower nonwoven layers. The inner core layer comprises a mixture of cellulose pulp and superabsorbent particles. The cellulosic pulp comprises from about 25% to about 70% of a short cellulosic fiber, by weight of the cellulose pulp, wherein the short cellulosic fiber has an average fiber length of less than about 2 mm. The absorbent core structure has an average density of between about 0,045g/cm ³ and about 0,15g/cm ³ . At least a portion of the inner core layer is contained within the nonwoven layers by sealing a portion of a first and second side region of the upper and lower nonwoven layers.
WO2025099097A1	Qinetiq Ltd (GB)	Composite bioplastic material and methods. Composite materials are provided comprising a bioplastic film, methods for preparing composite materials and products prepared therefrom. The bioplastic film includes a first surface and a second surface, wherein the first surface denotes an inner facing surface and the second surface denotes an exterior facing surface, wherein the bioplastic film is comprised of a polypeptide-based or polysaccharide-based biopolymer, or a mixture of polypeptide-based and polysaccharide based biopolymer, and a bioplasticiser substance; and wherein the inner product-facing surface of the bioplastic film comprises a coating that includes alpha-eleostearic acid as a major component. Particular polysaccharide-based biopolymers are selected from pectin, and carrageen or combinations or derivatives thereof.
WO2025108730A1	Raimund Beck Nageltechnik GmbH (AT)	Plywood and wooden nail. The present invention relates to a plywood (1) comprising at least three wood layers (2) disposed one on top of the other and joined to one another by means of a glue, in particular a water-resistant glue, characterized in that the glue comprises a bio-based resin, a curing agent and an additive, or consists of these components, and the additive preferably comprises or consists of high-molecular-weight aromatic substances which occur in nature or are technically produced and which have oxidized side groups.
WO2025103599A1	Sveuciliste u Zagrebu Tekstilno-tehnoloski fakultet (HR)	Biocomposites of antimicrobial properties based on renewable polymers and lignocellulosic fibers. The present disclosure reveals a biocomposite material based on a biodegradable polymer such as poly(lactic acid) (PLA; 50,00-95,00% w/w), lignocellulose fibers from renewable energy crops (0,10-50,00% w/w), nano-clay (NC) (0,10-20,00% w/w), two or more antimicrobial additives (AMA; 0,10-20,00% w/w), a drying oil like linseed oil (0,05- 6,00% w/w), and optionally, one or more predominantly renewable functional additives selected from the group consisting of flame retardants, plasticizers, stabilizers including antioxidants and UV- stabilizers, slip agents, lubricants including internal and external, biocides, colorants, and fillers. The said composite contains a combination of AMAs based on zinc oxide (ZnO) and milled cork (MC). The biocomposite material according to the present disclosure is used for the manufacturing of sustainable industrial products as a substitute for conventional composite materials made from non-renewable, petrochemical-based polymers.
WO2025125728A1	Teknologian Tutkimuskeskus VTT OY (FI)	Moulding of regenerated cellulose films into shaped structures. According to an example aspect of the present invention, there is provided a method for manufacturing shaped structures from regenerated cellulose films by rewetting and heat moulding.
WO2025099532A1	TMG Tecidos Plásticos e outros Revestimentos para a Ind Automovel SA et al. (PT)	Multi-layered flexible material comprising organic content, method of obtaining and uses thereof. The present disclosure relates to a photo-resistant flexible multi-layered material comprising: a layer comprising a polymeric matrix and an organic material, wherein the organic material is impregnated with an iron oxide; and a transparent cover layer, wherein the cover layer is a lacquer, a polymeric layer or combinations thereof; wherein the layers are bounded to each other. An article comprising the photo-resistant flexible multi-layered material as described, as well as the use of iron oxide as a protector of discoloration by light of an organic material, wherein the iron oxide is impregnated in the organic material, are also disclosed.

Bioplásticos

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025073272A1	Beijing Phabuilder Biotechnology Co Ltd (CN)	Waterproof paper straw and preparation method therefor. Provided in the present invention are a waterproof paper straw and a preparation method therefor. The waterproof paper straw comprises a paper straw body and a PHA waterproof coating coated on the inner and outer walls of the paper straw body and the cross sections at both ends thereof, wherein the PHA waterproof coating is obtained by the film formation of a PHA water-based paint, and the PHA water-based paint comprises a PHA suspension and an auxiliary agent. According to the present invention, the inner and outer walls of the paper straw body and the cross sections at both ends thereof are coated with the PHA waterproof coatings, such that the straw does not easily absorb water and soften, and the service performance is guaranteed; moreover, no adhesive is needed in the preparation process of the paper straw of the present invention, the PHA coating can be used as a hot melt adhesive to bond seams, thereby ensuring the green safety of the waterproof paper straw, and the paper straw of the present invention can be directly re-pulped and recycled without separating the coating from the pulp, so there is no separation cost investment.
WO2025106763A1	Braskem SA (BR) et al.	Bio-based HDPE for monocomponent non-woven application. A polymer composition may include a high-density polyethylene (HDPE), in which at least a portion of ethylene from the HDPE is obtained from a renewable source of carbon. The polymer composition may include a primary antioxidant that is an isocyanurate, a secondary antioxidant that comprises a diphosphite, and a neutralizer is a layered double hydroxide. A monocomponent fiber may include the polymer composition. An article may be prepared from the polymer composition or the monocomponent fiber. A product may be prepared from the polymer composition or the monocomponent fiber.
WO2025127744A1	Korea Advanced Inst Sci & Tech et al. (KR)	Recombinant microorganism capable of producing polyhydroxyalkanoate and method for producing polyhydroxyalkanoate using the same. The present invention relates to a recombinant microorganism capable of producing polyhydroxyalkanoate and a method for producing polyhydroxyalkanoate, using same and, more specifically, to: a recombinant microorganism in which a gene encoding an enzyme for converting amino acids into 2-hydroxy acids, a gene encoding hydroxyisocaproate-CoA transferase, and a gene encoding polyhydroxyalkanoate synthase are introduced or amplified; and a method for producing polyhydroxyalkanoate, using the recombinant microorganism.
WO2025134498A1	Mitsubishi Gas Chemical Co (JP)	Method for producing polyhydroxyalkanoic acid aggregate. To provide a method for efficiently producing a high-purity aggregate of PHA from a culture solution containing polyhydroxyalkanoic acid (PHA) accumulated in bacterial cells. An aggregate of PHA is obtained by a very simple method in which hydrogen peroxide and a surfactant are added to a culture solution containing bacterial cells containing PHA and stirred under prescribed conditions.
EP4556226A1	Nestle SA (CH)	Bio-based polymer beverage capsules. The present invention relates to capsules for preparation of a beverage upon injection of liquid under pressure into the capsule, wherein the capsule body comprises or consists of a biopolymer film comprising polyhydroxyalkanoate (PHA) and polyglycolide (PGA), wherein the biopolymer film comprises a layered structure comprising PHA layer - PGA layer - PHA layer, and wherein the PHA has been chemically modified with one or more chain extenders and/or one or more compatibilizers.
CN119899541A	Nippon Kayaku KK (JP) et al.	Dye composition for polylactic acid fiber and dyeing method. The invention relates to a dye composition for polylactic acid fibers and a dyeing method. [Problem] The purpose of the present invention is to provide: a dye composition for polylactic acid fibers, which has excellent dye absorbability with respect to polylactic acid fibers, yellow disperse dyes, red disperse dyes, and blue disperse dyes, and which has good reproducibility, while having uniform dye uptake rates during dyeing of the colors; and a dyeing method. [Solution] Provided is a dye composition for polylactic acid fibers, which contains a yellow disperse dye represented by formula (1) and/or formula (2), a red disperse dye represented by formula (3), and a blue disperse dye that is a mixture of a blue disperse dye represented by formula (4) and/or two isomers represented by formula (5). # imgabs0 # (In the formula, R1 represents a methyl group or an ethyl group.) # imgabs1 # (In the formula, R2 represents a methyl group or an ethyl group.) # imgabs2 # (In the formula, one of X1 and X2 represents NO2, and the other represents OH).

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025076326A1	Northern Tech International Corporation (US)	High strength and toughness biaxially-oriented polylactic acid (BOPLA) compostable film and preparation method thereof. A high strength and biodegradable polymer film comprising a blend of a polylactic acid (PLA) copolymer, a flexible polymer linker, and optionally a compostable polyester segment is disclosed. Upon biaxially stretching, the disclosed polymer film exhibits unexpectedly high tensile strengths and high impact strengths while providing high flexibility as measured according to various standards such as ASTM D882, D3420, and D1709. The disclosed films are formulated to meet common industrial composting standards as defined by ASTM D6400, EN 13432, and ISO 17088, as well as exhibit accelerated biodegradation rates at lower temperatures for home composting applications.
WO2025120514A1	Relicta Srl (IT)	Efficient process for converting food industry waste into quality bioplastic film. The present invention relates to an efficient process aimed at recycling material from the food industry, preferably from the fish industry, such as, for example, that extracted from fish skin, so as to realise a general, at least partially circular and sustainable process concerning consumer goods comprising a bioplastic film.
WO2025133453A1	Teknologian Tutkimuskeskus VTT OY (FI)	Coating composition, method for preparing and use thereof. The disclosure relates to a coating composition comprising lactide-grafted cellulose, to a method for producing a coating composition comprising lactide-grafted cellulose and to the use thereof. More particularly the disclosure relates to providing a coating composition comprising lactide-grafted cellulose, wherein the amount of polylactide is between 40 wt-% and 90 wt-% of the dry weight of the lactide-grafted cellulose and the lactide-grafted cellulose has a degree of polymerization over 3 and a degree of substitution between 0.5 and 3. The method for producing the coating composition comprises grafting cellulose with polylactide by ring-opening graft polymerization using a catalyst.
WO2025111837A1	Univ Jiangnan (CN)	Super-hydrophobic polylactic acid film having long-lasting self-cleaning performance and preparation method therefor. Disclosed in the present invention are a super-hydrophobic polylactic acid film having long-lasting self-cleaning performance and a preparation method therefor, belonging to the technical field of materials. The method comprises: by using polylactic acid as a main material, polymerized rosin as a pore-foaming agent and toluene as an extraction agent, performing non-solvent induced phase separation to prepare a polylactic acid porous film; and then soaking same in a hydrophobic substance solution so as to obtain the super-hydrophobic polylactic acid film. The super-hydrophobic polylactic acid film obtained in the present invention has an initial water contact angle reaching 150 degrees or above, and has super-hydrophobicity and a remarkable self-cleaning effect. In addition, after a plurality of times of rubbing, 94% or above of the water contact angle of the film can be kept and the self-cleaning property is still remarkable. Therefore, said film has wide application prospects in the fields such as self-cleaning, fluid drag reduction, oil-water separation and icing and corrosion prevention.

Bioproductos químicos (biofertilizantes, biocosméticos, biofarmacéuticos...)

Biofertilizantes, bioadhesivos, etc.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025127945A1	Bartalos Petr (CZ) et al.	Method of processing biomass digestate into organic-mineral fertilizer, and organic - mineral fertilizer produced by this method. The invention is related to a method of processing biomass digestate into an organic and mineral fertilizer, and organic and mineral fertilizer obtained by this method. In the method, a mineral mix comprising: 1% to 99 % by weight of crushed natural minerals of igneous rocks selected from a group comprising: expanded perlite, granite, melaphyre, basalt, gabbro, diabase, porphyry, syenite, volcanic tuff, and from 1% to 99 % by weight of crushed natural minerals of sedimentary rocks, selected from a group comprising: expanded vermiculite, alginite, phosphorite, magnesite, dolomite with particle diameter of 1 micron to 1 mm, and sulfur in an amount that guarantees sulfur content in the range of 0.3 - 5% by weight in the form of S/-SO3 in the fertilizer being the final product, and at least one potassium salt in an amount guaranteeing potassium content in the form of K2O in the amount of 3.5 - 10 % by weight in the fertilizer being the final product, is added to the biomass digestate at a weight ratio of 1% to 30% by weight per dry matter of digestate, and stirred until a homogenous mass of the organic and mineral fertilizer with water content of 5 - 8% by weight is obtained, the product is then crushed, granulated or pelletized.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025085337A1	Hollister Inc (US)	Biobased skin adhesive composition for medical products. A biobased adhesive for medical devices is formed from all natural or naturally derived materials. The biobased adhesive comprises a hydrophilic biopolymer and a modified hydrophobic biopolymer, which is formed by replacing at least one substituent group of the hydrophilic biopolymer with a different chemical substituent moiety group to convert the hydrophilic biopolymer into the modified hydrophobic biopolymer.
EP4534635A1	Itelyum Regeneration SPA (IT)	Process for the production of biolubricants from waste materials. A process for the production of biolubricants from waste materials is described, wherein said waste materials are UCO, RUCO and a biological fraction of waste lubricants. Two lines are combined for a subsequent reaction after two separate preliminary treatments, wherein the first line brings UCO and RUCO which have been processed and the second line brings a biological fraction of lubricants separated from waste lubricants.
WO2025100826A1	Kolon Inc (KR)	Adhesive composition for rubber and article containing same. The present invention relates to an adhesive composition for rubber and an article containing same. The adhesive composition for rubber according to the present invention comprises a naturally derived sustainable ingredient, can be universally applied to various rubbers, and can exhibit excellent adhesion and fatigue resistance.
WO2025135801A1	Posco Holdings Inc et al. (KR)	Method for preparing bioadhesive particles for immunosuppression, particles prepared using same, and local immunosuppression composition that is adhesive to surfaces of transplanted organ tissue, comprising particles. The present invention relates to a method for preparing bioadhesive particles for immunosuppression, particles prepared using same, and a local immunosuppression composition comprising same. More specifically, the present invention relates to a method for preparing bioadhesive particles for immunosuppression, particles prepared using same, and a local immunosuppression composition comprising same, the method comprising the steps of: preparing a first solution including a biocompatible oil and a surfactant; preparing a second solution, which is a precursor solution including mussel adhesive protein, an immunosuppressive agent, a photocrosslinkable compound and a solvent; and photocrosslinking a mixture of the first solution and the second solution.
WO2025083303A1	Quim Técnica Ecológica SLU et al. (ES)	Method and devices for producing fertilisers for agricultural use and microbial bioplastic from organic waste. The present invention relates to a method and devices for producing potassium- and nitrogen-based fertilisers, as well as bacterial bioplastic from plant and animal organic waste. The present invention relates to a process and to the devices required for transforming plant and/or animal organic waste into various types of nitrogen-, potassium- and phosphorus-based fertilisers as well as PHA bacterial bioplastic. According to the process disclosed herein, waste organic matter generated by human activity is used as raw material to generate, on the one hand, various types of potassium- and nitrogen-based fertilisers for agricultural use and, on the other hand, bacterial bioplastic.
EP4553127A1	Thuringisches Inst Fuer Textil und Kunststoff Forschung EV (DE)	Bio-based, eco-friendly hotmelt adhesive. The invention describes an environmentally friendly hot melt adhesive based on renewable raw materials. The hot melt adhesive formulation consists of bio-based polyesters, specifically a combination of polylactide and polybutylene succinate, as well as resins, plasticizers and stabilizers. Optionally, further additives can be added, for example waxes, fumed silica, lime or color pigments. The raw materials used are sustainable, biodegradable and harmless to nature. The adhesive has very good adhesion to wood, paper, cardboard and some predominantly non-polar plastics such as PMMA, ABS, PC, PLA or PET and can be applied using standard equipment.
WO2025125613A1	Univ Aarhus (DK)	Decision-making platform to develop customized biofertilizers for high-protein crops. The present disclosure relates to customized inoculant formulations for a plant grown in a soil, as well as methods to provide and manufacture said customized inoculant formulations.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025065313A1	Univ Anhui Science & Tech (CN)	Method for preparing composite pig manure fermentation inoculant and fermentation inoculant prepared thereby, and pig manure bio-organic fertilizer, preparation method therefor and use thereof. The present invention relates to the technical field of microorganism application. Disclosed are a method for preparing a composite pig manure fermentation inoculant and a fermentation inoculant prepared thereby, and a pig manure bio-organic fertilizer, a preparation method therefor and the use thereof. The method for preparing the inoculant comprises: S1, respectively performing fermentation using five strains of inoculants, namely Bacillus.spHZ3, Geobacillus stearothermophilus, Alcaligenes faecalis subsp.Faecalis, Streptomyces levoris and Aspergillus oryzae, respectively, to obtain fresh fermentation broths of the five strains; S2, mixing the fresh fermentation broths of the five strains according to a volume ratio of 3-5 : 1-3 : 1-2 : 2-3 : 1-3 to obtain a composite inoculant; and S3, further adding a flora accelerant to obtain the inoculant. The method for preparing the bio-organic fertilizer comprises: (1) adding an oxidizing agent and an activating agent to pig manure for pretreatment, (2) adding the inoculant to ferment the pig manure, and (3) drying and crushing same to obtain the bio-organic fertilizer. By coupling oxidation treatment technology with microbial fermentation treatment, the composting time is shortened, the conversion of organic matters is improved, the manurial effect of the organic fertilizer is enhanced, and the effect of rapidly preparing an organic fertilizer is achieved.
WO2025068425A1	Univ Danmarks Tekniske (DK)	Methods for producing water-resistant chitosan adhesive and uses thereof. A method for preparing an adhesive, said method comprising - providing catechol substituted chitosan in an aqueous solution with a pH in the range of pH 3-5, - admixing said aqueous solution with a salt to obtain a polymer-rich phase and a polymer-poor phase; and - isolating the polymer-rich phase to obtain said adhesive. Described is also an adhesive obtainable from said method and uses thereof.

Biosméticos, Biofarmacéuticos

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025088609A1	Ariel Scient Innovations Ltd (IL)	Algae] nanoparticles and uses thereof for drug delivery. Disclosed are biocompatible, biodegradable, and low immunogenic algae] Nanoparticles (aNPs) that can adhere and deliver active ingredient(s) to mucosal epithelium tissue, as well as compositions comprising the aNPs, methods of preparing the aNPs, and uses thereof in methods of treatment.
ES3015057A1	Bioinicia SL (ES)	Cosmetic products, their preparation procedure and use. Cosmetic products, their preparation process, and use. The present invention falls within the field of polymeric materials based on ultrafine fibers applied to the cosmetics sector, referring to their process and application for manufacturing highly effective solid cosmetic products in sheet format manufactured using electrohydrodynamic or aerohydrodynamic processing techniques, or any combination of both.
WO2025120243A1	Crealize Hk SL (ES)	Nutricosmetic product that naturally stimulates growth hormone (HGH) production, allowing aging to be delayed. The present invention discloses a capsule composition including a series of components that are involved in cell regeneration, stimulate the growth hormone and help improve wrinkles and aging of the skin, repair cell DNA, and have antioxidant properties that prevent aging due to oxidative stress, detoxifying the body of toxins that accumulate over the years and nourishing cells. The composition of each capsule incorporates a combination of L-ornithine, L-arginine, N-acetylcysteine and other ingredients by means of precise dosing. After being absorbed by the human body, it can stimulate stable, natural secretion of HGH, thereby restoring the body's vitality and continuously producing collagen, hyaluronic acid to strengthen connective tissue, and make the skin firm and smooth.
WO2025119790A1	Evonik Operations GmbH (DE)	Composition comprising ceramide and triglyceride. The invention relates to a composition comprising at least one ceramide and at least one triglyceride at specific concentrations, a process for producing a formulation comprising at least one ceramide and the use of at least one triglyceride at high concentrations for stabilization of a ceramide-containing composition.
WO2025088216A2	La Fabrique Vegetale (FR)	Plant extract comprising polyisoprenes. The present invention relates to a plant extract comprising at least one polyisoprene A having a weight-average molecular weight (Mw) in an interval ranging from 1 kDa to 15 kDa and at least one polyisoprene B having a weight-average molecular weight (Mw) in an interval ranging from 80 kDa to 150 kDa, and to the method for obtaining same. The invention further relates to the use of the extract in the cosmetic, pharmaceutical, coating, ink, varnish, paper, adhesive, candle, plastics, rubber and/or food product fields.

Nº Publicación	Solicitante (País)	Contenido técnico
EP4556015A1	Laboratoires Pomega (FR)	Composition comprising pomegranate skin and pomegranate fraine oil. The present invention relates to a composition comprising Punica granatum fruit skin, in particulate form or in extract form, and Punica granatum fruit seed oil as a mixture, in particular for its cosmetic, therapeutic and/or nutraceutical applications.
WO2025105411A1	Medsoleil Co Ltd (JP)	Oral bacteria reduction agent, oral bacteria reduction dentifrice, oral bacteria reduction mouthwash, oral bacteria reduction gum, oral bacteria reduction method, periodontal disease ameliorating agent, periodontal disease ameliorating dentifrice, periodontal disease ameliorating mouthwash, periodontal disease ameliorating gum, and periodontal disease ameliorating method. The present invention mainly addresses the problem of providing an oral bacteria reduction agent and a periodontal disease ameliorating agent that contain an active ingredient that does not pose a problem even if absorbed into the body through the oral cavity over the long term and that can reduce the counts of multiple bacterium that cause periodontal diseases. The oral bacteria reduction agent and the periodontal disease ameliorating agent according to the present invention are characterized by containing, as an active ingredient, a seaweed powder, which is a powder obtained by drying and pulverizing seaweed or is a powder obtained by drying an extract of the seaweed, and by containing at least 0.01 mass% iodine.
WO2025137028A1	Oreal (FR) et al.	Cosmetic emulsion comprising hydrophobic polymer. The instant disclosure is drawn to a cosmetic or personal care composition comprising: (a) hydrophobic polymer formed as a reaction product of a natural or food-derived oil and a methacrylate or acrylate polymer; (b) one or more solvents capable of solubilizing the hydrophobic polymer; (c) one or more surfactants; and (d) water. The cosmetic or personal care composition is preferably in the form of an oil-in-water emulsion or dispersion, and may optionally include one or more skin active agents. Methods for making and using the compositions are also disclosed.
EP4563696A1	Slavka Jancova (SK)	Method of preparation of biomass to promote healing of hypertrophic scars and keloids, biomass and its use. The method of preparation of biomass to support healing of hypertrophic scars and keloids, contains the steps: Culturing of mycelium of the filamentous fungus, Preparation of a pure culture of the filamentous fungus, Verification of the generic and species affiliation of the filamentous fungus, and Finalization of the biomass. The biomass produced in this way is deposited on a nanotechnology substrate in the form of a foil. Biomass according to this solution is suitable for supporting the healing of hypertrophic scars and keloids or to test medicinal substances intended for the skin.
WO2025068273A1	Soap P GmbH (DE)	Powder for dry-cleaning of hands. The invention relates to a dry-cleaning powder for hands, comprising a mixture of at least starch, an oil, a polysaccharide and semolina. The invention also relates to the process for the preparation of the dry-cleaning powder for hands, wherein a mixture comprising at least starch, an oil, a polysaccharide and semolina is mixed at a temperature between 0°C and 50°C and ambient pressure. The invention furthermore relates to the use of the cleaning powder for cleaning the hands without using water, and as first aid food.

Bioaditivos alimentarios y nutracéuticos

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025095851A1	AAK AB Publ (SE)	Stimulation of the gut microbiota to produce vitamins. The invention relates to the non-therapeutic use of one or more lipids to stimulate gut microbiota to produce certain vitamins. The invention also relates to nutraceutical products comprising one or more lipids for stimulating the gut microbiota to produce certain vitamins. Lipids of particular interest are lauric acid (C12:0), oleic acid (C18:1), linoleic acid (C18:2). Vitamins of particular interest are riboflavin and pyridoxamine.
WO2025081030A1	Amilife LLC (US)	Powdered food or beverage additive composition and methods of use thereof. Various embodiments of the disclosure provide a food or beverage additive composition as described here, methods of manufacturing or preparing the additive composition described here, a dispersion comprising the additive composition as described here, and methods of forming a food or beverage product comprising the additive composition described here.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025074009A1	Delta of Sweden AB (SE)	Polysaccharide gel product. The present invention is directed to an edible product (e.g. dehydrated edible product) comprising a polysaccharide gelling agent and optionally a salt; wherein the edible product (e.g. dehydrated edible product) has a water content of 95 wt% or less based on the total composition. The polysaccharide gelling agent may have a three-dimensional matrix structure. The edible product (e.g. dehydrated edible product) may be rehydrated without dissolving or losing its shape. The invention additionally provides a process for the preparation of the edible product (e.g. dehydrated edible product) and a kit comprising same. A rehydrated edible product can form through immersion of said edible product (e.g. dehydrated edible product) in an aqueous solution.
WO2025103937A1	Doehler GmbH (DE)	Coating agent and method for coating orally consumable preparations. The invention relates to a coating agent containing at least one plant oil (A) in which the proportion of plant wax (B) equals at least 3 wt.%, wherein the coating agent is free of products of animal origin. The invention additionally relates to a method for producing the coating agent and to a method for coating an orally consumable preparation, wherein the orally consumable preparation is selected from the group comprising food, dietary supplements, luxury food items, cosmetic products, or pharmaceuticals.
WO2025089741A1	Genechem Inc et al. (KR)	Composition and food composition for improving muscular function. The present invention relates to a composition and a health functional food for improving muscular function, each comprising sialyllactose as an active ingredient to reduce blood lactate levels and increase the expression of genes related to muscle function improvement, thereby allowing for the improvement of muscular functions such as anti-fatigue properties of muscles, muscular endurance, exercise performance, and the like without excessively increasing the concentration of lactic acid, which is a fatigue-inducing substance.
WO2025109601A1	Kayama Foods Ltd (IL)	Fat substitutes and a methods for using the same. Fat substitute, food products, manufacturing processes and methods of using the same are provided.
WO2025079732A1	Kikkoman Corp et al. (JP)	Growth promoter for butyric acid-producing bacteria, and butyric acid or lactic acid production amount increasing agent. The present invention relates to a growth promoter for butyric acid-producing bacteria, the growth promoter comprising a dark soy sauce or a soy sauce-like liquid condiment or precipitates thereof with ethanol. The present invention also relates to a butyric acid or lactic acid production amount increasing agent, the agent comprising a dark soy sauce or a soy sauce-like liquid condiment or precipitates thereof with ethanol.
WO2025116014A1	Meiji Co LTD	Composition for controlling proliferation of subdoligranulum bacteria. The present invention addresses the problem of providing a means for controlling the proliferation of Subdoligranulum bacteria. Provided is a composition for controlling the proliferation of Subdoligranulum bacteria, the composition comprising a component selected from between kojibiose and an oligosaccharide having kojibiose as a constituent sugar. In one aspect, the composition comprises galactosyl kojibiose as the component selected from between kojibiose and an oligosaccharide having kojibiose as a constituent sugar.
WO2025095723A1	Nat Univ Pukyong Ind Univ Coop Found (KR)	Composition for preventing discoloration of red-fleshed fish, and use thereof. The present invention relates to a composition for preventing discoloration of red-fleshed fish, and a use thereof. According to the present invention, in order to derive optimal conditions for preventing discoloration of red-fleshed fish, optimum treatment conditions for a novel Leuconostoc citreum strain or a culture medium thereof, of the present invention, have been established using response surface methodology (RSM), and thus, productivity can be improved by enhancing palatability and a high-nutrient marine product retaining the taste, nutrition, and texture thereof can be provided.
WO2025075087A1	Sawai Seiyaku KK (JP)	Granules, granule-containing pharmaceutical preparation, and granule-containing food. One of the purposes of the present invention is to provide granules which can be applied to a granular or tablet preparation containing a fat-soluble or oily drug or food or a water- or oxygen-labile drug or food. In one embodiment, one of the purposes of the present invention is to provide granules containing a solidified liquid oil and applicable to a granular or tablet preparation containing a fat-soluble or oily drug or food or a water- or oxygen-labile drug or food. According to one embodiment of the present invention, granules are provided, each granule comprising: a gel particle containing a liquid oil and stearic acid, calcium stearate or magnesium stearate; and a powder additive layer disposed on the surface of the gel particle. In the gel particle, the mass ratio of the amount of stearic acid, calcium stearate or magnesium stearate to the amount of the liquid oil may be 1:1 or greater.

Bioproductos alimenticios para animales

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025133209A1	Biomassprotein APS et al. (DK)	Method for producing a food grade protein product and/or a feed protein product from plant material. Method for producing plant derived protein products is provided. The method includes extraction and purification of plant protein fractions, which may be used for food consumption and/or feed for animals. A plant protein juice is extracted from a green plant material, and used for production of a purified functional 'white' food protein product and/or a 'green' feed protein product.
EP4566456A1	Galam LTD (IL)	Fructooligosaccharide (FOS) supplementation to ruminant animals. Providing a predesignated dose of fructooligosaccharide from 3-9 chains supplementation to a ruminant animal for reduction of enteric Methane (CH4) production and emission from the ruminant animal.
EP4537673A1	Grassa BV (NL)	Method and system for obtaining a protein containing composition for ruminant feed. The present invention relates to a method and system for obtaining a protein containing composition for ruminant feed. The method according to the invention comprises: 5 - providing a protein containing biomass material, preferably grass and/or alfalfa; - reducing the biomass material to biomass pulp; - compressing the biomass pulp to separate the biomass pulp in a juice fraction and a cake fraction having a water content that is above 50% by weight of the cake fraction, wherein the compressing is performed such that the temperature and pressure during compressing are 10 increased to respectively a temperature of at least 70 °C, preferably at least 120 °C, and a pressure of at least 5 bar; - maintaining the cake fraction at a temperature in the range 50 °C to 90 °C, preferably around 70 °C for a period of at least ten minutes; and - removing the cake fraction.
EP4563005A1	Instituto Nac de Investigacao Agraria e Veterinaria IP (PT)	Postpartum nutritional supplement composition for goats and a process to obtain the same. The present application related to a postpartum nutritional supplement composition for goats. The composition is based in ethanolic extracts of Pistacia lentiscus, Quercus coccifera and Olea europaea spp. sylvestris. This composition is intended to be added to concentrated feed for these animals in the postpartum period, when animals are confined to survey the kidding process and mother-kid bonding. The objective is to promote the intake of these compounds to reach sufficient levels that allow an anthelmintic action on the adult parasitic population, as well as, through their excretion in the feces together with the parasitic forms, consequently reducing environmental contamination, particularly of infectious forms. The present application also discloses a process to obtain said postpartum nutritional supplement composition for goats.
WO2025126088A2	Leshroom Corporation Ltd (CN)	Functional forage grass having effects of improving mastitis occurrence and increasing milk yield and use thereof. A functional forage grass having the effects of improving mastitis occurrence and increasing milk yield, and a preparation method therefor and the use thereof. The functional forage grass is composed of a forage grass matrix material and a nutritional material, and is prepared by means of a first stage of aerobic fermentation with mushrooms and a second stage of anaerobic fermentation with lactic acid bacteria and yeast strains. Therefore, the functional forage grass prepared by means of the two-stage fermentation method of first aerobic fermentation and then anaerobic fermentation in the present invention can produce a good proportion of organic acids, has the characteristics of a high lactic acid content, a high protein content, a high rumen degradable protein content, a high dry matter content, etc., and can effectively inhibit the growth of other microorganisms to achieve the purpose of maintaining the stability of the functional forage grass after unsealing. The functional forage grass of the present invention is used in the preparation of a feed product capable of improving mastitis occurrence in herbivores and increasing the milk yield of herbivores.
WO2025074177A1	Nestle SA (CH)	Edible animal chews containing concentrated fruit juice, and methods of making and using such edible animal chews. An edible pet chew contains a concentrated fruit juice in an amount effective as both a humectant and a plasticizer in the edible pet chew. A method of making an edible pet chew includes extruding a composition containing concentrated fruit juice, the concentrated fruit juice present in the composition in an amount effective as both a humectant and a plasticizer in the composition being extruded. A method of cleaning teeth of a pet includes orally administering an edible chew to the pet, the edible chew containing concentrated fruit juice in an amount effective as both a humectant and a plasticizer in the edible chew. The concentrated fruit juice may replace at least a portion of glycerin and/or propylene in the edible chew, while maintaining or increasing at least one of texture or occupation time for the edible pet chew.

Nº Publicación	Solicitante (País)	Contenido técnico
WO2025083081A1	Nutreco IP Assets BV (NL)	Fat composition comprising tributyrin and tricaproin and its use in milk replacers. The present invention provides a fat composition comprising a) tributyrin and tricaproin; b) 25-60 wt% vegetable and/or animal fats; c) 30-75 wt% milk protein and optionally vegetable protein; and d) optionally, carbohydrates such as lactose, as well as the use thereof in composition for feeding young mammals, in particular to improve their performance and gastrointestinal development.
WO2025083464A1	Sathe Ravindra Anant (IN)	Process for converting raw bagasse into processed bagasse and processed bagasse made accordingly. The present disclosure relates to the process of converting raw bagasse into processed bagasse fiber. In the process a raw bagasse is chopped into pieces. The chopped bagasse pieces are washed with water. The bagasse pieces are soaked and heated in water to remove wax. The bagasse pieces are treated with hydrogen peroxide. The hydrogen peroxide-treated bagasse pieces are again washed. The washed hydrogen peroxide bagasse pieces are treated with alkali. The treated alkali bagasse pieces are dried in a multi-stage drying and moisture is removed. The dried bagasse pieces are pulverized. The pulverized bagasse pieces are sieved to obtain fiber having size up to 707 microns. The processed bagasse can be further used for bio-methanation.
WO2025123578A1	Univ Anhui Science & Tech (CN)	Antibiotic-free compound feed for fattening pigs. The present invention belongs to the technical field of breeding feeds. Provided in the present invention is an antibiotic-free compound feed for fattening pigs, which antibiotic-free compound feed is prepared by means of adding a compound feed additive to a basal diet. The raw materials used in the compound feed additive comprise, in percentages by weight: 34.5-38% of fumaric acid, 7-10.5% of vitamin E, 23-28% of tea polyphenols, 0.5-1% of boric acid and 25-30% of silica white carbon black. Breeding of fattening pigs using the compound feed can significantly improve the growth performance of the pigs, improve the meat quality, protect the morphology and functional integrity of small intestine tissue, and increase the nutrient utilization efficiency, and can reduce the emission of harmful gases and ammonia nitrogen to exert a certain effect in terms of protecting the environment. In addition, the compound feed for fattening pigs provided in the present application is suitable for the current focus on antibiotic-free breeding in the breeding industry, can be used in the feed industry to replace antibiotics, and has a huge application space in the pig breeding industry.
EP4570078A1	Veolia Environnement (FR)	Composition to feed larvae comprising brewers spent grain and associated method. The invention relates to a composition to feeding larvae comprising brewery by-products including at least brewer's spent grain and liquid yeast; characterized in that the moisture mass content of the composition ranges from 73 % to 82 %. The invention also relates to an insect-based feed formulation comprising one or more insect sources fed on such composition. The invention finally relates to associated methods to collect insects and produce such insect-based feed formulation.

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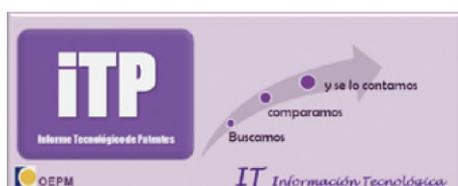
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