

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO	
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DEP: 2020 DIRECCION DE NUEVAS CREACIONES	EVE: 378 FASE NACIONAL INCLUIDO CAPITULO I
TRA: 11 PCT-PATENTE DE INVENCION CAPITULOS I Y II	FOLIOS: 11
ACT: 519 TRASLADOINFORME	

DIRECCIÓN DE NUEVAS CREACIONES

2020
Bogotá, D.C.,

Abogado(a)/Señor(a)
MAURICIO JARAMILLO CAMPUZANO

Asunto: Radicación: 14-197884- -5
Trámite: 11
Evento: 378
Actuación: 519
Oficio: 7107
Folios: 11

Patente de Invención	X			Patente de Modelo de Utilidad	
Vía Nacional					
Vía PCT (Fase Nacional)	X	Capítulo I	X	Capítulo II	
No. Solicitud Internacional	PCT/CA2012/050075				
Fecha de Presentación Internacional	09/02/2012				

Como resultado del examen de fondo realizado, con fundamento en el Artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se comunica:

1. Documentos estudiados

Descripción:	Rad. N° 14-197884-00000-0000	08/septiembre/2014
Reivindicaciones:	Rad. N° 14-197884-00000-0000	08/septiembre/2014
Dibujos:	Rad. N° 14-197884-00000-0000	08/septiembre/2014

2. Objeto de la invención

De acuerdo con lo establecido en el numeral 1.2.2.2 del capítulo primero del Título X de la Circular Única para efectos del examen de patentabilidad, se tendrá en cuenta la tasa pagada por la solicitante al momento de comenzar el examen para las reivindicaciones adicionales; esto es que cuando la solicitud contenga más de diez (10) reivindicaciones y no se haya pagado la tasa complementaria, sólo se estudiarán las cubiertas por la tasa pagada. En el presente caso se estudiarán las reivindicaciones 1 a 34 del capítulo reivindicatorio (Pág. 64 a 69, Radicado N° 14-197884-00000-0000).

Título de la solicitud: “Nuevos fluidos de perforación que contienen nanopartículas para atenuar la pérdida de fluido” (Pág.4, Radicado N°. 14-197884-00000-0000).

El problema planteado en esta solicitud consiste en la necesidad de un aditivo para

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fluidos de perforación para reducir de manera efectiva la pérdida de fluido hacia la formación, para la formación de tapones de filtro delgados, para prevenir el daño a la formación y que no afecte las características del fluido de perforación.

Para resolver este problema técnico, la solicitud en estudio proporciona una formulación de fluidos de perforación, fluidos pesados, fluidos de pre-estimulación y fluidos de terminación que contienen un fluido base y nanopartículas que actúan como un material de pérdida de circulación para reducir o prevenir la pérdida de fluido hacia la formación.

El objeto de la presente solicitud se relaciona con la Clasificación Internacional de Patentes (CIP): C09K 8/03, C09K 8/36, C09K 8/42, E21B 21/00, E21B 33/03.

3. Reivindicaciones relativas a un uso o a un segundo uso (Art 14 y 21 D 486)

Las reivindicaciones 19 a 26 no son patentables, de acuerdo con el Art 14 D 486, ya que indican el uso del fluido de perforación nanoparticulado, al mencionar: *“El uso del fluido de pozo...”* y los usos no están comprendidos dentro de la materia patentable en Colombia.

4. De la solicitud de patente

Reivindicaciones (Art 30 D 486, Art 22 PCT)

Durante el examen de las 34 reivindicaciones se encontraron las siguientes faltas de claridad:

En las reivindicaciones 1, 2, 4 a 14 a 24, 27 a 29 los términos *“un fluido de pozo”* (reiv. 1, 2, 4 a 19), *“nanopartículas”* (reiv. 1, 4 a 14, 16 a 19), *“fluido base”* (reiv.1), *“fluido de perforación”* (reiv. 1, 2), *“fluido pesado”* (reiv.1), *“fluido de terminación”* (reiv.1), *“fluido de pre-estimulación”* (reiv. 1), *“alta presión”* (reiv. 17 y 21), *“hidróxido de metal, óxido de metal, carbonato de metal, sulfuro de metal, sulfato de metal”* (reiv. 15), *“óxido de hierro”* (reiv. 17), *“alta temperatura”* (reiv. 17 y 21), *“baja temperatura”* (reiv.22), *“baja presión”* (reiv.22), *“soluciones precursoras de base acuosa”* (reiv. 27, 28 y 31 a 34), *“alto cizallamiento”* (reiv. 27), son términos generales los cuales aunque corresponden a términos conocidos, abarcan una extensa gama de posibilidades sugiriendo de forma imprecisa que la protección se extiende a otras posibles variaciones, se propone realizar las modificaciones respectivas utilizando términos que describan de forma menos general, definir claramente los rangos o restringir los componentes reclamados aquellos que tienen un efecto técnico demostrado.

Los términos de las reivindicaciones 1, 4 a 12, 14, 15: *“menos de”* (reiv. 1, 4 a 6), *“aproximadamente”* (reiv.1, 4 a 12, 23 y 24), *“la mayoría”* (reiv. 13), *“sustancialmente”* (reiv.14), *“uno o más”* (reiv. 15), *“alto”* (reiv. 27), *“alta”* (reiv. 17 y 21), *“baja”* (reiv. 22) son imprecisos o relativos, por lo cual no permite distinguir la invención del estado de la técnica. Se sugiere sustituirlos por un término preciso o un rango concreto.

Las reivindicaciones 1, 19, 20, 27, 28 mencionan: *“para prevenir o reducir la pérdida de fluido hacia una formación subterránea”, “para reducir o prevenir la pérdida de fluido hacia una formación subterránea”, “para reducir o prevenir la pérdida de fluido durante la perforación de un pozo hacia la formación subterránea”, “para formar las nanopartículas”, “para formar el fluido que contiene nanopartículas, en donde las nanopartículas actúan como material de pérdida de fluido para reducir la pérdida de fluido en una formación subterránea”,* siendo estas características técnicas funcionales las cuales permiten la mejor compresión de la materia reivindicada, sin embargo, se aclara que al ser dichas características funcionales, no se consideran características técnicas esenciales, de manera que no le pueden dar novedad o nivel inventivo a la invención.

La reivindicaciones 23 y 24 además de reclamar un uso, presentan como características resultados a alcanzar así: “en donde la reducción de la pérdida de fluido es de al menos aproximadamente 50% en comparación con un fluido de pozo que no contiene materiales o nanopartículas de pérdida de circulación”, “en donde la reducción de la pérdida de fluido es de al menos aproximadamente 70% en comparación con un fluido de pozo que no contiene materiales o nanopartículas de pérdida de circulación” lo cual no es permitido. Las reivindicaciones deben caracterizar un producto por la forma o constitución del mismo y las partes que lo componen. No se aceptan reivindicaciones que caractericen resultados, usos, ventajas o efectos.

La reivindicación 27 que corresponde a una cláusula de método, presenta una falsa dependencia con las reivindicaciones 1 a 17, que corresponden a cláusulas de producto, dado que pertenecen a categorías distintas. Así las cosas la reivindicación 27 se considera independiente. La misma observación aplica para la reivindicación 28 que hace referencia a las reivindicaciones 1 a 18.

En la reivindicación 29 la expresión “y las nanopartículas se forman en los depósitos” corresponde a un efecto esperado, lo cual no se considera una característica técnica esencial que defina la invención.

Las reivindicaciones 12, 13 y 14 no son concisas porque están reivindicando la misma materia.

En la reivindicación 32 la nomenclatura química “Ca(NO)3” no es clara ya que implica que el calcio se comporta como un ion de carga +3 lo cual es físicamente improbable. Se sugiere realizar las aclaraciones del caso.

Descripción (Art 28 D 486)

En distintos apartes de la descripción, se hace se hace referencia a unidades tales como “lb/ft3”, “°F” y “psi”, las cuales no corresponden con las unidades del Sistema Internacional y de acuerdo con el decreto 3460 de 1984 se dispuso que se debe adoptar en el país el Sistema Internacional de Unidades (SI) como sistema obligatorio. [Decreto 3460 de 1984, artículo 1 “Adoptar el Sistema Internacional de Unidades, SI, como sistema obligatorio de unidades en materia de metrología en el territorio de la República de Colombia”]. Por lo tanto, se solicita cambiar todas las unidades de la solicitud a dicho Sistema.

5. Determinación del Estado de la Técnica

El estado de la técnica se determinó con base en la fecha de presentación internacional: 09 de febrero de 2012 y consultadas las fuentes con que se cuenta, se encontraron los siguientes documentos que anticipan el objeto de esta solicitud:

Ítem	Documento	Título	Fecha de Publicación*
D1	WO2012009128	“Nanofluids and methods of use for drilling and completion fluids”	19/Enero/2012
D2	CA2586832	“High performance rock bit grease”	01/Noviembre/2007
D3	US2005/0107265	“Methods for controlling the fluid loss properties of viscoelastic surfactants based fluids”	19/Mayo/2005
D4	Artículo 1	“Preparation of iron oxide nanoparticles from FeCl ₃ solid powder using microemulsions”	20/Abril/2006

El documento D1¹ divulga composiciones de nanomateriales útiles para aplicaciones en fluidos de perforación y terminación con características mejoradas en el arrastre del fluido, en la resistencia de la perforación, estabilización de emulsiones entre otras (Resumen).

El documento D2² revela un lubricante para perforaciones que incluye de 0,1 a 10% en peso de al menos un nanomaterial, de 5 a 40% en peso de un espesante y una base (Resumen).

El documento D3³ divulga un método para tratar una formación subterránea que proporciona una suspensión acuosa coloidal de nanopartículas antes de la inyección del fluido a tratar de base acuosa (Resumen).

El documento D4⁴ revela un procedimiento experimental para preparar una solución de nanopartículas de óxido de hierro a partir de FeCl₃ (Pág. 1325, Numeral 2).

6. Examen de Patentabilidad (Art 14 D486)

Novedad (Art 16 D486)

La reivindicación 1 consiste en: *“Un fluido de pozo que contiene nanopartículas que comprende:”* (Ver Pág. 64 del Radicado N°. 14-197884-00000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1	D2
Un fluido de pozo que contiene nanopartículas que comprende un fluido base	Un fluido de perforación que incluye un fluido base que puede ser un fluido acuoso, no acuoso y/o una combinación de los mismos. El fluido de perforación además incluye nanopartículas que tienen un tamaño menor de 999 nm (Párr. 10).	Un lubricante para una perforación que comprende: de 0,1 a 10% en peso de al menos un nanomaterial; de 5 a 40% en peso de un espesante; y una base (Reivindicación 1)
y aproximadamente 5% por peso o menos de nanopartículas,	Las proporciones que cambian la humectabilidad están en el rango de 5-50.000ppm (Párr. 0047)	En una modalidad, el al menos un nanomaterial puede incluir disulfuro de molibdeno. Las partículas de sulfuro de molibdeno pueden ser adicionadas,. En una modalidad, en una cantidad mayor a 0.1, 0.2, 0.3 y 0.5% en peso y en otra modalidad, menos de 10, 5, 2 y 1% en peso (Párr. 37).
en donde el fluido de pozo es un fluido de perforación, un fluido pesado, un fluido de terminación o un fluido de pre-estimulación.	La proporción de tales nanopartículas adecuada para proveer beneficios en las propiedades de los fluidos puede estar en el rango de 5 a 150000 ppm (0.005-15%), alternativamente de 5 a 50000 ppm (0.005-5%) (Párr. 0053).	

De acuerdo con la tabla anterior, las características esenciales del fluido de la reivindicación 1 habían sido divulgadas previamente en los documentos D1 y D2 de forma independiente, por lo tanto, la materia reivindicada no es nueva.

Asimismo, el documento D1 divulga las características de las reivindicaciones dependientes así:

- Reivindicación 2: Un fluido de perforación que contiene nanopartículas (Reivindicación 1)
- Reivindicación 3: Los lodos de base aceite pueden ser emulsiones invertidas (Párr. 0004).

¹ [https://worldwide.espacenet.com/publicationDetails/biblio?](https://worldwide.espacenet.com/publicationDetails/biblio?I=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20120119&CC=WO&NR=2012009128A2&KC=A2)

[I=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20120119&CC=WO&NR=2012009128A2&KC=A2](https://worldwide.espacenet.com/publicationDetails/biblio?I=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20120119&CC=WO&NR=2012009128A2&KC=A2)

² [https://worldwide.espacenet.com/publicationDetails/biblio?](https://worldwide.espacenet.com/publicationDetails/biblio?I=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20071101&CC=CA&NR=2586832A1&KC=A1)

[I=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20071101&CC=CA&NR=2586832A1&KC=A1](https://worldwide.espacenet.com/publicationDetails/biblio?I=0&ND=3&adjacent=true&locale=en_EP&FT=D&date=20071101&CC=CA&NR=2586832A1&KC=A1)

³ <http://www.google.com/patents/US20050107265>

⁴ NASSAR, Nashaat y HUSEIN, Maen. “Preparation of iron oxide nanoparticles from FeCl₃ solid powder using microemulsions”. phys. stat. sol. (a) 203, No. 6, 1324–1328 (2006).

https://www.researchgate.net/publication/227680189_Preparation_of_iron_oxide_nanoparticles_from_FeCl3_solid_powder_using_microemulsions_Phys_Status_Solidi_A

- Reivindicaciones 4 y 5: Una formulación con un 3% en volumen de nanopartículas (Tabla 1). Nota: Dado que el fluido base es principalmente agua, se puede considerar que el porcentaje en volumen es similar al porcentaje en peso.
- Reivindicación 11: El fluido de perforación contiene nanopartículas de un tamaño de partícula de menos de 100nm (Párr. 0012).
- Reivindicación 15: Las partículas adecuadas incluyen sílice, óxido de zinc, óxido de níquel, óxido de magnesio (Párr. 0012).
- Reivindicación 16: Las nanopartículas también pueden ser de carbonato de calcio, óxidos de hierro (Párr. 0028) o de sulfato de bario (Párr. 0022).

Asimismo, el documento D2 divulga las características de las reivindicaciones dependientes así:

- Reivindicación 4: El contenido del nanomaterial puede ser menos de 2% en peso (Párr. 0037).
- Reivindicación 6: El contenido del nanomaterial puede ser menos de 1% en peso (Párr. 0037).
- Reivindicación 7 y 8: Las partículas de sulfuro de Mb pueden agregarse en una cantidad mayor al 0,5% en peso (Párr. 0037).
- Reivindicación 9 y 10: El contenido del nanomaterial puede ser menos de 1% en peso (Párr. 0037).

Nivel Inventivo (Art. 18 D486)

La reivindicación 12 consiste en: *“El fluido de la reivindicación 11, en donde”* (Ver Pág. 65 del Radicado N°. 14-197884-00000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1	D3
El fluido de la reivindicación 11, en donde las nanopartículas tienen un tamaño de partícula de entre aproximadamente 1 y aproximadamente 30 nm.	No menciona	Un método para tratar una formación subterránea que proporciona una suspensión acuosa de nanopartículas coloidales (Reivindicación 1 y 6). Las partículas tienen un diámetro entre 8 y 250nm (Reivindicación 6).

El documento D1 se considera el estado de la técnica más cercano a la invención definida en la reivindicación 12 porque divulga composiciones de nanomateriales útiles para aplicaciones en fluidos de perforación y terminación con características mejoradas en el arrastre del fluido y la resistencia de la formación (Resumen).

La diferencia entre la invención, definida en la reivindicación 12 y las composiciones de nanomateriales en fluidos de perforación de D1 es que este último no menciona que el tamaño de partícula esté entre 1 y 30 nm.

No hay evidencia de un efecto técnico inesperado entre el fluido de la presente solicitud que contempla emplear nanomateriales de un tamaño entre 1 y 30 nm y el fluido de D1, que no menciona específicamente dicho rango de tamaño, dado que ambas invenciones solucionan el mismo problema técnico, que consiste en proporcionar un fluido de perforación que contenga nanopartículas para mejorar el desempeño de dicho fluido.

Por lo tanto, el problema técnico objetivo que pretende resolver esta invención se puede formular así: ¿Cómo obtener un fluido para tratar una formación subterránea, alternativa a la revelada en el documento D1?

Sin embargo, ya eran conocidos en el estado de la técnica tamaños de nanopartículas para fluidos de perforación menores a 30 nm ya que el documento D3 divulga que las partículas suspendidas en el fluido de perforación pueden tener un tamaño entre 8 y 250nm (Reivindicación 1 y 6).

En consecuencia, la persona del oficio normalmente versada en la materia, estaría en capacidad de emplear nanopartículas de distintos tamaños, incluidos los divulgados en D3, para llegar así al objeto de la reivindicación 12 de la solicitud. Por lo cual se considera obvia. Cabe agregar, que la solución al anterior problema técnico objetivo se encuentra dentro de un proceso de optimización, lo cual hace parte de la práctica habitual de la persona versada en la materia que trabaje en el campo de la formulación de fluidos de perforación.

Teniendo en cuenta la objeción por falta de concisión entre las reivindicaciones 12, 13 y 14, se aclara que el análisis de nivel inventivo presentado anteriormente para la reivindicación 12 aplica igualmente para las reivindicaciones 13 y 14.

La reivindicación 17 consiste en: “El fluido de la reivindicación 15, en donde (...)” (Ver Pág. 66 del Radicado N°. 14-197884-00000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D1
El fluido de la reivindicación 15, en donde las nanopartículas se forman de óxido de hierro a partir de hidróxido de hierro en condiciones de alta presión y alta temperatura en la formación subterránea.	Un fluido de perforación que contiene nanopartículas (Reivindicación 1) No menciona que las nanopartículas de óxido de hierro se forman en condiciones de alta temperatura y presión a partir de hidróxido de hierro

El documento D1 se considera el estado de la técnica más cercano a la invención definida en la reivindicación 17 porque divulga composiciones de nanomateriales útiles para aplicaciones en fluidos de perforación y terminación con características mejoradas en el arrastre del fluido, en la resistencia de la perforación, estabilización de emulsiones entre otras (Resumen).

La diferencia entre la invención, definida en la reivindicación 17 y las composiciones de nanomateriales en fluidos de perforación de D1 es que este último no menciona que las nanopartículas de óxido de hierro se forman en condiciones de alta temperatura y presión a partir de hidróxido de hierro.

No se evidencia un efecto técnico inesperado entre el fluido de la presente solicitud que reclama la forma en que se producen las nanopartículas, y el fluido de D1 que no hace referencia a esta particularidad, dado que ambas invenciones solucionan el mismo problema técnico, que consiste en proporcionar un fluido de perforación que contenga nanopartículas para mejorar el desempeño de dicho fluido.

Por lo tanto, el problema técnico objetivo que pretende resolver esta invención se puede formular así: ¿Cómo obtener un fluido para tratar una formación subterránea, alternativa a la revelada en el documento D1?

Sin embargo, una persona normalmente versada en la materia conoce la técnica hidrotérmica la cual se define como una reacción heterogénea en la presencia de solventes acuosos para generar óxidos de hierro (goetita y hematita) a partir de hidróxido de hierro (III) amorfo bajo condiciones de presión y temperatura altas (“*Synthesis and applications of nano-structured iron oxides/hydroxides –a review*”, Pág. 130, ⁽⁵⁾).

5 MOHAPATRA, M, ANAND S. “*Synthesis and applications of nano-structured iron oxides/hydroxides –a review*”. Vol. 2, No.8, 2010. Pág. 130. <http://www.ajol.info/index.php/ijest/article/view/63846/51662>

En consecuencia la persona normalmente versada en la materia, partiendo de lo divulgado en D1 acerca del uso de nanopartículas y de sus conocimientos previos estaría en capacidad de incluir nanopartículas sintetizadas (i.e. de óxido de hierro) por distintas vías incluida la reclamada, para llegar así al objeto de la reivindicación 17. Por lo cual se considera obvia.

La reivindicación 27 consiste en: *“Un método para producir el fluido de pozo que contiene nanopartículas definido en cualquiera de las reivindicaciones 1 a 17, al formar las nanopartículas ex-situ, que comprende”* (Ver Pág. 67 del Radicado N°. 14-197884-00000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D3	D4
Un método para producir el fluido de pozo que contiene nanopartículas definido en cualquiera de las reivindicaciones 1 a 17, al formar las nanopartículas ex-situ, que comprende las etapas de proporcionar soluciones precursoras de base acuosa,	Un método para tratar una formación subterránea que proporciona una suspensión acuosa de nanopartículas (Reivindicación 1 y 6).	Procedimiento experimental para preparar una solución de nanopartículas (Pág. 1325, Numeral 2).
mezclar las soluciones precursoras bajo alto cizallamiento,	No menciona	Se mezcló una cantidad de FeCl ₃ y NaOH a 300 RPM por 6 horas (Pie de Fig.1)
y agregar la solución precursora mezclada al fluido de pozo	Se adicionan las partículas coloidales (Párr. 0056). No menciona que están en solución precursora	No menciona

El documento D3 se considera el estado de la técnica más cercano a la invención definida en la reivindicación 27 porque divulga un método para tratar una formación subterránea que proporciona una suspensión acuosa de nanopartículas (Reivindicación 1 y 6).

La diferencia entre la invención, definida en la reivindicación 27 y el método para tratar una formación subterránea de D3 es que este último no menciona que la fuente de nanopartículas sean soluciones precursoras.

El efecto técnico que logra la utilización de las soluciones precursoras es obtener un producto de nanopartículas ex-situ.

Por lo tanto, el problema técnico objetivo que pretende resolver esta invención se puede formular así: ¿Cómo modificar el método para tratar una formación subterránea de D3 de tal manera que las nanopartículas se produzcan ex-situ?

Sin embargo, ya eran conocidas soluciones precursoras para preparar nanopartículas ya que el documento D4 divulga una mezcla de una solución precursora de FeCl₃ y NaOH para obtener nanopartículas ex-situ de un óxido de hierro (Pág. 1325-Numeral 1, Pie de Fig. 1).

En consecuencia, la persona normalmente versada en la materia, estaría motivada a incluir soluciones precursoras para preparar nanopartículas que se mezclen a alto cizallamiento del documento D4 en el método para tratar una formación subterránea de D1 para llegar así al objeto de la reivindicación 27. Por lo cual se considera obvia.

La reivindicación 28 consiste en: *“Un método para producir un fluido de pozo que contiene nanopartículas definido en cualquiera de las reivindicaciones 1 a 18, al*

formar las nanopartículas in situ, que comprende:” (Ver Pág. 63 del Radicado N°. 14-197884-00000-0000).

Comparación de las características técnicas esenciales, con las del estado de la técnica:

Características esenciales	D3	D4
Un método para producir un fluido de pozo que contiene nanopartículas definido en cualquiera de las reivindicaciones 1 a 18, al formar las nanopartículas in-situ, que comprende las etapas de proporcionar soluciones precursoras de base acuosa para formar las nanopartículas,	Un método para tratar una formación subterránea que proporciona una suspensión acuosa de nanopartículas (Reivindicación 1 y 6). No menciona las soluciones precursoras	Procedimiento experimental para preparar una solución de nanopartículas (Pág. 1325, Numeral 2).
agregar las soluciones precursoras al fluido de pozo	Se adicionan las partículas coloidales (Párr. 0056). No menciona que están en solución precursora	Se mezcló una cantidad de FeCl ₃ y NaOH a 300 RPM por 6 horas (Pie de Fig.1)
y someter el fluido a mezclado y cizallamiento	En la figura 7 se hace un estudio de tasas de cizallamiento que contiene las nanopartículas (Párr. 0056).	No menciona

El documento D3 se considera el estado de la técnica más cercano a la invención definida en la reivindicación 28 porque divulga un método para tratar una formación subterránea que proporciona una suspensión acuosa de nanopartículas (Reivindicación 1 y 6).

La diferencia entre la invención, definida en la reivindicación 28 y el método para tratar una formación subterránea de D3 es que este último no menciona que la fuente de nanopartículas sean soluciones precursoras.

El efecto técnico que logra la utilización de las soluciones precursoras es obtener un fluido de perforación de nanopartículas in-situ.

Por lo tanto, el problema técnico objetivo que pretende resolver esta invención se puede formular así: ¿Cómo modificar el método para tratar una formación subterránea de D3 de tal manera que se obtenga un fluido de perforación de nanopartículas in-situ?

Sin embargo, ya eran conocidas soluciones precursoras para preparar nanopartículas ya que el documento D4 divulga una mezcla de una solución precursora de FeCl₃ y NaOH para obtener nanopartículas de un óxido de hierro (Pág. 1325-Numeral 1, Pie de Fig. 1).

En consecuencia, la persona normalmente versada en la materia, estaría motivada a incluir soluciones precursoras para preparar nanopartículas del documento D4 y luego adicionar dichas soluciones al fluido de pozo en el método para tratar una formación subterránea de D1 para llegar así al objeto de la reivindicación 28. Por lo cual se considera obvia.

Asimismo, el documento D4 divulga las características de las reivindicaciones dependientes así:

- Reivindicación 30: La difusión lenta del hidróxido de sodio o el cloruro de hierro resulta en una oxidación lenta de los iones de hierro, que favorece la formación del óxido de hierro en lugar del hidróxido (Pág. 1325, Numeral 1).
- Reivindicación 31: Se mezclaron nanopartículas de óxido de hierro obtenidas de la mezcla de una cantidad de FeCl₃ y NaOH (Pie de Fig.1).

Por otro lado, las reivindicaciones 29, 32 a 34 son afectadas por el conocimiento del técnico, “*el experto medio deberá poseer experiencia y contar con un saber general en la materia y con una serie de conocimientos en el campo específico de la invención*” (), el cual conoce que:

- Reivindicación 29: Las microemulsiones que consisten en gotas pequeñas poseen un gran área interfacial que facilitan su uso en la síntesis de nanopartículas (“*Synthesis of nanoparticles microemulsion method*”, (Pág. 108, Numeral 3.4, (6)).
- Reivindicación 32: Es posible obtener nanopartículas de carbonato de calcio a partir de soluciones acuosas de nitrato de calcio y carbonato de sodio (*Synthesis of CaCO₃ nanoparticles by controlled precipitation of saturated carbonate and calcium nitrate aqueous solutions*, Resumen, (7)).
- Reivindicación 33: Es posible obtener nanopartículas de sulfato de bario a partir de soluciones acuosas de cloruro de bario y sulfato de sodio (“*Ceramic Nanomaterials and Nanotechnology III*”, Pág.220, (8)).
- Reivindicación 34: Es posible obtener nanopartículas de sulfuro de hierro a partir de soluciones acuosas de disulfuro de sodio y cloruro de hierro. (*Geochemistry and environmental mineralogy of the iron–sulphur–arsenic system*” Págs. 13,20,22, 50,(9)).

Por lo cual las reivindicaciones 29 y 32 a 34 se consideran obvias.

7. Conclusión

Los requisitos de Patentabilidad de la presente solicitud están afectados así:

Ítem	Documento	Reivindicaciones afectadas	Requisito que afecta
D1	WO 2012/009128	1 a 5, 11, 15, 16	Novedad y Nivel Inventivo
		12 a 14, 17	Nivel Inventivo
D2	CA2586832	1, 4, 6 a 10	Novedad y Nivel Inventivo
D3	US2005/0107265	12 a 14, 27, 28, 29, 32 a 34	Nivel inventivo
D4	Artículo 1	27, 28, 30 y 31	Nivel inventivo

6 Sarciaux, et al. “*Synthesis of nanoparticles microemulsion method*”. 1995. Mencionado en Pág. 108:

http://shodhganga.inflibnet.ac.in/bitstream/10603/11272/11/11_chapter%203.pdf

7 <http://onlinelibrary.wiley.com/doi/10.1002/cjce.20673/abstract>

8 WEI LU Song, HU Michael Z., GOGOTSI Yury, “*Ceramic Nanomaterials and Nanotechnology III*”. 2005.

<https://books.google.com.co/books?>

https://books.google.com.co/books?id=L4v6246l0r4C&pg=PA220&lpg=PA220&dq=barium+sulphate+nanoparticles+from+barium+chloride&source=bl&ots=1c2Ofb0h-m&sig=Dq_-Pm10MxTGmpBB6c24N8Taxl0&hl=es&sa=X&ved=0ahUKEwiasMPYvsbMAhXC_R4KHZrYAngQ6AEISDAF#v=onepag

[e&q=barium%20sulphate%20nanoparticles%20from%20barium%20chloride&f=false](https://books.google.com.co/books?id=L4v6246l0r4C&pg=PA220&lpg=PA220&dq=barium+sulphate+nanoparticles+from+barium+chloride&source=bl&ots=1c2Ofb0h-m&sig=Dq_-Pm10MxTGmpBB6c24N8Taxl0&hl=es&sa=X&ved=0ahUKEwiasMPYvsbMAhXC_R4KHZrYAngQ6AEISDAF#v=onepag)

9 WOLTHERS, Mariëtte “*Geochemistry and environmental mineralogy of the iron–sulphur–arsenic system*” Págs. 13, 20, 22, 50. 2003. <http://dspace.library.uu.nl/bitstream/handle/1874/572/full.pdf>

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta (60) días contados a partir de la fecha de notificación de la presente comunicación. En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.

Si como respuesta a este requerimiento el solicitante llegara a modificar: i) el capítulo reivindicatorio, ii) la descripción de la invención a proteger, iii) o presente un nuevo capítulo reivindicatorio, y desee que se realice un nuevo examen de patentabilidad a esta modificación, no deberá pagar la tasa de modificación voluntaria pero sí la correspondiente a la tasa de examen de patentabilidad. En todo caso, el número de requerimientos por no patentabilidad estará supeditado a que el término del estudio de patentabilidad no sea superior a 18 meses, contados desde la publicación de la solicitud de patente de invención. Adicionalmente, se le recuerda al solicitante que si como respuesta a este requerimiento llegara a modificar el capítulo reivindicatorio y éste contenga más de diez (10) reivindicaciones deberá pagar la tasa por reivindicación adicional.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única No. 10 de 2001.



JOSÉ LUIS SALAZAR LÓPEZ
Director de Nuevas Creaciones (c)

El anterior requerimiento fue notificado por fijación en lista, de fecha 2016-06-21

Elaboró: Natalia Estefania Paez Coy

Revisó: Alba Rocio Lemus Quiroga

Search query (2): [SP]: 1. a nanoparticle-containing well fluid comprising a base fluid and about 5 wt percent or less nanoparticles, for preventing or reducing fluid loss to an underground formation, wherein the well fluid is a drilling fluid, kill fluid, completion fluid, or pre-stimulation fluid. 2. the well fluid of claim 1 wherein the well fluid is a drilling fluid. 3. the well fluid of claim 2 wherein the drilling fluid is an invert emulsion drilling fluid. 4. the fluid of claim 1 wherein the nanoparticles are present in an amount of less than about 4 wt percent, less than about 3 wt percent, or less than about 1 percent. 5. (canceled) 6. (canceled) 7. the fluid of claim 1 wherein the nanoparticles are present in an amount of between about 0.1 to about 1 wt percent between about 0.5 to about 1.0 wt percent between about 0.6 to 1 wt percent or between about 0.74 to about 1 wt percent. 8. (canceled) 9. (canceled) 10. (canceled) 11. the fluid of claim 1 wherein the nanoparticles have a particle size of between about 1 to about 120 nm or between about 1 to about 30 nm. 12. (canceled) 13. (canceled) 14. the fluid of claim 11 wherein substantially all of the nanoparticles have a particle size in the range of 1-30 nm. 15. the fluid of claim 1 wherein the nanoparticles are one or more of metal hydroxide, metal oxide, metal carbonate, metal sulfide, and metal sulfate. 16. the fluid of claim 15 wherein the nanoparticles are selected from the group consisting of iron hydroxide, iron oxide, calcium carbonate, iron sulfide, barium sulfate, or a mixture thereof. 17. the fluid of claim 15 wherein the nanoparticles are iron oxide formed from iron hydroxide in high pressure high temperature conditions in the underground formation. 18. the fluid of claim 1 wherein the nanoparticles are formed in situ in the fluid or formed ex situ and added to the fluid. 19. (canceled) 20. (canceled) 21. (canceled) 22. (canceled) 23. (canceled) 24. the fluid of claim 1 wherein the reduction of fluid loss is at least about 70 percent compared to a well fluid that does not contain loss circulation materials or nanoparticles. 25. (canceled) 26. (canceled) 27. a method of making the nanoparticle-containing well fluid defined in claim 1 by forming the nanoparticles ex situ, comprising the steps of providing aqueous-based precursor solutions for forming the nanoparticles, mixing the precursor solutions under high shear, and adding the mixed precursor solution to the well fluid, to form the nanoparticle-containing fluid, wherein the nanoparticles act as fluid loss material for reducing fluid loss in an underground formation. 28. a method for making a nanoparticle-containing well fluid defined in claim 1 by forming the nanoparticles in situ, comprising the steps of providing aqueous-based precursor solutions for forming the nanoparticles, adding the precursor solutions to the well fluid, and subjecting the fluid to mixing and shear to form the nanoparticle-containing fluid, wherein the nanoparticles act as a fluid loss material for reducing fluid loss in an underground formation. 29. the method of claim 28 wherein the fluid is an invert emulsion drilling fluid and the nanoparticles form in the dispersed water pools of the invert emulsion drilling fluid. 30. the method of claim 28 wherein the nanoparticle is iron (iii) hydroxide. 31. the method of claim 29 wherein the aqueous-based precursor solutions comprise an aqueous based solution containing fecl3(aq) and an aqueous based solution containing naoh(aq) the aqueous-based solutions comprise an aqueous based solution containing ca(no)3 and an aqueous based solution containing na2co3 the aqueous-based solutions comprise an aqueous based solution containing bacl2 and an aqueous based solution containing na2so4 or the aqueous-based solutions comprise an aqueous based solution containing na2s and an aqueous based solution containing fecl2. 32. (canceled) 33. (canceled) 34. (canceled) 35. the method of claim 27 wherein the fluid is an invert emulsion drilling fluid and the nanoparticles form in the dispersed water pools of the invert emulsion drilling fluid. 36. the method of claim 27 wherein the nanoparticle is iron (iii) hydroxide. 37. the method of claim 27 wherein the aqueous-based precursor solutions comprise an aqueous based solution containing fecl3(aq) and an aqueous based solution containing naoh(aq) the aqueous-based solutions comprise an aqueous based solution containing ca(no)3 and an aqueous based solution containing na2co3 the aqueous-based solutions comprise an aqueous based solution containing bacl2 and an aqueous based solution containing na2so4 or the aqueous-based solutions comprise an aqueous based solution containing na2s and an aqueous based solution containing fecl2.

Results: 10

Estefania Paez

Search history

Search 1: PN=(WO2013116920) (Results 1)

Search 2: [SP]: 1. a nanoparticle-containing well fluid comprising a base fluid and about 5 wt percent or less nanoparticles, for preventing or reducing fluid loss to an underground formation, wherein the well fluid is a drilling fluid, kill fluid, completion fluid, or pre-stimulation fluid. 2. the well fluid of claim 1 wherein the well fluid is a drilling fluid. 3. the well fluid of claim 2 wherein the drilling fluid is an invert emulsion drilling fluid. 4. the fluid of claim 1 wherein the nanoparticles are present in an amount of less than about 4 wt percent, less than about 3 wt percent, or less than about 1 percent. 5. (canceled) 6. (canceled) 7. the fluid of claim 1 wherein the nanoparticles are present in an amount of between about 0.1 to about 1 wt percent between about 0.5 to about 1.0 wt percent between about 0.6 to 1 wt percent or between about 0.74 to about 1 wt percent. 8. (canceled) 9. (canceled) 10. (canceled) 11. the fluid of claim 1 wherein the nanoparticles have a particle size of between about 1 to about 120 nm or between about 1 to about 30 nm. 12. (canceled) 13. (canceled) 14. the fluid of claim 11 wherein substantially all of the nanoparticles have a particle size in the range of 1-30 nm. 15. the fluid of claim 1 wherein the nanoparticles are one or more of metal hydroxide, metal oxide, metal carbonate, metal sulfide, and metal sulfate. 16. the fluid of claim 15 wherein the nanoparticles are selected from the group consisting of iron hydroxide, iron oxide, calcium carbonate, iron sulfide, barium sulfate, or a mixture thereof. 17. the fluid of claim 15 wherein the nanoparticles are iron oxide formed from iron hydroxide in high pressure high temperature conditions in the underground formation. 18. the fluid of claim 1 wherein the nanoparticles are formed in situ in the fluid or formed ex situ and added to the fluid. 19. (canceled) 20. (canceled) 21. (canceled) 22. (canceled) 23. (canceled) 24. the fluid of claim 1 wherein the reduction of fluid loss is at least about 70 percent compared to a well fluid that does not contain loss circulation materials or nanoparticles. 25. (canceled) 26. (canceled) 27. a method of making the nanoparticle-containing well fluid defined in claim 1 by forming the nanoparticles ex situ, comprising the steps of providing aqueous-based precursor solutions for forming the nanoparticles, mixing the precursor solutions under high shear, and adding the mixed precursor solution to the well fluid, to form the nanoparticle-containing fluid, wherein the nanoparticles act as fluid loss material for reducing fluid loss in an underground formation. 28. a method for making a nanoparticle-containing well fluid defined in claim 1 by forming the nanoparticles in situ, comprising the steps of providing aqueous-based precursor solutions for forming the nanoparticles, adding the precursor solutions to the well fluid, and subjecting the fluid to mixing and shear to form the nanoparticle-containing fluid, wherein the nanoparticles act as a fluid loss material for reducing fluid loss in an underground formation. 29. the method of claim 28 wherein the fluid is an invert emulsion drilling fluid and the nanoparticles form in the dispersed water pools of the invert emulsion drilling fluid. 30. the method of claim 28 wherein the nanoparticle is iron (iii) hydroxide. 31. the method of claim 29 wherein the aqueous-based precursor solutions comprise an aqueous based solution containing fecl3(aq) and an aqueous based solution containing naoh(aq) the aqueous-based solutions comprise an aqueous based solution containing ca (no)3 and an aqueous based solution containing na2co3 the aqueous-based solutions comprise an aqueous based solution containing bacl2 and an aqueous based solution containing na2so4 or the aqueous-based solutions comprise an aqueous based solution containing na2s and an aqueous based solution containing fecl2. 32. (canceled) 33. (canceled) 34. (canceled) 35. the method of claim 27 wherein the fluid is an invert emulsion drilling fluid and the nanoparticles form in the dispersed water pools of the invert emulsion drilling fluid. 36. the method of claim 27 wherein the nanoparticle is iron (iii) hydroxide. 37. the method of claim 27 wherein the aqueous-based precursor solutions comprise an aqueous based solution containing fecl3(aq) and an aqueous based solution containing naoh(aq) the aqueous-based solutions comprise an aqueous based solution containing ca(no)3 and an aqueous based solution containing na2co3 the aqueous-based solutions comprise an aqueous based solution containing bacl2 and an aqueous based solution containing na2so4 or the aqueous-based solutions comprise an aqueous based solution containing na2s and an aqueous based solution containing fecl2. (Results 10)

Title: METHODS FOR CONTROLLING THE FLUID LOSS PROPERTIES OF VISCOELASTIC SURFACTANTS BASED FLUIDS

Abstract: Source: US2005107265A It is proposed a method of treating a subterranean formation including providing a suspension of colloidal particles prior to the injection of a treating fluid based on an aqueous fluid comprising a thickening amount of a viscoelastic surfactant. The colloidal particles help to reduce fluid losses into the formation. According to a second embodiment, the treating fluid includes a hydrophobically-modified polymer, said hydrophobically-modified polymer being present at a concentration between approximately its overlap concentration c_{ss} and approximately its entanglement concentration c_e . The method is particularly useful for fracturing operation in medium to high permeability formation.

Classifications:

International (IPC 8-9): C09K8/00 C09K8/60 C09K8/66 C09K8/68 C09K8/84 E21B33/138 E21B43/00 E21B43/22 E21B43/26 (Advanced/Invention); C09K8/52 C09K8/68 E21B43/26 (Advanced/Non-invention); C09K8/60 E21B33/138 (Core/Invention)

International (IPC 1-7): C09K7/02 E21B43/00 E21B43/27

CPC: C09K8/602 C09K8/665 C09K8/68 C09K8/845 C09K2208/10 C09K2208/30 E21B33/138

European: C09K8/60G C09K8/66B C09K8/68 C09K8/84A E21B33/138 M09K208/10 M09K208/30

US: 507/219 507/269 507/271 507/271P 507/275

PatBase - US2005107265_AA

Patent Application Publication May 19, 2005 Sheet 1 of 7 US 2005/0107265 A1

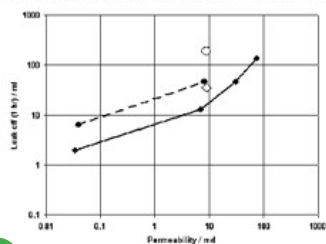


Figure 1 (prior art)

APPROVED**Family:**

Publication number	Publication date	Application number	Application date
CA2485777 AA	20050513	CA20042485777	20041025
CA2485777 C	20090113	CA20042485777	20041025
RU2004133166 A	20060420	RU20040133166	20041112
RU2359112 C2	20090620	RU20040133166	20041112
US2005107265 AA	20050519	US20030707011	20031113
US7081439 BB	20060725	US20030707011	20031113

Priority:

US20030707011 20031113 CA20042485777 20041025

Probable Assignee: SCHLUMBERGER TECHNOLOGY CORP

Assignee(s): (std): SCHLUMBERGER CA LTD ; SCHLUMBERGER CANADA LTD ; SCHLUMBERGER TECHNOLOGY BV ; SCHLUMBERGER TECHNOLOGY CORP

Assignee(s): WILSON ALEXANDER ; SULLIVAN PHILIP ; SHLJUMBERGER TEKNOLODZHI BV ; CHRISTANTI YENNY ; COUILLET ISABELLE ; DAVIES STEVEN ; HUGHES TREVOR

Inventor(s): (std): CHRISTANTI YENNY ; COUILLET ISABELLE ; DAVIES STEPHEN ; DAVIES STEVEN ; DEHVIS STIVEN ; HUGHES TREVOR ; KH JUZ TREVOR ; SALLIVAN FILIP ; SULLIVAN PHILIP ; VILSON ALEKSANDR ; WILSON ALEXANDER ; KRISTANTI JANNI ; KUJE IZABELL

Inventor(s): KUJE IZABELL' ; KH'JUZ TREVOR

Agent(s): SMART AND BIGGAR; SCHLUMBERGER TECHNOLOGY CORP; DAVID; ROBIN; TIM

Title: TREATMENT FLUIDS WITH IMPROVED SHALE INHIBITION AND METHODS OF USE IN SUBTERRANEAN OPERATIONS

Abstract: Source: US2007015668A Additives and treatment fluids with improved shale inhibition, and associated methods of use in subterranean operations, are provided. The additives and treatment fluids used generally comprise a shale-inhibiting component and one or more silicates.

Classifications:

International (IPC 8-9): C09K8/00 C09K8/12 C09K8/52 C09K8/60 (Advanced/Invention);

E21B43/00 (Advanced/Non-invention);

C09K8/00 C09K8/02 C09K8/52 C09K8/60 (Core/Invention);

E21B43/00 (Core/Non-invention)

CPC: C09K8/12 C09K2208/10 C09K2208/12 C09K2208/18 C09K8/06

European: C09K8/06 C09K8/12 M09K208/10 M09K208/12 M09K208/18

US: 166/305.1 507/123 507/125 507/130 507/130P 507/137 507/140 507/141 507/221 507/223 507/229 507/229P 507/231 507/242 507/242S

507/263 507/269 507/276

Family:

Publication number	Publication date	Application number	Application date
EP1907502 A1	20080409	EP20060764969	20060714
NO20080572 A	20080415	NO20080000572	20080131
US2007015668 AA	20070118	US20050183113	20050715
US2007015670 AA	20070118	US20050183122	20050715
US7833945 BB	20101116	US20050183122	20050715
US8455404 BB	20130604	US20050183113	20050715
WO07010212 A1	20070125	WO2006GB02622	20060714



Priority:

US20050183113 20050715 US20050183122 20050715 WO2006GB02622 20060714

Probable Assignee: HALLIBURTON ENERGY SERVICES INC

Assignee(s): (std): CURTIS PHILIP ANTHONY ; HALLIBURTON ENERGY SERV INC ; HARROWER ELAINE ; TEMPLE COLIN ; YOUNGSON ARTHUR

Assignee(s): HALLIBURTON ENERGY SERVICES INC

Inventor(s): (std): HARROWER ELAINE ; TEMPLE COLIN ; YOUNGSON ARTHUR

Agent(s): CURTIS PHILIP ANTHONY; CRAIG W RODDY HALLIBURTON ENERGY SERVICES; CRAIG W; BAKER BOTTS LLP;
MCDERMOTT WILL AND EMERY LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: HIGH PERFORMANCE ROCK BIT GREASE

Abstract: Source: US2007254817A A lubricant for a drill bit that includes from about 0.1 to about 10 weight percent of at least one nanomaterial, from about 5 to 40 weight percent of a thickener, and a basestock is disclosed.

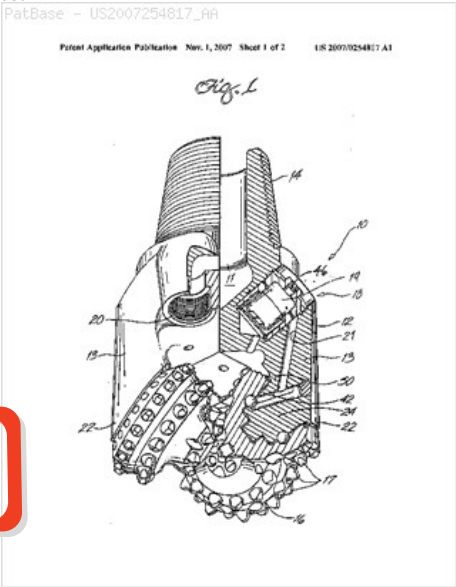
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International (IPC 8-9): C10M111/04 C10M125/02 C10M125/04 C10M125/10 C10M125/20 C10M125/24 C10M133/20 C10M135/18 C10M169/00 E21B10/08 E21B10/22 E21B10/24 (Advanced/Invention); C10M135/00 (Core/Invention)

CPC: C10M125/02 C10M171/06 C10M2201/041 C10M2201/062 C10M2201/066 C10N2210/05 C10N2220/082 C10M125/04 C10M125/10 C10M125/24 E21B10/08 E21B10/22 E21B10/24 C10M125/20

European: C10M12/504 C10M12/510 C10M12/520 C10M125/02 C10M125/04 C10M125/10 C10M125/20 C10M125/24 C10M171/06 E21B1/008 E21B1/022 E21B1/024 E21B10/08 E21B10/22 E21B10/24 M10M201/041 M10M201/062 M10M201/066 M10N210/05 M10N220/082

US: 175/331 508/123 508/150 508/363



EXPIRED

Family:

Publication number	Publication date	Application number	Application date
CA2586832 AA	20071101	CA20072586832	20070426
CA2586832 C	20100622	CA20072586832	20070426
GB200708220 A0	20070606	GB20070008220	20070427
GB200822279 A0	20090114	GB20080022279	20070427
GB2437821 A1	20071107	GB20070008220	20070427
GB2437821 B2	20090128	GB20070008220	20070427
GB2454103 A1	20090429	GB20080022279	20070427
GB2454103 B2	20100324	GB20080022279	20070427
US2007254817 AA	20071101	US20060415385	20060501
US7749947 BB	20100706	US20060415385	20060501

Priority:

US20060415385 20060501 CA20072586832 20070426 GB20080022279 20070427
GB20070008220 20070427

Probable Assignee: SMITH INT INC

Assignee(s): (std): SMITH INT ; SMITH INTERNATIONAL

Assignee(s): SMITH INT INC ; SMITH INTERNATIONAL INC ; GRIFFO ANTHONY ; KESHAVAN MADAPUSI K

Inventor(s): (std): GRIFFO ANTHONY ; KESHAVAN MADAPUSI K

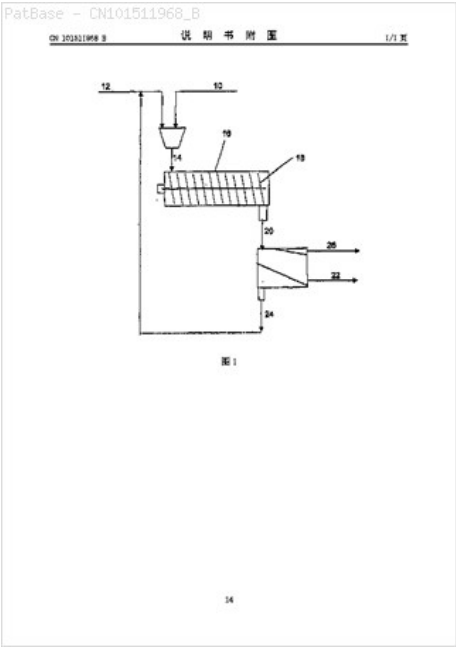
Inventor(s): MADAPUSI K KESHAVAN ; KESHAVAN MADAPUSI ; ANTHONY GRIFFO

Agent(s): SMART AND BIGGAR; OSHA LIANG LLP / SMITH; OSHA LIANG LLP SMITH

Title: PRECIPITATED WEIGHTING AGENTS FOR USE IN WELLBORE FLUIDS

Abstract: A method of formulating a wellbore fluid that includes precipitating a weighting agent from a solution; and adding the precipitated weighting agent to a base fluid to form a wellbore fluid is disclosed. Fluids and methods of formulating wellbore fluids that contain dispersant coated precipitated weighting agents are also disclosed.

Classifications:
International (IPC 8-9): C09K3/00 C09K8/02 C09K8/03 C09K8/16 C09K8/32 C22B43/00 (Advanced/Invention); C09K3/00 C09K8/02 C22B43/00 (Core/Invention)
International (IPC 1-7): C09K7/02 C09K7/06 C09K8/03
CPC: C09K8/032 C09K8/03 C09K8/32 C09K2208/18
European: C09K8/03 C09K8/03B C09K8/32 M09K208/18



Family:

Publication number	Publication date	Application number	Application date
AR062751 AA	20081203	AR2007P104021	20070911
AT518933 E	20110815	AT20070842243T	20070911
AU2007296539 AA	20080320	AU20070296539	20070911
AU2007296539 BB	20110609	AU20070296539	20070911
CA2663192 AA	20090310	CA20072663192	20070911
CA2663192 C	20111122	CA20072663192	20070911
CN101511968 A	20090819	CN200780033635	20070615
CN101511968 B	20140827	CN200780033635	20070615
CN101595197 A	20091202	CN200780041191	20070911
CN101595197 B	20140122	CN200780041191	20070911
DK2066759 T3	20111031	DK20070842243T	20070911
EA015666 B1	20111031	EA20090070272	20070911
EA200970272 A1	20091030	EA20090070272	20070911
EP2066759 A2	20090610	EP20070842243	20070911
EP2066759 B1	20110803	EP20070842243	20070911
IN01322DN2009 A	20100820	IN2009DN01322	20090225
IN02017DN2009 A	20100820	IN2009DN02017	20090326
IN261392 B	20140627	IN2009DN02017	20090326
MX2009002615 A1	20090428	MX20090002615	20070911
NO20091355 A	20090519	NO20090001355	20090401
NZ575494 A	20111028	NZ20070575494	20070911
WO08033838 A2	20080320	WO2007US78159	20070911
WO08033838 A3	20080522	WO2007US78159	20070911

Priority:
US20060825156P 20060911 WO2007US78159 20070911 WO2007US71338 20070615
US20070741199 20070427

Probable Assignee: MI LLC

Assignee(s): (std): M I LLC ; MI LLC ; MASSAM JARROD ; BALLARD DAVID ANTONY

Assignee(s): M I L L C

Inventor(s): (std): ANTONY BALLARD DAVID ; BALLARD DAVID ; DAVID ANTONY BALLARD ; JARROD MASSAM ; MASSAM JARROD ; BALLARD DAVID ANTONY

Agent(s): DARK IP; PIZZEYS PATENT AND TRADE MARK ATTORNEYS; SMART AND BIGGAR; BROCHARD PASCALE; BERGMAN JEFFREY S ET AL

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: DRILLING FLUIDS COMPRISING SUB-MICRON PRECIPITATED BARITE AS A COMPONENT OF THE WEIGHTING AGENT AND ASSOCIATED METHODS

Abstract: Source: US2009186781A An embodiment of the present invention includes a method comprising circulating a drilling fluid in a well bore, wherein the drilling fluid comprises a carrier fluid; and a weighting agent that comprises precipitated barite having a weight average particle diameter below about 1 micron and a particle having a specific gravity of greater than about 2.6. Another embodiment of the present invention includes a drilling fluid comprising: a carrier fluid; and a weighting agent that comprises precipitated barite having a weight average particle diameter below about 1 micron, and a particle having a specific gravity of greater than about 2.6. Another embodiment of the present invention includes a weighting agent that comprises precipitated barite having a weight average particle diameter below about 1 micron, and a particle having a specific gravity of greater than about 2.6.

Classifications:

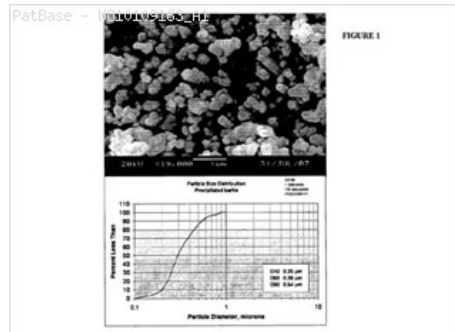
International (IPC 8-9): C09K C09K8/00 C09K8/03 C09K8/04 C09K8/05 C09K8/16 C09K8/26 C09K8/32 C09K8/36 E21B21/00 (Advanced/Invention); C09K8/00 C09K8/02 C09K8/03 (Core/Invention); C09K (Subclass/Invention)

International (IPC 1-7): C09K7/02

CPC: C09K8/36 C09K8/032 C09K2208/10 C09K2208/18

European: C09K8/03B C09K8/36 M09K208/10 M09K208/18

US: 166/305.1 507/116 507/117 507/136 507/137 507/138 507/139 507/140 507/140P



Family:

Publication number	Publication date	Application number	Application date
AR069721 AA	20100217	AR2009P100126	20090115
AU2010227289 AA	20100930	AU20100227289	20100316
AU2010227289 BB	20121101	AU20100227289	20100316
BRPI1011256 A2	20160322	BR2010PI11256	20100316
CA2710472 AA	20090723	CA20092710472	20090107
CA2710472 C	20120717	CA20092710472	20090107
CA2755727 AA	20100930	CA20102755727	20100316
CA2755727 C	20140429	CA20102755727	20100316
CN102428155 A	20120425	CN201080021501	20100316
CN102428155 B	20140423	CN201080021501	20100316
EA020536 B1	20141128	EA20110071156	20100316
EA201171156 A1	20120430	EA20110071156	20100316
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EP2411482 A1	20120201	EP20100710392	20100316
IL215142 A0	20111229	IL20110215142	20110914
IL215142 A0	20111229	IL20100215142	20100316
IL215142 A1	20140930	IL20100215142	20100316
IN07085DN2011 A	20130920	IN2011DN07085	20110915
JP2012521474 T2	20120913	JP20120501367T	20100316
MX2011010014 A1	20111011	MX20110010014	20100316
MY152039 A	20140815	MY20110004479	20100316
NZ595211 A	20130426	NZ20100595211	20100316
TH121167 A	20130215	TH20111002189	20100316
US2009186781 AA	20090723	US20080015696	20080117
US2009192052 AA	20090730	US20090409240	20090323
US2012277124 AA	20121101	US20120545123	20120710
US2012295821 AA	20121122	US20120534347	20120627
US8252729 BB	20120828	US20090409240	20090323
US8309497 BA	20121113	US20120534347	20120627
WO09090371 A1	20090723	WO2009GB00030	20090107
WO10109163 A1	20100930	WO2010GB00469	20100316

Priority:

US20080015696 20080117 WO2009GB00030 20090107 US20090409240 20090323
WO2010GB00469 20100316 US20120545123 20120710 US20120534347 20120627

Probable Assignee: HALLIBURTON ENERGY SERVICES INC

Assignee(s): (std): CURTIS PHILIP ANTHONY ; HALLIBURTON ENERGY SERVICES INC ; ZHANG YING ; HALLIBURTON ENERGY SERV INC ; TURNER CRAIG ROBERT

Assignee(s): HALLIBURTON ENERGY SERVICE INC ; HALLIBURTON ENERGY SERVICES INC ; HALLIBURTON ENERGY SERVICES INC A DELAWARE CORP ; HALLIBURTON ENERGY SERVICES INC

Inventor(s): (std): YING ZHANG ; ZHANG YING

Agent(s): CALLINANS; FISHER ADAMS KELLY CALLINANS; NORTON ROSE CANADA SENCRL SRL LLP; NORTON ROSE OR SENCRL SRL LLP; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; TURNER CRAIG ROBERT; COTTRILL EMILY ELIZABETH HELEN; REINHOLD COHN AND PARTNERS; CRAIG W RODDY HALLIBURTON ENERGY SERVICES; MCDERMOTT WILL EMERY LLP; CRAIG W; MCDERMOTT WILL AND EMERY LLP; CURTIS PHILIP ANTHONY

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: NANOFLUIDS AND METHODS OF USE FOR DRILLING AND COMPLETION FLUIDS

Abstract: Source: US2012015852A Nanomaterial compositions are useful for applications in drilling and completion fluids as enhancers of electrical and thermal conductivity, emulsion stabilizers, wellbore strength improvers, drag reduction agents, wettability changers, corrosion coating compositions and the like. These nanomaterials may be dispersed in the liquid phase in low volumetric fraction, particularly as compared to corresponding agents of larger size. Nanofluids (fluids containing nano-sized particles) may be used to drill at least part of the wellbore. Nanofluids for drilling and completion applications may be designed including nanoparticles such as carbon nanotubes. These fluids containing nanomaterials, such as carbon nanotubes, meet the required rheological and filtration properties for application in challenging HPHT drilling and completions operations.

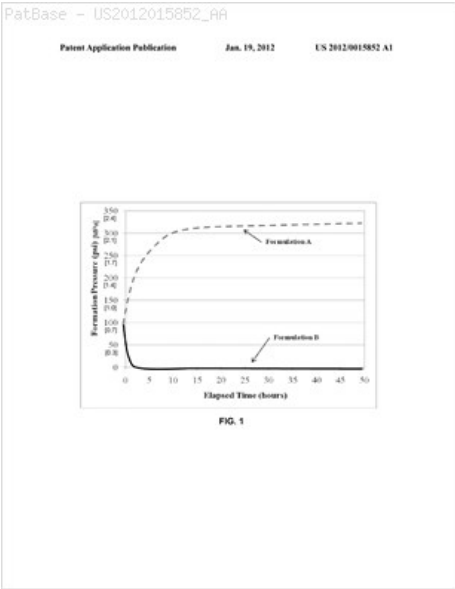
Classifications:

International (IPC 8-9): C09K8/00 C09K8/02 C09K8/03 C09K8/035 C09K8/04 C09K8/05 C09K8/06 C09K8/26 C09K8/32 C09K8/36 C09K8/502 C09K8/58 C09K8/60 C09K8/82 C09K8/84 C09K8/92 E21B21/06 E21B43/22 H01B1/10 (Advanced/Invention); B82Y30/00 (Advanced/Non-invention)

CPC: C09K8/035 C09K8/524 C09K8/528 C09K2208/12 C09K2208/20 C09K2208/22 C09K2208/32 C09K2208/34 C09K8/03 C09K8/04 C09K8/26 C09K8/36 E21B21/06 C09K8/92 C09K8/82 E21B21/062 C09K8/34 B82Y30/00 C09K8/05 C09K8/032 C09K2208/10 C09K8/32

European: C09K8/03B M09K208/10

US: 166/305.1 507/103 507/105 507/110 507/112 507/112P 507/117 507/117S 507/118 507/118S 507/119 507/119S 507/120 507/120S 507/124 507/124S 507/125 507/125S 507/128 507/129 507/131 507/134 507/135 507/136 507/138 507/139 507/140 507/140S 507/142 507/203 507/205 507/209 507/219 507/235 507/238 507/239 507/244 507/248 507/252 507/258 507/259 507/260 507/261 507/265 507/266 507/267 507/268 507/269 977/734 977/773 977/773S 977/775 977/902



Family:

Publication number	Publication date	Application number	Application date
AU2013271988 AA	20131212	AU20130271988	20130529
EP2859060 A1	20150415	EP20130800948	20130529
EP2859060 A4	20151230	EP20130800948	20130529
GB201316784 A0	20131106	GB20130016784	20120321
GB2502928 A1	20131211	GB20130016784	20120321
MX2014014606 A1	20150305	MX20140014606	20130529
NO20131315 A	20131018	NO20130001315	20131001
US2012015852 AA	20120119	US20110166448	20110622
US2012245058 AA	20120927	US20120424549	20120320
US2012322694 AA	20121220	US20120545706	20120710
US2013261030 AA	20131003	US20130903692	20130528
US2013341028 AA	20131226	US20130974692	20130823
US2014349894 AA	20141127	US20140455222	20140808
US8822386 BB	20140902	US20110166448	20110622
WO12009128 A2	20120119	WO2011US41639	20110623
WO12009128 A3	20120426	WO2011US41639	20110623
WO12129302 A2	20120927	WO2012US29936	20120321
WO12129302 A3	20130103	WO2012US29936	20120321
WO13012704 A1	20130124	WO2012US46616	20120713
WO13012704 A4	20130530	WO2012US46616	20120713
WO13184457 A1	20131212	WO2013US43004	20130529
WO14035861 A1	20140306	WO2013US56570	20130826

Priority:

US20100359111P 20100628	US20110466259P 20110322	US20110166448 20110622
US20120424549 20120320	US20110508199P 20110715	WO2012US29936 20120321
US20120545706 20120710	US20130903692 20130528	US20120656733P 20120607
US20130974692 20130823	US20120694502P 20120829	WO2013US43004 20130529
US20140455222 20140808		

Probable Assignee: BAKER HUGHES INC

Assignee(s): (std): BAKER HUGHES INC ; BREGE JONATHAN J ; CARDENAS ANTONIO ENRIQUE ; CHAKRABORTY SOMA ; QUINTERO LIRIO ; CLARK DAVID E ; MONTEIRO OTHON ; LEONARD ASHLEY D ; MONTEIRO OTHON REGO ; CHRISTIAN CHAD F ; ELLIS DANIEL R ; CHAKRABORTY SOMA

Inventor(s): (std): CLARK DAVID E ; CARDENAS ANTONIO ENRIQUE ; CARDENAS ANTONIA ENRIQUE ; QUINTERO LIRIO ; MONTEIRO OTHON ; MONTEIRO OTHON REGO ; MONTEIRO OTHON R ; LEONARD ASHLEY D ; CHRISTIAN CHAD F ; CHAKRABORTY SOMA ; BREGE JONATHAN J ; ELLIS DANIEL R ; CHAKRABORTY SOMA

Inventor(s): DANIEL R ELLIS ; OTHON MONTEIRO ; LIRIO QUINTERO ; OTHON R MONTEIRO

Agent(s): FREEHILLS PATENT ATTORNEYS; HOFFMANN BENJAMIN; MOSSMAN KUMAR AND TYLER PC; LITTLEFIELD STEPHEN A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VN VZ ZA ZM ZW



Title: USE OF NANOPARTICLES AS A LUBRICITY ADDITIVE IN WELL FLUIDS

Abstract: Source: US2015329762A A use of nanoparticles in a well fluid for improved lubricity is disclosed herein. The nanoparticles are present in the well fluid in low amounts below 5 wt percent. The nanoparticles may be formed ex situ and added to the fluid or in situ in the fluid. In one aspect, the well fluid is a drilling fluid. In a further aspect, the well fluid is an invert emulsion based fluid or an aqueous based fluid.

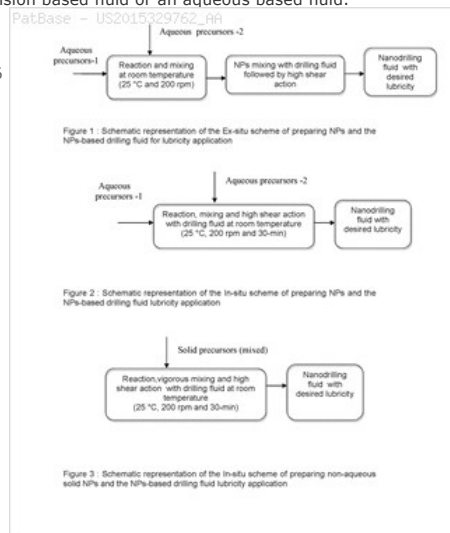
Classifications:

International (IPC 8-9): C09K8/03 C09K8/04 C09K8/32 C09K8/36 C09K8/42

E21B21/00 E21B21/06 E21B33/03 E21B43/16 (Advanced/Invention)

CPC: E21B21/00 C09K8/502 C09K8/5045 C09K2208/34 C09K8/04 C09K8/32 E21B43/16 E21B21/062 C09K8/36 C09K8/032 C09K2208/10

US: 166/305.1



Family:

Publication number	Publication date	Application number	Application date
AU2012369545 AA	20130815	AU20120369545	20120209
AU2012369546 AA	20130815	AU20120369546	20121001
CA2863815 AA	20140806	CA20122863815	20120209
CA2863850 AA	20140806	CA20122863850	20121001
CO7141466 A2	20141212	CO20140197884	20140908
EP2798035 A1	20141105	EP20120867972	20121001
EP2798035 A4	20151014	EP20120867972	20121001
MX2014009561 A1	20150126	MX20140009561	20140807
MX2014009561 A1	20150126	MX20140009561	20120209
MX2014009561 A1	20150126	MX20140009561	20121001
MX2014009562 A1	20150126	MX20140009562	20120209
US2015329762 AA	20151119	US20120377441	20121001
US2016009979 AA	20160114	US20120377438	20120209
WO13116920 A1	20130815	WO2012CA50075	20120209
WO13116921 A1	20130815	WO2012CA50688	20121001

Priority:

WO2012CA50075 20120209 AU20120369545 20120209 WO2012CA50688 20121001
CA20122863850 20121001 CO20140197884 20140908

Probable Assignee: NFLUIDS INC

Assignee(s): (std): HARELAND GEIR ; HUSEIN MAEN MOH D ; ZAKARIA MOHAMMAD FERDOUS ; NFLUIDS INC

Assignee(s): ZAKARIA MOHAMMAD FERDOUS133-1340 UNIVERSITY DRIVE NWCALGARYA1T2N 3Y7CA ; NFLUIDS INC3553-31 STREET NWCALGARYA1T2L 2K7CA ; ZAKARIA MOHAMMAD FERDOUS133 - 1340 UNIVERSITY DRIVE NWCALGARYA1T2N 3Y7CA ; HUSEIN MAEN MOH D239 EVANSTON VIEW NWCALGARYA1T3P 1C7CA ; HARELAND GEIR18 SILVER SPRINGS ROAD NWCALGARYA1T3B 4A6CA

Inventor(s): (std): HUESEIN MAEN MOH D ; HUSEIN MAEN MOH D ; HARELAND GEIR ; ZAKARIA MOHAMMAD FERDOUS

Inventor(s): ZAKARIA MOHAMMAD FERDOUS133 - 1340 UNIVERSITY DRIVE NWCALGARYA1T2N 3Y7CA ; ZAKARIA MOHAMMAD FERDOUS133-1340 UNIVERSITY DRIVE NWCALGARYA1T2N 3Y7CA ; HARELAND GEIR18 SILVER SPRINGS ROAD NWCALGARYA1T3B 4A6CA ; HUSEIN MAEN MOH D239 EVANSTON VIEW NWCALGARYA1T3P 1C7CA ; MAEN MOH D HUESEIN ; MOHAMMAD FERDOUS ZAKARIA ; GEIR HARELAND

Agent(s): GRIFFITH HACK; BORDEN LADNER GERVAIS LLP; MAURICIO JARAMILLO CAMPUZANO; JANSEN CORNELIS MARINUS; COLLARD CHRISTINE J ET AL; MARSMAN KATHLEEN E ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

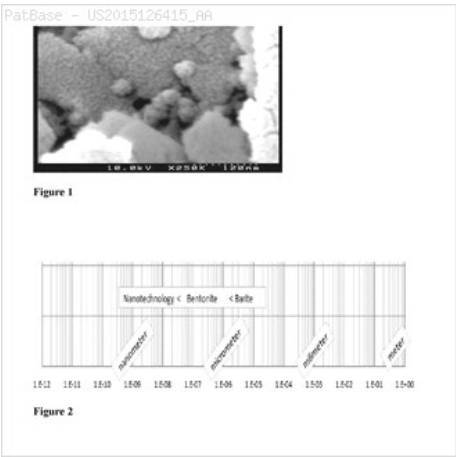
NOT APPROVED

Title: DRILLING FLUIDS WITH NANO AND GRANULAR PARTICLES AND THEIR USE FOR WELLBORE STRENGTHENING

Abstract: Source: US2015126415A There is described a drilling fluid for wellbore strengthening having nanoparticles and granular particles. In one aspect described herein, the drilling fluid is an invert emulsion based fluid. In a further aspect, the nanoparticles are iron hydroxide or calcium carbonate, and in a further aspect from about 1 to 30 nm in size. In one aspect described herein, the granular particles are graphite or calcium carbonate and in a further aspect, up to 250 micro m in size. The nanoparticles and granular particles plug fractures in the wellbore to strengthen the wellbore.

Classifications:

International (IPC 8-9): C09K8/05 C09K8/36 C09K8/516 E21B21/00 E21B33/138 (Advanced/Invention)
CPC: C09K8/516 E21B33/138 C09K8/502 C09K2208/10 E21B21/003 C09K8/36
US: 175/72 507/140



Family:

Publication number	Publication date	Application number	Application date
AU2013289816 AA	20140116	AU20130289816	20130709
CA2872917 AA	20141107	CA20132872917	20130709
CO7240437 A2	20150417	CO20140286185	20141230
EP2836565 A1	20150218	EP20130816096	20130709
EP2836565 A4	20151209	EP20130816096	20130709
MX2015000392 A1	20151123	MX20150000392	20130709
US2015126415 AA	20150507	US20130400938	20130709
WO14008598 A1	20140116	WO2013CA50532	20130709

Priority:
US20120671418P 20120713 WO2013CA50532 20130709 US20130400938 20130709

Probable Assignee: NFLUIDS INC
Assignee(s): (std): NFLUIDS INC
Assignee(s): NFLUIDS INC3553-31 STREET NWCALGARYA1T2L 2K7CA ; HARELAND GEIR18 SILVER SPRINGS ROAD NWCALGARYA1T3B 4A6CA ; HUSEIN MAEN MOH D239 EVANSTON VIEW NWCALGARYA1T3P 1C7CA
Inventor(s): (std): HARELAND GEIR ; HUSEIN MAEN MOH D ; HUSEN MAEN MOH D
Inventor(s): MAEN MOH D HUSEN ; GEIR HARELAND ; HUSEIN MAEN MOH D239 EVANSTON VIEW NWCALGARYA1T3P 1C7CA ; HARELAND GEIR18 SILVER SPRINGS ROAD NWCALGARYA1T3B 4A6CA
Agent(s): GRIFFITH HACK; BORDEN LADNER GERVAIS LLP; JANSEN CORNELIS MARINUS; COLLARD CHRISTINE J ET AL
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: NANOPARTICLE LUBRICITY AND ANTI-CORROSION AGENT

Abstract: Source: US2015065398A The invention provides, inter alia, compositions and methods of using a lubricating agent containing nanoparticles in various drilling applications. Furthermore, the lubricating agent may act as a corrosion inhibitor and a friction reducer.

Classifications:

International (IPC 8-9): C09K8/36 (Advanced/Invention)

CPC: C09K8/36 C09K2208/32 C09K2208/34 C09K2208/28 C09K8/54 C09K2208/10

US: 507/118 507/136

Family:

Publication number	Publication date	Application number	Application date
US2015065398 AA	20150305	US20140475265	20140902

Priority:

US20130872323P 20130830 US20140475265 20140902

Probable Assignee: KMP HOLDINGS LLC

Assignee(s): (std): KMP HOLDINGS LLC

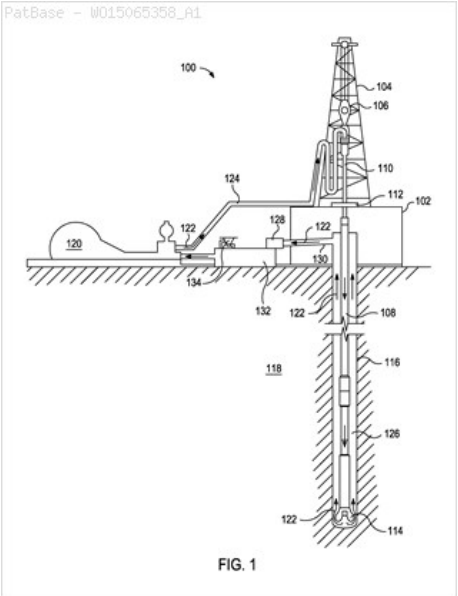
Inventor(s): (std): BLOCK RANDY ; GARTLAND CHERIE ; MCCLUNG GUY



Title: METHODS OF DESIGNING AN INVERT EMULSION FLUID HAVING HIGH ASSOCIATIVE STABILITY

Abstract: Some embodiments described herein relate to methods comprising providing a proposed invert emulsion formulation, wherein the proposed invert emulsion formulation comprises an oil phase, an aqueous phase, and a particulates fraction comprising a first sub-fraction and a second sub-fraction, wherein the first sub-fraction comprises high-gravity particulates and the second sub-fraction comprises low-gravity particulates; calculating an initial associative stability value of the proposed invert emulsion based on the degree of association between the aqueous phase and the particulates fraction comprising both the first sub-fraction and the second sub-fraction; manipulating the proposed invert emulsion based on the initial associative stability value so as to produce an associatively stable invert emulsion having a final associative stability value in the range of between about 50 percent and about 100 percent; and introducing the associatively stable invert emulsion into a subterranean formation.

Classifications:
International (IPC 8-9): C09K8/36 C09K8/58 C09K8/84 E21B21/00 E21B43/22 (Advanced/Invention)
CPC: C09K8/82 C09K8/36 C09K8/502 C09K8/528 C09K8/565 C09K8/64 C09K8/74 C09K2208/12 C09K2208/24 C09K2208/26 C09K2208/28 C09K2208/32



Family:

Publication number	Publication date	Application number	Application date
AU2013404055 AA	20160407	AU20130404055	20131030
CA2924591 AA	20160316	CA20132924591	20131030
WO15065358 A1	20150507	WO2013US67433	20131030

Priority:

WO2013US67433 20131030

Probable Assignee: HALLIBURTON ENERGY SERVICES INC

Assignee(s): (std): HALLIBURTON ENERGY SERVICES INC

Assignee(s): JAMISON DALE E ; TEKE KUSHABHAU D ; KULKARNI SANDEEP D

Inventor(s): (std): JAMISON DALE E ; KULKARNI SANDEEP D ; TEKE KUSHABHAU D

Agent(s): NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; KAISER IONA ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Estefania Paez

Search history

- Search 1: [SP]: A method of making the nanoparticle-containing well fluid defined in any one of claims 1 to 17 by forming the nanoparticles ex situ, comprising the steps of providing aqueous-based precursor solutions for forming the nanoparticles, mixing the precursor solutions under high shear, and adding the mixed precursor solution to the well fluid, to form the nanoparticle-containing fluid, wherein the nanoparticles act as fluid loss material for reducing fluid loss in an underground formation. (Results 10)
- Search 2: TAC=(METHOD~ AND SOLUTION~ AND NANO~ AND DRILL~ AND HIGH~ SHEAR~) (Results 2)
- Search 3: TAC=(METHOD~ AND SOLUTION~ AND NANOPARTICLE~ AND HIGH~ SHEAR~ AND LOSS~) (Results 9)
- Search 4: TAC=(METHOD~ AND SOLUTION~ AND FLUID~ AND NANOPARTICLE~ AND HIGH~ SHEAR~ AND LOSS~) (Results 7)
- Search 5: TAC=(nanoparticle and fluid and aqueous and "high shear" and mix) and PD=19400101:20120201 (Results 2)
- Search 6: TAC=(nanoparticle and water and solution and mix and fluid) and PD=19400101:20120201 (Results 20)

Title: THIN FILM WITH NON-SELF-AGGREGATING UNIFORM HETEROGENEITY AND DRUG DELIVERY SYSTEMS MADE THEREFROM

Abstract: Source: US2003107149A The invention relates to the film products and methods of their preparation that demonstrate a non-self-aggregating uniform heterogeneity. Desirably the films disintegrate in **water** and may be formed by a controlled drying process, or other process that maintains the required uniformity of the film.

FDA Data:

Application number	Active ingredient	Proprietary name	Applicant	Date of approval
022410	BUPRENORPHINE HYDROCHLORIDE; NALOXONE HYDROCHLORID	SUBOXONE	INDIVIOR INC	Aug 10, 2012
022410	BUPRENORPHINE HYDROCHLORIDE; NALOXONE HYDROCHLORID	SUBOXONE	INDIVIOR INC	Aug 30, 2010
022410	BUPRENORPHINE HYDROCHLORIDE; NALOXONE HYDROCHLORID	SUBOXONE	RECKITT BENCKISER	Aug 10, 2012
022410	BUPRENORPHINE HYDROCHLORIDE; NALOXONE HYDROCHLORID	SUBOXONE	RECKITT BENCKISER	Aug 30, 2010
022410	BUPRENORPHINE; NALOXONE	SUBOXONE	RECKITT BENCKISER	Aug 30, 2010

Classifications:

International (IPC 8-9): A01N25/04 A01N25/10 A01N25/34 A01P17/00 A01P3/00 A23C9/152 A23L1/00 A23L1/221 A23L1/302 A23L1/304 A23L27/10 A23L3/40 A23P1/08 A61F13/00 A61F13/02 A61J3/00 A61K31/00 A61K31/137 A61K31/138 A61K31/167 A61K31/192 A61K31/194 A61K31/195 A61K31/341 A61K31/352 A61K31/355 A61K31/4164 A61K31/422 A61K31/426 A61K31/4375 A61K31/439 A61K31/44 A61K31/4422 A61K31/443 A61K31/4545 A61K31/485 A61K31/495 A61K31/496 A61K31/5025 A61K31/519 A61K31/567 A61K31/70 A61K31/704 A61K31/7088 A61K31/715 A61K31/74 A61K33/10 A61K35/66 A61K36/66 A61K38/00 A61K38/02 A61K38/17 A61K38/28 A61K38/43 A61K39/00 A61K39/35 A61K45/00 A61K47/00 A61K47/02 A61K47/04 A61K47/06 A61K47/08 A61K47/10 A61K47/12 A61K47/14 A61K47/18 A61K47/22 A61K47/26 A61K47/30 A61K47/32 A61K47/34 A61K47/36 A61K47/38 A61K47/42 A61K47/44 A61K47/46 A61K8/00 A61K8/02 A61K8/11 A61K8/18 A61K8/19 A61K8/25 A61K8/34 A61K8/35 A61K8/36 A61K8/64 A61K8/66 A61K8/67 A61K8/72 A61K8/73 A61K8/81 A61K8/86 A61K8/89 A61K8/891 A61K8/96 A61K9/00 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Family:

Publication number	Publication date	Application number	Application date
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US9108340 BB	20150818	US20130974413	20130823
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WO08039737 A2	20080403	WO2007US79357	20070925
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WO08100375 A2	20080821	WO2008US00973	20080125
WO08100375 A3	20081106	WO2008US00973	20080125
WO11143424 A1	20111117	WO2011US36244	20110512

Priority:

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WO2006US35149	20060908	WO2006US47927	20061214	WO2006US46269	20061205
US20080128950	20080529	US20080102071	20080414	US20080107389	20080422
US20080171692	20080711	AU20080227076	20080925	US20050715528	20050909
WO2007US79357	20070925	US20090411505	20090326	US20090411835	20090326
WO2008US00973	20080125	US20060639013	20061214	US20050754092P	20051227
US20060517982	20060908	US20050715528P	20050909	US20090575261	20091007
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JP20070534705	20050928	US20060473356	20060622	EP20050803856	20050928
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US20110052655	20110321	US20110096996	20110428	US20120342614	20120202
WO2011US36244	20110512	AU20120261557	20121121	US20130853253	20130329
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US20130890542	20130509	US20140195362	20140303	US20140284019	20140521
US20140572173	20141216	JP20150059123	20150323	US20150844810	20150903
US20140492874	20140922				

Probable Assignee: MONOSOL RX LLC

Assignee(s) (std): FRANCIS VIMALA ; FUISZ JOSEPH M ; FUISZ RICHARD C ; FUISZ RICHARD H ; INT FLUIDICS ; KOSMOS PHARMA ; MONOSOLRX LLC ; YANG ROBERT K ; MYERS GARY L ; MYERS GARRY L ; VERALL ANDREW PHILLIP ; SANGHVI PRADEEP ; MOSS LAURA ; SANGHVI PRADEEP P ; INTERNAT FLUIDICS ; MONOSOIRX LLC ; MONOSOL RX LLC ; VERRALL ANDREW PHILIP

Assignee(s): MONOSOL RX LLC PORTAGE ; WHITE OAK GLOBAL ADVISORS LLC AS AGENT ; MONOSOSLRX LLC ; PHILIP MORRIS USA INC ; WHITE OAK GLOBAL ADVISORS LLC AGENT AS ; INTERNATIONAL FLUIDICS

Inventor(s) (std): FUISZ JOSEPH M ; FUISZ RICHARD C ; MYERS GARY L ; YANG ROBERT K ; YANG ROBERT K FUISZ RICHARD C ; VERRALL ANDREW PHILIP ; VERALL ANDREW P ; SANGHVI PRADEEP ; ROBERT K YANG ; RICHARD C FUISZ ; PRADEEP SANGHVI ; MYERS GARRY L ; MOSS LAURA ; LAURA MOSS ; JOSEPH M FUISZ ; GARY L MYERS ; FRANCIS VIMALA ; YANG ROERT K ; YANG ROBERT ; VIMALA FRANCIS ; VERALL ANDREW PHILLIP ; PHILLIP VERALL ANDREW ; MYERS GARY ; FUISZ RICHARD ; FUISZ JOSEPH M MYERS GARY L FU ; FUISZ JOSEPH ; FUISZ RICHARD H ; SANGHVI PRADEEP P

Inventor(s): PRADEEP P SANGHVI ; ANDREW PHILLIP VERALL ; YANG ROBERT K FLUSHING ; MYERS GARY L KINGSPORT ; FUISZ RICHARD C BEVERLY HILLS ; VERALL ANDREW ; RICHARD H FUISZ ; MYERS GARRY ; FUISZ JOSEPH M MYERS GARY L FUISZ RICHARD C YANG R ; GARRY L MYERS ; YANG ROBERT K FUISZ RICHARD C MYERS GARY L FUISZ J ; WO 04 066986 A1 ; FUIZ JOSEPH M ; FUIZ RICHARD C

Agent(s): PHILLIPS ORMONDE FITZPATRICK; FISHER ADAMS KELLY PTY LTD; FISHER ADAMS KELLY CALLINANS; FISHER ADAMS KELLY; PIASETZKI AND NENNIGER LLP; PIASETZKI NENNIGER KVAS LLP; STOLMAR AND PARTNER PATENTANWALTE PARTG MBB; ZEESTRATEN ALBERTUS W J; RAGGERS RENE JOHN; KORTEKAAS MARCEL C J A; WITTOP KONING TOM HUGO ET AL; KORTEKAAS MARCEL CJA; ABG PATENTES S L; EP AND C; SUGRANES PEDRO; KUMAKURA YOSHIO; OGAWA NOBUO; HAKODA ATSUSHI; HIRAYAMA KOJI; ASAI KENJI; HOFFMANN AND BARON LLP; HOFFMAN AND BARON LLP; SCOLA DANIEL A JR; SCOLA DANIEL A; SCOLA DANIEL A ET AL; SCOLA DANIEL A JR ET AL; BUDZYN LUDOMIR A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LT LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: NANO-STRUCTURED DEVICE FOR ANALYSIS OR SEPARATION, AND ITS PREPARATION AND APPLICATION

Abstract: Source: US2006057631A This invention involves the nano-structured support used for separation or/and analysis, especially the chip substrate, ELISA plate substrate, planar chromatography strip and chromatography gel. Besides, it involves the functionalized nano-structured support of high sensibility for separation or/and analysis, especially the analysis-chip, ELISA plate, planar chromatography reagent strip and chromatography gel. In addition, this invention also involves the nano-structured marking system for analysis. Moreover, it concerns the test kit; especially the chip kit, ELISA kit, and planar chromatography kit. What's more, this invention involves the preparing methods and the applications of all those mentioned above, especially the chip analysis, analyses with ELISA plate, planar chromatography strip and chromatography separation.

Classifications:

International (IPC 8-9): B01J20/28 B01J20/286 B01J20/32 B01L3/00 B01L99/00 C07K2/00 C12M1/34 C12Q1/00 C12Q1/68 G01N1/00 G01N21/00 G01N21/25 G01N21/64 G01N21/76 G01N27/00 G01N30/88 G01N33/00 G01N33/48 G01N33/50 G01N33/52 G01N33/53 G01N33/531 G01N33/543 G01N33/544 G01N33/545 G01N33/546 G01N33/547 G01N33/551 G01N33/552 G01N33/553 G01N33/566 G01N33/68 G01N35/00 G01N35/02 G01N35/10 G01N37/00 (Advanced/Invention); G01N35/00 G01N35/04 (Advanced/Non-invention); B01J20/28 B01J20/281 B01J20/30 C07K2/00 C12M1/34 C12Q1/00 C12Q1/68 G01N1/00 G01N21/00 G01N21/64 G01N21/76 G01N30/00 G01N33/00 G01N33/48 G01N33/53 G01N33/531 G01N33/543 G01N33/544 G01N33/551 G01N33/68 G01N37/00 (Core/Invention)

International (IPC 1-7): C07K2/00 C12M1/34 C12Q1/00 C12Q1/68 G01N21/00 G01N21/64 G01N21/76 G01N27/00 G01N33/00 G01N33/48 G01N33/50 G01N33/53 G01N33/531 G01N33/543 G01N33/552 G01N33/68 G01N35/00 G01N35/02 G01N33/54386 G01N33/54393 G01N33/543 G01N33/5434 G01N33/54346 B01J2219/00286 B01J2219/00353 B01J2219/00364 B01J2219/00527 B01J2219/00585 B01J2219/00596 B01J2219/00605 B01J2219/0061 B01J2219/00612 B01J2219/00621 B01J2219/0063 B01J2219/00637 B01J2219/00644 B01J2219/00659 B01J2219/00662 B01J2219/00677 B01J2219/00725 B01L3/5025 B01L2300/0636 B01L2300/0816 B01L2300/0877 G01N33/528 G01N2035/0437 G01N33/544 B01J20/28007 B01J20/28009 B01J20/28011 B01J20/28033 B01J20/28047 B01J20/28057 B01J20/286 B01J20/3242 B01J20/3295 B01J2219/00626 B01J2219/00641 B01J2219/00648 B82Y30/00 G01N33/54326 G01N33/54366 B01L3/5027 Y10S977/702 Y10S977/705 Y10S977/773 Y10S977/789 Y10S977/791 Y10S977/792 Y10S977/793 Y10S977/794 Y10S977/795 Y10S977/92 Y10S977/957 Y10S977/958 C07K2/00 C12Q1/00 G01N33/68 C12Q1/68 G01N35/1074 B01L3/0248 B01L99/00 B01L2300/0819 B01L2300/0829 G01N21/6452 G01N35/1004 G01N2035/00158 G01N2035/1034

European: B01J20/286 B01J20/28B12 B01J20/28B4D B01J20/28B8 B01J20/28D24 B01J20/28D32 B01J20/28F4 B01J20/32F8 B01J20/32H8 B01L3/5025 B01L3/5027 B01L9/52 B82Y30/00 G01N21/64P2 G01N33/52D G01N33/543 G01N33/543D4 G01N33/543D4D G01N33/543D6 G01N33/543K G01N33/543K4 G01N33/543M G01N33/544 G01N35/10M5 L01J219/00C L01J219/00C10B4 L01J219/00C2B2D L01J219/00C2D2 L01J219/00C2D4 L01J219/00C2L8 L01J219/00C4B L01J219/00C4H L01J219/00C4L12 L01J219/00C4L12B L01J219/00C4L2 L01J219/00C4L24 L01J219/00C4L2D L01J219/00C4L2F L01J219/00C4L2H4 L01J219/00C4L2J2 L01J219/00C4L2J6 L01J219/00C4L2L4 L01J219/00C4L3B L01J219/00C4L3D L01J219/00C4L4B L01L300/06B2 L01L300/08B12 L01L300/08B4 L01L300/08B6 L01L300/08E10 S01N35/00C7D S01N35/04A8 S01N35/10B S01N35/10F4
US: 422/400 422/400P 422/58 422/58P 422/68.1 422/68.100P 422/82.09 435/287.2 435/287.200S 435/287.3 435/287.300S 435/288.4 435/6 435/6.12 435/6.120P 435/7.1 435/7.100S 435/7.92 435/7.94 436/164 436/523 436/524 436/525 436/526 436/527 436/528 436/529 436/530 436/531 977/702 977/705 977/773 977/789 977/791 977/792 977/793 977/794 977/795 977/920 977/957 977/958

Family:

Publication number	Publication date	Application number	Application date
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AU2003289617 AH	20040930	AU20030289617	20031219
CN100347545 C	20071107	CN20031017645	20030408
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CN1250969 C	20060412	CN20031017446	20030313
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US2007207060 AA	20070906	US20070655848	20070122
US7842515 BB	20101130	US20050258996	20051027
WO04081570 A1	20040923	WO2003CN01091	20031219
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Priority:

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WO2003CN01091	20031219	WO2004CN00169	20040304		

Probable Assignee: CHENGDU KUACHANG SCIENCE TECHNOLOGY CO LTD

Assignee(s): (std): CHENGDU KUACHANG MEDICAL IND L ; CHENGDU KUACHANG MEDICAL IND LTD ; CHENGDU KUACHANG MEDICAL INDUS ; CHENGDU KUACHANG SCIENCE AND T ; CHENGDU KUACHANG SCIENCE AND TEC ; CHENGDU KUACHANG MEDICAL INDUSTRIAL LIMITED ; CHENGDU KUACHANG SCIENCE AND TECHNOLOGY CO LTD ; KUACHANG SCIENCE TECHNOLOGY CO ; KUANCHANG MEDICAL IND CO ; ZOU FANGLIN ; WANG JIANXIA ; KUACHANG MEDICAL IND CO LTD CH ; KUANCHANG MEDICAL IND CO LTD ; KUACHANG SCIENCE TECHNOLOGY CO LTD ; KUANCHANG MEDICAL INDUSTRY CO ; CHENGDU KUACHANG TECHNOLOGY CO LTD ; CHEN CHUNSHENG ; CHEN NING

Assignee(s): CHENGDU KUACHANG MECICAL INDUSTRIAL LTD ; KUACHANG MEDICAL IND CO LTD CHENGDU ; KUANCHANG MEDICAL INDUSTRY CO LTD CHENGDU ; KUACHANG SCIENCE TECHNOLOGY CO LTD CHENGDU ; CHENGDU KUANCHANG MEDICAL INDUSTRIAL LTD ; KUACHANG MEDICAL IND CO ; KUANCHANG MEDICAL IND CO LTD CHENGDU ; KUACHANG MEDICAL IND CO LTD ; CHENGDU KUACHANG SCIENCE TECHNOLOGY CO LTD ; CHENGDU KUACHANG TECHNOLOGY CO ; CHENGDU KUACHANG MEDICAL INDUSTRY CO LTD ; CHENGDU KUACHANG MEDICAL INDUSTRIAL LTD ; CHENGDU KUACHANG MEDICAL INDUSTRY CO ; CHENGDU KUACHANG SCIENCE AND TECHNOLOGY CO

Inventor(s): (std): CHEN CHUNSHENG ; CHEN CHUSHENG ; CHEN NING ; CHUNSHENG CHEN ; CHUSHENG CHEN ; FANGLIN ZOU ; JIANXIA WANG ; NING CHEN ; WANG JIANXIA ; ZOU FANGLIN ; ZOU FANGLIN CHEN

Inventor(s): ZOU FANLIN ; FANGLIN CHEN ZOU

Agent(s): GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAEUSSER; SUGIYAMA NAOTO; HOSHI TAKAKO; SHIROGANE HIROSHI; AKAMATSU TOSHIKI; YAMASAKI YUKUZO; BIRCH STEWART KOLASCH AND BIRCH; BIRCH STEWART KOLASCH AND BIRCH LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: METHODS AND COMPOSITIONS FOR TREATING GASTROINTESTINAL TOXICITY INDUCED BY CYTOABLATIVE THERAPY

Abstract: Source: US2004110687A The present invention relates to pharmaceutical preparations and methods for alleviating and reducing the gastrointestinal toxicity and dysfunction induced by cytoablative therapy, wherein immunomodulatory peptides are employed either alone or in combination with additional therapeutic agents. Also provided are improvements to cytoablative cancer therapy, wherein administration of the subject peptides in conjunction with cytoablative therapy enables the administration of increased maximum tolerated doses of the cytoablative agent(s) for improved efficacy and tumor response.

Classifications:

International (IPC 8-9): A61K38/00 A61K38/04 A61K38/08 A61K45/00 A61P1/00 A61P43/00 C07K7/06 (Advanced/Invention); A61K38/04 A61K38/08 (Advanced/Non-invention)
International (IPC 1-7): A61K38/00 A61K38/04 A61K38/08 A61K45/00 A61P1/00 A61P35/00 A61P43/00 C07K7/06
CPC: A61K38/08 C07K7/06
European: A61K38/08 C07K7/06
US: 424/185.1 424/185.100P 514/15 514/18.3 514/18.300S 514/21.6 514/21.600S



Family:

Publication number	Publication date	Application number	Application date
AU2003219971 AA	20030909	AU20030219971	20030226
BRPI0307979 A	20050222	BR2003PI07979	20030226
CA2477231 AA	20040825	CA20032477231	20030226
CN1642568 A	20050720	CN20038007184	20030226
CO5611158 A2	20060228	CO20040094999	20040923
EP1485118 A2	20041215	EP20030716258	20030226
IL163718 A0	20051218	IL20030163718	20030226
IN01233KN2004 A	20060505	IN2004KN01233	20040824
JP2005524650 T2	20050818	JP20030570808T	20030226
KR20040094745 A	20041110	KR20047013390	20030226
MA27187 A1	20050103	MA20040027866	20040920
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NO20044064 A	20041118	NO20040004064	20040924
RU2004128444 A	20050610	RU20040128444	20030226
US2004110687 AA	20040610	US20030376647	20030226
WO03072061 A2	20030904	WO2003US06333	20030226
WO03072061 A3	20040708	WO2003US06333	20030226

Priority:

US20020360211 20020226 US20020360211P 20020226 WO2003US06333 20030226
US20030376647 20030226

Probable Assignee: SANGSTAT MEDICAL CORP

Assignee(s): (std): BUELOW ROLAND ; NGSTAT MEDICAL CORP ; SANGSTAT MEDICAL CORP

Inventor(s): (std): BUELOW ROLAND ; ROLAND BUELOW

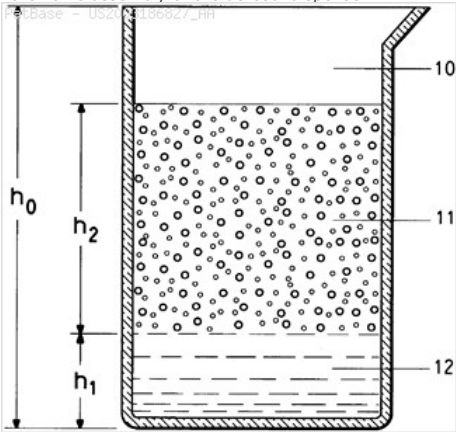
Agent(s): DAVIES COLLISON CAVE; SMART AND BIGGAR

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: REMOVING STUBBORN MILDEW STAIN

Abstract: Source: US2003186827A An aqueous cleaning composition **fluid** foam containing an alkali metal hypochlorite has a particular combination of precursor **solution** relative viscosity, foam syneresis value, foam horizontal thickness half-life and foam vertical wall clingability, and compared to known hypochlorite-containing cleaning compositions, provides superior cleaning of stubborn mildew, normally without scrubbing. The cleaning composition **fluid** foam is produced by vigorous agitation of an aqueous hypochlorite **solution** containing an alkaline builder and a surfactant in the presence of a gas, or by injection of a pressurized propellant into an aerosol dispenser containing such **solution** and then passing the **solution**/propellant **mix** through a mechanical break-up actuator in the valve assembly of the aerosol dispenser.

Classifications:
International (IPC 8-9): A01N25/16 A01N59/00 B65D83/28 C09K3/30 C11D1/00 C11D1/04 C11D1/22 C11D1/24 C11D1/62 C11D1/75 C11D11/00 C11D17/00 C11D3/00 C11D3/02 C11D3/395 C11D3/48 C11D7/18 C11D7/54 C11D9/42 G06F17/30 G06K9/00 G06K9/54 (Advanced/Invention); C11D11/00 C11D3/02 C11D3/395 C11D3/48 G06F17/30 G06K9/00 G06K9/54 (Core/Invention); C11D (Subclass/Invention)
International (IPC 1-7): A01N25/04 B05B1/28 C11D1/00 C11D1/04 C11D1/22 C11D1/75 C11D11/00 C11D17/00 C11D3/00 C11D3/02 C11D3/395 C11D7/18 C11D7/54 C11D9/42
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European: A01N25/16 A01N59/00 C11D1/04 C11D1/24 C11D1/75 C11D11/00F C11D17/00E C11D17/04B C11D3/00B19 C11D3/04H C11D3/395B C11D3/395D C11D3/395H C11D3/48 C11D3/50 G06Q30/00 G06Q40/025
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Family:

Publication number	Publication date	Application number	Application date
AU2004282518 AA	20050428	AU20040282518	20041004
CA2480893 AA	20040929	CA20032480893	20030328
CA2542122 AA	20060407	CA20042542122	20041004
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Priority:
US20020369366P 20020401 US20030402169 20030328 WO2003US09641 20030328
US20030509931P 20031009 US20030527204P 20031205 US20040867069 20040614
US20050159439 20050623 WO2004US32713 20041004 US20050159493 20050623

Probable Assignee: FIBER ENGINEERING INC
Assignee(s): (std): FIBER ENGINEERING ; FIBER ENGINEERING INC ; FOLCHETTI J R ; FOLCHETTI J ROBERT ; FOLCHETTI JOHN E ; MAKANSI MUNZER ; KLING N KLEEN PRODUCTS INC
Assignee(s): KLING KLEEN PRODUCTS INC
Inventor(s): (std): MAKANSI MUNZER ; MUNZER MAKANSI ; FOLCHETTI J R ; FOLCHETTI JOHN E ; FOLCHETTI J ROBERT
Inventor(s): FOLCHETTI J ; FOLCHETTI JOHN
Agent(s): FB RICE ; SMART AND BIGGAR ; THOMAS KAYDEN HORSTEMEYER AND RISLEY LLP ; LAW OFFICES OF PB TUFARIELLO PC INTELLECTULAW ; P B TUFARIELLO INTELLECTULAW
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: METHOD FOR PREPARING SOLID-STATE POLYMER ZINC-AIR BATTERY

Abstract: Source: US2003228522A This invention relates to a method for fabricating solid-state alkaline polymer Zn-air battery, which consists of a zinc-gel anode, an air cathode electrode, and alkaline polymer electrolyte. The formulation of said zinc gel anode is similar to that of alkaline Zn-MnO₂ battery. The zinc gel anode contains a mixture of electrolytic dendritic zinc powders, KOH electrolyte, gelling agent and small amount of additives. The air cathode electrode is made by carbon gas diffusion electrode, which comprises two layers, namely gas diffusion layer and active layer. The active layer on the electrolyte side uses a high surface area carbon for oxygen reduction reaction and potassium permanganate and MnO₂ as catalysts for oxygen reduction. The diffusion layer on the air side has high PTFE content to prevent KOH electrolyte from weeping or climbing. Due to adequate amount of fresh air and oxygen supply, the air cathode electrode can run continuously. Theoretically, the polymer zinc-air battery is an accumulator if the cell has sufficient zinc powder and electrolyte, and the air cathode plays the role of energy transfer.

Classifications:

International (IPC 8-9): C25B11/04 H01M12/06 H01M4/00 (Advanced/Invention);

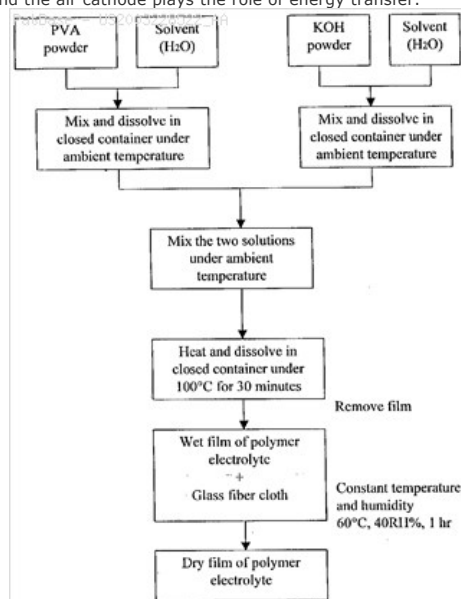
C25B11/00 H01M12/00 (Core/Invention)

International (IPC 1-7): H01M10/26 H01M10/40 H01M4/00 H01M4/88

CPC: H01M12/06

European: H01M12/06

US: 204/291 429/306 429/306P 502/101 502/101S

**Family:**

Publication number	Publication date	Application number	Application date
TW557596 B	20031011	TW20020111828	20020603
US2003228522 AA	20031211	US20020219327	20020816
US2007045106 AA	20070301	US20060491079	20060724

Priority:

TW20020111828 20020306 TW20020111828 20020603 US20020219327 20020816
US20060491079 20060724

Probable Assignee: MING CHI INST OF TECHNOLOGY

Assignee(s): (std): MING CHI INST OF TECHNOLOGY ; MING CHI INST TECHNOLOGY

Assignee(s): MING CHI INSTITUTE OF TECHNOLOGY ; MING CHI INST

Inventor(s): (std): CHIU JUNG MING ; HUANG CHI NENG ; LIN SHENG JEN ; YANG CHUN CHEN

Agent(s): TROXELL LAW OFFICE PLLC

Title: DEVICE AND METHOD FOR PRESSURE-DRIVEN PLUG TRANSPORT AND REACTION

Abstract: Source: US2005087122A The present invention provides microfabricated substrates and methods of conducting reactions within these substrates. The reactions occur in plugs transported in the flow of a carrier-**fluid**.

Classifications:

International (IPC 8-9): B01F1/00 B01F13/00 B01F3/08 B01F5/00 B01F5/06 B01J19/00 B01L3/00 B81B1/00 B82Y30/00 B82Y40/00 C07K1/14 C12M1/34 C12N15/00 C12N9/34 C12P19/34 C12Q1/00 C12Q1/02 C12Q1/44 C12Q1/68 C12Q1/70 C30B1/00 F15D1/00 G01N1/00 G01N1/28 G01N15/14 G01N21/00 G01N21/64 G01N21/75 G01N21/76 G01N27/447 G01N31/00 G01N33/00 G01N33/48 G01N33/577 G01N33/68 G01N35/08 G01N37/00 H01J49/26 (Advanced/Invention); B82Y30/00 C12M1/00 C12N9/36 G01N15/14 (Advanced/Non-invention); G01N (Subclass/Invention)

International (IPC 1-7): C30B1/00 G01N1/00 G01N31/00 G01N33/577

CPC: G01N1/28 B01F5/0646 B01F5/0647 B01F13/0071 B01J19/0093 B01J2219/00286 B01J2219/00576 B01J2219/00585 B01J2219/00599 B01J2219/00722 B01J2219/00725 B01J2219/00736 B01J2219/00756 B01J2219/00783 B01J2219/00837 B01J2219/0086 B01J2219/00869 B01J2219/00889 B01J2219/00891 B01J2219/00975 B01J2219/00977 B01L2200/0668 B01L2300/0867 B01L2300/0883 B01L2400/0424 B01L2400/0448 B01L2400/0454 B01L2400/0487 B82Y30/00 G01N15/1484 G01N35/085 G01N2015/1409 Y10T436/12 Y10T436/2575 Y10T117/10 Y10T436/25 G01N35/08 Y10T137/0318 B01L3/502746 B01L3/502784 Y10T436/118339 Y10T436/117497 Y10T436/143333 C12Q1/44 C12P19/34 B01J19/0046 G01N15/1404

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US: 117/14 117/2 117/200 117/200S 117/2P 137/1 137/1S 204/451 204/451S 204/452 204/601 204/601S 250/288 250/288S 422/502 422/502P 422/503 422/504 422/68.1 422/68.100P 422/68.100S 422/82.05 422/82.050P 422/82.050S 422/82.08 422/82.080S 435/287.2 435/287.200P 435/288.7 435/29 435/29S 435/4 435/4S 435/5 435/5P 435/6.1 435/6.12 435/6.120S 435/6.19 435/91.2 435/91.200S 436/164 436/164S 436/172 436/172P 436/174 436/174S 436/180 436/2 436/34 436/34P 436/4 436/52 436/53 436/53S 436/53P 436/55 436/86 436/86S 436/94 436/94S

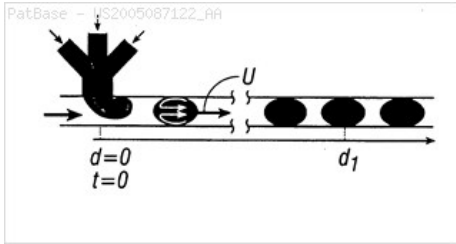
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AU2003290508 AH	20040513	AU20030290508	20030509	
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EP2302389 A1	20110330	EP20100174435	20030509	
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JP5519975 B2	20140611	JP20090194875	20090825	
JP5859393 B2	20160210	JP20120151353	20120705	
US2005087122 AA	20050428	US20040765718	20040126	
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Priority:

JP20020379927P	20020509	US20020394544P	20020708	WO2003US14794	20030509
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Probable Assignee: UNIV CHICAGO



Assignee(s): (std): GERDTS CORY JOHN ; ISMAGILOV RUSTEM F ; ISMAGLIOV RUSTEM F ; TICE JOSHUA D ; SONG HELEN ; RUSTEM ISMAGILOV F ; ROACH JR LEWIS SPENCER ; UNIV CHICAGO ; ZHENG BO ; TICE JOSHUA DAVID

Assignee(s): UNIVERSITY OF CHICAGO ; UNIV OF CHICAGO ; UNIV ; THE UNIVERSITY OF CHICAGO ; OF CHICAGO UNIV ; CHICAGO UNIV ; GERDTS CORY J

Inventor(s): (std): GERDTS CORY J ; GERDTS CORY JOHN ; ISMAGILOV RUSTEM F ; ISMAGLIOV RUSTEM F ; ROACH JR LEWIS SPENCER ; ROACH LEWIS SPENCER ; RUSTEM ISMAGILOV F ; SONG HELEN ; TICE JOSHUA D ; TICE JOSHUA DAVID ; ZHENG BO

Inventor(s): TICE JOSHUA ; GERDTS CORY ; RUSTEM F ISMAGILOV ; ISMAGLIOV RUSTEM ; ISMAGILOV RUSTEM

Agent(s): GARRATT PETER DOUGLAS; BRINKS HOFER GILSON AND LIONE; THOMAS C; BROWN RUDNICK LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NI NL NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

Abstract: Source: US2005252658A An aqueous, viscoelastic **fluid** gelled with a viscoelastic surfactant (VES) is stabilized and improved with an effective amount of an alkali earth metal oxide and/or alkali earth metal hydroxide. These **fluids** are more stable and have reduced or no tendency to precipitate, particularly at elevated temperatures. The additives may also increase viscosity to the point where less VES is required to maintain a given viscosity. These stabilized, enhanced, aqueous viscoelastic **fluids** may be used as treatment **fluids** for subterranean hydrocarbon formations, such as in hydraulic fracturing.

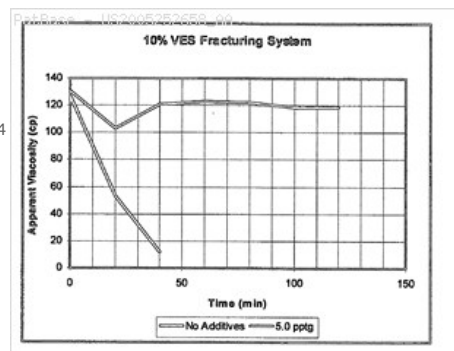
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US 166/208 166/241 166/250 010 166/250 0105 166/250 122 166/250 20P 166/266 166/268 166/276 166/278 166/279 166/280 1 166/280 2 166/280 200P 166/281 166/282 166/283 166/285 166/300 166/301 1 166/305 166/307 166/308 1 166/308 100P 166/308 2 166/308 200P 166/308 3 210/263 210/282 210/282S 210/502 1 210/502 100S 210/504 210/670 210/679 210/690 210/691 427/180 427/180S 507/140 507/140P 507/200 507/200S 507/201 507/201P 507/201S 507/203 507/203S 507/204 507/204S 507/209 507/209S 507/218 507/238 507/238S 507/239 507/240 507/241 507/244 507/245 507/250 507/250S 507/254 507/256 507/256S 507/259 507/259S 507/260 507/261 507/261P 507/263 507/263S 507/265 507/265P 507/265S 507/266 507/266S 507/267 507/268 507/268S 507/269 507/269S 507/270 507/270S 507/271 507/271P 507/271S 507/272 507/272S 507/273 507/275 507/275S 507/276 507/276S 507/277 507/277S 977/773 977/773S 977/775 977/775S 977/787 977/811 977/837 977/902 977/902S



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Probable Assignee: BAKER HUGHES INC

Assignee(s): (std): BAKER HUGES INC ; BAKER HUGHES ; BAKER HUGHES INC ; BAKER HUGHES INC US ; HUANG TIANPING ; CREWS JAMES B ; GABRYSCH ALLEN D ; BELCHER CHRISTOPHER K ; BEJKE K H JUZ INKORPOREJTED ; BAKER HUGHES INCOPORATED ; JEFFREY RICK M ; BELCHER CHRISTOHER K ; BEKER HUGHES INC ; WILLINGHAM JOHN R ; TREADWAY JAMES H ; KELLY PATRICK A ; WOOD WILLIAM R ; PACE JAMES R ; MONTEIRO OTHON ; WILLINGHAM JOHN ROBERT ; TREADWAY JR JAMES H

Assignee(s): JPMORGAN CHASE BANK NA ADMINISTRATIVE AGENT AS ; SUPERIOR ENERGY SERVICES LLC

Inventor(s): (std): CREW JAMES B ; CREWS JAMES ; CREWS JAMES B ; GABRYSCH ALLEN ; GABRYSCH ALLEN D ; HUANG TIANPING ; BELCHER CHRISTOHER K ; BELCHER CHRISTOPHER K ; KELLY PATRICK ; KELLY PATRICK A ; MONTEIRO OTHON ; PACE JAMES R ; TREADWAY JAMES ; TREADWAY JAMES H ; TREADWAY JAMES H JR ; TREADWAY JR JAMES H ; WILLINGHAM JOHN R ; WILLINGHAM JOHN R GABRYSCH ALL ; WILLINGHAM JOHN ROBERT ; WOOD WILLIAM R ; VUD UILL JAM R ; UILLINGKHEM DZHON R ; UILLINGKHEHM DZHON ROBERT ; TREDUEHJ DZHEJMS KH ; TREDUEHJ DZHEJMS ; KRJUZ DZHEJMS ; KRJUS DZHEJMS B ; KHUAN TJAN PIN ; KELLI PATRIK A ; KELLI PATRIK ; HUANG TIANPING TIM ; GREWS JAMES B ; GABRISK ALLEN D ; GABRISH ALLEN ; TIANPING HUANG ; JEFFREY RICK M

Inventor(s): ALLEN GABRYSCH ; VUD UILL'JAM R. ; KHUAN TJAN'PIN ; WILLINGHAM JOHN R GABRYSCH ALLEN D KELLY PATRICK A ; WILLINGHAM JOHN ; TREADWAY JAMES HJR ; PATRICK KELLY ; CHRISTOPHER K BELCHER ; CHRISTOPHR K BELCHER ; JAMES B CREW ; JAMES B CREWS ; JAMES CREWS ; JAMES H TREADWAY JR ; JAMES R PACE ; JAMES TREADWAY ; JOHN R WILLINGHAM ; JOHN ROBERT WILLINGHAM

Agent(s): FREEHILLS PATENT ATTORNEYS; HERBERT SMITH FREEHILLS; FREEHILLS PATENT AND TRADE MARK ATTORNEYS; SIM AND MCBURNEY; GERBINO ANGELO; BEACHAM ANNABEL ROSE; HOFFMANN BENJAMIN; MADAN MOSSMAN AND SRIRAM PC; MADAN AND SRIRAM PC; MOSSMAN KUMAR AND TYLER PC; DAVID L; PORTER ANDRE J; DUPHORNE DARIN H; LITTLEFIELD STEPHEN A

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: NANOPARTICLE-DISPERSED HIGH-PERFORMANCE LIQUID FLUID, PRODUCTION METHOD AND APPARATUS FOR THE FLUID, AND LEAK DETECTION METHOD FOR THE FLUID

Abstract: Source: US2007160177A Suppression or enhancement of various properties of a liquid fluid is aimed by improving uniform dispersion of nanoparticles by means of making a state in which no oxidized film exists on the surfaces of the nanoparticles to be dispersed in the liquid fluid. The location of the liquid fluid is confirmed with ease by enhancing the brightness of light emission of the fluid through uniform dispersion of the nanoparticles in the liquid fluid containing a material having a flame reaction. In this way, as to liquid fluids utilized in various industries, it is possible to offer a technology to desirably enhance or suppress a property desired to be enhanced and a property desired to be suppressed among various properties that its constituents have.

Classifications:

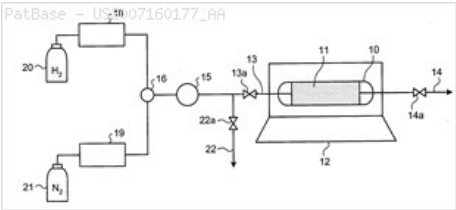
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International (IPC 1-7): B22F9/00 B82B3/00 C09K5/08 G01M3/20 G01N21/62 G21C17/025

CPC: Y10S977/786 Y10S977/787 Y10S977/891 Y10S977/901 G01N21/62 B22F1/0022 B22F2998/10 B22F2999/00 B82Y30/00 C09K5/12

European: B22F1/00A2B4D B82Y30/00 C09K5/12 G01N21/62 L22F998/10 L22F999/00

US: 118/50 118/715 376/330 376/330P 422/129 422/186 422/186P 422/187 516/9 977/786 977/787 977/891 977/901



Family:

Publication number	Publication date	Application number	Application date
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Priority:

JP20040178900 20040616 WO2005JP11024 20050616 US20060547469 20061026
US20100851355 20100805 US20050547469 20050616

Probable Assignee: JAPAN ATOMIC ENERGY AGENCY

Assignee(s): (std): TODA MIKIO ; NISHI TOSHIRO ; OKA NOBUKI ; TSUTAYA HIROYUKI ; OHIRA HIROAKI ; KUROME KAZUYA ; YOSHIOKA NAOKI ; ARA KUNIAKI ; DZHAPEHN N JUKLIAR SAJKL DIVEI ; MITSUBISHI HEAVY IND LTD ; JAPAN NUCLEAR CYCLE DEV INST

Assignee(s): JAPAN NUCLEAR CYCLE DEVELOPMENT INST ; JAPAN NUCLEAR CYCLE DEVELOPMENT INSTITUTE ; MITSUBISHI HEAVY INDUSTRIES LTD ; JAPAN NUCLEAR CYCLE DEVELOPMENT INST STATES OF PROJECTS ; DZHAPEHN N JUKLIAR SAJKL DEVELOPMENT INSTIT JUT ; JAPAN ATOMIC ENERGY AGENCY ; JAPAN NUCLEAR CYCLE DEVELOPMENT INST STATES OF PRO

Inventor(s): (std): ESIOKA NAOKI ; KUROME KAZUJA ; KUROME KAZUYA ; ARA KUNIAKI ; NISHI TOSHIRO ; NISI TOSIRO ; OHIRA HIROAKI ; OKA NOBUKI ; OKHIRA KHIROAKI ; TODA MIKIO ; TSUTAJA KHIROJUKI ; TSUTAYA HIROYUKI ; YOSHIOKA NAOKI

Inventor(s): YOSHIOKA NAOKI C O ADVANCED REACTOR ; TSUTAYA HIROYUKI C O NAGASAKI CENTER MITSUBISHI ; TODA MIKIO C O MITSUBISHI HEAVY IND LTD ; OKA NOBUKI C O NAGASAKI RESAND DEV MITSUBISHI ; OHIRA HIROAKI C O OARAI ENGINEERING CENTER ; OKA NOBUKA ; NISHI TOSHIRO C O NAGASAKI RES AND DEV ; ARA KUNIAKI C O OARAI ENGINEERING CENTER ; KUROME KAZUYA C O KOBE SHIPYARD AND MACHINERY

Agent(s): OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT KE KG KM KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN VU ZA ZM ZW

Title: EPITOPES

Abstract: Source: US2007072797A Compositions and methods relating to epitopes of sclerostin protein, and sclerostin binding agents, such as antibodies capable of binding to sclerostin, are provided.

Classifications:

International (IPC 8-9): A61K38/00 A61K38/10 A61K38/16 A61K38/17 A61K39/00 A61K39/395 A61K39/44 A61K45/00 A61K45/06 A61P1/02 A61P1/04 A61P1/16 A61P15/00 A61P17/00 A61P19/00 A61P19/02 A61P19/08 A61P19/10 A61P25/00 A61P25/08 A61P25/32 A61P29/00 A61P3/00 A61P3/02 A61P3/04 A61P3/10 A61P37/00 A61P5/14 A61P5/16 A61P5/18 A61P7/00 A61P7/06 C07H21/00 C07H21/04 C07K C07K1/12 C07K1/20 C07K14/00 C07K14/435 C07K14/47 C07K14/75 C07K14/51 C07K14/705 C07K14/76 C07K14/79 C07K16/00 C07K16/18 C07K16/22 C07K16/26 C07K16/28 C07K16/46 C07K19/00 C07K5/00 C07K7/06 C07K7/08 C12N1/15 C12N1/19 C12N1/21 C12N15/02 C12N15/09 C12N15/12 C12N15/13 C12N15/63 C12N15/85 C12N5/02 C12N5/10 C12N5/20 C12P21/00 C12P21/02 C12P21/06 C12P21/08 G01N21/41 G01N33/53 G01N33/567 G01N33/577 G01N33/68 (Advanced/Invention); A61K39/00 C07K14/51 C07K16/00 C07K16/18 C07K16/26 C07K16/28 C07K16/46 C12N15/02 C12N15/09 C12P21/08 G01N33/53 (Advanced/Non-invention); A61K38/00 A61K38/10 A61K38/17 A61K39/00 A61K39/395 A61K39/44 A61K45/00 A61P1/00 A61P19/00 A61P25/00 A61P3/00 A61P5/00 A61P7/00 C07H21/00 C07K1/00 C07K14/00 C07K14/435 C07K16/00 C07K16/18 C07K19/00 C07K7/00 C12N1/15 C12N1/19 C12N1/21 C12N15/09 C12N15/63 C12N15/85 C12N5/10 C12P21/02 C12P21/06 C12P21/08 G01N33/567 (Core/Invention); G01N33/53 (Core/Non-invention); A61K A61P C07K (Subclass/Invention)

International (IPC 1-7): A61K39/395 A61K39/395 A61P19/00 C07K14/435 C07K14/435 C07K14/47 C07K14/47 C07K14/51 C07K14/51 C07K16/18 C07K16/18 C12N15/13 C12N15/13 C12N15/85 C12N15/85

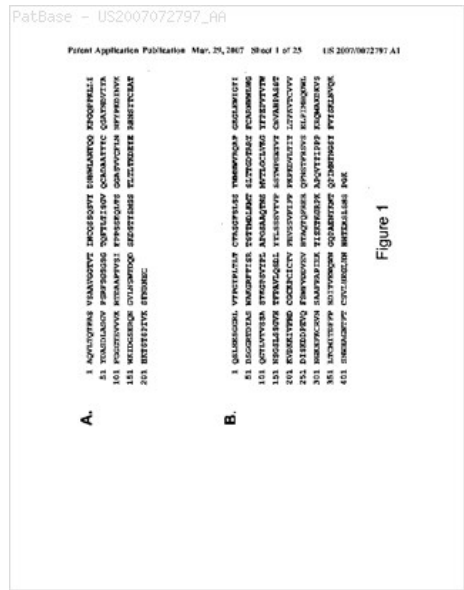
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European: C07K14/51 C07K16/22 K61K39/505 M07K316/960 M07K317/240 M07K317/920

US: 424/133.1 424/139.1 424/139.100P 424/141.1 424/142.1 424/145.1 424/145.100 424/172.1 424/172.100P 424/185.1 424/185.100P 424/198.1 435/252.33 435/254.2 435/254.21 435/254.23 435/320.1 435/320.100S 435/325 435/325S 435/328 435/331 435/412 435/414 435/415 435/419 435/68.1 435/69.1 435/69.100S 435/69.6 435/69.600S 435/7.2 435/7.200 435/70.21 435/70.210S 514/1.1 514/12 514/16.9 514/16.900S 514/21.3 514/21.4 530/300 530/324 530/326 530/326S 530/327 530/327S 530/328 530/328S 530/329 530/329S 530/330 530/330S 530/350 530/350S 530/362 530/362S 530/387.1 530/387.100S 530/387.3 530/387.300S 530/387.9 530/387.900S 530/388.15 530/388.22 530/388.220S 530/388.23 530/388.24 530/388.25 530/388.250 530/389.1 530/389.100S 530/391.7 530/391.700S 530/394 530/394S 536/23.5 536/23.500S 536/23.53 536/23.530S

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Probable Assignee: UCB PHARMA SA

Assignee(s): (std): HOFFMANN KELLY SUE ; LAWSON ALASTAIR ; GRAHAM KEVIN ; HENRY ALISTAIR JAMES ; LATHAM JOHN ; AMGEN INC ONA AMGEN CT DRIVE ; HENRY ALISTAIR J ; UCB SA ; LU HSIENG SEN ; PASZTY CHRISTOPHER ; ROBINSON MARTYN KIM ; POPPLEWELL ANDY ; SHEN WENYAN ; UCB S A ; UCB PHARMA S A ; UCB PHARMA SA ; UCB PHARMA SA AMGEN INC ; AGEN INC ; AMGEN ; AMGEN INC ; PASZTY CHRISTOPHER J ; LU HSIENG S ; UCB PHARMA AMGEN INC SA ; WINTERS AARON GEORGE ; WINKLER DAVID ; WINKLER DAVID G ; WARMINGTON KELLY SUE

Assignee(s): UCB AMGEN INC SA ; AMGEN INC ONA AMGEN CENTER DRIVE ; AMGEN INC THOUSAND OAKS

Inventor(s): (std): ANDY POPPLEWELL ; ANDY POPPLEWELL A ; CHRISTOPHER PASZTY ; CHRISTOPHER PASZTY C ; DAVID WINKLER ; DAVID WINKLER D ; GEORGE WINTERS AARON ; GRAHAM KEVIN ; AARON GEORGE WINTERS ; AARON GEORGE WINTERS AG ; AJ ALISTAIR JAMES HENRY ; ALASTAIR LAWSON ; ALASTAIR LAWSON A ; HENRY ALISTAIR ; HENRY ALISTAIR J ; HENRY ALISTAIR JAMES ; HOFFMAN KELLY SUE ; HOFFMAN NELLY SUE ; HOFFMANN KELLY ; HOFFMANN KELLY S ; HOFFMANN KELLY SUE ; ALISTAIR JAMES HENRY ; HSIENG LU SEN ; HSIENG SEN LU ; JAMES ALISTAIR ; JAMES HENRY ALISTAIR ; JOHN LATHAM ; JOHN LATHAM J ; KEVIN GRAHAM ; KEVIN GRAHAM K ; KIM ROBINSON MARTYN ; KS KELLY SUE HOFFMANN ; LATHAM JOHN ; LAWSON ALASTAIR ; LU HSIENG ; LU HSIENG S ; LU HSIENG SEM ; LU HSIENG SEN ; LU HSIENG SEN HS ;

KELLY SUE HOFFMANN ; MARTYN KIM ROBINSON ; PASZTY CHRISTPHER ; POPLEWELL ANDY ; POPPLEWEL ANDY ; POPPLEWELL ANDY ; ROBINSON MARTIN KIM ; ROBINSON MARTY KIM ; ROBINSON MARTYN ; ROBINSON MARTYN K ; ROBINSON MARTYN KIM ; MK MARTYN KIM ROBINSON ; PASZTY CHRISTOPER ; PASZTY CHRISTOPHER ; PASZTY CHRISTOPHER J ; SHEN WENYAN W ; SUE HOFFMANN KELLY ; WARMINGTON KELLY S ; WARMINGTON KELLY SUE ; WENYAN SHEN ; WINKLER DAVID ; WINKLER DAVID G ; WINTERS AARON ; WINTERS AARON G ; WINTERS AARON GEORGE ; SHEN WENYAN

Inventor(s):

SHEN WENYAN THOUSAND OAKS ; WINTERS AARON GEORGE VENTURA ; WINKLER DAVID ARLINGTON ; PASZTY CHRISTOPHER VENTURA ; ROBINSON MARTYN KIM HARVEY HILL ; MARTYN KIM ROBINSON MK ; KELLY SUE HOFFMANN KS ; LU HSIENG SEN WESTLAKE VILLAGE ; LATHAM JOHN SEATTLE ; KELLY SUE HOFFMAN ; HSIENG SEM LU ; ALISTAIR JAMES HENRY AJ ; HOFFMANN KELLY SUE AND ; HOFFMANN KELLY SUE NEWBURY PARK ; HENRYALISTAIR JAMES ; ALISTAIR JAMES ; GRAHAM KEVIN THOUSAND OAKS

Agent(s):

DAVIES COLLISON CAVE; MIDDLETONS; GOWLING LAFLEUR HENDERSON LLP; CLARKE MODET; LORENZ SEIDLER GOSSEL RECHTSANWAELTE PATENTANWAELTE PARTNERSCHAFT MBB; CAMPBELL PATRICK JOHN HENRY; UNGRIA JAVIER; SANFORD TCOLB AND CO; ISHII SADAJI; HIRAKI YUSUKE; MARKS AND CLERK SINGAPORE LLP; DAVIS WRIGHT TREMAINE LLP; MARSHALL GERSTEIN AND BORUN LLP

Designated states:

AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LC LI LK LR LS LT LU LV LY MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: METHOD AND APPARATUS FOR CHEMICAL DEPOSITION

Abstract: Source: US2007020400A Embodiments of the present system and method are useful for chemical deposition, particularly continuous deposition of thin films. Disclosed systems typically comprise a micromixer and a microchannel applicator. A deposition material or materials is applied to a substrate, such as an oxidized silicon substrate, a flexible substrate useful for forming flexible devices, such as flexible transistors, and combinations of different substrates. Uniform and highly oriented surface morphologies of films deposited using disclosed embodiments are clearly improved compared to films deposited by a conventional batch process. The process can be used to tailor the composition and morphology of the material deposited on a substrate. The present process can be used at low temperatures as a post-deposition, high-temperature annealing step is obviated.

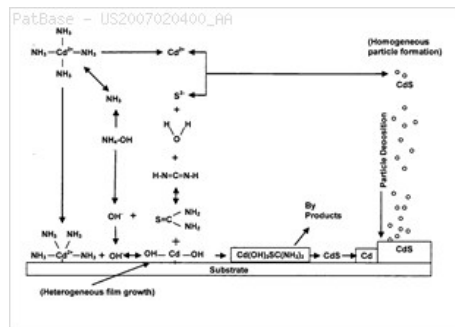
Classifications:

International (IPC 8-9): B05C11/00 B05C13/02 B05C5/00 B05D5/06 B05D5/12 B05D7/00 (Advanced/Invention);
B05D5/12 (Advanced/Non-invention);
B05C13/02 B05C5/00 B05D5/12 B05D7/00 (Core/Invention)

CPC: C23C18/1204 C23C18/1216 C23C18/125 B05B7/0408 B05B1/14 B82Y30/00
C23C18/1603 C23C18/161 C23C18/1678 C23C18/31 H01L21/288 H01L29/78681
H01L29/7869 H01L31/1828 Y02E10/543 H01L21/02568 H01L21/02628 Y02P70/521

European: B05B7/04A B82Y3/00 C23C18/16B2 C23C18/16B2DA C23C18/16B8H4 C23C18/31 H01L21/288 H01L31/38D L05B1/14 T01L29/786F T01L29/786K Y02E10/54F

US: 118/300 118/300S 118/58 118/58S 118/699 257/E21.174 257/E21.174S 257/29.296 257/E29.296S 427/421.1 427/421.100P 427/58 427/58S



Family:

Publication number	Publication date	Application number	Application date
US2007020400 AA	20070125	US20060490966	20060721
US2011120371 AA	20110526	US20100951392	20101122
US7846488 BB	20101207	US20060490966	20060721

Priority:

US20050701810P 20050722 US20060490966 20060721 US20100951392 20101122

Probable Assignee: OREGON STATE UNIV ACTING BY AND THROUGH STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON STATE UNIV

Assignee(s): (std): STATE UNIV ; STATE UNIVERSITY ; OREGON STATE ; UNIV OREGON STATE

Assignee(s): THE STATE OF OREGON ACTING BY AND THROUGH THE STATE BOARD OF HIGHER EDUCATION ON BEHALF OF ; NATIONAL SCIENCE FOUNDATION ; OREGON STATE UNIV ; OREGON STATE UNIV ACTING BY AND THROUGH STATE BOAR ; OREGON STATE UNIV ACTING BY AND THROUGH STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON STATE UNIV ; STATE OF OREGON ACTING BY AND THROUGH STATE ; STATE OF OREGON ACTING BY AND THROUGH STATE BOARD ; OREGON STATE UNIVERSITY ; STATE OF OREGON ACTING BY AND THROUGH STATE BOARD OF HIGHER EDUCATION ON BEHALF OF ; STATE OF OREGON ACTING BY AND THOUGH THE STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON STATE UNIVERSITY ; STATE OF OREGON ACTING BY AND THOUGH STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON STATE UNIV ; STATE OF OREGON ACTING BY AND THROUGH STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON STATE UNIV ; STATE OF OREGON ACTING BY AND THROUGH STATE BOARD OF HIGHER EDUCATION ON BEHALF OF OREGON

Inventor(s): (std): CHANG CHIH HUNG

Agent(s): KLARQUIST SPARKMAN LLP

Title: ANTIMICROBIAL MIXTURES

Abstract: Source: US2008031960A The present invention presents a mixture comprising charge-stabilized metallic **nanoparticles** and a photosensitizer, a method for making such mixture, and a method of using such mixture for killing or preventing the growth of microbes.

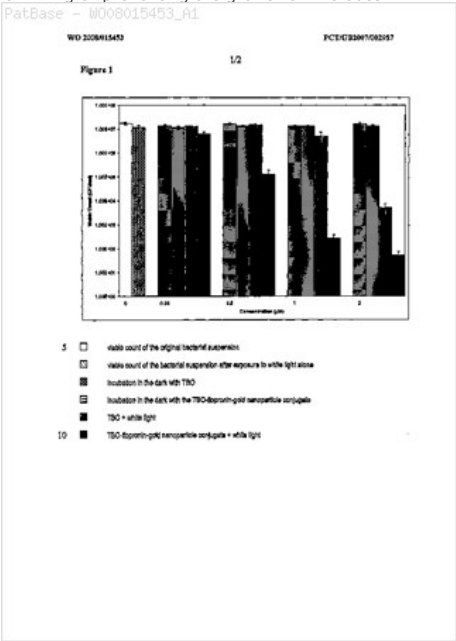
Classifications:

International (IPC 8-9): A01N25/34 A01N43/38 A01N43/84 A01N55/04 A01N59/16 A01P1/00 A61K A61K31/28 A61K31/54 A61K31/5415 A61K33/24 A61K41/00 A61K9/00 A61K9/10 A61K9/14 A61K9/16 A61L15/00 A61L26/00 A61P35/00 A61Q11/00 (Advanced/Invention); A01N25/34 A01N43/34 A01N43/72 A01N55/00 A01N59/16 A01P1/00 A61K31/28 A61K41/00 A61K9/00 A61K9/10 A61K9/16 A61L15/00 A61L26/00 A61P35/00 A61Q11/00 (Core/Invention); A61K (Subclass/Invention)

CPC: A61K31/5415 A61K9/14 A61K33/24 C01P2004/64 C10M2219/108 Y10S977/777 A01N59/16 A61K9/0014 A61K9/0031 A61K9/0034 A61K9/0043 A61K9/0046 A61K9/0053 A61K9/10 A61K31/28 A61K41/0038 A61K41/0057 A61L15/00 A61L26/00

European: A01N59/16

US: 424/489 424/489P 424/490 424/490P 424/649 424/649S 514/185 514/185S 514/224.8 514/226.2 514/226.200S 514/410 514/410S 514/495 977/777 977/810 977/810S



Family:

Publication number	Publication date	Application number	Application date
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CA2659880 C	20160202	CA20072659880	20070803
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GB200712287 A0	20070801	GB20070012287	20070622
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US2008050448 AA	20080228	US20070833580	20070803
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WO08015453 A1	20080207	WO2007GB02957	20070803

Priority:

US20060821423P 20060804	US20060868130P 20061201	US20070833505 20070803
US20070833580 20070803	WO2007GB02957 20070803	GB20070012287 20070622
EP20070789107 20070803		

Probable Assignee: UCL BUSINESS PLC

Assignee(s): (std): GIL TOMAS JESUS ; NAIR SEAN ; PARKIN IVAN P ; UCL BUSINESS PLC ; WILSON MIKE ; WILSON MICHAEL

Inventor(s): (std): GIL TOMAS JESUS ; GIL TOMAS JESUS J ; NAIR SEAN ; PARKIN IVAN P ; WILSON MICHAEL ; WILSON MIKE

Inventor(s): PARKIN IVAN

Agent(s): GOUDREAU GAGE DUBUC; SRINIVASAN RAVI CHANDRAN; DE ELZABURU ALBERTO; DOBRUSIN AND THENNISCH PC; HOXIE AND ASSOCIATES LLC; CRESSWELL THOMAS ANTHONY ET AL

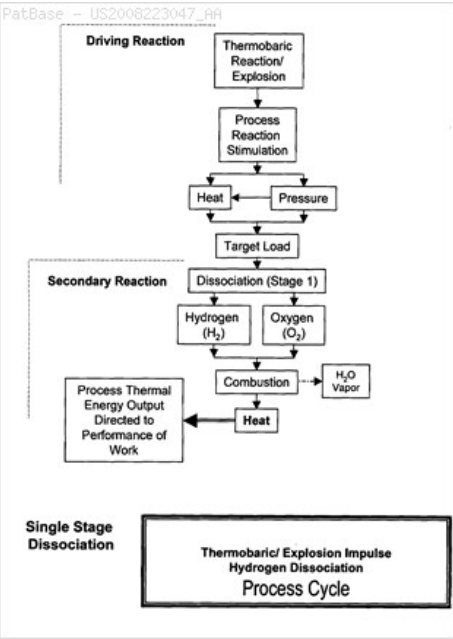
Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: XPLOGEN TM: A SYSTEM, METHOD, AND APPARATUS FOR GENERATING ENERGY FROM A SERIES OF DISSOCIATION REACTIONS

Abstract: Source: US2008223047A Methods, systems, and apparatus for generating energy from a process-contained series of thermobaric reactions and/or explosion cycles are provided. The Xplogen™ energy generating system includes several embodiments for stimulating the heat and pressure release episodes, which are directed by the process system toward the task of dissociating a target substance being subjected to the hyper-stimulated pulse of energy. The target substance is thermolyzed by the pulse energy episode and the resulting dissociated gases are either quenched and captured or they are consumed in a direct thermal conversion process and are thus translated into steam pressure, and/or torque, thrust, motive force, and/or super-heat impulses. The methods and systems of the present invention include a comprehensive arrangement of process configurations and components as well as a means of operation.

Classifications:

International (IPC 8-9): C10L5/40 F01B21/00 F02C3/00 F02C3/20 (Advanced/Invention); F02C3/00 F02C3/20 (Core/Invention)
CPC: F42D3/00 Y02E50/30 C01B3/04 C01B3/042 C01B3/047 C01B3/24 C01B3/34 C01B13/0207 C01B13/0214 C01B2203/0222 C01B2203/0272 F22B1/003 Y02E60/364 C01B2203/84
European: C01B13/02B2 C01B13/02B4B C01B3/04 C01B3/04B C01B3/04C C01B3/24 C01B3/34 F22B1/00B F42D3/00 M01B203/02B2D M01B203/02F2 M01B203/84 Y02E50/30 Y02E60/36D
US: 44/504 44/504S 60/39.12 60/39.120S 60/39.19 60/39.190S 60/39.23 60/39.230S 60/698 60/698P 60/783 60/783S 60/784 60/784P



Family:

Publication number	Publication date	Application number	Application date
US2008223047 AA	20080918	US20070975493	20071019
US2011283705 AA	20111124	US20070880741	20070724

Priority:

US20060832585P 20060724 US20060852641P 20061019 US20070975493 20071019
US20070880741 20070724

Probable Assignee: OLIVER TROY

Assignee(s): (std): OLIVER TROY ; OLIVER TROY LEE

Inventor(s): (std): OLIVER TROY LEE ; OLIVER TROY

Agent(s): TROY OLIVER

US8142619 BB	20120327	US20080151766	20080508
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Priority:

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Probable Assignee: SDCMATERIALS INC

Assignee(s): (std): BIBERGER MAXIMILIAN A ; INTEL IP CORP ; KEVWITCH ROB ; LAYMAN FREDERICK P ; LAYMAN FREDRICK P ; SDC MATERIALS INC ; SDC MATERIALS INC A CORP OF TH ; SDC MATERIAL INC ; SDCMATERIALS INC

Assignee(s): SDC MATERIALS INC A OF STATE OF DELAWARE CORP

Inventor(s): (std): BIBERGER MAXIMILIAN A ; COHEN EMANUEL ; FREDERICK P LAYMAN ; KEVWITCH ROB ; LAYMAN FREDERICK P ; LAYMAN FREDRICK P

Agent(s): DEVILE JONATHAN MARK; KOIKE AKIRA; IGA SEIJI; FUJII TOSHIYA; HAVERSTOCK AND OWENS LLP; MORRISON AND FOERSTER LLP; HAVERSTOCK THOMAS B ET AL; OWENS JONATHAN O ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SULFOXIDATION CATALYSTS AND METHODS AND SYSTEMS OF USING SAME

Abstract: Source: US2011011771A Catalysts amenable to oxidizing sulfur compounds and systems and methods of using these catalysts to effect the removal of sulfur from crude oil and crude oil distillates are disclosed. The catalyst is disposed with a titanyl moiety which serves to selectively coordinate sulfur compounds and affect their oxidation. The titanyl may be bound within a polymer or on the surface of a polymer or on the surface or in the pores of an inorganic support. The resulting oxidized sulfur compounds are readily separated from the initial crude oil or crude oil distillate streams by traditional separation techniques arrayed as described in the systems and methods disclosed.

Classifications:

International (IPC 8-9): B01J21/06 B01J27/00 B01J31/02 B01J31/12 B01J31/22 B82B3/00 C01G17/04 C07B45/02 C07C29/70 C07C31/28 C07C4/02 C07F7/00 C07F7/28 C08F4/76 C08G79/00 C08L101/00 C08L85/00 C09D125/06 C09D133/04 C09D163/00 C09D167/00 C09D175/04 C09D4/02 C09D7/12 C09K3/32 C10G17/00 C10G17/02 C10G17/04 C10G17/06 C10G17/07 C10G17/09 C10G19/00 C10G19/02 C10G19/067 C10G19/073 C10G19/08 C10G21/00 C10G21/08 C10G21/10 C10G25/00 C10G27/00 C10G27/04 C10G27/06 C10G27/10 C10G27/12 C10G29/00 C10G29/04 C10G29/16 C10G29/20 C10G29/22 C10G45/00 C10G45/02 C10G53/04 C10G53/12 C10G53/14 C10G67/00 C10G7/00 C10L1/10 C7C4/02 (Advanced/Invention); B01D53/50 B01J23/02 B01J31/12 C07C7/148 C07F7/28 C10G27/10 (Advanced/Non-invention); B01J27/00 B01J31/02 C07F7/00 C08G79/00 C08L101/00 C08L85/00 C09D125/00 C09D133/04 C09D163/00 C09D167/00 C09D175/04 C09D4/02 C09D7/12 C10G27/00 (Core/Invention)

International (IPC 1-7): C10G27/10

CPC: C07F7/006 C07F7/28 C10G27/10 C10G2300/1055 C10G27/06 C10G53/04 C10G21/08 C10G21/06 B01J23/02 C10G19/02 C10G2300/203 C10G7/00 C10G17/04 C10G17/07 C10G27/00 C10G2300/202 C10G2300/44 C10G2300/80 C10G9/007 B01J31/123 B01J31/0275 C10G19/00 B01J31/223 B01J2231/70 B01J2531/46 B01J2531/98 C10G29/22 C10G19/08 C10G27/12 C10G53/12 C10G53/14 C10G21/00 C10G2300/201 C10G2300/308 C10G2300/805 C10G32/02 C10G19/073 C10G27/04 C10G19/067 C10G29/16 C10G2400/30 B01J31/165 B01J31/2226 B01J31/0202 B01J2231/64 B01J2531/007 Y02P20/582

European: C07F7/00B2 C10G17/04 C10G17/07 C10G19/073 C10G19/08 C10G21/00 C10G27/00 C10G27/04 C10G27/10 C10G53/12 C10G53/14 C10G7/00 M10G300/20A2 M10G300/44 M10G300/80 M10G400/02 M10G400/04

US: 196/46 208/14 208/177 208/177S 208/189 208/190 208/196 208/208.00R 208/208.00RS 208/208R 208/213 208/219 208/220 208/222 208/223 208/226 208/228 208/232 208/237 208/238 208/240 208/245 208/248 208/249 208/249S 208/252 208/254.00R 208/254R 208/265 208/266 208/273 208/282 208/283 208/283S 208/284 208/284S 208/289 208/289S 208/291 208/291S 208/293 208/293S 208/298 208/298S 208/97 208/97P 44/300 44/300P 502/171 502/171S 525/370 525/370S 556/54 556/54S

PatBase - US2011011771.AA

$$\text{H}_2\text{O}_2 + \text{ROSH} \xrightarrow{\text{Acid Catalyst}} \text{ROSOH} + \text{H}_2\text{O}$$

Family:

Publication number	Publication date	Application number	Application date
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AU2008262567 BB	20130516	AU20080262567	20080502
AU2008353354 AA	20091001	AU20080353354	20081031
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Priority:

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WO2012US70243	20121218	US20150629169	20150223		

Probable Assignee: CENOVUS ENERGY INC

Assignee(s): (std): LEWIS SARAH ; JORDAN TRACEY M ; DUTTA PARTHA ; LITZ KYLE E ; LOUGHRAN ANTHONY J ; BURNETT ERIC H ; DELANCEY THOMAS W ; OTERRA INK ; MCCASKILL TRENT A ; CENOVUS ENERGY INC ; PAWLSON JAMES ; ROSSETTI MARK ; ULLMAN TIMOTHY ; VREELAND JENNIFER M ; VREELAND JENNIFER L ; ROSSETTI MARK N ; RANKIN JONATHAN P ; THOMPSON TIMOTHY A ; AMARATUNGA GIYANA ; APPLIED NANO WORKS INC ; APPLIED NANOWORKS INC ; AUTERRA INC

Assignee(s): AUTERRA INC2135 TECHNOLOGY DRIVESCHENECTADYNY12308US

Inventor(s): (std): AMARATUNGA GIYANA ; BURNETT ERIC H ; FAHERTY JOHN ; HEMBERGER STEPHEN ; DUTTA PARTHA ; DZHORDAN TREHJSI M ; JORDAN TRACEY M ; LEWIS LARRY NEIL ; LEWIS SARAH ; LITTS KAJL E ; KOLIBAS ERIC ; LITZ KYLE E ; LITZ KYLE ERIK ; LOUGHRAN ANTHONY J ; LUGRAN EHNTONI DZH ; PAWLSON JAMES ; RANKIN JONATHAN ; RANKIN JONATHAN P ; RICHARDSON JOHN ; ROSSETI MARK N ; ROSSETTI MARK ; ROSSETTI MARK N ; ULLMAN TIMOTHY ; VREELAND JENNIFER L ; VREELAND JENNIFER M ; VRILAND DZHENIFER L ; VRILAND DZHENNIFER L ; TOMPSON TIMOTI A ; TIMOTHY ULLMAN ; JAMES PAWLSON ; GIYANA AMARATUNGA ; DELEHNSI TOMAS V ; VREELAND JENNIFER ; ULLMAN TIMOTHY J ; THOMPSON TIMOTHY A ; SHIPLEY ERICA H ; SHIPLEY ERICA ; ROSETTI MARK N ; SARAH LEWIS ; RANKIN DZHONATAN P ; PARTHA DUTTA ; MCCASKILL TRENT A ; MARK ROSSETTI ; LEWIS SARAH L ; DUTTA PARTHA S ; DELANCEY THOMAS W ; CLICKNER SARAH M ; CLICKNER SARAH

Inventor(s): TRENT A MCCASKILL ; ERIC H BURNETT ; JONATHAN P RANKIN ; MARK N ROSETTI ; TIMOTHY A THOMPSON ; THOMAS W DELANCEY ; VREELAND JENNIFER LUS ; ROSSETTI MARK NUS ; TRACEY M JORDAN ; RANKIN JONATHAN PUS ; MARK N ROSSETTI ; MCCASKILL TRENT AUS ; LITZ KYLE EUS ; KYLE E LITZ ; JORDAN TRACEY MUS ; JENNIFER L VREELAND ; JENNIFER M VREELAND ; BURNETT ERIC HUS ; ANTHONY J LOUGHRAN

Agent(s): SPRUSON AND FERGUSON; CULLENS PATENT AND TRADE MARK ATTORNEYS; CULLENS PTY LTD; PARLEE MCLAWS LLP; RIDOUT AND MAYBEE LLP; MILTONS IP PI; WICHMANN HENDRIK; MICHALSKI STEFAN; MICHALSKI HUETTERMANN AND PARTNER PATENTANWAELTE; MICHALSKI HUETTERMANN AND PARTNER PATENTANWAELTE MBB; DREW AND NAPIER LLC; HENRY GOH S PTE LTD; SCHMEISER OLSEN AND WATTS; SCHMEISER OLSEN AND WATTS LLP; RADOMSKY LEON ET AL; OLSEN ARLEN L ET AL; FRIEDMAN JACK P ET AL; OLSEN ARLEN L

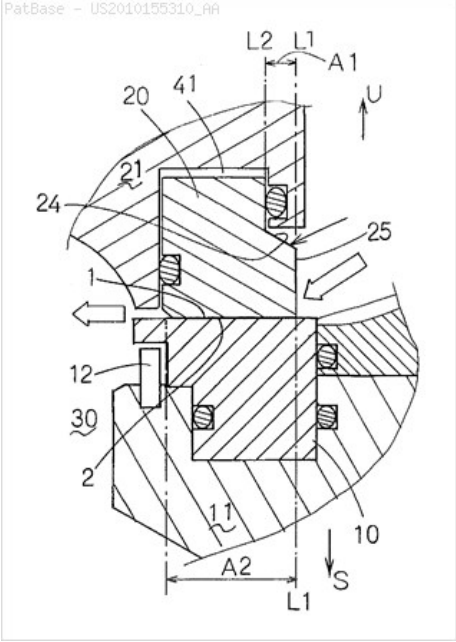
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Title: METHOD FOR PRODUCING **NANOPARTICLES** BY FORCED ULTRATHIN FILM ROTARY PROCESSING

Abstract: Source: US2010155310A The present invention provides a method for producing **nanoparticles**, which comprises maintaining a minute space of 1 mm or less between two processing surfaces capable of approaching to and separating from each other and being rotating relative to each other, allowing the minute space maintained between the two processing surfaces to serve as a flow path of a processed **fluid** thereby forming a forced thin film of the processed **fluid** and separating **nanoparticles** in the forced thin film.

Classifications:

International (IPC 8-9): A61J31/00 A61K31/00 A61K31/192 A61K31/196 A61K31/436 A61K31/5383 A61K31/57 A61K31/58 A61K47/08 A61K47/10 A61K47/12 A61K47/14 A61K47/18 A61K47/20 A61K47/24 A61K47/26 A61K47/28 A61K47/34 A61K47/42 A61K8/06 A61K8/14 A61K9/00 A61K9/10 A61K9/107 A61K9/127 A61K9/14 A61K9/16 A61K9/50 A61K9/70 A61P11/06 A61P15/00 A61P17/00 A61P27/02 A61P37/06 B01D61/20 B01D63/16 B01F11/02 B01F13/00 B01F15/06 B01F3/08 B01F3/12 B01F5/06 B01F5/12 B01F5/22 B01F7/00 B01F7/26 B01J13/00 B01J13/02 B01J13/04 B01J19/00 B01J19/06 B01J19/10 B01J19/12 B01J19/18 B01J21/18 B01J23/40 B01J23/42 B01J23/46 B01J23/72 B01J23/80 B01J27/13 B01J32/00 B01J35/06 B01J37/02 B01J37/04 B01J37/16 B02C19/00 B02C19/10 B02C7/08 B02C7/11 B02C7/12 B02C7/14 B05D1/34 B05D7/00 B07B13/04 B22F1/00 B22F9/00 B22F9/16 B22F9/18 B22F9/24 B29B9/16 B41J2/01 B41M5/00 B81B1/00 B81B5/00 B82B3/00 B82Y30/00 B82Y40/00 C01B31/02 C01B33/023 C01F7/02 C01G23/00 C01G23/053 C01G25/02 C01G9/08 C04B14/00 C04B35/00 C04B35/10 C04B35/46 C04B35/468 C04B35/48 C04B35/50 C04B35/515 C04B35/622 C08J3/12 C09B47/04 C09B48/00 C09B67/00 C09B67/02 C09B67/04 C09B67/08 C09B67/10 C09B67/12 C09B67/14 C09B67/16 C09B67/20 C09B67/46 C09B67/48 C09B67/50 C09B67/54 C09B69/00 C09C1/00 C09C1/56 C09C3/06 C09D1/00 C09D11/00 C09D11/02 C09D11/322 C09D11/326 C09D11/38 C09D17/00 C09D4/00 C09D5/00 C09K3/00 C25C3/00 F15D1/00 H01B1/00 H01B1/22 H01L21/368 H01L33/00 H01L33/26 H01L33/28 H01L51/00 H01M4/02 H01M4/86 H01M4/88 H01M4/90 H01M4/92 H01M4/96 H01M8/10 (Advanced/Invention); A23L1/00 B01F3/08 B01F5/06 B01J13/00 B01J19/00 B01J21/18 B22F9/24 B82B3/00 C01B33/023 C01F7/02 C01G9/08 C09B47/24 C09B67/04 C09B67/08 C09B67/50 H01L21/368 (Advanced/Non-invention); A61J31/00 A61K31/185 A61K31/4353 A61K31/57 A61K31/58 A61K47/08 A61K47/10 A61K47/12 A61K47/20 A61K47/24 A61K47/26 A61K47/28 A61K47/42 A61K9/10 A61K9/107 A61K9/127 A61K9/50 B01F3/08 B01F5/06 B01F7/26 B01J13/00 B01J13/04 B01J19/00 B01J19/18 B01J23/42 B01J35/00 B01J37/00 B02C7/00 B07B13/00 B22F1/00 B22F9/00 B22F9/16 B41J2/01 B41M5/00 B82B3/00 C01B31/00 C01B33/00 C01F7/00 C01G23/00 C01G25/00 C01G9/00 C09B67/00 C09C1/44 C09C3/06 C09D11/00 H01L21/02 H01M4/88 H01M4/90 H01M4/96 H01M8/10 (Core/Invention) **CP:** B22F9/24 B01J13/0043 A61K31/196 A61K9/0048 A61K9/14 A61K9/1688 A61K31/00 A61K31/436 A61K31/57 A61K31/58 Y10S977/84 B01F7/0075 B01J2219/00135 C01B13/32 C01B13/36 C01F7/34 C01F7/36 C01G9/02 C01G23/006 C01G23/047 C01G23/053 C01G25/02 C01P2004/04 C01P2004/52 B01J19/0093 B22F2998/00 Y10S516/927 Y10S516/928 Y10S977/896 C01P2004/62 C01P2004/64 C01P2006/40 H01L21/02521 H01L21/02601 H01L21/02628 C09B67/0017 B01F7/00758 B01J19/10 B01J19/123 B01J2219/00094 B01J2219/00137 B01J2219/00141 C09B67/0005 A61K9/107 A61K9/127 A61K9/50 A61K47/08 A61K47/28 A61K47/42 B01J13/02 Y10T428/2982 C09B67/0026 B01F7/00875 C09D11/322 C09D17/003 H01L33/0083 H01L33/005 H01L33/285 H01L33/26 H01L51/0094 C01G9/08 B01J19/1887 B01J21/18 B01J23/40 B01J37/16 B82Y30/00 B82Y40/00 C01B31/0206 H01M4/8842 H01M4/8882 H01M4/90 H01M4/92 H01M4/926 Y02E60/50 Y10T137/0396 Y10T137/6416 Y10T137/8593 Y10T137/85978 H01M4/8803 H01M4/8846 H01M4/921 H01M4/9016 H01M4/9041 H01M8/1004 H01M4/9083 H01M4/8875 B01F3/0807 B01F3/1221 B01F5/221 B01F7/00775 B22F1/0018 C09B67/0091 C09B67/0019 C09B67/0096 C09B68/4253 B22F2999/00 B01F7/00791 C09B67/0022 B01F7/00 B82Y35/00 **European:** A61K31/00 A61K31/196 A61K31/436 A61K31/57 A61K31/58 A61K47/08 A61K47/28 A61K47/42 A61K9/00M16 A61K9/107 A61K9/127 A61K9/14 A61K9/16P2 A61K9/50 B01F3/08C B01F3/12C B01F5/22B B01F7/00G B01F7/00G1 B01F7/00G1B B01F7/00G1D B01F7/00H1B B01J13/00B12 B01J13/02 B01J19/10 B01J19/12D2 B01J19/18M B01J23/40 B01J23/80 B01J37/16 B22F9/24 B82Y30/00 B82Y40/00 C01B13/32 C01B13/36 C01B31/02B C01F7/34 C01F7/36 C01G23/00F4 C01G23/047 C01G23/053 C01G25/02 C01G9/02 C01G9/08 C09B67/00B4B C09B67/00B6 C09B67/00B6B C09B67/00B9 C09B67/00C2 C09B67/00P10D C09B67/00S C09B68/4253 C09D11/322 C09D17/00H H01M4/88G4 H01M4/88H H01M4/88K2 H01M4/90 H01M4/90S2 H01M4/92 H01M4/92S2 L01J21/18 L01J219/00B2D4D L01J219/00B2L2 L01J219/00B2L8 L01J219/00B2M2 L22F998/00 M01P4/04 M01P4/52 M01P4/62 M01P4/64 M01P6/40 T01L21/02K4C1 T01L21/02K4C5M5 T01L21/02K4E3L5 Y02E60/50 **US:** 106/287.18 106/287.180S 106/31.6 106/31.600P 106/400 106/400S 106/401 106/401S 106/410 137/14 137/14P 137/334 137/334S 137/561.00RS 137/561R 137/565.01 137/565.010S 205/338 205/338S 209/668 252/500 252/500S 252/512 252/512P 252/512S 252/514 252/514P 252/519.4 264/4.1 264/4.100S 264/5 264/7 264/8 264/8S 366/263 366/302 422/224 422/245.1 422/245.100S 423/445.00BS 423/445B 424/444 424/444P 424/450 424/450P 424/489 428/402 428/402P 429/481 429/483 429/483P 429/523 429/524 429/525 429/526 429/527 429/528 429/530 429/532 501/1 501/134 501/134S 501/137 501/152 501/152S 501/153 501/153S 501/154 501/154S 501/1S 502/101 502/101S 502/182 502/185 502/439 514/176 514/176S 514/179 514/179S 514/229.5 514/229.500S 514/294 514/294S 514/563 514/563S 516/20 516/21 516/22 516/78 516/927 516/928 540/141 540/141S 556/465 556/478 75/343 75/370 75/370S 977/734 977/734S 977/742 977/742S 977/762 977/762S 977/840 977/840S 977/895 977/896



Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: M TECH CO LTD

Assignee(s): (std): M TECH CO LTD ; TECH CO LTD ; ENDMURA MASAKAZU ; ENOMURA MASAKAZU

Assignee(s): M TECH CO ; MTECHNIQUE CO ; MTECHNIQUE CO LTD ; M TECHNIQUE CO LTD IZUMI SHI ; M TECHNIQUE CO ; M TECHNIQUE CO LTD ; TECH CO ; TECH CO LTD M

Inventor(s): (std): ENDMURA MASAKAZU ; ENOMURA MASAKAZU ; ENOMURA SHINICHI ; MASAKAZU ENOMURA

Agent(s): MARKS AND CLERK LUXEMBOURG LLP; ROBERTSON JAMES ALEXANDER; MAURY RICHARD PHILIP; BIRCH STEWART KOLASCH AND BIRCH; BIRCH STEWART KOLASCH AND BIRCH LLP; SAMEJIMA TAKENOBU

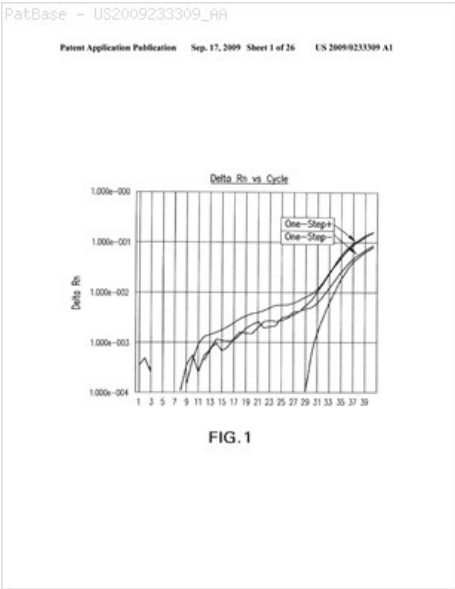
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Title: BIOLOGICAL SPECIMEN COLLECTION/TRANSPORT COMPOSITIONS AND METHODS

Abstract: Source: US2009233309A Disclosed are compositions for collecting, storing, and transporting populations of nucleic acids from biological specimens, and clinical, forensic, or environmental samples. Also disclosed are methods for using these compositions as one-step formulations for killing pathogens, inactivating nucleases, and releasing polynucleotides from other cellular components within the sample, and stabilizing the nucleic acids prior to further processing or assay. In particular embodiments, the invention provides a single, one-step, sample collection/transport/storage formulation containing a known quantity of a non-genomic, nucleic acid carrier molecule that serves as an internal reference control to monitor the fidelity of the collection/transportation medium, and measure the integrity of nucleic acids subsequently isolated and purified from the processed sample.

Classifications:

International (IPC 8-9): A01N1/00 A01N37/00 A01N57/00 A61K31/19 A61K31/66 A61K39/145 A61K47/10 A61K47/12 A61K47/14 A61K47/18 A61K47/20 A61K47/22 A61K47/28 A61K47/34 A61K48/00 A61P31/04 A61P31/10 A61P31/12 A61P31/16 A61P37/04 B01D35/00 B01L3/00 C07D331/02 C07H1/08 C07H21/00 C07H21/02 C07H21/04 C07K14/005 C07K14/11 C07K14/35 C07K16/10 C07K19/00 C07K2/00 C07K7/06 C07K7/08 C09K15/00 C09K15/16 C12M1/00 C12M1/26 C12M1/33 C12M1/34 C12M1/40 C12M3/08 C12N1/06 C12N15/09 C12N15/10 C12N15/11 C12N15/44 C12N7/00 C12P19/34 C12Q1/04 C12Q1/68 C12Q1/70 C40B C40B30/04 C40B50/06 G01N1/28 G01N1/30 G01N1/34 G01N33/48 G01N33/53 G01N33/566 (Advanced/Invention); C07H21/00 C12N15/09 C12R1/32 C12R1/90 C12R1/93 (Advanced/Non-invention); A01N37/00 A01N57/00 B01L3/00 C07H21/00 C09K15/00 C12M1/33 C12Q1/68 (Core/Invention); C12Q C40B (Subclass/Invention)
International (IPC 1-7): G01N1/30
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Family:

Publication number	Publication date	Application number	Application date
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Probable Assignee: LONGHORN VACCINES AND DIAGNOSTICS LLC

Assignee(s): (std): DAUM LUKE T ; FISCHER GERALD W ; LONGHORN VACCINES AND DIAGNOSTIC ; LONGHORN VACCINES AND DIAGNOSTICS ; LONGHORN VACCINES AND DIAGNOSTICS LLC ; LUKE T DAUM

Assignee(s): LONGHORN VACCINES AND DIAGNOSTICS LLCSUITE 910 - 2 BETHESDA METRO CENTERBETHESDAMD20814US ; LONGHORN VACCINES AND DIAGNOSTICS LLC910 - 2 BETHESDA METRO CENTERBETHESDAMD20814US ; LONGHORN VACCINES AND DIAGNOSTICS LLC910-2 BETHESDA METRO CENTERBETHESDAMD20814US ; LONGHORN VACCINES AND DIAGNOSTIC LLC ; GERALD W FISCHER

Inventor(s): (std): DAUM LUKE ; DAUM LUKE T ; FISCHER GERALD ; FISCHER GERALD W

Inventor(s): GERALD W FISCHER ; LUKE T DAUM ; FISCHER GERALD WUS ; DAUM LUKE TUS

Agent(s): GRIFFITH HACK; IP GATEWAY PATENT AND TRADEMARK ATTORNEYS; IP GATEWAY PATENT AND TRADE MARK ATTORNEYS PTY LTD; IP GATEWAY PATENT AND TRADEMARK ATTORNEYS PTY LTD; MBM INTELLECTUAL PROPERTY LAW LLP; WALKER ROSS THOMSON; WILLIAMS RICHARD ANDREW NORMAN; BOND CHRISTOPHER WILLIAM; DONALD JENNY SUSAN; UNGRIA JAVIER; WEBB AND CO; KAWAGUTI AND PARTNERS; HAYNES AND BOONE LLP IP SECTION; REMENICK PLLC; WOLFSON JEFFREY A; WOLFSON JEFFREY A ET AL; REMENICK JAMES ET AL

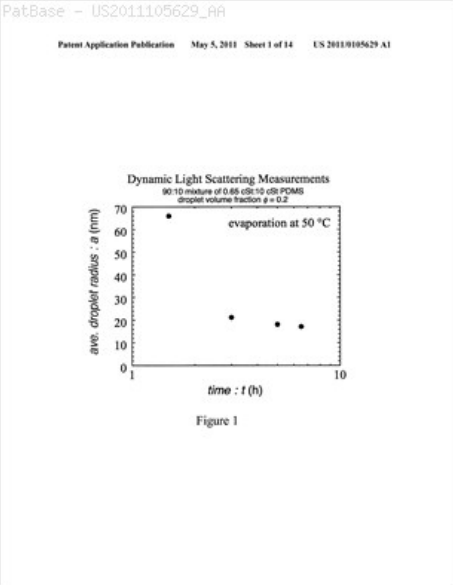
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Title: PROCESS AND SYSTEM FOR REDUCING SIZES OF EMULSION DROPLETS AND EMULSIONS HAVING REDUCED DROPLET SIZES

Abstract: Source: US2011105629A A method of producing an emulsion includes preparing a droplet **solution** comprising first and second molecular species, the droplet **solution** being in a **fluid** phase, wherein the first molecular species is soluble in the second molecular species; forming a plurality of droplets from the droplet **solution** in a bulk **fluid** to create a first emulsion, the plurality of droplets having a first ensemble average radius in the bulk **fluid**, wherein the first molecular species of the droplet **solution** is at least partially soluble in the bulk **fluid** and the droplet **solution** is at least partially immiscible in the bulk **fluid**; and allowing molecules of the first molecular species to migrate from the plurality of **fluid** droplets to the bulk **fluid** due to a higher concentration of the first molecular species in the droplet **solution** than the bulk **fluid** to result in the plurality of droplets having a second ensemble average radius that is smaller than the first ensemble average radius. An emulsion includes a bulk **fluid** and a plurality of droplets dispersed in the bulk **fluid**. The plurality of droplets have an ensemble average radius less than about 25 nm and greater than about 5 nm.

Classifications:

International (IPC 8-9): A01N25/00 A61K47/00 A61K47/30 B01F3/00 B01F3/08 B01F3/22 B01J19/18 (Advanced/Invention); B01F3/00 (Core/Invention)
CPC: B01F3/0811 B01F3/088 B01F3/22 B01F3/2246
European: B01F3/08C1 B01F3/08P B01F3/22 B01F3/22F
US: 422/225 422/225S 514/772.3 514/772.300P



Family:

Publication number	Publication date	Application number	Application date
US2011105629 AA	20110505	US20090997996	20090617
US9000053 BB	20150407	US20090997996	20090617
WO09155353 A1	20091223	WO2009US47676	20090617

Priority:

US20080129294P 20080617 WO2009US47676 20090617 US20090997996 20090617

Probable Assignee: UNIV CALIFORNIA

Assignee(s): (std): FRYD MICHAEL M ; MASON THOMAS G ; UNIV CALIFORNIA

Assignee(s): UNIV OF CALIFORNIA ; THE REGENTS OF THE UNIVERSITY OF CALIFORNIA ; THE UNIV OF CALIFORNIA

Inventor(s): (std): FRYD MICHAEL M ; MASON THOMAS G

Agent(s): VENABLE LLP; MIGUEL A; HENRY J; DALEY HENRY J

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: NON-PLUGGING D.C. PLASMA GUN

Abstract: Source: US2011143041A A plasma gun system comprising: a plasma gun comprising an outlet, wherein the plasma gun is configured to generate a plasma stream and provide the plasma stream to the outlet; and a plasma gun extension assembly configured to be coupled to the plasma gun, wherein the plasma gun extension assembly comprises an extension chamber and a port, the extension chamber having an interior diameter defined by a chamber wall and being configured to receive the plasma stream from the outlet of the plasma gun and to enable the plasma stream to expand upon entering the extension chamber, and the port being configured to introduce a powder to the expanded plasma stream at a location outside of the plasma gun.

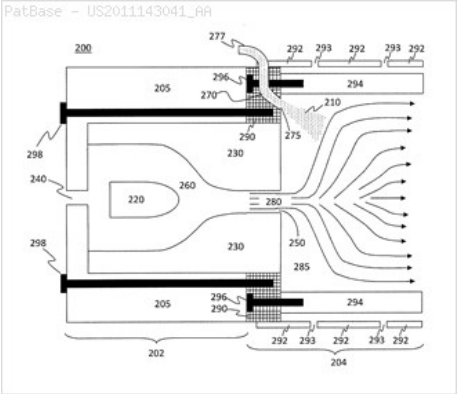
Classifications:

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CPC: B32B7/12 B01J37/00 B28B23/0087 B32B37/12 B32B2037/1253 Y10S502/52714 Y10S502/52724 Y10S977/773 Y10S977/81 Y10S977/81 Y10S977/84 Y10S977/963 B22F1/0085 B01J35/006 B01J37/0203 B01J37/0238 H01J37/3205 B28B11/243 F41H5/0492 F41H1/02 F41H5/0471 Y10T428/2848 Y10T428/12576 Y10T428/24983 Y10T428/25 Y10T428/252 Y10T428/26 Y10T428/28 Y10T428/2916 B32B5/16 B32B27/14 Y02T10/22 B01J23/464 B01J21/04 H05K1/16 H01L23/64 B28B3/025 C23C18/14 Y02E60/122 H01L21/6835 H05K1/0306 H01B1/02 B22F2001/0092 F41H5/0414 C01B33/027 B32B37/14 B32B2262/0253 B32B2264/107 B32B2307/558 B28B23/0081 B32B5/30 B32B2264/104 B32B2571/02 H01L2924/0002 Y02P70/54 H05H1/42 B82Y30/00 B82Y40/00 B01J35/0013 B01J35/04 B01J23/44 B01J37/009 B01J37/0211 B01J37/32 B01J37/349 B01J23/8926 B01J23/42 C23C4/134

European: C23C4/12L

US: 118/715 118/715S 118/723.00RS 118/723R 156/274.4 156/306.6 156/62.2 156/78 156/79 156/89.26 216/100 219/121.36 219/121.47 219/121.5 219/76.16 264/113 264/125 264/430 264/434 264/46.5 264/603 264/641 313/231.41 419/19 419/23 419/30 419/32 419/39 422/300 423/291 423/345 427/212 427/216 427/446 427/446P 427/447 427/448 427/449 427/452 427/455 427/456 427/532 427/535 427/540 427/569 427/570 427/580 428/217 428/323 428/325 428/332 428/343 428/354 428/366 428/427 428/446 428/627 428/698 428/704 428/842.6 428/911 438/107 501/1 502/100 502/100S 502/150 502/150S 502/167 502/172 502/172S 502/180 502/232 502/232S 502/252 502/263 502/263S 502/300 502/300S 502/325 502/326 502/326S 502/330 502/331 502/331S 502/334 502/334S 502/339 502/339S 502/345 502/350 502/350S 502/355 502/355S 502/5 502/527.14 502/527.24 502/5P 562/400 562/400P 564/417 564/417S 568/300 568/300S 568/939 568/939S 75/346 89/36.02 977/773 977/773S 977/775 977/775S 977/776 977/810 977/811 977/840 977/840S 977/900 977/901 977/901S 977/902 977/902S 977/963



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: SDCMATERIALS INC

Assignee(s): (std): BIBERGER MAXIMILIAN A ; EHSDISIMATIRIALZ INK ; LAYMAN FREDERICK P ; LEAMON DAVID ; SDCMATERIALS INC ; QI XIWANG ; RUIZ ELISEO ; SDC MATERIALS INC ; SDCMATERAILS INC ; LEHMAN JR STEPHEN EDWARD ; SDCAMATERIALS INC ; SDCMATERIALS LLC ; YIN QINGHUA

Assignee(s): SDCMATERIALS INCC

Inventor(s): (std): BAJBERGER MAKSIMILIAN A ; BIBERGER MAXIMILIAN A ; IN TSINKHUA ; LAYMAN FREDERICK P ; LEAMON DAVID ; LEHMAN JR STEPHEN EDWARD ; QI XIWANG ; RUIZ ELISEO ; TSI SIVAN ; YIN QINGHUA ; MAXIMILIAN A BIBERGER

Inventor(s): ELISEO RUIZ ; DAVID LEAMON ; XIWANG QI ; QINGHUA YIN

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; BORDEN LADNER GERVAIS LLP; BAILEY SAM ROGERSON; MORRISON AND FOERSTER LLP; HAVERSTOCK THOMAS B

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: NANOPOROUS SEMI-PERMEABLE MEMBRANE AND METHODS FOR FABRICATING THE SAME

Abstract: Source: US2011168560A A filter includes a membrane having a plurality of nanochannels formed therein. Functionalized **nanoparticles** are deposited through self assembly onto surfaces defining the nanochannels so as to decrease the final diameter of the membrane. Methods for making and using the filter are also provided.

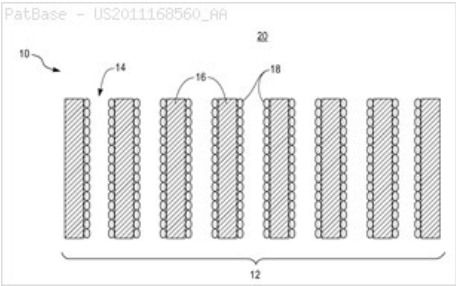
Classifications:

International (IPC 8-9): B01D29/46 B01D39/00 B01D39/14 B01D61/44 B01D61/54 B01D67/00 B01D69/00 B01D69/02 B01D69/10 B01D69/12 B01D71/00 B01D71/02 B05D1/36 B05D5/00 B29C44/04 C02F1/44 (Advanced/Invention)

CPC: B01D67/0065 B01D61/025 B01D67/0088 B01D71/025 B01D2313/90 C02F1/441 C02F2103/08 C02F2305/08

European: B01D61/02D B01D67/00M18F4 B01D67/00R14 B01D71/02P2 C02F1/44B L01D313/90 M02F103/08 M02F305/08

US: 204/521 204/628 204/628S 204/632 204/632S 210/490 210/500.25 210/500.26 264/45.1 427/256 427/402 977/778



Family:

Publication number	Publication date	Application number	Application date
CA2786121 AA	20110721	CA20112786121	20110110
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Priority:

US20100685734 20100112 WO2011US20653 20110110

Probable Assignee: GLOBALFOUNDRIES INC

Assignee(s): (std): AFZALI ARDAKANI ALI ; IBM ; ROSSNAGEL STEPHEN M ; NTERNATIONAL BUSINESS MACHINES CORP

Assignee(s): INT BUSINESS MACHINES CORP ; GLOBALFOUNDRIES INC ; GLOBALFOUNDRIES US 2 LLC ; GLOBALFOUNDRIES US INC

Inventor(s): (std): AFZALI ARDAKANI ALI ; ALI AFZALI ARDAKANI ; ROSSNAGEL STEPHEN M

Agent(s): WANG PETER; BERESKIN AND PARR LLP SENCRL SRL; WILLIAMS JULIAN DAVID; CANTOR COLBURN LLP; VAZKEN; SULLIVAN SEAN F

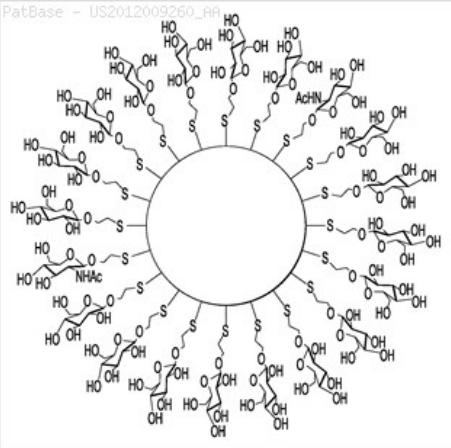
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **NANOPARTICLE** FILM DELIVERY SYSTEMS

Abstract: Source: US2012009260A A therapeutic or bioeffecting film delivery system which includes **nanoparticles** having actives bound to or associated with the **nanoparticles** and which when administered allow the active to perform a therapeutic or bioeffecting function.

Classifications:

International (IPC 8-9): A61J1/03 A61K38/00 A61K38/02 A61K38/09 A61K38/11 A61K38/22 A61K38/23 A61K38/24 A61K38/26 A61K38/27 A61K38/28 A61K38/29 A61K38/30 A61K38/31 A61K38/35 A61K47/02 A61K47/20 A61K47/26 A61K47/32 A61K47/34 A61K47/36 A61K47/38 A61K47/48 A61K49/00 A61K9/00 A61K9/14 A61K9/19 A61K9/20 A61K9/50 A61K9/70 A61P3/08 A61P3/10 B29C39/12 B65D85/00 B82Y40/00 B82Y5/00 C07H23/00 C07K1/113 C07K14/605 C07K14/62 C07K17/10 C07K2/00 C07K5/00 C07K7/00 (Advanced/Invention); A61K38/28 B82Y40/00 B82Y5/00 (Advanced/Non-invention)
CPC: A61K9/0019 A61K9/19 A61K9/5094 A61K9/006 A61K9/2031 A61K9/7007 A61K38/00 A61K47/48861 A61K47/4893 B82Y5/00 Y10S977/906 Y10S977/773 A61K38/28 A61K38/26 A61K47/48092 A61K9/0056 Y10S977/795 Y10S977/838 A61J1/03 A61K47/48215 A61K47/48884 Y10T428/2982
European: A61K47/48W8B A61K47/48W8F A61K9/00M18B A61K9/00M18D A61K9/20H6D A61K9/70B B82Y5/00 K61K38/12
US: 206/223 206/459.5 206/534 264/255 264/255S 424/443 424/484 424/484P 424/489 424/490 424/490P 428/402 514/1.1 514/1.100S 514/10.2 514/10.3 514/10.300S 514/10.9 514/10.900S 514/11.1 514/11.100S 514/11.5 514/11.500S 514/11.6 514/11.600S 514/11.7 514/11.700S 514/11.8 514/11.800S 514/11.9 514/11.900S 514/12.3 514/12.300S 514/12.7 514/12.700S 514/12.9 514/12.900S 514/20.9 514/5.9 514/5.900S 514/6.8 514/6.800S 514/6.9 514/6.900S 514/8.5 514/8.500S 514/8.6 514/8.600S 514/9.7 514/9.700S 514/9.9 514/9.900S 530/303 530/303S 530/304 530/304S 530/308 530/308S 530/322 530/345 536/17.1 536/17.100S 977/773 977/773S 977/795 977/795S 977/838 977/838S 977/896 977/906 977/906S



Family:

Publication number	Publication date	Application number	Application date
AU2011263546 AA	20111215	AU20110263546	20110610
AU2011263546 BB	20150122	AU20110263546	20110610
AU2011265294 AA	20111215	AU20110265294	20110610
AU2011265294 BB	20150122	AU20110265294	20110610
AU2012267605 AA	20121213	AU20120267605	20120608
AU2012267605 BB	20150611	AU20120267605	20120608
AU2012267605 CA	20150924	AU20120267605	20120608
CA2802031 AA	20111215	CA20112802031	20110610
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CN103209681 A	20130717	CN201180035110	20110610
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JP2013528202 T2	20130708	JP20130513749T	20110610
JP2013528227 T2	20130708	JP20130514387T	20110610
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US2012009260 AA	20120112	US20110157836	20110610
US2012171291 AA	20120705	US20110157783	20110610
US2012301535 AA	20121129	US20120492040	20120608
US2015099698 AA	20150409	US20130048286	20131008
US2015190476 AA	20150709	US20150617413	20150209
US8568781 BB	20131029	US20110157783	20110610
US8790704 BB	20140729	US20120492040	20120608
US8974826 BB	20150310	US20110157836	20110610
WO11154711 A1	20111215	WO2011GB00882	20110610
WO11154711 A8	20120726	WO2011GB00882	20110610
WO11156711 A1	20111215	WO2011US39979	20110610
WO12170828 A1	20121213	WO2012US41569	20120608

Priority:

US20100353366P 20100610	US20100353380P 20100610	US20110157836 20110610
WO2011US39979 20110610	WO2011GB00882 20110610	US20110157783 20110610
JP20130513749 20110610	AU20110263546 20110610	AU20110265294 20110610
US20120492040 20120608	US20110570598P 20111214	WO2012US41569 20120608
US20130048286 20131008	US20150617413 20150209	JP20130513749T 20110610
EP20110726032 20110610		

Probable Assignee: MIDATECH LTD

Assignee(s): (std): KENDALL KEITH J ; DADEY ERIC ; DOMINGUEZ ESTER DE TORRES ; MENOYO JAVIER DEL CAMPO ; DOMINGUEZ ESTHER DE TORRES ; RADEMACHER THOMAS ; WILLIAMS PHILLIP ; MYERS GARRY L ; SCHOBEL ALEXANDER M ; MOUS JAN ; BACHMANN CHRISTOF ; BARRIENTOS AFRICA GARCIA ; BARRY JUSTIN ; BARRY JUSTIN N W ; KENDALL KEITH JOSEPH ; MONOSOL RX LLC ; MIDATECH LTD ; SCHOBEL ALEXANDER MARK

Assignee(s): MONOSOL RX LLC WARREN ; MIDATECH LTD ABINGDON ; BARRY JUSTIN NW ; MIDATECH LIMITED ; WHITE OAK GLOBAL ADVISORS LLC AGENT AS

Inventor(s): (std): WILLIAMS PHILLIP ; THOMAS RADEMACHER ; SCHOBEL ALEXANDER MARK ; SCHOBEL ALEXANDER M ; RADEMACHER THOMAS ; PHILLIP WILLIAMS ; MYERS GARRY L ; MOUS JAN ; MENOYO JAVIER DEL CAMPO ; KENDALL KEITH JOSEPH ; KENDALL KEITH J ; JAVIER DEL CAMPO MENOYO ; ESTER DE TORRES DOMINGUEZ ; DOMINGUEZ ESTHER DE TORRES ; DOMINGUEZ ESTER DE TORRES ; DADEY ERIC ; CHRISTOF BACHMANN ; BARRY JUSTIN N W ; BARRY JUSTIN ; BARRIENTOS AFRICA GARCIA ; BACHMANN CHRISTOF ; AFRICA GARCIA BARRIENTOS

Inventor(s): BARRIENTOS AFRICA ; BARRIENTOS AFRICA GARCIA 48600 SOPELANA ; KENDALL KEITH ; KENDALL KEITH J

BEIDGEWATER ; MYERS GARRY ; MYERS GARRY L KINGSFORT ; RADEMACHER THOMAS OXFORDSHIRE ; SCHOBEL ALEXANDER ; SCHOBEL ALEXANDER M WHITEHOUSE STATION ; WILLIAMS PHILLIP BOTLEY OXFORDSHIRE ; BARRY JUSTIN NW

Agent(s): FB RICE; BERESKIN AND PARR LLP SENCRL SRL; CASLEY CHRISTOPHER STUART; DANN DORFMAN HERRELL AND SKILLMAN PC; PATRICK J; HOFFMANN AND BARON LLP; CASLEY CHRISTOPHE ET AL; SCOLA DANIEL A JR ET AL ET AL; SOPKO JOHN ET AL

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