

Search history

Search 1: FT=(Cu₂ZnTiS₄) and PD<20171121 (Results 1)

1) Family number: 63382737 (CN105908132A)

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Title: SEMICONDUCTOR CU₂ZNTIS₄ FILM MATERIAL AND PREPARATION METHOD THEREOF

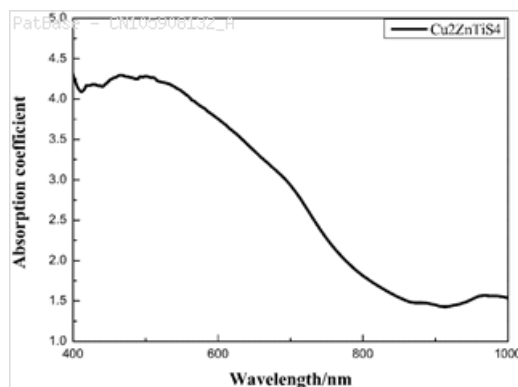
Abstract: The invention relates to the technical field of thin film solar cell preparation and especially relates to a novel semiconductor Cu₂ZnTiS₄ film material and a preparation method thereof. Through a magnetron sputtering multitarget deposition method, a CZTi precursor film is prepared on the surface of a soda-lime glass (SLG) substrate through three-target co-sputtering of Cu, Zn and Ti and the CZTi precursor film is subjected to thermal insulation in a H₂S atmosphere at a temperature of 510 degrees centigrade for 2h so that a Cu₂ZnTiS₄ semiconductor film is obtained. The Cu₂ZnTiS₄ semiconductor film is a semiconductor film material with thickness of 200-2000nm, an optical absorption coefficient of 10⁴cm⁻¹, a carrier type P and ductility and has very important scientific significance and construction value for complete flexibility of a film material.

Classifications:

International (IPC 8-9): C23C14/18 C23C14/35

C23C14/58 (Advanced/Invention)

CPC: C23C14/185 C23C14/352 C23C14/5866



Family:

Publication number	Publication date	Application number	Application date
CN105908132 A	20160831	CN201610119256	20160302
CN105908132 B	20180302	CN201610119256	20160302

Priority:

CN201610119256 20160302

Probable Assignee: UNIV CHANGZHOU

Assignee(s): (std): CHANGZHOU UNIV ; UNIV CHANGZHOU

Inventor(s): (std): DING JIANNING ; GUO HUAFEI ; LI YAN ; YUAN NINGYI ; ZHANG KEZHI

Search history

Search 1: SFT=(CZTS and titanium and (solar w5 cell*) and microwav* and (layer* or wrap*)) and PD<20171121 (Results 13)

1) Family number: 50115809 (US2013098438A)

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Title: TRANSLUCENT LAMINATED FILM AND SOLAR CELL MODULE USING IT

Abstract: To provide a translucent substrate which sufficiently improves the power generation efficiency of a solar cell, and a solar cell module. A translucent laminated film to be provided on the light receiving surface side of a photoelectric conversion layer, which comprises, in order from the light receiving surface side of the photoelectric conversion layer, a translucent substrate which protects the photoelectric conversion layer, a substrate front side wavelength conversion film having a wavelength conversion function to convert a light in a wavelength region in which the photoelectric conversion efficiency is low, which includes a light in a wavelength region in which the transmittance through at least the translucent substrate is low, into a light in a wavelength region in which the photoelectric conversion efficiency is high, and an antireflection film which reduces reflection of the received light.

Classifications:

International (IPC 8-9): B32B7/02 H01L31/0203 H01L31/0232 H01L31/04 H01L31/042 H01L31/052 (Advanced/Invention)

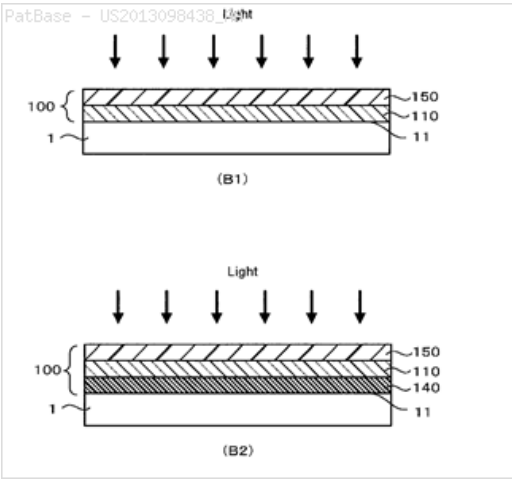
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European: H01L31/048 H01L31/055 Y02E10/50

US: 136/256 257/432

JP F-Term: 4F100 4F100/AT00/A 4F100/BA03 4F100/GB41 4F100/JG10/B 4F100/JG10/C 4F100/JN01/A 4F100/JN28/C 4F100/JN30/B 4F100/JN30/C 4F100/YY00/B 4F100/YY00/C 5F151 5F151/EA18 5F151/GA03 5F151/GA06 5F151/HA03 5F151/HA04 5F151/HA06 5F151/HA07 5F151/HA13 5F151/HA17 5F151/JA03

JP F-Index: B32B7/02/103 H01L31/04/F H01L31/04/G H01L31/04/R H01L31/04/240 H01L31/04/560 H01L31/04/622



Family:

Publication number	Publication date	Application number	Application date
CN102939663 A	20130220	CN201180028840	20110610
EP2581943 A1	20130417	EP20110792571	20110610
JP2011155614 A1	20130815	JP20120519442T	20110610
TW201216481 A	20120416	TW20110120612	20110610
US2013098438 AA	20130425	US20120710720	20121211
WO11155614 A1	20111215	WO2011JP63416	20110610

Priority:

JP20100134296 20100611 WO2011JP63416 20110610

Probable Assignee: ASAHI GLASS CO LTD

Assignee(s): (std): ASAHI GLASS CO LTD ; KAWAI YOHEI ; YONEDA TAKASHIGE

Assignee(s): ASAHI GLASS CO ; N A ; ASAHI GLASS COMPANY LIMITED

Inventor(s): (std): YONEDA TAKASHIGE ; KAWAI YOHEI

Agent(s): EHLICH HENDRIK; SENMYO KENJI 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 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

2) Family number: 43386027 (US2009305449A)

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Title: METHODS AND DEVICES FOR PROCESSING A PRECURSOR LAYER IN A GROUP VIA ENVIRONMENT

Abstract: Methods and devices for high-throughput printing of a precursor material for forming a film of a group IB-IIIA-

chalcogenide compound are disclosed. In one embodiment, the method comprises forming a precursor layer on a substrate, the precursor is subsequently processed in a VIA environment.

Classifications:

International (IPC 8-9): B05D3/02 B05D5/06 C23C16/06 C23C16/44 C23C16/448 H01L21/20 H01L21/324 H01L31/032 H01L31/04 H01L31/042 H01L31/18 (Advanced/Invention); B05D3/02 C23C16/44 H01L21/02 H01L31/0264 H01L31/042 (Core/Invention)

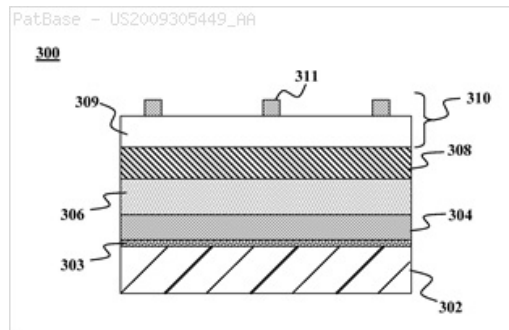
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European: B32B15/01 B32B15/01F B82Y30/00 C22C9/00 C23C14/56B C23C14/58H6 H01L21/02K4A1L H01L21/02K4C1E H01L21/02K4C3C H01L21/02K4C5M5 H01L21/02K4E2 H01L21/02K4E3L3 H01L21/02K4E3L5 H01L31/032C H01L31/072 H01L31/0749 H01L31/18 H01L31/18G2 H01L31/18H H01L31/20C L22F998/00 T01L31/0224C T01L51/00M2B2B Y02E10/52 Y02E10/54B

US: 118/718 118/718S 118/724 118/724S 257/E31.001 257/E31.001S 257/E31.026 257/E31.026S 257/E31.027 257/E31.027S 427/248.1 427/248.100P 427/255.21 427/255.21P 427/372.2 427/372.200S 427/74 427/74P 427/76 427/76S 438/57 438/57P 438/62 438/62P 438/95 438/95S

JP F-Term: 5F151 5F151/AA10 5F151/CB11

JP F-Index: H01L31/04/E H01L31/04/420 H01L31/06/460



Family:

Publication number	Publication date	Application number	Application date
EP2232576 A2	20100929	EP20080860654	20081208
EP2266145 A2	20101229	EP20090762961	20090304
EP2474044 A2	20120711	EP20100814527	20100902
EP2474044 A4	20140115	EP20100814527	20100902
JP2013504215 T2	20130204	JP20120528070T	20100902
US2009305449 AA	20091210	US20080330499	20081208
US2010028533 AA	20100204	US20090398161	20090304
US2011059231 AA	20110310	US20100813505	20100611
US2011065224 AA	20110317	US20100813508	20100611
US2011081487 AA	20110407	US20100875060	20100902
US2011120373 AA	20110526	US20100842967	20100723
US2013040420 AA	20130214	US20120653380	20121016
WO09076322 A2	20090618	WO2008US85987	20081208
WO09076322 A3	20090911	WO2008US85987	20081208
WO09151665 A2	20091217	WO2009US36083	20090304
WO09151665 A3	20100304	WO2009US36083	20090304
WO11028957 A2	20110310	WO2010US47748	20100902
WO11028957 A3	20110714	WO2010US47748	20100902

Priority:

US20070012020P 20071206	US20080033772P 20080304	US20080330499 20081208
WO2008US85987 20081208	US20090398161 20090304	WO2009US36083 20090304
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US20100875060 20100902	US20120653380 20121016	

Probable Assignee: AERIS CAPITAL SUSTAINABLE IP LTD

Assignee(s): (std): BOLLMAN BRENT ; LEIDHOLM CRAIG ; LEIDHOLM CRAIG R ; RAIL MATTHEW ; STANLEY NATHANIEL ; RAIL MATTHEW DIEGO ; STANLEY NATHANIAL ; NANOSOLAR INC

Assignee(s): AERIS CAPITAL SUSTAINABLE IMPACT PRIVATE INVESTMEN ; AERIS CAPITAL SUSTAINABLE IMPACT PRIVATE INVESTMENT FUND CAYMAN LP ; AERIS CAPITAL SUSTAINABLE IP LTD

Inventor(s): (std): LEIDHOLM CRAIG ; BOLLMAN BRENT ; LITMANOVITZ RAPHAEL ; RAIL MATTHEW DIEGO ; LEIDHOLM CRAIG R ; STANLEY NATHANIAL ; STANLEY NATHANIEL ; RAIL MATTHEW

Agent(s): BOYCE CONOR; DIRECTOR OF IP; TUNG HAO Y

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 LR LK 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

3) Family number: 63048142 (US2018017679A)

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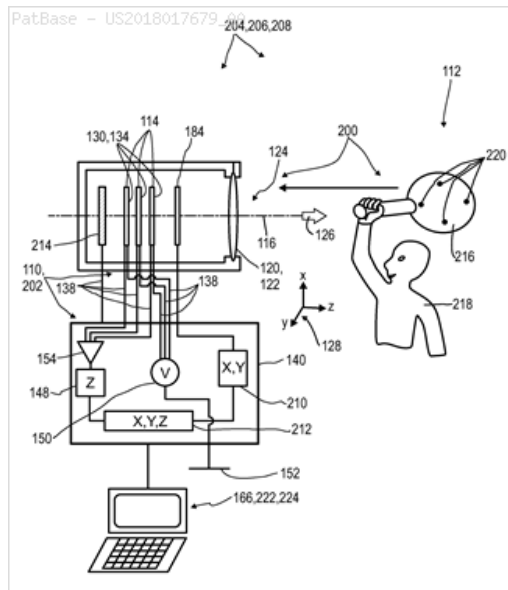
Title: DETECTOR FOR AN OPTICAL DETECTION OF AT LEAST ONE OBJECT

Abstract: Disclosed herein is a detector (110) containing: at least one longitudinal optical sensor (114), wherein the longitudinal optical sensor (114); and at least one evaluation device (140), wherein the evaluation device (140) is designed to generate at least one item of information on a longitudinal position of the object (112) by evaluating the longitudinal sensor signal of the longitudinal optical sensor (114). Also disclosed herein are articles containing the detector (110), and methods for optical detection of objects using the detector (110).

Classifications:

International (IPC 8-9): A63F13/213 A63F13/30 A63F13/655 G01B9/00 G01J1/42 G01S17/06 G01S17/66 G01S7/481 H01L27/146 H01L27/30 H01L31/0224 H01L31/09 H01L31/10 H01L31/108 H01L51/42 (Advanced/Invention); G01S7/481 (Advanced/Non-invention)

CPC: H01L51/0036 H01L27/14601 H01L27/14665 H01L31/0224
G01S17/66 H01L51/4253 G01S17/06 A63F13/213 A63F13/655 A63F13/30
G01S7/4816 H01L27/307 H01L31/09
JP F-Term: 2F064 2G065 2G065/AA04 2G065/AB02 2G065/AB04
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5F849/XB18 5F849/XB19 5F849/XB37 5F849/XB39
JP F-Index: G01B9/00 G01J1/42 H01L27/146/C H01L27/30 H01L31/10/A
H01L31/10/C



Family:

Publication number	Publication date	Application number	Application date
CN107438775 A	20171205	CN201680019688	20160128
EP3251152 A1	20171206	EP20160705042	20160128
JP2018513980 T2	20180531	JP20170558775T	20160128
KR20170136502 A	20171211	KR20177024337	20160128
US2018017679 AA	20180118	US20160547664	20160128
WO16120392 A1	20160804	WO2016EP51817	20160128

Priority:

EP20150153215 20150130 EP20150157363 20150303 EP20150178493 20150727
EP20150191960 20151028 EP20150197728 20151203 WO2016EP51817 20160128

Probable Assignee: TRINAMIX GMBH

Assignee(s): (std): TRINAMIX GMBH

Assignee(s): ERT OPTIK DR THIEL GMBH

Inventor(s): (std): LUNGENSCHMIED CHRISTOPH ; BRUDER INGMAR ; VALOUCH SEBASTIAN ; HERMES WILFRIED ; SEND ROBERT ; IRLE STEPHAN ; THIEL ERWIN

Agent(s): HERZOG FIESSER AND PARTNER PATENTANWALTE PARTG MBB; STOESSSEL MATTHIAS

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 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 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

4) Family number: 67324645 (US2019129036A)

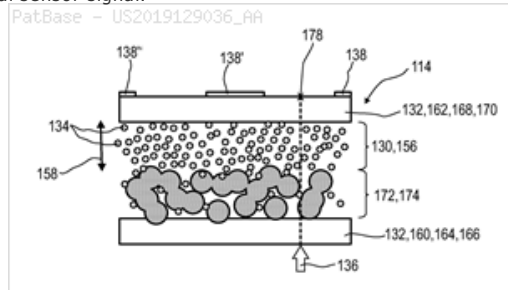
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Title: DETECTOR FOR AN OPTICAL DETECTION OF AT LEAST ONE OBJECT

Abstract: A detector for an optical detection of at least one object. The detector includes: at least one transversal optical sensor configured to determine a transversal position of a light beam traveling from the object to the detector, the transversal optical sensor including: at least one photovoltaic layer embedded between at least two conductive layers, the photovoltaic layer including a plurality of quantum dots, the at least one transversal sensor signal indicating a transversal position of the light beam in the photovoltaic layer; and at least one evaluation device configured to generate at least one item of information on a transversal position of the object by evaluating the at least one transversal sensor signal.

Classifications:

International (IPC 8-9): G01S17/42 G01S17/46 G01S17/66 G01S5/16
G01S7/481 H01L31/0296 H01L31/0304 H01L31/032 H01L31/0328
H01L31/108 H01L51/00 H01L51/42 H01L51/44 (Advanced/Invention)
CPC: G01S5/16 H01L31/035218 G01S17/08 H01L27/307 H01L51/4226
H01L31/0296 H01L31/0304 H01L31/0322 H01L31/0326 H01L31/0328
G01S17/66 G01S17/42 H01L51/426 H01L51/4273 H01L51/445
H01L51/4206 G01S7/4816 H01L31/1085 H01L51/0037



Family:

Publication number	Publication date	Application number	Application date
CN109328310 A	20190212	CN201780037795	20170418
EP3446151 A1	20190227	EP20170716932	20170418

KR20180136952 A	20181226	KR20187030200	20170418
US2019129036 AA	20190502	US20170094402	20170418
WO17182432 A1	20171026	WO2017EP59114	20170418

Priority:

EP20160165905 20160419 WO2017EP59114 20170418

Probable Assignee: TRINAMIX GMBH

Assignee(s): (std): TRINAMIX GMBH

Inventor(s): (std): VALOUCH SEBASTIAN ; SEND ROBERT ; BRUDER INGMAR ; HERMES WILFRIED ; LUNGENSCHMIED CHRISTOPH

Agent(s): HERZOG FIESSER AND PARTNER PATENTANWAELTE PARTG MBB; STOESEL MATTHIAS

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 DJ 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 KH KM KN KP KR KW 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 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

5) Family number: 47677658 (US201205554A)

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Title: COPPER ZINC TIN CHALCOGENIDE NANOPARTICLES

Abstract: This invention relates to nanoparticles of kesterite (copper zinc tin sulfide) and copper zinc tin selenide nanoparticles, inks and devices thereof, and processes to prepare same. The nano-particles are useful to for the absorber layer as a p-type semiconductor in a thin film solar cell application.

Classifications:

International (IPC 8-9): B01J2/00 B05D3/00 B05D3/02 B05D7/24 B82B3/00 B82Y30/00 B82Y40/00 C01B19/00 C01G19/00 C09D1/00 C09D11/00 C09D11/02 C09D11/037 C09D201/00 C09D7/12 C23C18/04 C23C18/12 H01B1/02 H01B1/12 H01B1/20 H01L21/02 H01L21/368 H01L31/0264 H01L31/0272 H01L31/032 H01L31/04 H01L31/18 H01L51/10 (Advanced/Invention);

B82Y30/00 C23C18/00 H01L21/00 H01L31/04 (Advanced/Non-invention); C01G19/00 C09D11/00 H01L31/04 (Core/Non-invention)

CPC: Y02E10/50 C09D11/03 C09D11/52 H01L31/0327 H01L31/206 H01L31/18 B01J2/006 B82Y30/00 C01G19/006 C01P2002/72 C01P2004/04 C01P2004/62 C01P2004/64 C23C18/1204 C23C18/1279 H01L31/0324 H01L21/02557 H01L21/0256 H01L21/02568 H01L21/02614 H01L21/02628 Y02P70/521 C09D11/037

European: B01J2/00D B82Y30/00 C01G19/00D C09D11/03 C09D11/037 C09D11/52 C23C18/12C C23C18/12J10 H01L31/032D H01L31/032E2 H01L31/18 H01L31/20C M01P2/72 M01P4/04 M01P4/62 M01P4/64

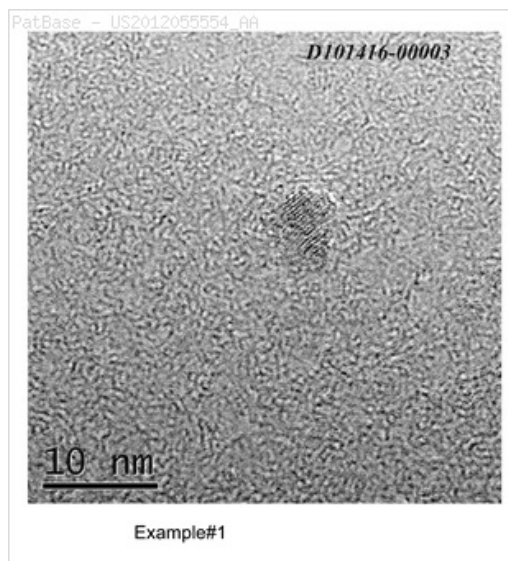
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JP F-Term: 3C082 4G043 4G047 5F151 5F151/AA09 5F151/AA10 5F151/CB13 5F151/CB24 5F151/DA03 5F151/FA02 5F151/FA06 5F151/FA08 5F151/FA13 5F151/FA15 5F151/GA03 4D075 4D075/BB24/Z 4D075/BB29/Z 4D075/BB37/Z 4D075/BB47/Z 4D075/BB48/Z 4D075/BB93/Z 4D075/DA04 4D075/DA06 4D075/DB04 4D075/DB07 4D075/DB13 4D075/DB14 4D075/DB31 4D075/DC21 4D075/EA33 4D075/EC07 4J038 4J038/AA01/1 4J038/HA06/6 4J038/HA07/6 4J038/HA14/1 4J038/HA30/6 4J038/HA34/6 4J038/JC38 4J038/PA17 4J038/PA19 4J038/PC02 4J038/PC03 4J038/PC08 4J039 4J039/AA02 4J039/BA06 4J039/BA31 4J039/BA33 4J039/BA39 4J039/BC59 4J039/BE01 4J039/BE12 4J039/EA03 4J039/FA01 4J039/FA02 4J039/FA04 4J039/FA06 5F053 5F053/BB09 5F053/DD20 5F053/GG02 5F053/HH07 5F053/LL05 5F053/RR13 5F151/FA04 5F151/FA14 5F151/FA18 4J039/AD00 4J039/AE00 4J039/BE13 4J039/BE22 4J039/BE23 4J039/EA45 4J039/EA48

JP F-Index: B82Y30/00 B82Y40/00 C01B19/00/Z C01G19/00/A H01L31/04/E H01L31/04/422 H01L31/06/400 B05D7/24/302/A C01B19/00/G C09D11/00 C09D201/00 H01L21/368/Z

Family:

Publication number	Publication date	Application number	Application date
CN102439096 A	20120502	CN201080021982	20100521
CN102439097 A	20120502	CN201080022392	20100521
CN102439098 A	20120502	CN201080022393	20100521
EP2432840 A1	20120328	EP20100720864	20100521
EP2432841 A1	20120328	EP20100722880	20100521
EP2432842 A1	20120328	EP20100724614	20100521
JP2012527401 T2	20121108	JP20120512057T	20100521
JP2012527402 T2	20121108	JP20120512064T	20100521
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KR20120030434 A	20120328	KR20117030457	20100521
KR20120036872 A	20120418	KR20117030455	20100521
TW201107241 A	20110301	TW20100116394	20100521
US2012055554 AA	20120308	US20100320156	20100521
US2012060928 AA	20120315	US20100319900	20100521
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WO10135622 A1	20101125	WO2010US35734	20100521
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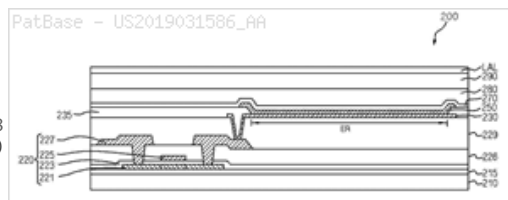


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 WO2010US35734 20100521 US20100320156 20100521 WO2010US35810 20100521
 WO2010US35804 20100521

Probable Assignee: E I DU PONT DE NEMOURS AND CO**Assignee(s):** (std): CASPAR JONATHAN V ; CATRON JOHN W ; CATRON JR JOHN W ; DU PONT ; JOHNSON LYNDA KAYE ; LU MEIJUN ; MALAJOVICH IRINA ; DUPONT CO LTD ; EIDU PONT DE NEMOURS AND CO ; RADU DANIELA RODICA ; ROSENFELD H DAVID**Assignee(s):** ROSENFELD H ; EI DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND CO ; E I DU PONT DE NEMOURS AND COMPANY**Inventor(s):** (std): CASPAR JONATHAN V ; ROSENFELD H DAVID ; MALAJOVICH IRINA ; LU MEI JIN ; DAVID ROSENFELD H ; IRINA MALAJOVICH ; RODICA RADU DANIELA ; KAYE JOHNSON LYNDA ; MEIJUN LU ; CATRON JOHN W ; JOHNSON LYNDA KAYE ; RADU DANIELA RODICA ; CATRON JR JOHN W ; LU MEIJUN**Inventor(s):** ROSENFELD H ; LU, MEIJIN**Agent(s):** MATTHEWS DEREK PETER ; SANTOPIETRO LOIS 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 ZA ZM ZW**6) Family number: 66524815 (US2019031586A)**

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Title: ORGANIC COMPOUND, THREE-DIMENSIONAL ORGANIC FRAMEWORK FORMED BY USING ORGANIC COMPOUND, SEPARATION SIEVE AND OPTICAL LAYER, WHICH COMPRISE ORGANIC FRAMEWORK, AND OPTICAL DEVICE COMPRISING OPTICAL LAYER AS OPTICAL AMPLIFICATION LAYER**Abstract:** An organic compound, a three-dimensional organic structure formed by using the organic compound, a separation sieve and an optical layer having the organic structure, and an optical device having the optical layer as an optical amplification layer are provided. The organic structure includes a plurality of organic molecules self-assembled by non-covalent bonding. Each of the unit organic molecules has an aromatic ring, a first pair of substituents being connected to immediately adjacent positions of substitutable positions of the aromatic ring, and a second pair of substituents being connected to immediately adjacent positions of remaining substitutable positions of the aromatic ring. The unit organic molecules are self-assembled by van der Waals interaction, London dispersion interaction or hydrogen bonding between the first and the second pairs of the substituents and by pi-pi interactions between the aromatic rings.**Classifications:****International (IPC 8-9):** B01J20/22 B01J20/26 B01J20/28 C07C13/66 C07C15/20 C07C15/28 C07C15/38 C07C217/64 C07C245/02 C07C259/06 C07C309/65 C07C313/04 C07C317/14 C07C323/12 C07C43/164 C07C43/20 C07C43/235 C07C43/257 C07C43/295 C07C47/198 C07C49/84 C07C59/66 C07C69/34 C07C69/96 C07D303/48 G02B1/00 G02B5/00 G02B5/28 H01L51/00 H01L51/52 (Advanced/Invention)**CPC:** C07C43/235 C07C13/66 C07C15/20 C07B2200/13 C07C43/20 G02B1/00 G02B5/28 H01L51/52 G02B5/284 G02B1/002 H01L51/5265 B01J20/26 B01J20/28019 B01J20/28033 B01D2253/20 C07C43/257 G02F2001/133302 C07C69/34 C07C309/65 C07C69/96 C07C317/14 C07C43/295 C07C59/66 C07C313/04 C07C259/06 C07C245/02 C07D303/48 C07C47/198 C07C323/12 C07C217/64 H01L51/0054 H01L51/0052 H01L51/0056 H01L51/0058 G02B5/008 C07C2603/50 C07C2603/24 C07C2603/54 C07C2603/40 C07C2603/42 C07C49/84 B01J20/22 G02B6/0051 G02B6/0055 G02F1/133345 G02F1/133528 G02F1/133711 G02F1/13439 G02F1/136227 G02F2001/133531 H01G9/209 H01L31/054 H01L33/58 H01L51/447 H01L51/5262 C07C43/215 C07C43/23 C07C47/277 C07C49/753 C07C49/755 C07C69/33 C07C217/16 C07C217/24 C07C311/51 C07C313/12 C07C409/38 C07C43/164**US:** 534/556**Family:**

Publication number	Publication date	Application number	Application date
KR101796859 B1	20171113	KR20160061682	20160519
KR101973261 B1	20190502	KR20170058035	20170510
KR20170090568 A	20170808	KR20160011018	20160128
KR20170127368 A	20171121	KR20170058035	20170510
US2019031586 AA	20190131	US20170072986	20170124
WO17131406 A1	20170803	WO2017KR00803	20170124

Priority:

KR20160011018 20160128 KR20160056767 20160510 KR20160061682 20160519
 WO2017KR00803 20170124 KR20170058035 20170510

Probable Assignee: IUCF HYU INDUSTRY UNIV COOPERATION FOUND HANYANG UNIVERSITY**Assignee(s):** (std): COOPERATION FOUNDATION HANYANG IND UNIV ; IUCF HYU INDUSTRY UNIV COOP FOUND HANYANG UNIVERSITY ; IUCF HYU INDUSTRY UNIV COOPERATION FOUND HANYANG UNIVERSITY ; UNIV COOP FOUND HANYANG UNIV IND ; UNIV COOPERATION FOUNDATION HANYANG UNIV IND**Assignee(s):** IUCF HYU INDUSTRY UNIV COOPERATION FOUNDATION HANYANG UNIVERSITY ; IUCF HYU INDUSTRY UNIVERSITY COOPERATION FOUNDATION HANYANG UNIVERSITY**Inventor(s):** (std): CHOI KYOUNGHWAN ; SUH DONGHACK ; CHOI KYOUNG HWAN ; SUH DONG HACK**Agent(s):** E SANG PATENT AND TRADEMARK LAW FIRM**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 DJ 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 KH KM KN KP KW 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

Title: METHODS AND APPARATUSES FOR FORMING SEMICONDUCTOR FILMS

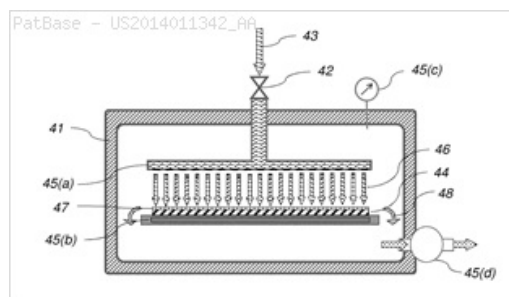
Abstract: Described herein are systems and methods method for forming semiconductor films. In some embodiment, the methods comprising depositing the source solution containing a solvent and plurality of types of metal ionic species and a second type on a substrate heated to a temperature at or above the boiling point of the solvent. In some embodiments, methods and apparatus for exposing a substrate to a gas are also provided.

Classifications:

International (IPC 8-9): C23C16/00 C23C18/12 H01L21/02 H01L21/20 (Advanced/Invention)

CPC: H01L21/02568 C23C18/1216 C23C18/1241 C23C18/1291 C23C18/1295 H01L21/02614 H01L21/02628

US: 1/1 118/724 118/725 257/E21.09 438/478



Family:

Publication number	Publication date	Application number	Application date
US2014011342 AA	20140109	US20120544562	20120709
US9082619 BB	20150714	US20120544562	20120709
WO14011674 A2	20140116	WO2013US49781	20130709
WO14011674 A3	20140417	WO2013US49781	20130709

Priority:

US20120544562 20120709

Probable Assignee: INT SOLAR ELECTRIC TECHNOLOGY INC

Assignee(s): (std): BANSAL ASHISH ; GUEVARRA DAN ; HABER JOEL ; INT SOLAR ELECTRIC TECHNOLOGY INC ; KAPUR VINCENT ; KAPUR VIJAY K

Inventor(s): (std): KAPUR VINCENT ; GUEVARRA DAN ; KAPUR VIJAY K ; BANSAL ASHISH ; HABER JOEL

Agent(s): WOLF GREENFIELD AND SACKS PC; POMIANEK MICHAEL J

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 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

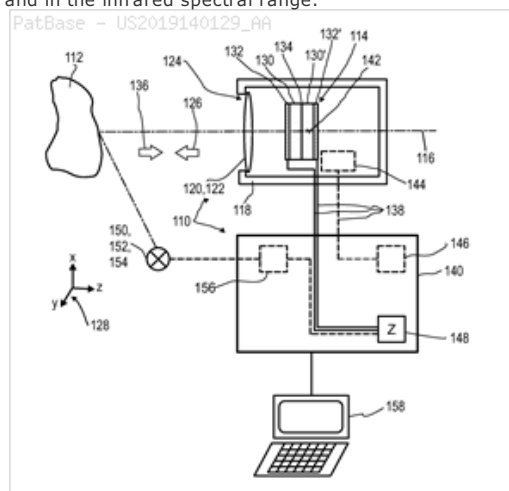
Title: DETECTOR FOR AN OPTICAL DETECTION OF AT LEAST ONE OBJECT

Abstract: A simple and still reliable detector for an accurate determination of a position of at least one object in space is provided. The detector comprises a longitudinal optical sensor (114) having a stack of at least two individual pin diodes (130, 130') arranged between at least two electrodes (132, 132'). Upon illumination of the sensor region by an incident light beam (136), a longitudinal sensor signal is generated. The longitudinal sensor signal, given the same power of illumination, is dependent on a beam cross-section of the light beam (136). The at last two individual pin diodes (130, 130') have different spectral sensitivities in order to enable the determination of a distance between the object and the detector by light beams in different spectral ranges, e.g. by light beams in the visible spectral range and in the infrared spectral range.

Classifications:

International (IPC 8-9): G01S7/481 H01L27/146 H01L27/30 H01L31/0256 H01L31/0368 H01L31/0376 H01L31/0392 H01L31/101 H01L31/105 H01L51/42 (Advanced/Invention)

CPC: H01L31/03762 H01L27/14665 Y02E10/545 Y02E10/548 H01L31/105 H01L31/03923 H01L31/03925 H01L2031/0344 H01L27/14669 H01L31/1013 G01S7/4816 H01L27/307 H01L31/03685 H01L31/03765 H01L31/1016 H01L51/4293



Family:

Publication number	Publication date	Application number	Application date
CN109564952 A	20190402	CN201780029760	20170403
EP3440711 A1	20190213	EP20170714483	20170403
KR20180129904 A	20181205	KR20187031939	20170403
US2019140129 AA	20190509	US20170090990	20170403
WO17174491 A1	20171012	WO2017EP57825	20170403

Priority:

EP20160164113 20160406 WO2017EP57825 20170403

Probable Assignee: TRINAMIX GMBH

Assignee(s): (std): TRINAMIX GMBH

Inventor(s): (std): BRUDER INGMAR ; LUNGENSCHMIED CHRISTOPH ; HERMES WILFRIED ; SEND ROBERT ; VALOUCH SEBASTIAN

Agent(s): HERZOG FIESSER AND PARTNER PATENTANWAELTE PARTG MBB

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 DJ 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 KH KM KN KP KR KW 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 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

9) Family number: 57710313 (US2014326316A)

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Title: NANOSCALE PRECURSORS FOR SYNTHESIS OF $\text{Fe}_2(\text{Si,Ge})(\text{S,Se})_4$ CRYSTALLINE PARTICLES AND LAYERS

Abstract: Thin films comprising crystalline Fe_2XY_4 , wherein X is Si or Ge and Y is S or Se, are obtained by coating an ink comprised of nanoparticle precursors of Fe_2XY_4 and/or a non-particulate amorphous substance comprised of Fe, X and Y on a substrate surface and annealing the coating. The coated substrate thereby obtained has utility as a solar absorber material in thin film photovoltaic devices.

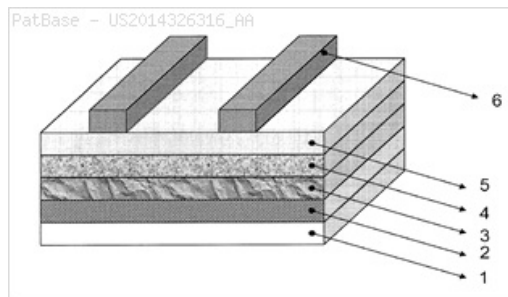
Classifications:

International (IPC 8-9): C09D11/52 H01L21/02 H01L31/032 H01L31/072 H01L31/18 (Advanced/Invention)

CPC: H01L31/032 C09D11/52 H01L21/02422 H01L21/02425

H01L21/02491 H01L21/02568 H01L21/0257 H01L21/02601 H01L21/02628 H01L31/072 Y02E10/50

US: 136/261 252/519.4 423/324 423/511 438/93



Family:

Publication number	Publication date	Application number	Application date
US2014326316 AA	20141106	US20140267428	20140501
US9634161 BB	20170425	US20140267428	20140501

Priority:

US20130817890P 20130501 US20140267428 20140501

Probable Assignee: DELAWARE STATE UNIV

Assignee(s): (std): DELAWARE STATE UNIV ; LAI CHENG YU ; RADU DANIELA RODICA

Inventor(s): (std): LAI CHENG YU ; RADU DANIELA RODICA

Agent(s): RATNERPRESTIA

10) Family number: 44126662 (US2011092726A)

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Title: SYSTEM FOR CULTIVATION AND PROCESSING OF MICROORGANISMS, PROCESSING OF PRODUCTS THEREFROM, AND PROCESSING IN DRILLHOLE REACTORS

Abstract: Described are methods of cultivating autotrophic microorganisms, particularly microalgae or diatoms, in a bioreactor by entraining a culture of the microorganisms in a tenuous, gelled, thixotropic carrier medium having nutrients therefor and moving the medium along a passage at a sufficiently slow speed to enable laminar flow which in cross section is closed and which has transparent walls through which the culture is irradiated to enable photosynthesis. The method includes effecting convective turnover of the culture and medium as they flow along the passage by differentially heating the medium laterally relative to the flow direction so as to produce a generally helical flow of the culture and medium. Also described are processing methods, both physical and chemical, performed underground e.g. in drillholes, to utilise decavitation energy under ambient elevated pressures, including processes to implement lysis of the micro-organisms, producing methanol, syngas synthesis, Haber ammonia synthesis, Fischer-Tropsch reactions, supercritical reactions, dimethyl ether synthesis, and nitric acid synthesis.

Classifications:

International (IPC 8-9): C01C1/04 C07C1/04 C07C67/02 C11B13/00 C12M1/00 C12M1/113 C12N1/12 C12N13/00

E21B43/00 (Advanced/Invention);

C11B13/00 C11B7/00 (Advanced/Non-invention);

C12M1/00 C12M1/107 C12N1/12 E21B43/00 (Core/Invention)

CPC: C12M23/04 C12M23/06 C12M23/22 C12M27/00 C12M27/06

C12M29/24 C12M41/12 C12N1/12 C07C67/02 C01C1/04 C07C1/04

C12M21/02 C12M23/26 C12M29/06 C12M41/00 C12M41/18 C12M43/02

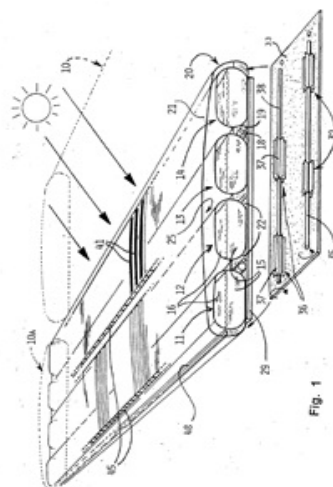
C12M43/08 E21B43/16

European: C12M21/02 C12M23/04 C12M23/06 C12M23/22 C12M23/26 C12M27/00 C12M27/06 C12M29/06 C12M29/24 C12M41/00 C12M41/12 C12M41/18 C12M43/02 C12M43/08 E21B43/16

US: 423/359 435/173.7 435/173.8 435/173.800S 435/173.9 435/257.1 435/257.100S 518/700 554/124 554/169 554/174 554/175 554/175P 568/698 568/910

PatBase - US2011092726_AA

Patent Application Publication Apr. 21, 2011 Sheet 1 of 9 US 2011/092726 A1



Family:

Publication number	Publication date	Application number	Application date
AU2011200090 AA	20110203	AU20110200090	20110112
AU2011200090 BB	20160107	AU20110200090	20110112
AU2016202159 AA	20160428	AU20160202159	20160406
US2011092726 AA	20110421	US20100928405	20101210
US2015072400 AA	20150312	US20140269354	20140505
US8715980 BB	20140506	US20100928405	20101210
WO09149519 A1	20091217	WO2009AU00750	20090612

Priority:

AU20080902944 20080612 WO2009AU00750 20090612 US20100928405 20101210
AU20110200090 20110112 US20140269354 20140505 AU20160202159 20160406

Probable Assignee: WINWICK BUSINESS SOLUTIONS PTY LTD

Assignee(s): (std): CLARKE WILLIAM SEVERN ; WINWICK BUSINESS SOLUTIONS PTY ; WINWICK BUSINESS SOLUTIONS PTY LTD

Inventor(s): (std): CLARKE WILLIAM SEVERN

Inventor(s): WILLIAM SEVERN CLARKE

Agent(s): PATENT ATTORNEY SERVICES; HENRY I; GRANT MICHAEL JOHN

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

11) Family number: 50844231 (DE102010047841A1)

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Title: MANUFACTURE OF SEMICONDUCTOR LAYER E.G. PASSIVATION FILM FOR SOLAR CELL, INVOLVES SEPARATING SILICON LAYER, SILICON OXIDE LAYER, SILICON CARBIDE LAYER OR SILICON GERMANIUM LAYER FROM SUBSTRATE, AND PERFORMING MICROWAVE TREATMENT

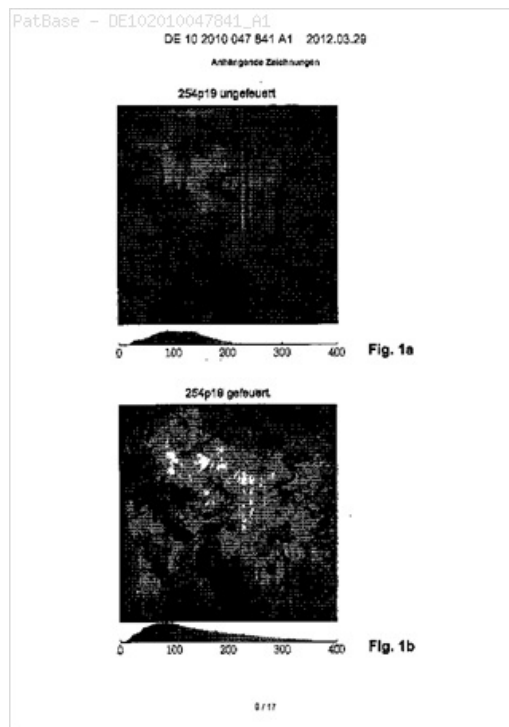
Abstract: Layer chosen from silicon layer, silicon oxide layer, silicon nitride layer, silicon carbide layer and silicon germanium layer is separated from a substrate, and subsequently microwave treatment is performed to obtain semiconductor layer.

Classifications:

International (IPC 8-9): H01L21/56 H01L31/18 (Advanced/Invention)

CPC: Y02E10/548 H01L31/1868 H01L31/02167 H01L31/075 H01L31/1864 H01L31/046 Y02P70/521

European: H01L27/142R2 H01L31/0216B3 H01L31/075 H01L31/18G2 H01L31/18G3



Family:

Publication number	Publication date	Application number	Application date
DE102010047841 A1	20120329	DE201010047841	20100928

Priority:

DE201010047841 20100928

Probable Assignee: UNIV STUTTGART

Assignee(s): (std): UNIV STUTTGART

Assignee(s): UNIVERSITAET STUTTGART ; STUTTGART UNIV

Inventor(s): (std): CICHOSZEWSKI JAKUB ; STOICESCU LIVIU MIHAI ; WERNER JUERGEN

12) Family number: 49266328 (WO11085425A1)

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Title: SOLUTIONS FOR THE PRODUCTION OF HOMOGENEOUS LARGE-AREA PHOTOACTIVE LAYERS CONSISTING OF AN ELECTROACTIVE POLYMER AND SEMICONDUCTOR NANOPARTICLES AND USE THEREOF IN PHOTOVOLTAICS AND OPTOELECTRONICS

Abstract: The invention lies in the field of nanotechnology with a view to use in photovoltaics and optoelectronics. The method according to the invention makes it possible to produce semiconductor nanoparticles directly (in situ) in a wide variety of polymer matrices. The nano composite layers thus obtained can be used for producing semiconductor components, such as for example solar cells.

Classifications:

International (IPC 8-9): H01L31/0264 H01L31/0352 H01L51/00

H01L51/42 (Advanced/Invention);

H01G9/20 (Advanced/Non-invention)

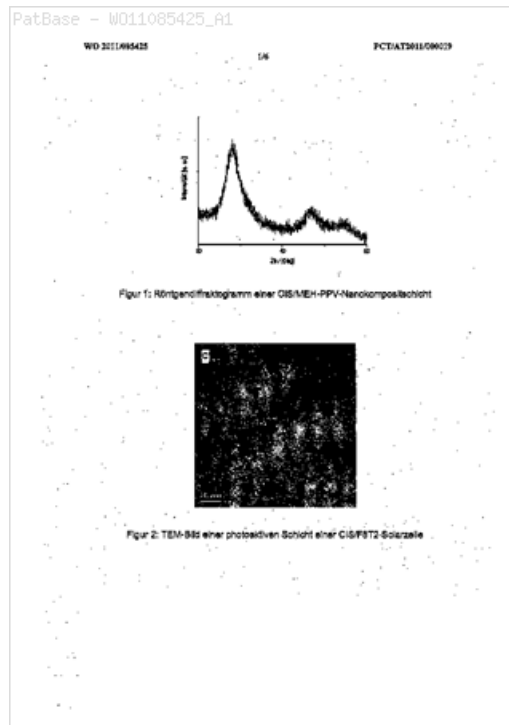
CPC: Y02E10/549 H01L51/0003 H01L51/0007 H01L51/0026 H01L51/0036

H01L51/0038 H01L51/0039 H01L51/426 H01L2251/308 Y02P70/521

European: H01L51/00A2B H01L51/42H2 T01L251/30A1A4 T01L51/00A16

T01L51/00A2B6 T01L51/00M2B2 T01L51/00M2B4 T01L51/00M2B6

Y02E10/50



Family:

Publication number	Publication date	Application number	Application date
AT13264 U1	20130915	AT20120008043U	20100118
AT509400 A1	20110815	AT20100000055	20100118
WO11085425 A1	20110721	WO2011AT00019	20110113

Priority:

AT20100000055 20100118 AT20120008043U 20100118

Probable Assignee: ISOVOLTAIC AG

Assignee(s): (std): EDLER MICHAEL ; FISCHEREDER ACHIM ; HAAS WERNFRIED ; ISOVOLTAIC AG ; MAUTHNER GERNOT ; TRIMMEL GREGOR ; TRATTNIG ROMAN ; UNIV GRAZ TECH ; SCHENK ALEXANDER ; RATH THOMAS

Assignee(s): TECHNISCHE UNIV GRAZ ; TECHNISCHE UNIVERSITAET GRAZ

Inventor(s): (std): EDLER MICHAEL ; FISCHEREDER ACHIM ; HAAS WERNFRIED ; MAUTHNER GERNOT ; RATH THOMAS ; SCHENK ALEXANDER ; TRATTNIG ROMAN ; TRIMMEL GREGOR ; TRIMMEL GREGOR DIPL ING DR ; TRATTNIG ROMAN DIPL ING ; SCHENK ALEXANDER BSC ; RATH THOMAS DIPL ING DR ; MAUTHNER GERNOT DIPL ING DR ; HAAS WERNFRIED DIPL ING ; FISCHEREDER ACHIM DIPL ING ; EDLER MICHAEL DIPL ING

Inventor(s): TRIMMEL GREGOR DIPLING DR ; TRATTNIG ROMAN DIPLING ; RATH THOMAS DIPLING DR ; MAUTHNER GERNOT DIPLING DR ; HAAS WERNFRIED DIPLING ; FISCHEREDER ACHIM DIPLING ; EDLER MICHAEL DIPLING

Agent(s): BEER MANFRED 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 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

13) Family number: 57367645 (US2016015987A)

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Title: ULTRA-THIN IMPLANTABLE ENERGY SOURCE

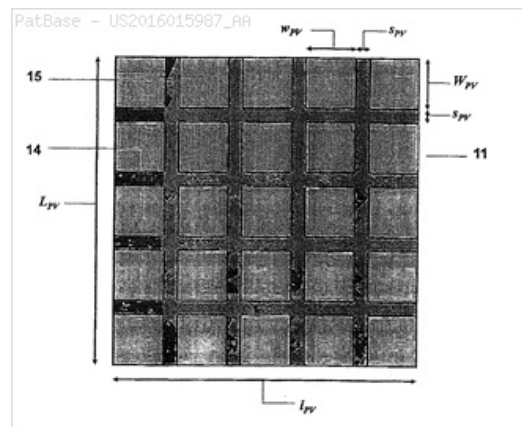
Abstract: The invention relates to an implantable energy source comprising at least one energy storage sub-system (171) constructed in the form of a stack of thin layers (175) on a substrate (176), characterised in that said energy storage sub-system has a plurality of through-openings (174) for allowing the development and the passage of blood vessels. Preferably, the energy source thereof has a thickness of less than, or equal to, 1 mm, over at least 80 percent of its surface.

Classifications:

International (IPC 8-9): A61F2/02 A61N1/378 H01L31/042 H02S30/00 (Advanced/Invention)

CPC: A61N1/3787 A61B5/686 H01L31/0236 H01L31/03926 H01L31/043 H01L31/0463 Y02E10/50

US: 607/61



Family:

Publication number	Publication date	Application number	Application date
EP2964323 A1	20160113	EP20140710999	20140227
FR3002854 A1	20140912	FR20130052117	20130308
FR3002854 B1	20150417	FR20130052117	20130308
US2016015987 AA	20160121	US20140772559	20140227
WO14136022 A1	20140912	WO2014IB59306	20140227

Priority:

FR20130052117 20130308 WO2014IB59306 20140227

Probable Assignee: COMMISSARIAT A LENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Assignee(s): (std): COMMISSARIAT A LENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES ; COMMISSARIAT ENERGIE ATOMIQUE ; JOSEPH FOURIER UNIV ; UNIV JOSEPH FOURIER ; COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES

Assignee(s): COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIESALTERNATIVES

Inventor(s): (std): BERGER FRANCOIS ; GAILLARD FREDERIC ; KARST NICOLAS ; PANTIGNY PHILIPPE ; PERRAUD SIMON ; ROUVIERE EMMANUELLE

Inventor(s): SIMON PERRAUD ; PHILIPPE PANTIGNY ; NICOLAS KARST ; FREDERIC GAILLARD ; FRANCOIS BERGER ; EMMANUELLE ROUVIERE

Agent(s): PICART MARC ; CABINET ORES ; GEVERS AND ORES ; TANGUY YANNICK 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 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 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

Search history

Search FT=(CZTiS) and PD<20171121 (Results 15)

1:

Search FT=(Copper and (titanium butoxide) and sulfid* and zinc) and PD<20171121 (Results 132)

2:

Search FT=(Copper and (titanium w5 butoxide) and sulfid* and zinc) and PD<20171121 (Results 385)

3:

Search FT=(Copper and (titanium *oxide) and sulfid* and zinc and thin*) and PD<20171121 (Results 14350)

4:

Search FT=(Copper and (titanium *oxide) and sulfid* and zinc and (thin* w1 (layer* or wrap* or film*)) and (solar cell*)) and PD<20171121 (Results 1482)

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Search FT=(Copper and (titanium *oxide) and sulfid* and zinc and (thin* w1 (layer* or wrap* or film*)) and (solar cell*) and (glycol*)) and PD<20171121 (Results 696)

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Search FT=(Copper and (titanium *oxide) and sulfid* and zinc and (thin* w1 (layer* or wrap* or film*)) and (solar cell*) and (glycol*) and microwav*) and PD<20171121 (Results 192)

7:

Search FT=(Copper and (titanium *oxide) and sulfid* and zinc and (thin* w1 (layer* or wrap* or film*)) and (solar cell*) and (glycol*) and microwav* and CdS) and PD<20171121 (Results 67)

8:

1) Family number: 57226076 (US2015380172A)

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Title: PHOTOELECTRIC CONVERSION ELEMENT AND SOLAR CELL COMPRISING SAME

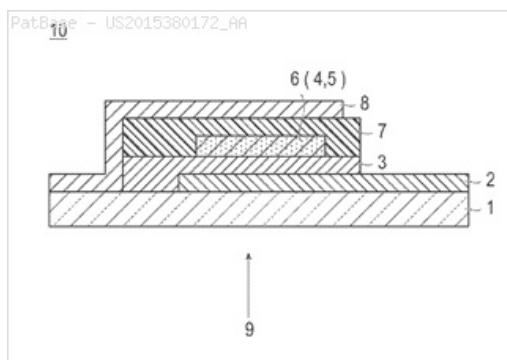
Abstract: The present invention has an object to provide a photoelectric conversion element exhibiting excellent photoelectric conversion efficiency. The photoelectric conversion element of the invention is a photoelectric conversion element which includes a substrate, a first electrode, a photoelectric conversion layer containing a semiconductor and a sensitizing dye, a charge transport layer and a second electrode and characterized in that the sensitizing dye is represented by the following Formula (1).

Classifications:

International (IPC 8-9): C07C229/52 C07C255/42 C07C309/70 C09B23/00 H01G9/20 H01L31/04 H01L51/00 H01L51/44 H01L51/46 H01M14/00 (Advanced/Invention)

CPC: H01G9/2059 H01L51/0064 H01G9/2031 H01L51/0061 H01L51/0068 Y02E10/542 Y02E10/549 C09B23/105 C09B23/148 C09B57/00 C09B57/008

US: 136/263



Family:

Publication number	Publication date	Application number	Application date
CN104995706 A	20151021	CN201480009008	20140210
EP2958186 A1	20151223	EP20140751280	20140210
EP2958186 A4	20160824	EP20140751280	20140210
JP2014126072 A1	20170202	JP20150500242T	20140210
US2015380172 AA	20151231	US20140767193	20140210
WO14126072 A1	20140821	WO2014JP53102	20140210

Priority:

JP20130028447 20130215 WO2014JP53102 20140210

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA INC

Inventor(s): (std): MIWA HIDEYA ; KAWASAKI HIDEKAZU

Agent(s): GILLE HRABAL; HATTA AND ASSOCIATES

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 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 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

2) Family number: 28189082 (US2002040728A)

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Title: PHOTOELECTRIC CONVERSION DEVICE AND METHOD FOR PRODUCING SAME

Abstract: A method for producing a photoelectric conversion device comprising a conductive support and a photosensitive layer containing a semiconductor fine particle on which a dye is adsorbed, wherein the semiconductor fine particle is treated with a compound represented by the following general formula (I): wherein X represents an oxygen atom, a sulfur atom, a selenium atom or NY, in which Y represents a hydrogen atom, an aliphatic hydrocarbon group, a hydroxyl group or an alkoxy group; R1, R2, R3 and R4 independently represent a hydrogen atom, an aliphatic hydrocarbon group, an aryl group, a heterocyclic group, -N(R5)(R6), -C(=O)R7, -C(=S)R8, -SO2R9 or -OR10; R5 and R6 few independently have the same meaning as the R1, R2, R3 and R4; R7, R8 and R9 independently represent a hydrogen atom, an aliphatic hydrocarbon group, an aryl group, a heterocyclic group, -N(R5)(R6), -OR10 or -SR11; and R10 and R11 independently represent a hydrogen atom or an aliphatic hydrocarbon group.

Classifications:

International (ipc 8-9): H01G9/20 H01L31/04

H01M14/00 (Advanced/Invention);

H01L51/00 H01L51/30 (Advanced/Non-invention);

H01G9/20 H01L31/04 H01M14/00 (Core/Invention);

H01L51/00 H01L51/05 (Core/Non-invention)

International (ipc 1-7): H01G9/20 H01L31/00 H01L31/04 H01M14/00

CPC: Y02P70/521 H01G9/2009 H01G9/2027 H01G9/2031 H01L51/005 H01L51/0077 H01L51/0078 H01L51/0084 Y02E10/542

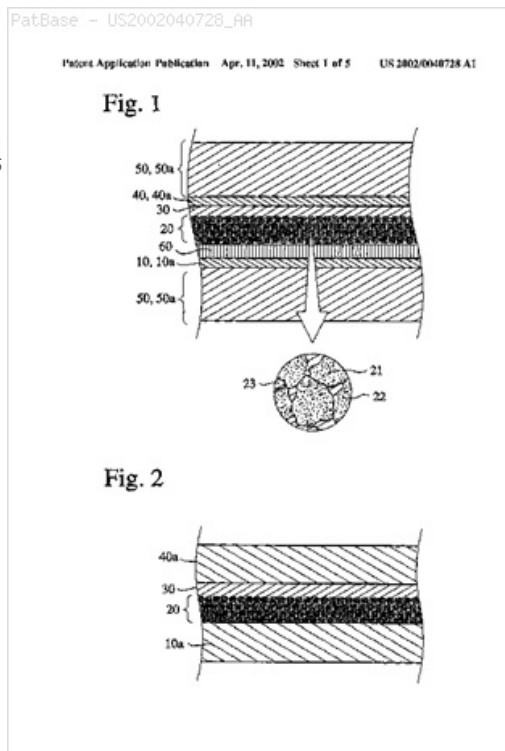
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T01L51/30M2 Y02E10/54D

US: 136/250 136/252 136/256 136/263 257/E51.041 257/E51.042

257/E51.044 257/E51.047 429/111 438/57 438/63 438/82 438/85



Family:

Publication number	Publication date	Application number	Application date
AT342573 E	20061115	AT20010119517T	20010814
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DE60123714 D1	20061123	DE20016023714T	20010814
DE60123714 T2	20071004	DE20016023714T	20010814
EP1180774 A2	20020220	EP20010119517	20010814
EP1180774 A3	20040128	EP20010119517	20010814
EP1180774 B1	20061011	EP20010119517	20010814
JP2002334727 A2	20021122	JP20010212618	20010712
JP2002334728 A2	20021122	JP20010246637	20010815
JP4392781 B2	20100106	JP20010212618	20010712
US2002040728 AA	20020411	US20010928989	20010815
US6586670 BB	20030701	US20010928989	20010815

Priority:

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JP20010212618 20010712 JP20010246637 20010815

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std) FUJI PHOTO FILM CO LTD ; YOSHIKAWA MASARU

Assignee(s): FUJIFILM HOLDINGS CORP ; FUJIFILM CORP ; FUJI PHOTO FILM CO

Inventor(s): (std) YOSHIKAWA MASARU ; YOSHIKAWA SUSUMU

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

3) Family number: 15866088 (EP1164603A2)

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Title: DYE SENSITIZED SOLAR CELL

Abstract: A photoelectric conversion device comprising: a conductive support; a photosensitive layer containing a semiconductor fine particle on which a dye is adsorbed; a charge transfer layer; and a counter electrode, the dye being treated with a treatment solution composed of a quaternary salt and a solvent before or after the dye is adsorbed on the semiconductor fine particle.

Classifications:

International (ipc 8-9): H01G9/20 H01L31/04

H01M14/00 (Advanced/Invention);

H01L51/00 H01L51/30 (Advanced/Non-invention);

H01G9/20 H01L31/04 H01M14/00 (Core/Invention);

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International (ipc 1-7): H01G9/20 H01L31/04 H01M14/00

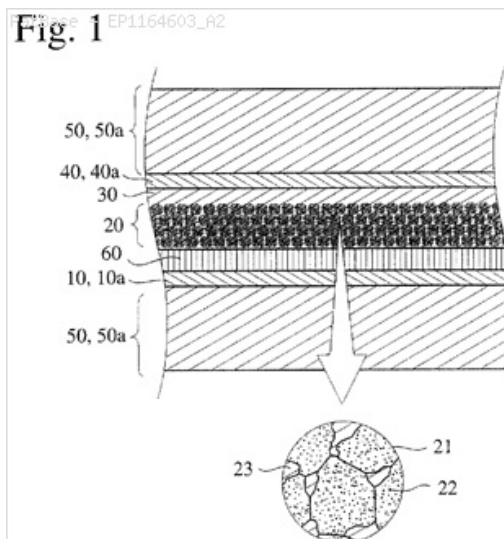
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H01L51/4233 Y02E10/542

European: H01G9/20B H01L51/20C4B H01L51/42D2 H01L51/42D2B

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T01L51/30M2 Y02E10/54D



Family:

Publication number	Publication date	Application number	Application date
EP1164603 A2	20011219	EP20010114333	20010613
EP1164603 A3	20050914	EP20010114333	20010613
JP2002075470 A2	20020315	JP20000246438	20000815
JP4763120 B2	20110831	JP20000246438	20000815

Priority:

JP20000180507 20000615 JP20000246438 20000815 JP20000246438 20000815

Probable Assignee: FUJI PHOTO FILM CO LTD

Assignee(s): (std): FUJI PHOTO FILM CO LTD

Assignee(s): FUJI PHOTO FILM CO

Inventor(s): (std): WARIISHI KOJI ; TSUKAHARA JIRO

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

4) Family number: 42799091 (US2010155310A)

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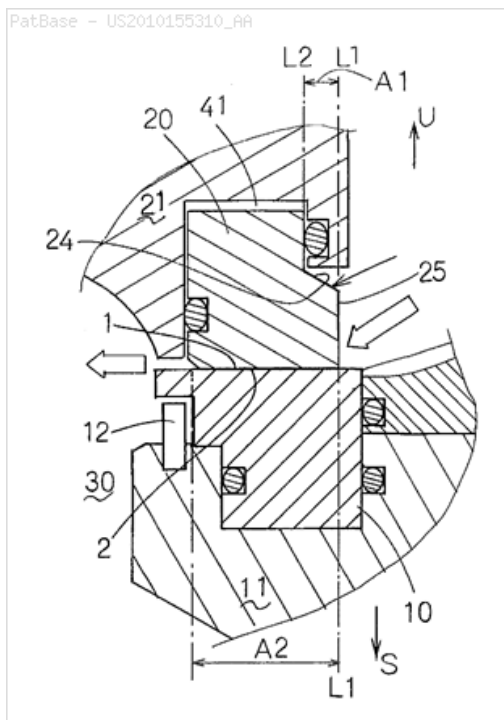
Title: METHOD FOR PRODUCING NANOPARTICLES BY FORCED ULTRATHIN FILM ROTARY PROCESSING

Abstract: 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): A61J3/00 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 B01J19/08 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 C01B13/14 C01B31/02 C01B32/15 C01B33/023 C01F7/02 C01G23/00 C01G23/053 C01G25/02 C01G9/02 C01G9/08 C04B14/00 C04B35/00 C04B35/10 C04B35/46 C04B35/468 C04B35/48 C04B35/50 C04B35/515 C04B35/622 C08J3/12 C09B47/04 C09B47/18 C09B47/24 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 C09K11/08 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 H01M8/1004 (Advanced/Invention); A23L1/00 B01F3/08 B01F5/06 B01J13/00 B01J19/00 B01J21/18 B22F9/24 B82B3/00 B82Y35/00 C01B33/023 C01F7/02 C01G9/08 C09B47/24 C09B67/02 C09B67/04 C09B67/08 C09B67/50 H01L21/02 H01L21/368 (Advanced/Non-invention); A61J3/00 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 C09B47/04 C09B67/00 C09C1/44 C09C3/06 C09D11/00 H01L21/02 H01M4/88 H01M4/90 H01M4/96 H01M8/10 (Core/Invention)

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Priority:

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US20180884021	20180130				

Probable Assignee: M TECHNIQUE CO LTD

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

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

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

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

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 TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

5) Family number: 63838100 (US2017243698A)

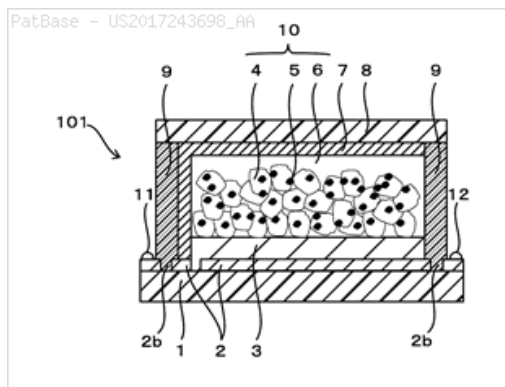
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Title: PHOTOELECTRIC CONVERSION ELEMENT

Abstract: A photoelectric conversion element including a first substrate, a first electrode on the first substrate, a photoelectric conversion layer on the first electrode, a second electrode on the photoelectric conversion layer, a second substrate on the second electrode, and a sealing member disposed between the first electrode and the second substrate and configured to seal at least the photoelectric conversion layer, the first electrode including a through section, the sealing member being in contact with the first substrate through the through section.

Classifications:

International (IPC 8-9): H01G9/20 H01L51/44 (Advanced/Invention)
CPC: Y02E10/549 H01L51/0072 H01L51/005 H01L51/0056
H01L51/006 H01L51/0067 H01L51/0069 H01G9/2031 H01G9/2059
H01G9/2077 H01L51/4226 H01L51/448 Y02E10/542



Family:

Publication number	Publication date	Application number	Application date
JP2016178288 A2	20161006	JP20160031377	20160222
US2017243698 AA	20170824	US20170438262	20170221

Priority:

JP20150057593 20150320 JP20160031377 20160222

Probable Assignee: RICOH CO LTD

Assignee(s): (std): ARAI RYOTA ; KANEI NAOMICHI ; KINO TOKUSHIGE ; MATSUYAMA TSUYOSHI ; RICOH KK ; RICOH CO LTD ; TANAKA YUUI

Inventor(s): (std): ARAI RYOTA ; KANEI NAOMICHI ; KINO TOKUSHIGE ; MATSUYAMA TAKESHI ; MATSUYAMA TSUYOSHI ; TANAKA YUUI ; TANAKA YUUI

Agent(s): HIROTA KOICHI

6) Family number: 64458107 (WO16201513A1)

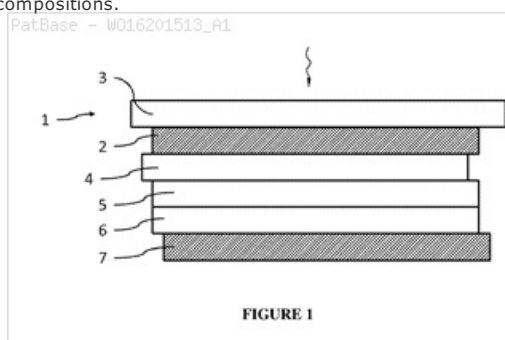
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Title: ELECTROACTIVE MATERIALS, PRINTING COMPOSITIONS AND METHODS OF MANUFACTURING SOLAR CELLS

Abstract: The present disclosure relates to electroactive materials such as hole transport materials (HTMs) for use in solar cells, for example solid state organic/hybrid solar cells such as solid state perovskite solar cells. The present disclosure also relates to 5 dye sensitized solar cells and bulk heterojunction solar cells comprising HTMs. The present disclosure also relates to printing compositions comprising HTMs, such as printing ink formulations, and methods of manufacturing solar cells comprising roll-to-roll processes involving printing or coating of the compositions.

Classifications:

International (IPC 8-9): C07C211/61 C07D403/04 C07F7/30
H01L51/46 H01L51/48 (Advanced/Invention)
CPC: H01L51/006 H01L51/0061 H01L51/4233 C07C2603/18
Y02E10/549 C07C217/92 Y02P70/521



Family:

Publication number	Publication date	Application number	Application date
AU2016281198 AA	20180118	AU20160281198	20160616
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WO16201513 A1	20161222	WO2016AU50505	20160616

Priority:

AU20150902324 20150618 WO2016AU50505 20160616

Probable Assignee: COMMW SCIENT AND INDUSTRIAL RESEARCH ORGANISATION

Assignee(s): (std): COMMW SCIENT AND INDUSTRIAL RESEARCH ORGANISATION ; COMMW SCIENT IND RES ORG

Assignee(s): COMMW SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION

Inventor(s): (std): EVANS RICHARD ALEXANDER ; QIN TIANSHI

Agent(s): FB RICE PTY LTD ; FB RICE

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

7) Family number: 32839153 (US2009171106A)

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Title: NOVEL HYBRIDE MATERIALS AND RELATED METHODS AND DEVICES

Abstract: The invention provides devices and methods for end and side derivatization of carbon nanotubes. Also facile methods to attach moieties and nanoparticles on the side walls and both ends are described. The invention provides hybide materials for analytical, and optoelectronic purposes as well as materials applications. Materials have improved properties in the areas of tensile, electrical and thermal conductivity.

Classifications:

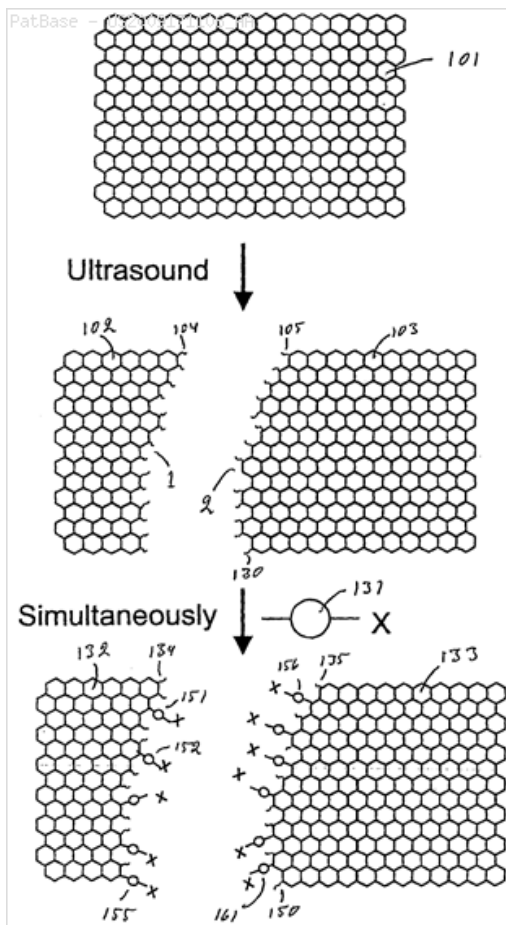
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International (ipc 1-7): B26D C01B C01B31/02 C12Q G01N

CPC: B82Y5/00 B82Y15/00 C12Q1/6825 G01N33/5438 G01N33/587 C07D303/18 C07D407/14 C07D493/06 C09C1/565 B82Y30/00 B82Y40/00 C01B2202/28 C01P2002/82 C01P2004/03 C01P2004/13 C09C1/48 C01B32/174 C01B32/20

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US: 1/1 204/157.42 204/157.420S 204/157.46 204/157.460S 204/157.47 204/157.470S 204/157.62 204/157.620S 204/157.69 204/157.690S 204/157.81 204/157.810S 204/157.85 204/157.850S 204/157.87 204/157.870S 423/384 423/384S 423/439 423/439S 423/448 423/448S 549/512 549/512P 562/512 562/512S 564/463 564/463S 977/742 977/754



Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: AMROY EUROPE OY

Assignee(s): (std): KEINAENEN PASI ; KEINAENEN PASI MIKAEL ; KEINANEN PASI ; NANOLAB SYSTEMS OY ; TILLI MIKKO ; VIRTANEN JORMA ; VIRTANEN JORMA ANTERO ; TILLI MIKKO JUHANI ; AMROY EUROP OY

Assignee(s): AMROY EUROPE OY

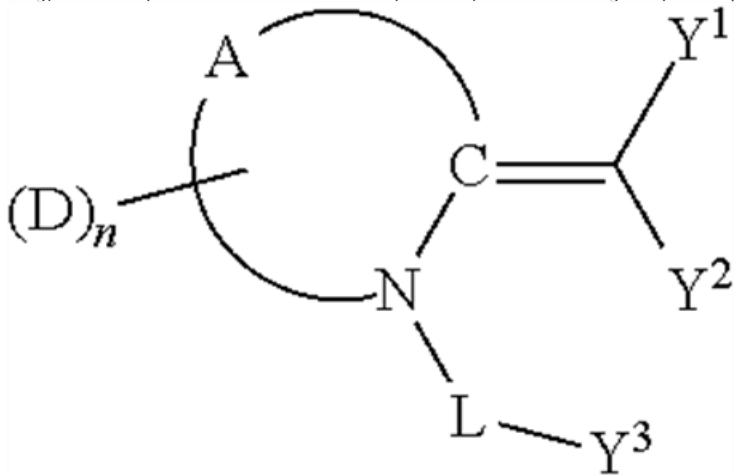
Inventor(s): (std): VIRTANEN JORMA ; VIRTANEN JORMA ANTERO ; TILLI MIKKO JUHANI ; PASI KEINAENEN ; MIKKO TILLI ; KEINANEN PASI ; KEINAENEN PASI MIKAEL ; JORMA VIRTANEN ; KEINAENEN PASI ; PASI TILLI MIKKO VIRTANEN JORM ; TILLI MIKKO

Inventor(s): TILLI MIKKO VIRTANEN JORMA KEINAENEN PASI
Agent(s): CHRISTOPHER J FILDES FILDES AND OUTLAND PC; FILDES AND OUTLAND PC
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

8) Family number: 48517168 (US2011076539A) © PatBase

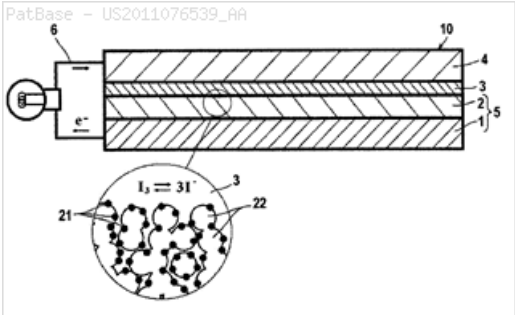
Title: METHOD OF PRODUCING PHOTOELECTRIC CONVERSION ELEMENT, PHOTOELECTRIC CONVERSION ELEMENT, AND PHOTOELECTROCHEMICAL CELL

Abstract: A method of producing a photoelectric conversion element, which the element contains an electrically conductive support, a photosensitive layer having porous semiconductor fine particles, a charge transfer layer; and a counter electrode, includes the steps of: applying a semiconductor dispersion liquid, in which the content of solids excluding semiconductor fine particles is 10 percent by mass or less based on the total amount of the dispersion liquid, on the support, to form a coating; heating the coating, to obtain porous semiconductor fine particles; and sensitizing the porous particles by adsorption of the



following dye:
•
• wherein A represents a group of atoms necessary for forming a ring; at least one of Y¹ and Y² represents an acidic group and the other represents an electron-attracting group; D represents a dye residue; n represents 1 or a greater integer; L represents a single bond or divalent linking group; and Y³ represents an acidic group.

Classifications:
International (IPC 8-9): C09B23/00 H01G9/20 H01L31/04 H01L51/46 H01M14/00 H01M6/30 (Advanced/Invention); H01L51/00 (Advanced/Non-invention)
CPC: Y02E10/549 H01L51/0064 C09B23/0091 C09B23/04 H01G9/2013 H01L51/0059 H01L51/0061 H01L51/0062 H01L51/0068 Y02E10/542
European: C09B23/00S C09B23/04 H01L51/00M6F4 H01L51/00M6H4 T01G9/20B4 T01L51/00M6F T01L51/00M6H T01L51/00M6H10 Y02E10/50 Y02E10/54D
US: 136/263 136/263S 429/111 429/111P



Family:

Publication number	Publication date	Application number	Application date
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Priority:
JP20090223451 20090928
Probable Assignee: FUJIFILM HOLDINGS CORP
Assignee(s): (std): FUJIFILM CORP ; FUJIFILM HOLDINGS CORP
Inventor(s): (std): TANI MASAO ; KOBAYASHI KATSU ; KIMURA KEIZO ; TANI YUKIO ; KOBAYASHI KATSUMI
Agent(s): HOFFMANN EITLE
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

9) Family number: 63993171 (US2018053863A) © PatBase

Title: PHOTOELECTRIC CONVERSION ELEMENT

Abstract: Provided is a photoelectric conversion element including: a first electrode having opaqueness to light and formed of a metal; a hole blocking layer provided on the first electrode; an electron transport layer provided on the hole blocking layer; a hole transport layer provided on the electron transport layer; and a second electrode provided on the hole transport

layer and having transmissivity to light, wherein the hole blocking layer contains an oxide of the metal in the first electrode.

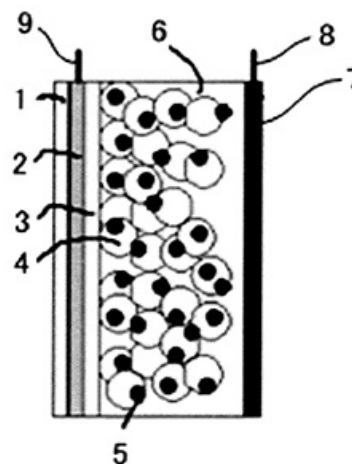
Classifications:

International (IPC 8-9): H01G9/20 H01L27/30 H01L31/0224
H01L51/44 H01L51/46 (Advanced/Invention);
H01L51/46 (Advanced/Non-invention)

CPC: Y02E10/549 H01L31/022425 H01L51/441 H01L27/301
H01L27/30 H01L51/4226 H01L51/442

US: 136/252

PatBase - US2018053863_AA



Family:

Publication number	Publication date	Application number	Application date
CN107615506 A	20180119	CN201680026447	20160506
EP3297052 A1	20180321	EP20160792636	20160506
EP3297052 A4	20180530	EP20160792636	20160506
JP2016181911 A1	20180222	JP20170517919T	20160506
US2018053863 AA	20180222	US20170730815	20171012
WO16181911 A1	20161117	WO2016JP63685	20160506

Priority:

JP20150095777 20150508 WO2016JP63685 20160506

Probable Assignee: RICOH CO LTD

Assignee(s): (std): RICOH CO LTD ; RICOH KK ; TANAKA YUUJI ; SUZUKI SHIGEYO ; KANEI NAOMICHI

Assignee(s): RICOH CO

Inventor(s): (std): KANEI NAOMICHI ; SUZUKI SHIGEYO ; TANAKA YUUJI

Agent(s): LAMB MARTIN JOHN CARSTAIRS; HIROTA KOICHI

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 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 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

10) Family number: 23126171 (EP1213776A2)

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Title: METAL COMPLEX DYE FOR A DYE SENSITIZED SOLAR CELL

Abstract: A photoelectric conversion device comprising a semiconductor fine particle sensitized by a dye having a proton dissociative imide group, and a photoelectric cell comprising the photoelectric conversion device. A metal complex dye useful for the photoelectric conversion device is also provided.

Classifications:

International (IPC 8-9): H01G9/20 H01L31/04 H01L51/00 H01L51/05
H01L51/30 H01M14/00 (Advanced/Invention);
H01L51/42 (Advanced/Non-invention);
H01G9/20 H01L31/04 H01L51/00 H01L51/05
H01M14/00 (Core/Invention);
H01L51/42 (Core/Non-invention)

International (IPC 1-7): C07D213/22 C07F15/00 H01G9/20
H01L31/04 H01L51/00 H01L51/30 H01M14/00

CPC: Y02E10/549 H01L51/0086 H01G9/2013 H01G9/2031
H01G9/2059 H01L51/0064 H01L51/4226 Y02E10/542

European: H01L51/00M12F4 H01L51/00M6 H01L51/00M6H4
H01L51/30H H01L51/30M6D T01G9/20B4 T01G9/20D2 T01G9/20L
T01L51/20C4B T01L51/42D2B Y02E10/54D

PatBase - EP1213776_R2

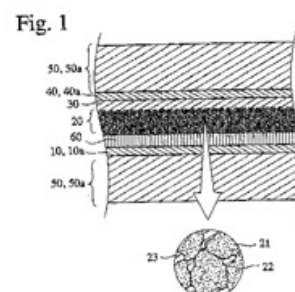
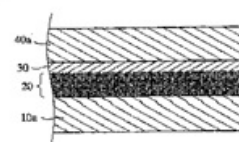


Fig. 2



Family:

Publication number	Publication date	Application number	Application date
EP1213776 A2	20020612	EP20010129122	20011207
EP1213776 A3	20040317	EP20010129122	20011207
JP2002176188 A2	20020621	JP20000375146	20001208
JP4162116 B2	20081008	JP20000375146	20001208

Priority:

JP20000375146 20001208

Probable Assignee: FUJI PHOTO FILM CO LTD**Assignee(s):** (std): FUJI PHOTO FILM CO LTD**Assignee(s):** FUJI PHOTO FILM CO**Inventor(s):** (std): WATANABE TETSUYA**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR**11) Family number: 53195196 (US2013061929A)**

© PatBase

Title: PHOTOELECTRIC CONVERSION ELEMENT, METHOD FOR PRODUCING PHOTOELECTRIC CONVERSION ELEMENT, AND SOLAR CELL

Abstract: A photoelectric conversion element, includes a substrate, a first electrode, a photoelectric conversion layer including semiconductors and sensitizing dyes, a positive hole transport layer including a solid positive hole transport substance, and a second electrode, wherein the solid positive hole transport substance contains a conductive polymer with a structure represented by the following Formula (1), and wherein the sensitizing dyes includes a compound with a structure represented by the following Formula (2) and at least one of compounds with respective structures represented by the following Formulas (4) to (9).

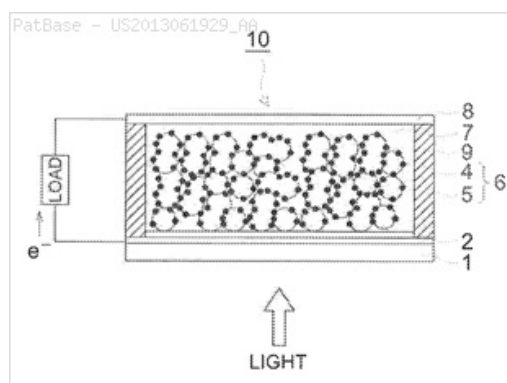
Classifications:**International (IPC 8-9):** H01L31/042 H01L51/46

H01M14/00 (Advanced/Invention)

CPC: H01L51/0064 H01L51/0092 H01G9/2063 H01L2251/306

Y02E10/549 H01L51/4226 Y02P70/521 C09B23/005 C09B23/0058

C09B23/04 C09B23/148 C09B47/00 C09B57/007 C09B57/008

US: 136/263**Family:**

Publication number	Publication date	Application number	Application date
JP2013077549 A2	20130425	JP20120196904	20120907
US2013061929 AA	20130314	US20120604029	20120905

Priority:

JP20110198041 20110912 JP20120196904 20120907

Probable Assignee: KONICA MINOLTA HOLDINGS INC**Assignee(s):** (std): ITAMI AKIHIKO ; KONICA MINOLTA BUSINESS TECH**Assignee(s):** KONICA MINOLTA BUSINESS TECHNOLOGIES INC ; KONICA MINOLTA HOLDINGS INC**Inventor(s):** (std): ITAMI AKIHIKO**12) Family number: 23521197 (EP1231619A2)**

© PatBase

Title: Metal complex dye for a photoelectrochemical cell

Abstract: A photoelectric conversion device comprising a semiconductor fine particle sensitized by a metal complex dye, wherein the metal complex dye comprises a bidentate or tridentate ligand represented by the following general formula (II): wherein Z11, Z12 and Z13 independently represent non-metallic atoms forming a 5- or 6-membered ring, the 5- or 6-membered ring optionally has a substituent and optionally forms a condensed ring in combination with another ring, at least one of Z11 and Z12 forms a pyridine ring or a condensed ring comprising a pyridine ring that has a plurality of acidic groups, and 11 represents 0 or 1.

Classifications:**International (IPC 8-9):** C09B57/10 H01G9/20 H01L31/04 H01L51/30

H01M14/00 (Advanced/Invention);

C09B57/00 H01G9/20 H01L31/04 H01L51/05

H01M14/00 (Core/Invention)

International (IPC 1-7): C09B57/10 H01G9/20 H01L31/04 H01L51/30

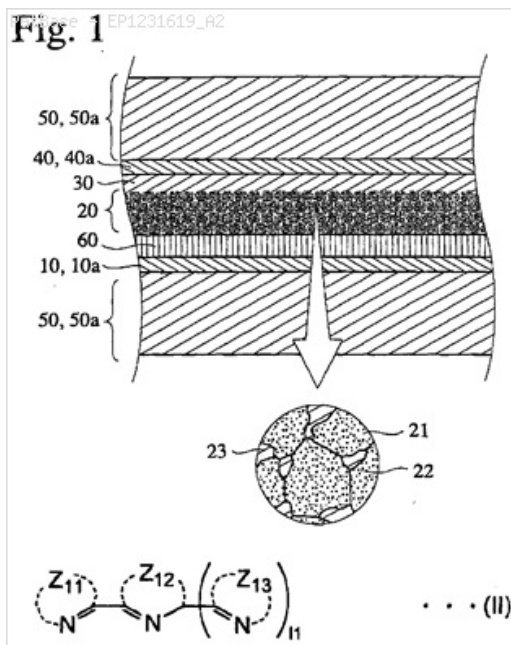
H01M14/00

CPC: H01G9/2013 H01G9/2031 H01G9/2059 H01L51/0086

Y02E10/542

European: H01L51/00M12F4 H01L51/30M6D T01G9/20B4

T01G9/20D2 T01G9/20L Y02E10/54D



Family:

Publication number	Publication date	Application number	Application date
EP1231619 A2	20020814	EP20020003331	20020213
EP1231619 A3	20040121	EP20020003331	20020213
JP2002241634 A2	20020828	JP20010035955	20010213
JP4772192 B2	20110914	JP20010035955	20010213

Priority:

JP20010035955 20010213

Probable Assignee: FUJI PHOTO FILM CO LTD

Assignee(s): (std): FUJI PHOTO FILM CO LTD

Assignee(s): FUJI PHOTO FILM CO

Inventor(s): (std): WATANABE TETSUYA

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

13) Family number: 22739211 (US2003013008A)

© PatBase

Title: LIGHT-RECEIVING DEVICE AND IMAGE SENSOR

Abstract: A differential response-type light-receiving device comprising: a semiconductor electrode comprising an electrically conductive layer and a photosensitive layer containing a semiconductor sensitized by a dye; an ion-conductive electrolyte layer; and a counter electrode, the differential response-type light-receiving device making time-differential response to quantity of light to output a photoelectric current. A composite light-receiving device comprising the differential response-type light-receiving device and a stationary response-type light-receiving device, and an image sensor using the differential response-type light-receiving device or the composite light-receiving device are also provided.

Classifications:

International (IPC 8-9): H01G9/20 H01L27/00 H01L27/14

H01L27/146 H01L31/00 H01L31/10 (Advanced/Invention);

H01L51/00 (Advanced/Non-invention)

International (IPC 1-7): H01G9/20 H01L27/00 H01L27/14 H01L31/00

H01L31/09 H01L31/10

CPC: H01G9/2018 H01G9/2031 H01G9/2009 H01G9/2013

H01G9/2059 H01L27/14601 H01L27/14621 H01L27/14645

H01L51/0064 H01L51/0078 H01L51/0086 Y02E10/542

European: H01G9/20B2 H01G9/20D2 H01L27/146A H01L27/146A8C

H01L27/146F2 T01G9/20B4 T01G9/20L T01L51/00M12B

T01L51/00M12F4 T01L51/00M6H4 T01L51/30H8D T01L51/30M2

Y02E10/54D

US: 136/255 136/263 136/263S 136/265 250/208.1 250/214.0LA

250/214.0LS 250/214.1 250/214LA 250/214LS 257/431 257/440

257/443 257/448 257/E27.134 257/E27.134S 257/E51.042 429/111

429/111P

Fig. 1

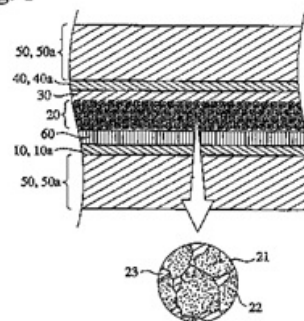
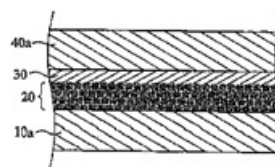


Fig. 2

**Family:**

Publication number	Publication date	Application number	Application date
AT404994 E	20080815	AT20010123164T	20010927
AT436081 E	20090715	AT20010102267T	20010927
DE60135293 D1	20080925	DE20016035293	20010927
DE60139218 D1	20090820	DE20016039218	20010927
EP1207556 A2	20020522	EP20010123164	20010927
EP1207556 A3	20040616	EP20010123164	20010927
EP1207556 B1	20080813	EP20010123164	20010927
EP1801875 A1	20070627	EP20070102267	20010927
EP1801875 B1	20090708	EP20070102267	20010927
JP2002176191 A2	20020621	JP20010103858	20010402
JP4278080 B2	20090610	JP20010103858	20010402
US2003013008 AA	20030116	US20010963419	20010927
US6740807 BB	20040525	US20010963419	20010927

Priority:

JP20000295255 20000927 JP20010103858 20010402 EP20010123164 20010927

Probable Assignee: FUJIFILM HOLDINGS CORP**Assignee(s):** (std): FUJI PHOTO FILM CO LTD ; FUJIFILM CORP ; FUJIFILM HOLDINGS CORP**Assignee(s):** FUJI PHOTO FILM CO**Inventor(s):** (std): ONO MICHIO ; ONO MICHIO**Agent(s):** SOLF ALEXANDER**Designated states:** AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR**14) Family number: 60177218** (US2017069431A)

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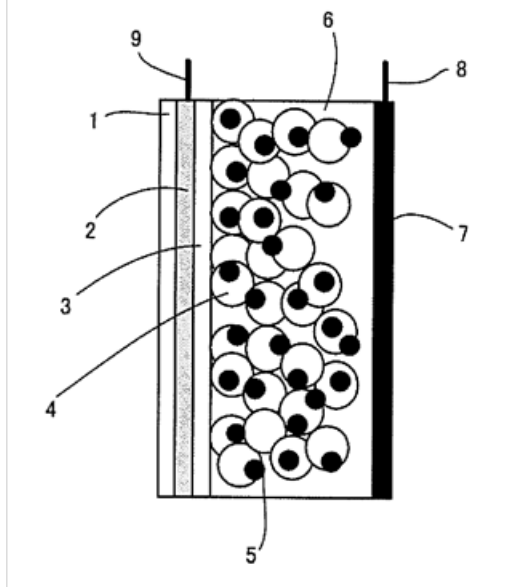
Title: PHOTOELECTRIC CONVERSION ELEMENT AND SOLAR CELL**Abstract:** where in the formula (1a) or (1b), R1 and R2 represent a substituted or unsubstituted alkyl group or aromatic hydrocarbon group and may be identical or different, and R1 and R2 may bind with each other to form a substituted or unsubstituted heterocyclic group containing a nitrogen atom.**Classifications:****International (IPC 8-9):** H01G9/20 H01L51/00 H01L51/42 H01L51/44 H01L51/46 (Advanced/Invention)**CPC:** Y02E10/549 H01L51/0069 H01L51/002 H01G9/2018

H01G9/2027 H01G9/2059 H01G9/209 H01L51/4233 H01L51/422

H01L51/0056 H01L51/006 H01L51/0061 H01L51/0067 H01L51/0072

H01L51/4226

US: 136/256

**Family:**

Publication number	Publication date	Application number	Application date
CN106062985 A	20161026	CN201580010108	20150130
EP3113240 A1	20170104	EP20150752787	20150130
EP3113240 A4	20170315	EP20150752787	20150130
JP2015125587 A1	20170330	JP20160504016T	20150130
KR20160124186 A	20161026	KR20167025653	20150130
US2017069431 AA	20170309	US20150120464	20150130
WO15125587 A1	20150827	WO2015JP52684	20150130

Priority:

JP20140032566 20140224 JP20140084832 20140416 WO2015JP52684 20150130

Probable Assignee: RICOH CO LTD

Assignee(s): (std): HORIUCHI TAMOTSU ; KANEI NAOMICHI ; RICOH CO LTD ; RICOH KK ; TANAKA YUUJI

Assignee(s): RICOH CO

Inventor(s): (std): HORIUCHI TAMOTSU ; TANAKA YUUJI ; KANEI NAOMICHI

Agent(s): LAMB MARTIN JOHN CARSTAIRS; HIROTA KOICHI

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 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 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

15) Family number: 53182235 (US2014295178A)

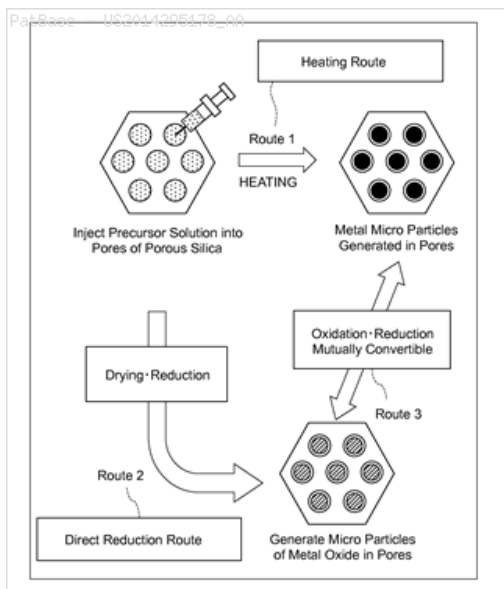
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Title: METHOD FOR PRODUCING A PARTICLE CONTAINING POROUS SILICA, POROUS SILICA, AND A PARTICLE CONTAINING POROUS SILICA

Abstract: Provided is a process for producing satisfactory particles held in porous silica. The process comprises (a) the step of preparing porous silica, (b) the step of bringing the porous silica into contact with a liquid which contains either a metal or a compound that has the metal as a component element and infiltrating the liquid into the pores of the porous silica, and (c) the step of subjecting, after the step (b), the impregnated porous silica to a heat treatment to thereby form fine particles comprising the metal or the metal compound in the pores of the porous silica. When porous silica is synthesized by hydrolyzing an alkoxysilane in a solvent-free system, it is possible to synthesize porous silica having a fine pore diameter. Use of this porous silica as a template facilitates formation of particles (e.g., W, Cu, Cr, Mn, Fe, Co, or Ni or an oxide of any of these metals) that show peculiar properties not observed in the bulk material.

Classifications:

International (IPC 8-9): B01J19/00 B01J23/22 B01J23/30 B01J35/02 B01J37/02 B01J8/00 B82Y30/00 B82Y40/00 C01B32/05 C01B32/15 C01B33/12 C01B33/18 C01G1/02 C01G31/00 C01G37/02 C01G41/02 C01G45/02 C01G49/02 C01G51/04 C01G53/04 (Advanced/Invention); B01J23/22 B01J23/30 B01J35/02 B01J37/02 (Advanced/Non-invention) **CPC:** C01P2004/51 C01P2004/52 C01P2004/64 C01P2006/42 C09C1/3045 B01J21/08 B01J21/18 B01J23/26 B01J23/34 B01J23/50 B01J23/52 B01J23/72 B01J23/74 B01J23/745 B01J23/75 B01J23/755 B01J35/002 B01J35/004 B01J35/1023 B01J35/1028 B01J35/1042 B01J35/1057 B01J35/1061 B01J35/1085 B01J37/0018 B01J37/0201 B01J37/033 B01J37/08 B01J37/12 B01J37/346 B01J23/30 B01J8/008 Y10S977/776 Y10S977/777 B82Y40/00 B01J35/1038 B01J2208/00805 B01J2208/00946 C01B33/124 B82Y30/00 Y10T428/268 Y10T428/2982 C01B32/05 B01J23/22 C01B33/18 **US:** 264/219 264/81 427/250 427/255.11 427/372.2 427/383.3 427/557 428/338 428/402 977/776 977/777



Family:

Publication number	Publication date	Application number	Application date
CN103889898 A	20140625	CN201280042513	20120828
CN103889898 B	20160824	CN201280042513	20120828
EP2752391 A1	20140709	EP20120828309	20120828
EP2752391 A4	20151230	EP20120828309	20120828
JP2013063895 A2	20130411	JP20120186879	20120827
JP2017007938 A2	20170112	JP20160141417	20160719
JP6004528 B2	20161012	JP20120186879	20120827
JP6165937 B2	20170719	JP20160141417	20160719
KR101609080 B1	20160404	KR20147004939	20120828
KR20140044919 A	20140415	KR20147004939	20120828
US2014295178 AA	20141002	US20120241589	20120828
WO13031767 A1	20130307	WO2012JP71699	20120828

Priority:

JP20110185806 20110829 JP20120186879 20120827 WO2012JP71699 20120828
JP20160141417 20160719

Probable Assignee: TOKYO METROPOLITAN INDUSTRIAL TECHNOLOGY RESEARCH INST

Assignee(s): (std): IMAI HIROAKI ; KEIO GIJUKU ; OAKI YUYA ; WATANABE HIROTO ; TOKYO METROPOLITAN INDUSTRIAL TECHNOLOGY RES INST ; TOKYO METRO IND TECH RES INST ; TOKYO METROPOLITAN IND TECH RES INST

Assignee(s): TOKYO METROPOLITAN INDUSTRIAL TECHNOLOGY RESEARCH INST ; TOKYO METROPOLITAN INDUSTRIAL TECHNOLOGY RESEARCHINSTITUTE ; TOKYO METROPOLITAN INDUSTRIAL TECHNOLOGY RESEARCH INSTITUTE ; KEIO UNIV ; KEIO UNIVERSITY

Inventor(s): (std): IMAI HIROAKI ; OAKI YUYA ; WATANABE HIROTO

Agent(s): JOUANNEAU LIONEL; TSUTSUI YAMATO 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 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 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

16) Family number: 56198247 (US2015221871A)

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Title: ORGANIC DYE FOR A DYE-SENSITIZED SOLAR CELL

Abstract: Organic dye for a Dye Sensitized Solar Cell (DSSC) comprising at least one electron donor group and at least two electron acceptor groups, each of said electron acceptor groups being bound to said electron donor group through a pi-conjugated unit. Said organic dye is particularly useful in a dye sensitized photoelectric transformation element, which, in its turn, can be used in a Dye Sensitized Solar Cell (DSSC).

Classifications:

International (IPC 8-9): C07D333/24 C07D495/04 C07D519/00 C09B23/10 C09B57/00 H01G9/20 H01L51/00

H01L51/42 (Advanced/Invention)

CPC: H01G9/2027 H01G9/2004 H01L51/422 H01L51/0068 H01L51/0074 H01L51/0071 H01L51/0061 C09B57/00 H01G9/2059

C07D333/24 C07D495/04 C07D519/00 C09B23/105 C09B57/008 H01L51/0064 Y02E10/542 Y02E10/549

US: 136/263 549/50 549/59

Family:

Publication number	Publication date	Application number	Application date
CN104781249 A	20150715	CN201380051075	20131004
EP2903975 A1	20150812	EP20130773726	20131004
ITMI20121672 A1	20140406	IT2012MI01672	20121005
US2015221871 AA	20150806	US20130428659	20131004
US9660196 BB	20170523	US20130428659	20131004
WO14053626 A1	20140410	WO2013EP70683	20131004

Priority:

IT2012MI01672 20121005 WO2013EP70683 20131004

Probable Assignee: ENI SPA**Assignee(s):** (std): ENI SPA ; UNI DEGLI STUDI DI MILANO BICOCCA ; UNIV MILANO BICOCCA**Assignee(s):** UNIVERSITA DEGLI STUDI DI MILANO BICOCCA**Inventor(s):** (std): ABBOTTO ALESSANDRO ; ACCIARRI MAURIZIO FILIPPO ; BIAGINI PAOLO ; BINETTI SIMONA OLGA**Agent(s):** MAURO MARINA ELIANA; ABEL LAW GROUP LLP; MAIWALD PATENTANWALTS GMBH**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 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 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**17) Family number: 50787264 (US2012060927A)**

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Title: PHOTOELECTRIC CONVERSION ELEMENT, METHOD OF MANUFACTURING PHOTOELECTRIC CONVERSION ELEMENT AND SOLAR CELL

Abstract: The present invention provides a photoelectric conversion element exhibiting excellent photoelectric conversion efficiency and excellent stability in photoelectric conversion function; a method of manufacturing the photoelectric conversion element; and a solar cell thereof in order to solve the current problems. Disclosed is a photoelectric conversion element possessing a substrate and provided thereon, a first electrode, a photoelectric conversion layer containing a semiconductor and a sensitizing dye, a hole transport layer and a second electrode, wherein the hole transport layer possesses a polymer having a repeating unit represented by Formula (1) or Formula (2):

Classifications:**International (IPC 8-9):** C08G75/02 C08G75/06 H01G9/20

H01L31/04 H01L51/44 H01L51/46 H01L51/48

H01M14/00 (Advanced/Invention);

C08G75/00 (Advanced/Non-invention)

CPC: Y02E10/542 Y02E10/549 H01L51/0036 H01G9/2059

H01L51/0059 H01L51/0086 H01G9/2009 H01L51/0006 H01L51/4226

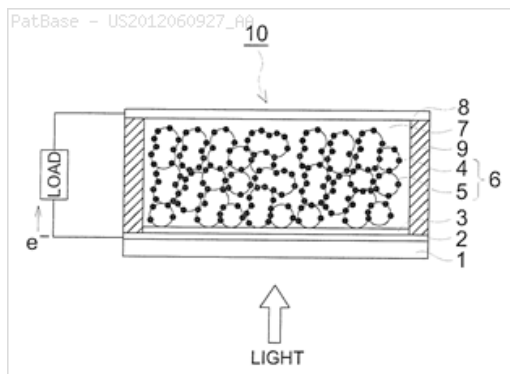
H01L2251/306 Y02P70/521

European: H01G9/20B2 H01L51/00M2B2 H01L51/00M6F T01G9/20L

T01L51/00M12F4

US: 136/263 257/E51.026 257/E51.026S 429/209 438/82 438/82S

528/377 528/378 528/380 528/492 528/502R

**Family:**

Publication number	Publication date	Application number	Application date
JP2012064332 A2	20120329	JP20100205370	20100914
JP5682189 B2	20150311	JP20100205370	20100914
US2012060927 AA	20120315	US20110229334	20110909
US8642720 BB	20140204	US20110229334	20110909

Priority:

JP20100205370 20100914

Probable Assignee: KONICA MINOLTA HOLDINGS INC**Assignee(s):** (std): ISOBE KAZUYA ; KONICA MINOLTA BUSINESS TECH ; NISHIMURA KAZUKUMI ; NISHIMURA KAZUKUNI ; ONAKA KENICHI**Assignee(s):** KONICA MINOLTA BUSINESS TECHNOLOGIES INC ; KONICA MINOLTA HOLDINGS INC**Inventor(s):** (std): NISHIMURA KAZUKUMI ; ISOBE KAZUYA ; NISHIMURA KAZUKUNI ; ONAKA KENICHI**Agent(s):** LUCAS AND MERCANTI LLP**18) Family number: 60613269 (US2017092433A)**

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Title: PHOTOELECTRIC CONVERSION ELEMENT

Abstract: Provided is a photoelectric conversion element including: a first electrode; a hole blocking layer; an electron transport layer; a hole transport layer; and a second electrode, wherein the hole blocking layer includes a metal oxide including a titanium atom and a niobium atom.

Classifications:**International (IPC 8-9):** H01G9/20 H01L51/42 H01L51/44

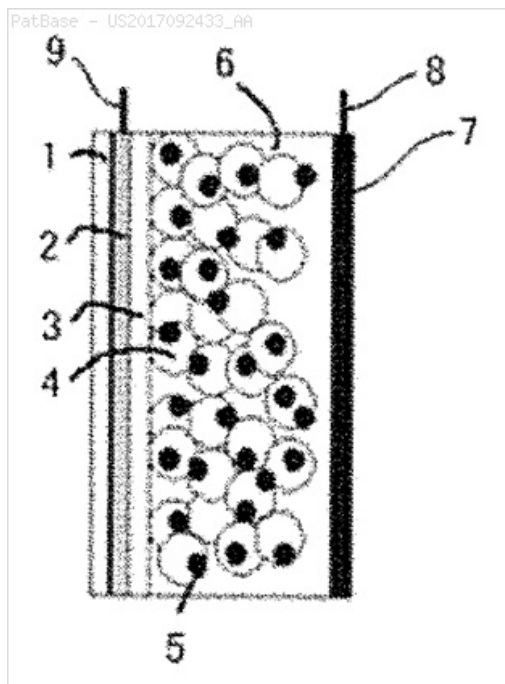
H01L51/46 (Advanced/Invention)

CPC: H01L51/4226 H01L51/006 H01G9/2036 H01L51/0036

H01L51/0056 H01L51/0059 H01L51/0069 H01L51/0072 H01L51/4273

Y02E10/549 Y02E10/542

US: 136/256

**Family:**

Publication number	Publication date	Application number	Application date
CN106463624 A	20170222	CN201580020047	20150416
EP3133657 A1	20170222	EP20150779241	20150416
EP3133657 A4	20170419	EP20150779241	20150416
JP2015159940 A1	20170413	JP20160513824T	20150416
JP6249093 B1	20171220	JP20160513824T	20150416
US2017092433 AA	20170330	US20150126717	20150416
WO15159940 A1	20151022	WO2015JP61667	20150416

Priority:

JP20140084962 20140416 JP20140250010 20141210 WO2015JP61667 20150416

Probable Assignee: RICOH CO LTD

Assignee(s): (std): ARAI RYOTA ; HORIUCHI TAMOTSU ; KANEI NAOMICHI ; RICOH CO LTD ; RICOH KK ; TANAKA YUUJI

Inventor(s): (std): ARAI RYOTA ; HORIUCHI TAMOTSU ; KANEI NAOMICHI ; TANAKA YUUJI

Agent(s): LAMB MARTIN JOHN CARSTAIRS; HIROTA KOICHI

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 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 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

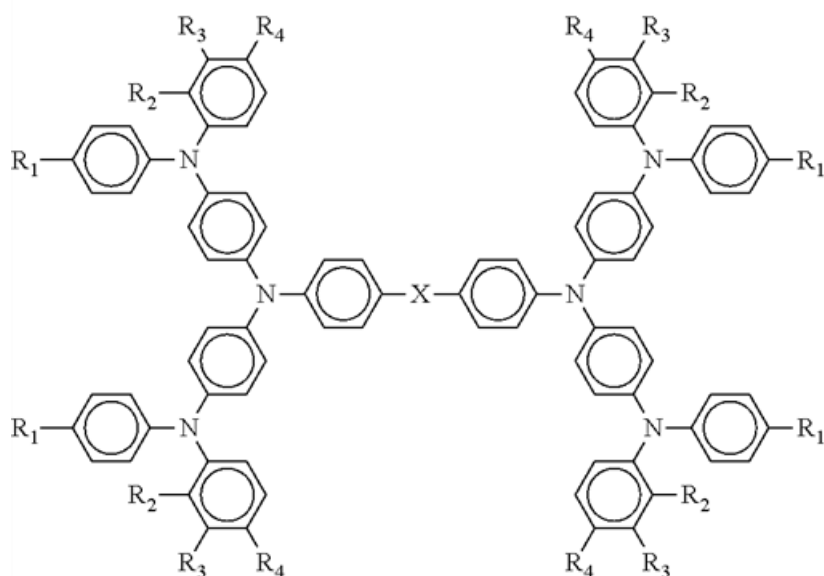
19) Family number: 66524275 (US2018330890A)

© PatBase

Title: PHOTOELECTRIC CONVERSION ELEMENT

Abstract: Provided is a photoelectric conversion element including: a first electrode; a hole blocking layer; an electron transport layer; a hole transport layer; and a second electrode, wherein the hole transport layer contains a compound represented by general formula (1) below,

General formula (1)



where in the formula, R_1

represents a methoxy group or an ethoxy group, R_2 represents a hydrogen group or a methyl group, R_3 represents a hydrogen group, a methyl group, or a methoxy group, R_4 represents a methoxy group, and X represents $-CH_2-$, $-CH_2CH_2-$, $-O-$, or $-C(CH_2)_5-$.

Classifications:

International (IPC 8-9): C07C217/92 H01G9/20 H01L51/00

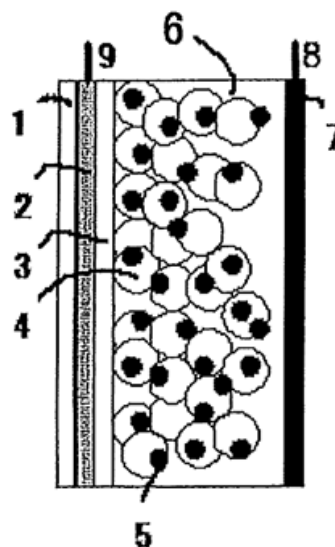
H01L51/42 H01L51/44 H01L51/46 (Advanced/Invention)

CPC: Y02E10/549 H01G9/2018 H01G9/2013 H01G9/2059

C07C2601/14 H01L51/442 H01L51/0059 C07C217/92 H01L51/0061

H01L51/4273 H01L51/4226 H01L2251/308

PatBase - US2018330890_AA



Family:

Publication number	Publication date	Application number	Application date
CN108496258 A	20180904	CN201780007753	20170118
EP3410506 A1	20181205	EP20170744050	20170118
EP3410506 A4	20181226	EP20170744050	20170118
JP2017130820 A1	20181206	JP20170564193T	20170118
JP6447754 B1	20190109	JP20170564193T	20170118
US2018330890 AA	20181115	US20180043876	20180724
WO17130820 A1	20170803	WO2017JP01592	20170118

Priority:

JP20160011564 20160125 JP20160171886 20160902 WO2017JP01592 20170118
US20180043876 20180724

Probable Assignee: RICOH CO LTD

Assignee(s): (std): ARAI RYOTA ; KANEI NAOMICHI ; KINO TOKUSHIGE ; MATSUYAMA TSUYOSHI ; RICOH KK ; RICOH CO LTD ; TANAKA YUUJI ; SUZUKI SHIGEYO

Assignee(s): RICOH CO

Inventor(s): (std): TANAKA YUUJI ; KANEI NAOMICHI ; KINO TOKUSHIGE ; MATSUYAMA TSUYOSHI ; ARAI RYOTA ; SUZUKI SHIGEYO

Agent(s): LAMB MARTIN JOHN CARSTAIRS; HIROTA KOICHI

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 DJ 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 KH KM KN KP KR KW 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 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

Title: PHOTOELECTRIC CONVERSION ELEMENT AND SOLAR CELL

Abstract: A photoelectric conversion element comprising a substrate, a first electrode, a photoelectric conversion layer comprising a semiconductor and a sensitizing dye, a hole transport layer and a second electrode, wherein the hole transport layer comprises a polymer having a repeat unit represented by Formula (1) or (2),

Classifications:

International (IPC 8-9): C08G61/12 H01G9/20 H01L31/02

H01L31/0256 H01L31/04 H01L51/00 H01L51/44

H01M14/00 (Advanced/Invention);

H01L51/42 (Advanced/Non-invention)

CPC: H01L51/0037 C08G61/126 C08G2261/1424 C08G2261/3223

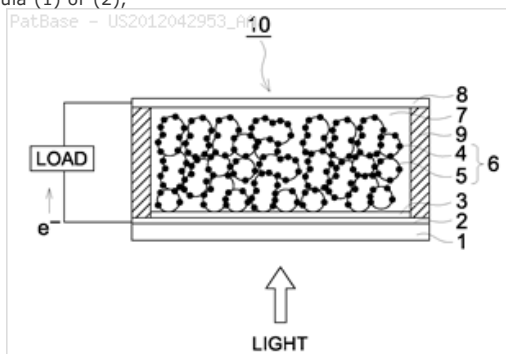
C08G2261/91 H01G9/2004 H01G9/2059 H01L51/006 H01L51/0061

H01L51/0068 H01L51/4226 Y02E10/542 Y02E10/549

European: H01L51/00M2B2B H01L51/00M6F4 T01L51/00M6F2

T01L51/00M6H10 T01L51/42D2B

US: 136/263



Family:

Publication number	Publication date	Application number	Application date
JP2012043640 A2	20120301	JP20100183728	20100819
JP5621405 B2	20141112	JP20100183728	20100819
US2012042953 AA	20120223	US20110193693	20110729
US9029694 BB	20150512	US20110193693	20110729

Priority:

JP20100183728 20100819

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA INC ; NISHIMURA KAZUKUNI ; ONAKA KENICHI ; ISOBÉ KAZUYA ; KONICA MINOLTA BUSINESS TECH

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s): (std): ONAKA KENICHI ; NISHIMURA KAZUKUNI ; ISOBÉ KAZUYA

Agent(s): LUCAS AND MERCANTI LLP

Title: PHOTOACTIVE MATERIAL COMPRISING NANOPARTICLES OF AT LEAST TWO PHOTOACTIVE CONSTITUENTS

Abstract: A photoactive material including nanoparticles of photoactive first and second constituents. The first and second constituents have respective conduction band energies, valence band energies and electronic band gap energies to enable photon-driven generation and separation of charge carriers in each of the first and second constituents by absorption of light in the solar spectrum. The first and second constituents are provided in an alternating layered arrangement of respective first and second layers or are mixed together in a single layer. The nanoparticles have diameters smaller than wavelengths of light in the solar spectrum, to provide optical transparency for absorption of light. The charge carriers, upon photoactivation, are able to participate in redox reactions occurring in the photoactive material. The photoactive material may enable redox reactions of carbon dioxide with at least one of hydrogen and water to produce a fuel.

Classifications:

International (IPC 8-9): B01J23/30 B01J23/72 B01J23/745

B01J27/224 B01J35/00 C07C1/12 C07C29/00 C10G2/00

C25B3/04 (Advanced/Invention)

CPC: B01J35/004 B01J23/30 B01J23/72 B01J23/745 B01J27/224

B82Y30/00 C07C29/00 Y10S977/773 Y10S977/775 Y10S977/811

Y10S977/902 Y02E60/368 C07C29/159 C25B1/003 C10G2/50

B01J21/063 B01J23/005 B01J23/02 B01J23/06 B01J23/08 B01J23/14

B01J23/18 B01J23/28 B01J23/75 B01J23/755 B01J23/78 B01J23/80

B01J23/83 B01J23/8437 B01J23/882 B01J23/888 B01J23/8892

B01J35/0006 B01J35/0013 B01J35/002 B01J35/0053 B01J35/006

B01J37/0215 B01J37/0217 B01J37/04 B01J37/18 C25B3/04

C10G2/33 Y02P20/52

European: C10G2/50 C25B1/00B

US: 204/157.15 204/157.9 422/186 502/100 502/177 502/178

502/202 502/224 502/240 502/300 502/309 502/331 502/338

502/345 977/773 977/775 977/811 977/902



Family:

Publication number	Publication date	Application number	Application date
CA2812031 AA	20130308	CA20112812031	20110909
EP2614177 A1	20130717	EP20110822958	20110909
EP2614177 A4	20140910	EP20110822958	20110909
US2013168228 AA	20130704	US20110821911	20110909
WO12031357 A1	20120315	WO2011CA01022	20110909

Priority:

US20100381656P 20100910

US20110474495P 20110412

WO2011CA01022 20110909

US20110821911 20110909

Probable Assignee: OZIN GEOFFREY A

Assignee(s): (std): OZIN GEOFFREY A ; REDEL ENGELBERT

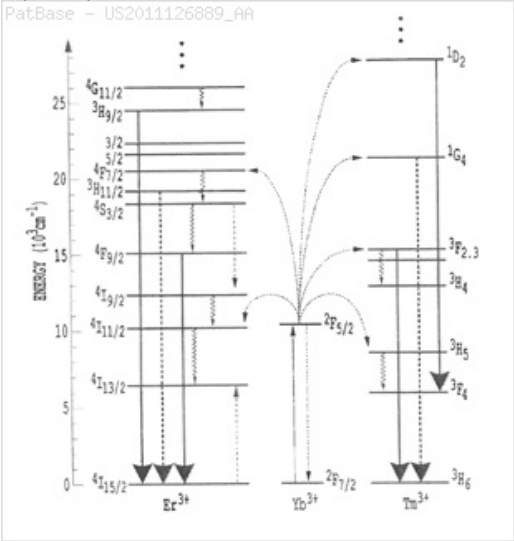
Assignee(s): OZIN GEOFFREY ALAN
Inventor(s): (std): OZIN GEOFFREY ALAN ; OZIN GEOFFREY A ; REDEL ENGELBERT
Agent(s): NORTON ROSE CANADA SENCRL SRL LLP; NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; KUHNEN RAINER K; NORTON ROSE CANADA LLP S E N C R L S R L E T A L
Designated states: AE AG AL AM AO AT AU 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 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

22) Family number: 48533324 (US2011126889A) © PatBase

Title: UP AND DOWN CONVERSION SYSTEMS FOR IMPROVED SOLAR CELL PERFORMANCE OR OTHER ENERGY CONVERSION

Abstract: A system and a conversion element for power conversion. The power conversion system includes a power conversion device which produces electric power upon illumination and includes a light conversion device which down-converts and up-converts a radiant source of energy into a specific energy spectrum for the illumination of the power conversion device. The conversion element includes a first plurality of particles which upon radiation from a first radiation source radiate at a higher energy than the first radiation source, and includes a second plurality of particles which upon radiation from the first radiation source radiate at a lower energy than the first radiation source. At least one of the first plurality of particles and the second plurality of particles can be at least partially metal coated.

Classifications:
International (IPC 8-9): G02B6/02 G02B7/02 H01L31/00 H01L31/0232 H01L31/055 H01L31/09 (Advanced/Invention)
CPC: H01L31/055 Y02E10/52
European: H01L31/0232C H01L31/0232E H01L31/0352A2 H01L31/0384 H01L31/0384B H01L31/055
US: 136/253 136/257 136/257S 362/552 362/552S 362/554 362/554S



Family:

Publication number	Publication date	Application number	Application date
TW201133903 A	20111001	TW20100132665	20100927
TWI552369 B	20161001	TW20100132665	20100927
US2011126889 AA	20110602	US20100891466	20100927
WO11038335 A1	20110331	WO2010US50377	20100927

Priority:
US20090246005P 20090925 US20100891466 20100927

Probable Assignee: DUKE UNIV

Assignee(s): (std): FATHI ZAK ; IMMUNOLIGHT LLC ; THERIEN MICHAEL J ; STANTON IAN NICHOLAS ; UNIV DUKE ; BOURKE FREDERIC A

Assignee(s): DUKE UNIV ; DUKE UNIVERSITY

Inventor(s): (std): THERIEN MICHAEL J ; BOURKE FREDERIC A ; STANTON IAN NICHOLAS ; FATHI ZAK ; BOURKE JR FREDERIC A ; BOURKE FREDERIC A JR

Agent(s): MASON J DEREK 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 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 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

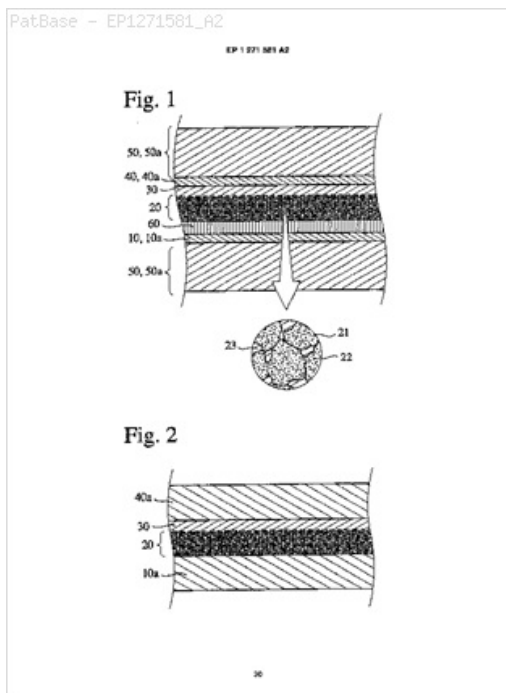
23) Family number: 30076342 (EP1271581A2) © PatBase

Title: Electrolyte composition, photoelectric conversion device and photo-electrochemical cell

Abstract: An electrolytic composition containing an iodine salt and a zwitterionic-type organic salt represented by the general formula (I): wherein Q is an atom group forming an aromatic cation having a 5- or 6-membered ring structure with a nitrogen atom; R1 is a hydrogen atom or a substituent; R2 is a substituent; n1 is an integer of 0 to 5; X1 is a counter ion, n2 is an integer of 0 to 4; R2 may be the same or different when n1 is 2 or more; and at least one of R1 and R2 is a substituent represented by the general formula (II) of -L1-V1-N<->-V2-R3, wherein L1 is a divalent group linking the above aromatic cation to V1; V1 and V2 are independently -CO-, -SO-, -SO2- or -PO(OR4)-, wherein R4 is an alkyl group or an aryl group; and R3 is a substituent. A photoelectric conversion device and a photoelectrochemical cell comprise the electrolytic composition.

Classifications:
International (IPC 8-9): C07D213/04 C07D213/34 C07D233/54 C07D233/60 C07D233/61 H01B1/06 H01B1/12 H01G9/20 H01L31/04 H01M14/00 (Advanced/Invention);

H01B1/12 H01L31/04 H01M14/00 (Advanced/Non-invention);
C07D213/00 C07D233/00 H01B1/06 H01G9/20 H01L31/04
H01M14/00 (Core/Invention)
International (IPC 1-7): C07D213/04 C07D233/54 C07D233/60
C07D233/61 H01B1/06 H01G9/20 H01L31/04 H01M14/00
CPC: H01G9/2013 H01G9/2031 H01G9/2059 H01L51/0064
H01L51/0086 Y02E10/542
European: H01G9/20B4 H01G9/20D2 T01G9/20L T01L51/00M12F4
T01L51/00M6H4 Y02E10/50 Y02E10/54D



Family:

Publication number	Publication date	Application number	Application date
AT342574 E	20061115	AT20020012562T	20020605
DE60215259 D1	20061123	DE20026015259	20020605
DE60215259 D1	20061123	DE20026015259T	20020605
DE60215259 T2	20070524	DE20026015259T	20020605
EP1271581 A2	20030102	EP20020012562	20020605
EP1271581 A3	20040602	EP20020012562	20020605
EP1271581 B1	20061011	EP20020012562	20020605
JP2002367426 A2	20021220	JP20010170042	20010605
JP2011042650 A2	20110303	JP20100185430	20100820
JP4620286 B2	20110126	JP20010170042	20010605
JP5235952 B2	20130710	JP20100185430	20100820

Priority:

JP20010170042 20010605 JP20100185430 20100820

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std): FUJI PHOTO FILM CO LTD ; FUJIFILM CORP ; FUJIFILM HOLDINGS CORP

Assignee(s): FUJI PHOTO FILM CO

Inventor(s): (std): WATANABE TETSUYA

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

24) Family number: 53176354 (US2013056074A)

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Title: DYE-SENSITIZED SOLAR CELL AND PRODUCTION METHOD OF THE SAME

Abstract: Disclosed is a dye-sensitized solar cell having at least a substrate, a first electrode, a photoelectric conversion layer containing a semiconductor and a sensitizing dye, a positive hole transporting layer containing a solid positive hole transporting material, and a second electrode, in which the positive hole transporting material contains a polythiophene-based polymer which is a conductive polymer formed via copolymerization of at least 2 compounds having a structure represented by Formula (1), (2), or (3) described in the specification.

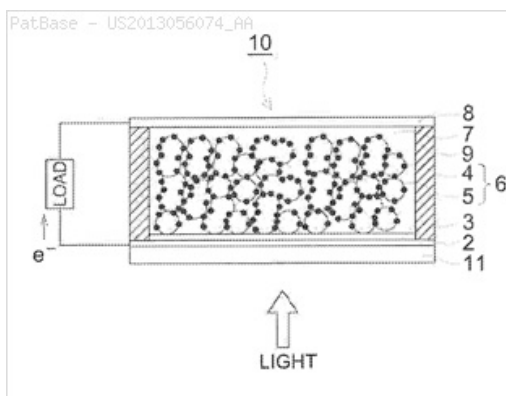
Classifications:

International (IPC 8-9): H01G9/20 H01L31/04 H01L51/44 H01L51/46
H01M14/00 (Advanced/Invention)

CPC: H01L51/0037 H01G9/2013 H01G9/2031 H01G9/2059

H01L51/0061 H01L51/4226 Y02E10/542 Y02E10/549

US: 136/263



Family:

Publication number	Publication date	Application number	Application date
JP2013054921 A2	20130321	JP20110192452	20110905

JP5751100 B2	20150722	JP20110192452	20110905
US2013056074 AA	20130307	US20120596546	20120828

Priority:

JP20110192452 20110905

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): ISHIKAWA TAKAYUKI ; ISOBE KAZUYA ; KONICA MINOLTA BUSINESS TECH ; ONAKA KENICHI

Assignee(s): KONICA MINOLTA INC ; KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s): (std): ONAKA KENICHI ; ISOBE KAZUYA ; ISHIKAWA TAKAYUKI

25) Family number: 44967368 (US2011213144A)

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Title: DYE, PHOTOELECTRIC CONVERSION ELEMENT USING THE SAME, PHOTOELECTROCHEMICAL CELL, AND METHOD OF PRODUCING DYE

Abstract: A dye, having a structure represented by formula (1A): wherein A represents a group of atoms necessary for forming a ring together with the carbon-nitrogen bond; at least one of Y1A and Y2A represents an acidic group, in which when they each represent an acidic group, they may be the same as or different from each other, or when only one of them represents an acidic group, the other represents an electron-withdrawing group; D represents a group to give a dye; n represents an integer of 1 or greater; L represents a single bond or a divalent linking group; and Y3A represents an acidic group.

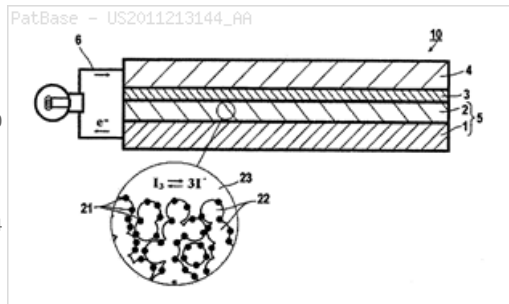
Classifications:

International (ipc 8-9): A61K31/55 C07D219/06 C07D223/22 C07D223/28 C07D279/20 C07D279/22 C07D403/04 C07D403/14 C07D407/04 C07D407/14 C07D409/02 C07D409/04 C07D409/14 C07D417/02 C07D417/14 C07D421/04 C07D421/14 C09B23/00 C09B23/01 C09B23/04 C09B23/10 C09B57/00 C09B67/42 H01G9/20 H01L31/04 H01L51/46 H01M14/00 (Advanced/Invention); C09B23/00 C09B57/00 H01L31/04 H01M14/00 (Advanced/Non-invention); C09B23/00 H01L31/04 H01M14/00 (Core/Invention)

CPC: Y02E10/542 H01G9/2059 Y02E10/549 C09B23/0091 C09B23/04 C09B23/102 H01M14/005 H01G9/2031 H01L51/0064

European: C09B23/00S C09B23/04 C09B23/10A H01M14/00B Y02E10/54D

US: 1/1 136/263 252/500 540/550 540/557 540/588 540/588S 540/591 540/591P 548/187



Family:

Publication number	Publication date	Application number	Application date
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AU2009310805 BB	20170202	AU20090310805	20091029
AU2016262730 AA	20161215	AU20160262730	20161124
AU2016262730 BB	20180726	AU20160262730	20161124
BRPI0919906 A2	20160216	BR2009PI19906	20091029
CN102265453 A	20111130	CN200980152594	20091029
CN102265453 B	20141001	CN200980152594	20091029
EP2352201 A1	20110803	EP20090823685	20091029
EP2352201 A4	20131023	EP20090823685	20091029
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EP2845882 A2	20150311	EP20140002105	20091029
EP2845882 A3	20151118	EP20140002105	20091029
IN03636CN2011 A	20120907	IN2011CN03636	20110526
JP2010235908 A2	20101021	JP20090153051	20090626
JP2011026534 A2	20110210	JP20090240909	20091019
JP2011026536 A2	20110210	JP20090247102	20091027
JP5557484 B2	20140723	JP20090153051	20090626
JP5607338 B2	20141015	JP20090247102	20091027
JP5749883 B2	20150715	JP20090240909	20091019
KR101696939 B1	20170116	KR20117012207	20091029
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US2014102540 AA	20140417	US20130136995	20131220
US8779126 BB	20140715	US20090126951	20091029
US9424998 BB	20160823	US20130136995	20131220
WO10050575 A1	20100506	WO2009JP68631	20091029

Priority:

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JP20090153051	20090626	JP20090153052	20090627	JP20090153053	20090627
JP20090240909	20091019	JP20090247102	20091027	AU20090310805	20091029
EP20090823685	20091029	WO2009JP68631	20091029	US20110126951	20110506
US20130136995	20131220	AU20160262730	20161124		

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std): FUJI PHOTO FILM CO LTD ; FUJIFILM CORP ; KOBAYASHI KATSUMI ; KIMURA KEIZO ; TANI YUKIO ; SATOU HIROTAKA ; SUSUKI TATSUYA ; FUJIFILM HOLDINGS CORP

Inventor(s): (std): KOBAYASHI KATSUMI ; KIMURA KEIZO ; TANI YUKIO ; SATOU HIROTAKA ; SUSUKI TATSUYA ; KOBAYASHI KATSU ; USU TATSUYA ; SATO MUNEYOSHI ; TATSUYA SUSUKI ; HIROTAKA SATOU ; TANI MASAO ; KOBAYASHY KATSUMI

Inventor(s): KATSUMI KOBAYASHY ; KEIZO KIMURA ; KATSUMI KOBAYASHI ; YUKIO TANI

Agent(s): GRIFFITH HACK ; GRUENECKER KINKELDEY STOCKMAIR AND SCHWANHAUESSER ANWALTSSOZIELTET ; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB ; GRUENECKER PATENT U RECHTSANWAELTE PARTG MBB ; YOUNG AND THOMPSON ; IIDA TOSHIZO 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 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 TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

26) Family number: 44112385 (US2009301382A)

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Title: MONITORING SYSTEM BASED ON ETCHING OF METALS

Abstract: Compositions, devices and processes related to etching of a very thin layer or fine particles of a metal are disclosed for monitoring a variety of parameters, such as time, temperature, time-temperature, thawing, freezing, microwave, humidity, ionizing radiation, sterilization and chemicals. These devices have capabilities of producing a long and sharp induction period of an irreversible visual change. The devices are composed of an indicator comprising a very thin layer of a metal (e.g., polyester film having an extremely thin, e.g., about one hundred Angstroms layer of aluminum) and an activator, e.g., a reactant, such as water, water vapor, an acid, a base, oxidizing agent or their precursors, which is capable of reacting with the said indicator. The indicator retains its opacity and metallic luster, e.g., silvery white, mirror like finish of aluminum layer for a long time. The activator destroys the indicator layer including the naturally formed oxide layer. The indicator layer does not have a matrix/binder. As the device becomes transparent from being highly opaque, any color, message or image printed under it become visible at a pre-determined time, thus making the device self reading. A sealing tape or large label made from an activator and an indicator can be used for sealing boxes and monitoring self-life of perishables inside it. Ink formulations composed of a metal powder and a proper activator can be used for monitoring several sterilization processes, such as sterilization with steam. When water is used as an activator, a thin layer of metals, such as that of aluminum can be used as steam sterilization or humidity indicator. The process can also be used for making patterns, printing plates, electronic circuits and RFIDs (radio frequency identification devices).

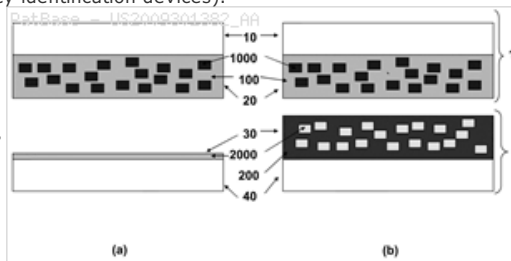
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CPC: G01D7/00 G01D7/005 G01K3/04 G01D3/10 B82Y30/00 B82Y15/00 G01N31/224 G01N31/229

European: G01D3/10 G01D7/00C

US: 116/201 116/206 116/206S 250/336.1 250/336.100S 252/408.1 252/408.100S 356/369 356/369S 374/104 374/104S 374/E3.001 374/E30.01S 422/424 422/82.02 427/8 427/8S 435/29 435/29S 435/5 435/5P 436/1 436/1S 436/2 977/700 977/700S 977/773 977/773S 977/774 977/774S 977/902 977/902S 977/953 977/953S



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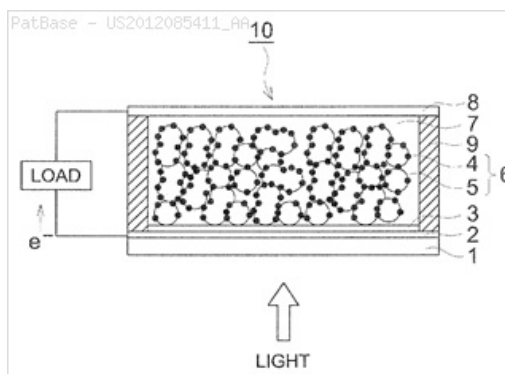
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JP2013504442 T2	20130207	JP20120528925T	20100910
JP2016028238 A2	20160225	JP20150147151	20150724
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Probable Assignee: JP LABORATORIES INC**Assignee(s):** (std): G PATEL ; GORDHAN PATEL ; JP LAB INC ; JP LABORATORIES INC ; PATEL G ; PATEL G N ; PATEL GORDHANBHAI N ; PATEL GORDHANBHAI NATHALAL ; PATEL GORDHANBHAI ; PEHJTEL G**Inventor(s):** (std): PATEL G ; PATEL GORDHANBHAI N ; PATEL GORDHANBHAI NATHALAL ; PATEL GORDHANBHAI ; PEHJTEL G ; PATEL GORDHAN ; GORDHANBHAI PATEL**Inventor(s):** G PATEL**Agent(s):** SPRUNSON AND FERGUSON; NORTON ROSE CANADA SENCRL SRL LLP; LUDERSCHMIDT SCHUELER AND PARTNER; DOMPATENT VON KREISLER SELTING WERNER PARTNERSCHAFT VON PATENT U RECHTSANWALTEN MBB; MAI DOERR BESIER; SANFORD TCOLB AND CO; BARBARA V MAURER; JOSEPH T; BARBARA V; MAURER BARBARA**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**27) Family number: 50912387 (US2012085411A)**

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Title: PHOTOELECTRIC CONVERSION ELEMENT AND SOLAR CELL**Abstract:** Provided is a photoelectric conversion element containing at least: a semiconductor layer containing a semiconductor and a dye which is supported by the semiconductor, and a hole transport layer containing a hole transport compound, wherein the dye is a compound represented by Formula (1), and the hole transport compound is a polymer made from 3,4-ethylenedioxythiophene:**Classifications:****International (IPC 8-9):** C09B23/00 C09B57/00 H01L31/04 H01L51/00 H01L51/42 H01L51/46 H01M14/00 (Advanced/Invention); H01G9/20 (Advanced/Non-invention)**CPC:** H01L51/0064 C09B57/008 H01G9/2009 H01G9/2031 H01G9/2059 H01L51/0037 Y02E10/542 Y02E10/549**European:** C09B57/00T H01G9/20L H01L51/00M6H4 T01G9/20B2 T01G9/20D2 T01L51/00M2B2B**US:** 1/1 136/263**Family:**

Publication number	Publication date	Application number	Application date
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CN102447067 B	20150204	CN201110305432	20110930
JP2012084300 A2	20120426	JP20100228249	20101008
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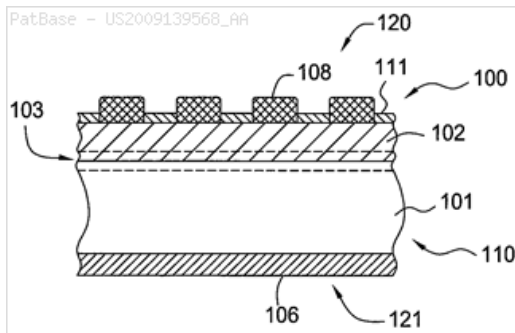
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Probable Assignee: KONICA MINOLTA HOLDINGS INC**Assignee(s):** (std): ISOBE KAZUYA ; KAWASAKI HIDEKAZU ; KONICA MINOLTA BUSINESS TECH ; ONAKA KENICHI**Assignee(s):** KONICA MINOLTA BUSINESS TECHNOLOGIES INC ; KONICA MINOLTA HOLDINGS INC**Inventor(s):** (std): ONAKA KENICHI ; KAWASAKI HIDEKAZU ; ISOBE KAZUYA ; KAZUYA ISOBE ; KENICHI ONAKA ; HIDEKAZU KAWASAKI**Agent(s):** LUCAS AND MERCANTI LLP**28) Family number: 43296394 (US2009139568A)**

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Title: CRYSTALLINE SOLAR CELL METALLIZATION METHODS**Abstract:** Embodiments of the invention contemplate formation of a low cost solar cell using novel methods and apparatus to form a metal contact structure. The method generally uses a conductive contact layer that enables formation of a good electrical contact to the solar cell device. In one case, the contact layer is a nickel containing layer. Various deposition techniques may be used to form the metal contact structure.**Classifications:****International (IPC 8-9):** B08B3/08 C09K13/00 C09K13/02 C09K13/04 C09K13/08 C23F1/00 H01L21/00 H01L21/02 H01L21/20 H01L21/302 H01L21/306 H01L21/331 H01L21/76 H01L31/00 H01L31/0224 H01L31/0236 H01L31/04 H01L31/042 H01L31/05 H01L31/068 H01L31/18 H01L33/00 H02N6/00

H05H1/24 (Advanced/Invention);
H01L21/306 H01L31/0236 H01L31/042 (Advanced/Non-invention);
C23F1/00 H01L21/02 H01L31/00 H01L31/042
H01L31/18 (Core/Invention);
H01L21/302 H01L31/042 H01L31/05 H01L31/18 (Core/Non-invention)
CPC: H01L31/022425 H01L31/02245 Y02E10/547 H01L31/02363
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H01L31/1804 Y02P70/521
European: H01L21/306B3 H01L21/677A11 H01L21/677A8
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Family:

Publication number	Publication date	Application number	Application date
CN101889348 A	20101117	CN200880119586	20081119
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Priority:

US20070003754	20071119	US20070003754P	20071119	US20080039384P	20080325
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Probable Assignee: APPLIED MATERIALS INC

Assignee(s): (std): APPLIED MATERIALS CO LTD ; APPLIED MATERIALS INC ; BORDEN PETER ; CHA YONGHWA CHRIS ; GAY CHARLES ; STEWART MICHAEL P ; MISHRA ROHIT ; PONNEKANTI HARI ; HOLTAM TRISTAN R ; WEIDMAN TIMOTHY ; GUO HSIU WU ; MUNGEKAR HEMANT P ; HOLTAM TRISTAN ; SHAH VINAY ; MUNGEKAR HEMANT ; GUO HSIU WU JASON ; PAAK SUNHOM STEVE ; WIJEKON KAPILA P ; WEIDMAN TIMOTHY W ; WIJEKON KAPILA

Inventor(s): (std): MUNGEKAR HEMANT ; GUO HSIU WU JASON ; HARI PONNEKANTI ; KAPILA WIJEKON ; TIMOTHY WEIDMAN ; WEIDMAN TIMOTHY ; HOLTAM TRISTAN R ; PONNEKANTI HARI ; WIJEKON KAPILA ; HSIU WU GUO ; CHARLES GAY ; HOLTAM TRISTAN ; SHAH VINAY ; CHA YONGHWA CHRIS ; MUNGEKAR HEMANT P ; GAY CHARLES ; GUO HSIU WU ; TRISTAN HOLTAM ; CHRIS CHA YONGHWA ; VINAY SHAH ; ROHIT MISHRA ; WIJEKON KAPILA P ; STEWART MICHAEL P ; MISHRA ROHIT ; WEIDMAN TIMOTHY W ; PONNEKANTI HARI K ; PAAK SUNHOM STEVE ; BORDEN PETER

Inventor(s): GUO HSIU WU (JASON) ; PAAK SUNHOM (STEVE) ; GUO, HSIU-WU ; MISHRA, Rohit
Agent(s): ZIMMERMANN AND PARTNER; PATTERSON AND SHERIDAN LLP APPM TX; PATTERSON AND SHERIDAN LLP; PATTERSON B TODD ET AL; PATTERSON TODD B ET AL

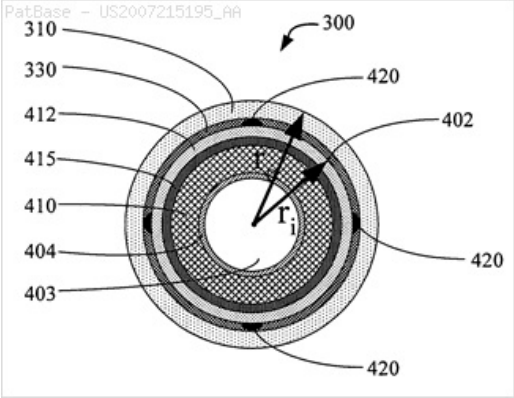
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29) Family number: 36076485 (US2007215195A) © PatBase

Title: ELONGATED PHOTOVOLTAIC CELLS IN TUBULAR CASINGS

Abstract: A solar cell unit comprising a cylindrical shaped solar cell and a transparent tubular casing is provided. The tubular shaped solar cell comprises a back-electrode, a semiconductor junction circumferentially disposed on the back-electrode and a transparent conductive layer disposed on the semiconductor junction. The transparent tubular casing is circumferentially sealed onto the transparent conductive layer of the cylindrical shaped solar cell. A solar cell unit comprising a cylindrical shaped solar cell, a filler layer, and a transparent tubular casing is provided. The cylindrical shaped solar cell comprises a cylindrical substrate, a back-electrode circumferentially disposed on the cylindrical substrate, a semiconductor junction circumferentially disposed on the back-electrode, and a transparent conductive layer disposed on the semiconductor junction. The filler layer is circumferentially disposed on the transparent conductive layer and the transparent tubular casing is circumferentially disposed onto the filler layer.

Classifications:
International (IPC 8-9): B23P17/00 B65C9/24 F24J2/46 H01L21/027 H01L31/00 H01L31/0203 H01L31/0272 H01L31/0352 H01L31/04 H01L31/042 H01L31/048 H01L31/06 H01L31/18 H02N6/00 (Advanced/Invention); H01L21/02 H01L31/00 H01L31/0248 H01L31/0264 H01L31/04 H01L31/042 H01L31/048 H01L31/06 H01L31/18 H02N6/00 (Core/Invention)
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Family:

Publication number	Publication date	Application number	Application date
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US2007215195 AA	20070920	US20060378847	20060318
US2007215197 AA	20070920	US20070800089	20070503
US2008223442 AA	20080918	US20080039659	20080228
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US2010326429 AA	20101230	US20060437928	20060519
US2011000534 AA	20110106	US20070821524	20070622
US2011232755 AA	20110929	US20110153588	20110606
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US8674213 BB	20140318	US20110153588	20110606
US8742252 BB	20140603	US20070821524	20070622
WO08054542 A2	20080508	WO2007US11920	20070518
WO08054542 A3	20080904	WO2007US11920	20070518
WO08060315 A2	20080522	WO2007US06615	20070316
WO08060315 A3	20081106	WO2007US06615	20070316

WO08112239 A2	20080918	WO2008US03248	20080312
WO08112239 A3	20090129	WO2008US03248	20080312
WO08137141 A1	20081113	WO2008US05779	20080505
WO09042184 A2	20090402	WO2008US11133	20080925
WO09042184 A3	20090806	WO2008US11133	20080925
WO11090706 A2	20110728	WO2010US62201	20101228
WO11090706 A3	20111110	WO2010US62201	20101228

Priority:

US20060378847	20060318	US20060437928	20060519	US20070906901P	20070313
JP20090501465	20070316	WO2007US06615	20070316	US20070800089	20070503
JP20090511090	20070518	US20070301611	20070518	JP20090511090T	20070518
WO2007US11920	20070518	US20070821524	20070622	US20070975175P	20070926
US20080012462	20080201	US20080039659	20080228	WO2008US03248	20080312
US20080115485	20080505	US20080207463	20080909	US20080235195	20080922
WO2008US11133	20080925	US20090649147	20091229	US20110153588	20110606

Probable Assignee: BARNES CHRISTOPHER

Assignee(s): (std): BECK MARKUS E ; BULLER BENYAMIN ; GRONET CHRIS M ; MORAD RATSON ; GRONET CHRISTIAN M ; CUMPSTON BRIAN ; CUMPSTON BRIAN H ; SOLYNDRA INC ; SOLYNDRA LLC

Assignee(s): SOLYNDRA RESIDUAL TRUST ; US BANK NATIONAL ASSOCIATION ; ARGONAUT VENTURES I LLC ; BARNES CHRISTOPHER ; HSH NORDBANK AG ; HSH NORDBANK NEW YORK BRANCH COLLATERAL AGENT AG A ; HSH NORDBANK NEW YORK BRANCH COLLATERAL AGENT AG AS

Inventor(s): (std): BECK MARKUS E ; BENYAMIN BULLER ; BULLER BENYAMIN ; CUMPSTON BRIAN ; GRONET CHRIS M ; GRONET CHRISTIAN M ; MORAD RATSON ; RATSON MORAD ; MARKUS E BECK ; CUMPSTON BRIAN H ; CHRISTIAN M GRONET ; BRIAN H CUMPSTON ; BRIAN CUMPSTON

Inventor(s): BECK MARKUS ; GRONET CHRIS ; GRONET CHRISTIAN

Agent(s): RITTER THOMAS KURT; JONES DAY; MORGAN LEWIS AND BOCKIUS LLP; BRETT; ADA O; BRETT A; YING YING; LOVEJOY BRETT 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 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

30) Family number: 56089498 (US2015243445A)

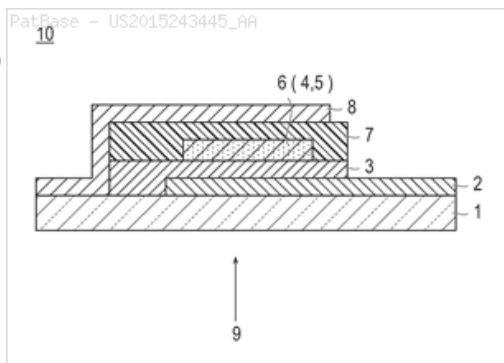
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Title: PHOTOELECTRIC CONVERSION ELEMENT AND METHOD FOR PRODUCING THE SAME

Abstract: To provide a photoelectric conversion element being excellent in photoelectric conversion efficiency and stability of photoelectric conversion function, a method for producing the photoelectric conversion element, and a solar cell using the photoelectric conversion element. A photoelectric conversion element having a substrate, a first electrode, a photoelectric conversion layer containing a semiconductor and a sensitizing pigment, a hole transport layer having a conductive polymer, and a second electrode, wherein the hole transport layer is formed by bringing the photoelectric conversion layer into contact with a solution containing a conductive polymer precursor and an oxidizer at a ratio of $0.1 < [Ox]/[M]$ (wherein $[Ox]$ is the molar concentration of the oxidizer; and $[M]$ is the molar concentration of the conductive polymer precursor), and irradiating the photoelectric conversion layer with light.

Classifications:

International (IPC 8-9): C07D495/04 C08G61/12 C09B23/00 C09B23/01 C09B23/10 C09B23/14 C09B5/62 C09B57/00 C09B69/00 H01G9/20 H01L31/00 H01L31/04 H01L51/00 H01L51/42 H01L51/44 H01M14/00 (Advanced/Invention); C09B23/00 C09B57/00 H01L51/00 (Advanced/Non-invention)
CPC: H01G9/2059 H01L51/0036 H01L51/0061 H01L51/0068 C07D495/04 C08G61/126 C08G2261/1424 C08G2261/3223 C08G2261/91 C09B5/62 C09B23/005 C09B23/0058 C09B23/0066 C09B23/0075 C09B23/105 C09B23/107 C09B23/145 C09B23/148 C09B57/00 C09B57/008 C09B69/008 H01L51/0037 H01L51/4226 Y02E10/549 Y02P70/521
US: 136/263 438/82



Family:

Publication number	Publication date	Application number	Application date
CN104662026 A	20150527	CN201380049397	20130918
CN104662026 B	20170825	CN201380049397	20130918
EP2899799 A1	20150729	EP20130838385	20130918
EP2899799 A4	20160615	EP20130838385	20130918
JP2014046145 A1	20160818	JP20140536885T	20130918
JP6252479 B1	20171227	JP20140536885T	20130918
US2015243445 AA	20150827	US20130430407	20130918
US9959982 BB	20180501	US20130430407	20130918
WO14046145 A1	20140327	WO2013JP75194	20130918

Priority:

JP20120209702	20120924	JP20130025881	20130213	WO2013JP75194	20130918
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Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA INC

Inventor(s): (std): ISHIKAWA TAKAYUKI ; ISOB KAZUYA

Agent(s): GILLE HRABAL; LUCAS AND MERCANTI LLP; HATTA AND ASSOCIATES

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

31) Family number: 66207518 (US2017186778A)

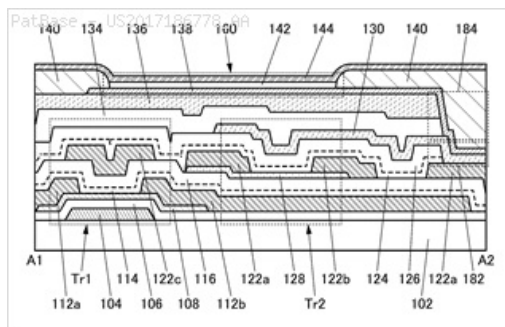
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Title: SEMICONDUCTOR DEVICE AND DISPLAY DEVICE INCLUDING THE SEMICONDUCTOR DEVICE

Abstract: Provided is a novel semiconductor device. The semiconductor device comprises a first transistor and a second transistor. The first transistor comprises a first gate electrode; a first insulating film over the first gate electrode; a first oxide semiconductor film over the first insulating film; a first source electrode and a first drain electrode over the first oxide semiconductor film; a second insulating film over the first oxide semiconductor film, the first source electrode, and the first drain electrode; and a second gate electrode over the second insulating film. The second transistor comprises a first drain electrode; the second insulating film over the second drain electrode; a second oxide semiconductor film over the second insulating film; a second source electrode and a second drain electrode over the second oxide semiconductor film; a third insulating film over the second oxide semiconductor film, the second source electrode, and the second drain electrode; and a third gate electrode over the third insulating film. The first oxide semiconductor film partly overlaps with the second oxide semiconductor film.

Classifications:

International (IPC 8-9): G02F1/1368 G09F9/00 G09F9/30
H01L21/336 H01L21/8234 H01L27/08 H01L27/088 H01L27/12
H01L27/32 H01L29/04 H01L29/24 H01L29/66 H01L29/778
H01L29/786 H01L51/00 H01L51/50 H05B33/14 (Advanced/Invention);
H01L27/32 (Advanced/Non-invention)
CPC: H01L27/1225 H01L29/7869 H01L29/78696 H01L29/78648
H01L29/78606 H01L29/045 H01L29/66969 H01L27/127 H01L51/005
H01L27/3262 H01L29/24 H01L29/7782 H01L29/7786
US: 257/40



Family:

Publication number	Publication date	Application number	Application date
CN108475699 A	20180831	CN201680076957	20161220
JP2017120908 A2	20170706	JP20160253881	20161227
KR20180099764 A	20180905	KR20187021385	20161220
TW201735183 A	20171001	TW20160143409	20161227
US2017186778 AA	20170629	US20160386649	20161221
US2018197888 AA	20180712	US20180904537	20180226
US9911757 BB	20180306	US20160386649	20161221
US10283532 BB	20190507	US20180904537	20180226
WO17115214 A1	20170706	WO20161B57801	20161220

Priority:

JP20150256694 20151228 JP20150256849 20151228 WO20161B57801 20161220
US20160386649 20161221 US20180904537 20180226

Probable Assignee: SEMICONDUCTOR ENERGY LAB CO LTD

Assignee(s): (std): SEMICONDUCTOR ENERGY LAB ; SEMICONDUCTOR ENERGY LAB CO LTD ; SEMICONDUCTOR ENERGY LABORATORY ; SEMICONDUCTOR ENERGY LABORATORY CO LTD

Assignee(s): SEMICONDUCTOR ENERGY LABORATORY CO

Inventor(s): (std): OKAZAKI KENICHI ; SHIMA YUKINORI ; HOSAKA YASU HARU ; MIYAKE HIROYUKI ; HOSAKA HIROYASU

Agent(s): FISH AND RICHARDSON PC

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 DJ 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 KE KG KH KM KN KP KR KW 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

32) Family number: 24684519 (US2003127129A)

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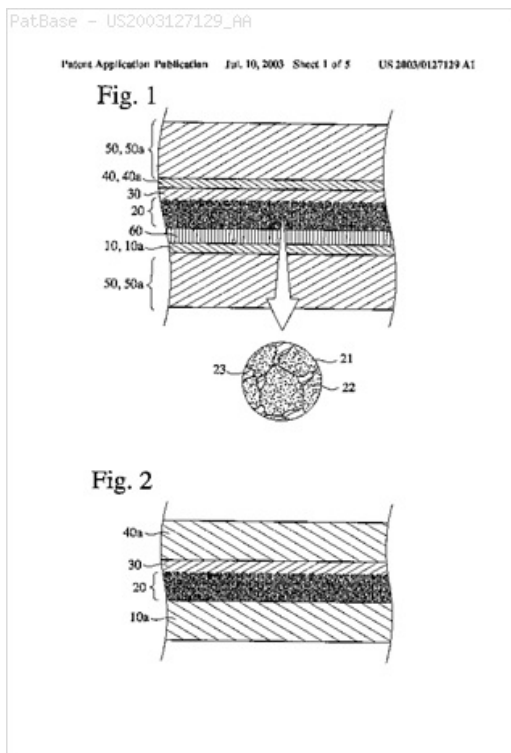
Title: CHARGE TRANSFER MATERIAL, AND PHOTOELECTRIC CONVERSION DEVICE AND PHOTOELECTRIC CELL USING SAME, AND PYRIDINE COMPOUND

Abstract: A charge transfer material comprising a basic compound having negative charge and represented by the following general formula (I): (A1-L)n1-A2.M (I), wherein A1 represents a group having negative charge; A2 represents a basic group; M represents a cation for neutralizing the negative charge of (A1-L)n1-A2; L represents a divalent linking group or a single bond; and n1 represents an integer of 1 to 3. A photoelectric conversion device and a photo-electrochemical cell comprising the charge transfer material. A new nonvolatile pyridine compound, which is a low-viscosity liquid at room temperature, is preferably used for A2.

Classifications:

International (IPC 8-9): C07C211/63 C07D207/06 C07D213/20
C07D213/71 C07D213/76 C07D213/81 C07D231/12 C07D233/58
C07D401/04 C07D401/12 H01B1/06 H01G9/20 H01L31/04
H01M14/00 (Advanced/Invention);
H01L51/00 H01L51/30 (Advanced/Non-invention);
C07D207/00 C07D213/00 C07D231/00 C07D233/00 C07D401/00
H01B1/06 H01G9/20 H01L31/04 H01M14/00 (Core/Invention);
H01L51/00 H01L51/05 (Core/Non-invention)
International (IPC 1-7): C07C211/63 C07D207/06 C07D213/20
C07D213/71 C07D213/76 C07D213/81 C07D231/12 C07D233/58
C07D401/04 C07D401/12 H01B1/06 H01G9/20 H01L31/00
H01L31/04 H01L31/06 H01M14/00

CPC: C07D213/76 H01G9/2009 H01G9/2031 H01L51/0064
H01L51/0077 H01L51/0078 H01L51/0086 Y02E10/542
European: C07D213/76 H01G9/20B2 H01G9/20D2 T01L51/00M12
T01L51/00M12B T01L51/00M12F4 T01L51/00M6H4 T01L51/30H8D
T01L51/30M T01L51/30M2 Y02E10/54D
US: 136/256 136/263 252/500 252/501.1 252/62.2 257/E51.041
257/E51.042 429/111 429/111S 429/188 429/206 429/207 429/213
429/324 546/304 546/307 546/312 548/326.5 548/331.5 548/332.5
564/96 564/98



Family:

Publication number	Publication date	Application number	Application date
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DE60234288 D1	20091224	DE20026034288	20020614
EP1267369 A2	20021218	EP20020013176	20020614
EP1267369 A3	20040609	EP20020013176	20020614
EP1267369 B1	20091111	EP20020013176	20020614
JP2003068374 A2	20030307	JP20020091045	20020328
JP4222466 B2	20090212	JP20020091045	20020328
US2003127129 AA	20030710	US20020170504	20020614
US6911595 BB	20050628	US20020170504	20020614

Priority:

JP20010180427 20010614 JP20020091045 20020328

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std): FUJI PHOTO FILM CO LTD ; QIAN CHANG YI ; FUJIFILM CORP ; YOSHIKAWA MASARU

Assignee(s): FUJI PHOTO FILM CO ; FUJIFILM HOLDINGS CORP

Inventor(s): (std): QIAN CHANG YI ; SEN SHOICHI ; YOSHIKAWA MASARU ; YOSHIKAWA SUSUMU

Inventor(s): QIAN

Agent(s): SOLF ALEXANDER; BURNS DOANE SWECKER AND MATHIS LLP

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

33) Family number: 46868529 (US2010261263A)

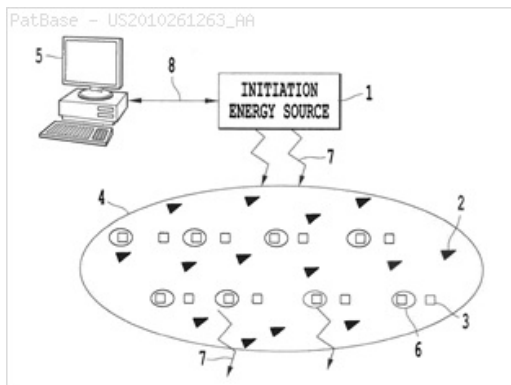
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Title: UP AND DOWN CONVERSION SYSTEMS FOR PRODUCTION OF EMITTED LIGHT FROM VARIOUS ENERGY SOURCES

Abstract: A system for energy upconversion and/or down conversion and a system for producing a photostimulated reaction in a medium. These systems include 1) a nanoparticle configured, upon exposure to a first wavelength ?1 of radiation, to generate a second wavelength ?2 of radiation having a higher energy than the first wavelength ?1 and 2) a metallic structure disposed in relation to the nanoparticle. A physical characteristic of the metallic structure is set to a value where a surface plasmon resonance in the metallic structure resonates at a frequency which provides a spectral overlap with either the first wavelength ?1 or the second wavelength ?2, or with both ?1 and ?2. The system for producing a photostimulated reaction in a medium includes a receptor disposed in the medium in proximity to the nanoparticle which, upon activation by the second wavelength ?2, generates the photostimulated reaction.

Classifications:

International (IPC 8-9): A61K31/015 A61K31/122 A61K31/352
A61K31/40 A61K31/405 A61K31/47 A61K31/473 A61K31/525
A61K31/5415 A61K31/655 A61K31/7052 A61K31/7084 A61K33/00
A61K33/24 A61K33/38 A61K38/14 A61K38/20 A61K38/22
A61K38/28 A61K38/44 A61K39/395 A61K41/00 A61K9/14 A61L2/08
A61L2/10 A61M37/00 A61N1/40 A61N1/44 A61N2/00 A61N5/00
A61N5/06 A61N5/10 B01J19/00 B01J19/08 B01J19/12 B01J8/18
B29C65/14 B32B37/00 B32B5/16 C02F1/32 C08F2/46 C08G77/00
C12M1/34 C12Q1/68 C23C14/28 F21K2/00 F21V9/16 G01J1/58
G01N21/63 G01N21/64 G01N21/76 G01N23/02 G01N30/96
G01N33/543 G02B5/00 G21G5/00 G21K1/00 H01J61/00 H01J61/20
H01J65/04 H01L31/12 H05B41/28 (Advanced/Invention);
A61N2/00 A61N5/10 B82Y15/00 B82Y25/00
B82Y99/00 (Advanced/Non-invention);
A61L2/08 A61N5/06 B01J19/00 B01J19/08 B01J19/12 B32B5/16
C08F2/46 C12M1/34 F21V9/00 G01N21/63 G01N30/00
G21K1/00 (Core/Invention);



A61K41/00 A61L2/08 A61N5/06 B01J19/00 G01N21/64 (Core/Non-invention)
International (IPC 1-7): G01N21/63
CPC: F21K2/00 A61L2/08 A61L2202/22 A61N5/062 B82Y20/00 B82Y30/00 G01N21/63 G02B5/003 A61N2/00 A61N5/10 Y02B20/22 H01J65/042 A61N1/40 A61L2/10 C02F1/32 H05B41/2806 A61N1/44 Y02W10/37 G02F2/02 Y10T428/25 Y10T428/256
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US: 1/1 156/273.9 156/273.900S 156/275.5 156/275.500S 156/379.6 156/379.600S 156/379.7 156/379.700S 204/158.2 204/158.200S 210/198.1 210/198.100S 210/748.13 250/432.00RS 250/432R 250/458.1 250/458.100S 250/459.1 250/459.100S 250/492.1 250/492.100S 252/588 252/589 313/567 313/567S 313/639 313/639S 315/248 422/131 422/131S 422/139 422/139S 422/186 422/186.3 422/186.300S 422/186S 422/24 422/69 422/69S 424/1.11 424/130.1 424/130.100S 424/490 424/490P 424/600 424/600S 424/618 424/618S 424/649 424/649S 424/85.2 424/85.200S 424/9.3 424/94.4 424/94.400S 427/595 427/595S 428/323 428/323S 428/328 428/328S 435/287.1 435/287.100P 435/4 436/164 436/501 514/150 514/150S 514/20.9 514/20.900S 514/224.8 514/224.800S 514/251 514/251S 514/297 514/297S 514/298 514/298S 514/299 514/299S 514/410 514/410S 514/415 514/415S 514/43 514/43S 514/44.00RS 514/44R 514/454 514/454S 514/455 514/455S 514/457 514/457S 514/5.9 514/5.900S 514/688 514/688S 514/765 514/765S 514/9.7 514/9.700S 522/1 522/1S 528/10 528/10S 604/20 604/20S 607/88 607/88S 607/91 977/700 977/700S 977/742 977/742S 977/750 977/750S 977/752 977/752S 977/773 977/773S 977/904 977/904S 977/932 977/932S

Family:

Publication number	Publication date	Application number	Application date
AR080538 AA	20120418	AR2010P100868	20100318
CN102870235 A	20130109	CN201080061112	20101110
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EP2499677 A1	20120919	EP20100830631	20101110
EP2499677 A4	20170125	EP20100830631	20101110
TW201126156 A	20110801	TW20100108027	20100318
TW201215426 A	20120416	TW20100138775	20101110
TWI521198 B	20160211	TW20100108027	20100318
TWI572389 B	20170301	TW20100138775	20101110
US2010261263 AA	20101014	US20100725108	20100316
US2011117202 AA	20110519	US20100943787	20101110
US2013171060 AA	20130704	US20130732882	20130102
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US2018317307 AA	20181101	US20180012901	20180620
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Priority:

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WO2010US56178 20101110	US20130732882 20130102	US20150688687 20150416
US20180012901 20180620		

Probable Assignee: DUKE UNIV

Assignee(s): (std): HANSEN KATHERINE SARAH ; FELS DIANE RENEE ; IMMUNOLIGHT L L C ; DEWHIRST MARK WESLEY ; FATHI ZAKARYAE ; ZHANG ZHENYUAN ; SIMMONS JOSEPH H ; SCAFFIDI JONATHAN P ; VO DINH TUAN ; STANTON IAN NICHOLAS ; ZHANG YAN ; THERIEN MICHAEL J ; LAULY BENOIT ; STECHER JOSHUA T ; UNIV DUKE ; IMMUNOLIGHT LLC ; WYATT CORY ROBERT ; STAUFFER PAUL RATH ; MACCARINI PAOLO ; NORTON STEPHEN JOHN ; AYRES JENNIFER ; AYRES JENNIFER ANN ; BOURKE FREDERIC A ; BOURKE FREDERIC A JR ; BOURKE JR FREDERIC A ; FATHI ZAK ; GREGAS MOLLY K ; CHADA VENKATA GOPAL REDDY ; DUKE UNIV

Assignee(s): DUKE UNIVERSITY

Inventor(s): (std): ZHANG ZHENYUAN ; SIMMONS JOSEPH H ; SCAFFIDI JONATHAN P ; VO DINH TUAN ; STANTON IAN NICHOLAS ; FATHI ZAK ; GREGAS MOLLY K ; ZHANG YAN ; THERIEN MICHAEL J ; LAULY BENOIT ; AYRES JENNIFER ; BOURKE FREDERIC A JR ; CHADA VENKATA GOPAL REDDY ; STECHER JOSHUA T ; NORTON STEPHEN JOHN ; BOURKE JR FREDERIC A ; STANTON IAN N ; AYRES JENNIFER A ; HANSEN KATHERINE SARAH ; WYATT CORY ROBERT ; BOURKE FREDERIC A ; FELS DIANE RENEE ; STAUFFER PAUL RATH ; DEWHIRST MARK WESLEY ; MACCARINI PAOLO ; FATHI ZAKARYAE ; ZHANG ZHEN YUAN ; AYRES JENNIFER ANN

Inventor(s): BOURKE JR ; VO-DINH, TUAN

Agent(s): REBOUSSIN YOHANN MICKAEL NOEL; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT L L P; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; MASON J DEREK ET AL; MASON DEREK J 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 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

34) Family number: 58241538 (US2016155574A)

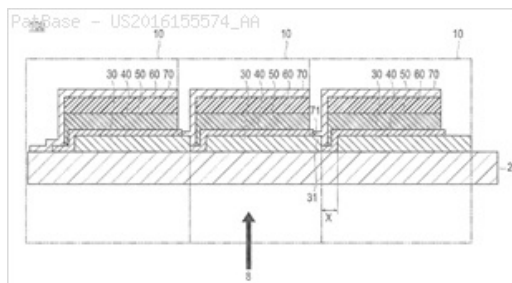
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Title: PHOTOELECTRIC CONVERSION ELEMENT MODULE AND METHOD FOR MANUFACTURING THE SAME

Abstract: Provided are a photoelectric conversion element module in which sufficient power generation performance can be obtained, and a method for manufacturing the photoelectric conversion element module. A photoelectric conversion element module obtained by electrically connecting two or more photoelectric conversion elements obtained by stacking a substrate, a first electrode, a photoelectric conversion layer containing a semiconductor and a sensitizing dye, a hole transportation layer having a conductive polymer, and a second electrode in the sequence listed, in which the hole transportation layer is formed by bringing the photoelectric conversion layer into contact with a conductive polymer precursor and then irradiating the sensitizing dye with light in the presence of an oxidizer, whereby the conductive polymer precursor is polymerized.

Classifications:

International (IPC 8-9): C09B23/00 C09B23/10 C09B57/00
C09K3/00 H01G9/20 H01L51/44 H01L51/46
H01L51/48 (Advanced/Invention)
CPC: H01L51/0064 H01L51/4226 C09B5/62 C09B23/005
C09B23/0058 C09B23/0066 C09B23/04 C09B23/145 C09B23/148
H01G9/2018 H01G9/2059 H01G9/2081 C09B57/008 H01L27/301
H01L51/0036 H01L51/0061 H01L51/0068 C09B23/105 C09B57/00
US: 136/249 438/80

**Family:**

Publication number	Publication date	Application number	Application date
CN105340099 A	20160217	CN201480037025	20140619
EP3018722 A1	20160511	EP20140819280	20140619
EP3018722 A4	20170315	EP20140819280	20140619
JP2015001984 A1	20170223	JP20150525144T	20140619
US2016155574 AA	20160602	US20140900227	20140619
WO15001984 A1	20150108	WO2014JP66358	20140619

Priority:

JP20130138166 20130701 WO2014JP66358 20140619

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA INC

Inventor(s): (std): ISHIKAWA TAKAYUKI ; ISOBE KAZUYA

Agent(s): GILLE HRABAL; HATTA AND ASSOCIATES

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 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 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

35) Family number: 52871551 (US2013025682A)

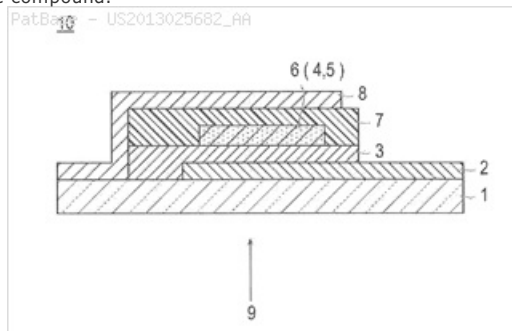
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Title: PHOTOELECTRIC CONVERSION ELEMENT AND SOLAR CELL

Abstract: An all solid-state dye sensitizing type photoelectric conversion element excellent in photoelectric conversion efficiency and stability of photoelectric conversion function due to the prevention of desorption of the dye, and a solar cell comprising the photoelectric conversion element are provided. The present invention relates to a photoelectric conversion element comprising a first electrode, a photoelectric conversion layer comprising a semiconductor and a sensitizing dye, and a solid hole transport layer, and a second electrode, on a substrate, wherein the sensitizing dye is represented by the general formula (1) and the solid hole transport layer comprises a polymer obtainable by polymerizing a compound represented by the following general formula (2) or a multimer of the compound.

Classifications:

International (IPC 8-9): H01G9/20 H01L31/04 H01L51/00 H01L51/42
H01L51/44 H01L51/46 H01M14/00 (Advanced/Invention);
H01G9/20 (Advanced/Non-invention)
CPC: H01L51/0064 H01L51/0059 H01L51/4226 Y02E10/542
Y02E10/549
US: 1/1 136/263

**Family:**

Publication number	Publication date	Application number	Application date
EP2551865 A2	20130130	EP20120175387	20120706
EP2551865 A3	20160525	EP20120175387	20120706
JP2013051199 A2	20130314	JP20120165905	20120726
JP5772750 B2	20150902	JP20120165905	20120726
US2013025682 AA	20130131	US20120557459	20120725
US9190617 BB	20151117	US20120557459	20120725

Priority:

JP20110167017 20110729 JP20120165905 20120726

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): KAWASAKI HIDEKAZU ; KONICA MINOLTA BUSINESS TECH ; KURACHI MASAHICO ; NISHIMURA KAZUKUNI ; MIWA HIDEYA

Assignee(s): KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA BUSINESS TECHNOLOGIES INC

Inventor(s): (std): KAWASAKI HIDEKAZU ; KURACHI MASAHICO ; MIWA HIDEYA ; NISHIMURA KAZUKUNI

Agent(s): HENKEL BREUER AND PARTNER; LUCAS AND MERCANTI LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: REINFORCING STRUCTURES FOR THIN-FILM PHOTOVOLTAIC DEVICE SUBSTRATES, AND ASSOCIATED METHODS

Abstract: In an embodiment, one reinforced substrate for use in a photovoltaic device includes a polymer base material and a reinforcing structure bonded with the base material. The reinforced substrate presents a surface in a condition that is made-ready for deposition of thin film layers of the photovoltaic device. A thin film photovoltaic device includes the reinforced substrate, a back contact layer formed on the surface of the reinforced substrate, and a solar absorber layer formed on the back contact layer. A plurality of thin film photovoltaic devices may be formed on a common reinforced substrate. A process of producing a reinforced substrate includes combining a fluid base material and a fiber reinforcing structure to form an impregnated fiber reinforcement. The impregnated fiber reinforcement is cured to form the reinforced substrate, and the reinforced substrate is annealed.

Classifications:

International (IPC 8-9): B05D5/12 B32B15/08 B32B5/16 B32B9/04

C08G77/12 C08G77/20 C08K3/08 C08K3/22 C08K3/24 C08K5/54

C08K5/5425 C08L83/04 C08L83/05 C08L83/07 C09D183/04

C09D183/05 C09D183/07 C09D183/08 C09D7/12 H01L31/00

H01L31/02 H01L31/0216 H01L31/032 H01L31/0336 H01L31/04

H01L31/042 H01L31/072 H01L31/0749

H01L31/18 (Advanced/Invention);

C08L83/04 H01L31/032 H01L31/0336 H01L31/072 (Advanced/Non-

invention); B05D5/12 B32B15/08 B32B5/16 C08L83/00 C09D183/04

C09D183/05 C09D183/07 C09D183/08 C09D7/12 H01L31/02

H01L31/0216 H01L31/0264 H01L31/042 (Core/Invention)

CPC: H01L31/046 C08G77/14 Y10T428/252 H01L31/0322 C08G77/12

H01L31/03928 C08G77/16 Y02E10/541 C08G77/20 Y10T428/31663

H01L31/0392 H01L31/0463 Y02P70/521 H01L31/0465 H01L31/03925

H01L31/03926 H01L31/03921 C08L83/04 H01L31/072 H01L31/0749

C09D183/04

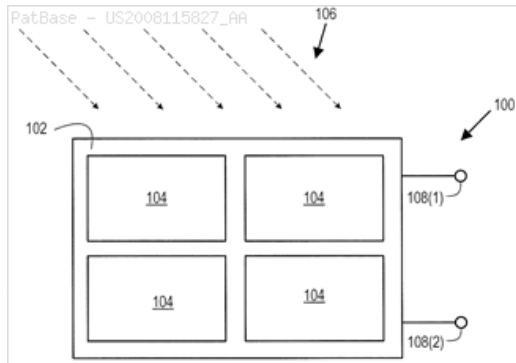
European: C08L83/04 C09D183/04 H01L27/142R2 H01L31/02 H01L31/032C H01L31/0392 H01L31/0392E2 H01L31/042

H01L31/048 H01L31/072 H01L31/0749 H01L31/18 M08G77/12 M08G77/14 M08G77/16 M08G77/20 Y02E10/52 Y02E10/54B

US: 136/244 136/252 136/255 136/256 136/265 136/261 136/261S 136/262 136/262S 136/264 136/264S

257/E31.11 257/E31.110S 427/534 427/534S 427/551 427/551S 427/74 427/74S 428/325 428/325P 428/447 428/450

525/477

**Family:**

Publication number	Publication date	Application number	Application date
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CN101421100 B	20130327	CN200780013548	20070418
CN101473447 A	20090701	CN200780022327	20070418
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CN101473448 A	20090701	CN200780022480	20070418
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US2009084428 AA	20090402	US20070297358	20070418
US2010035046 AA	20100211	US20070297443	20070418
US8207442 BB	20120626	US20070737119	20070418
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WO07123926 A3	20080103	WO2007US09425	20070418
WO08088570 A1	20080724	WO2007US66902	20070418

Priority:

US20060792852P 20060418	US20060792770P 20060418	US20060792871P 20060418
US20060875995P 20061220	JP20090506541 20070418	JP20090506541T 20070418
JP20090506544 20070418	JP20090506544T 20070418	US20070737119 20070418
WO2007US09365 20070418	WO2007US09359 20070418	US20070297351 20070418
US20070297358 20070418	US20070297443 20070418	WO2007US09425 20070418

Probable Assignee: DOW CORNING CORP

Assignee(s): (std): ANDERSON NICOLE R ; ARMSTRONG JOSEPH H ; BARNARD THOMAS ; BARNARD THOMAS DUNCAN ;

ITN ENERGY SYSTEM INC ; HARIMOTO YUKINARI ; DOW CORNING ; ITN ENERGY SYSTEMS INC ; HATANAKA HIDEKATSU ; DOW CORNING TORAY CO LTD ; ITOH MAKI ; KATSOU LIS DIMITRIS ELIAS ; WOODS LAWRENCE M ; RIBELIN ROSINE M ; SUTO MICHITAKA ; ZHU BIZHONG ; KATSOU LIS DIMITRIS ; REESE HERSCHEL HENRY ; DOW CORNING TORAY SILICONE

Assignee(s): HUDSON BAY MASTER FUND LTD ; DOW SILICONES CORP ; AIR FORCE UNITED STATES ; RDW CAPITAL LLC ; DOW CORNING TORAY CO ; DOW CORNING CORP ; ASCENT SOLAR TECHNOLOGIES INC

Inventor(s): (std): HARIMOTO YUKINARI ; ITOH MAKI ; ARMSTRONG JOSEPH H ; KATSOU LIS DIMITRIS ELIAS ; WOODS LAWRENCE M ; RIBELIN ROSINE M ; SUTO MICHITAKA ; HATANAKA HIDEKATSU ; BARNARD THOMAS DUNCAN ; ZHU BIZHONG ; BARNARD THOMAS ; KATSOU LIS DIMITRIS ; REESE HERSCHEL HENRY ; ANDERSON NICOLE R ; HIDEKATSU HATANAKA ; DUNCAN BARNARD THOMAS ; YUKINARI HARIMOTO ; ELIAS KATSOU LIS DIMITRIS ; MICHITAKA SUTO ; BIZHONG ZHU ; HENRY REESE HERSCHEL ; JOSEPH H ARMSTRONG ; THOMAS DUNCAN BARNARD ; ITO MAKI ; SUDO MICHITAKA ; HARIHARA YUKINARI ; DIMITRIS ELIAS KATSOU LIS ; LAWRENCE M WOODS ; MAKI ITOH ; THOMAS BARNARD ; DIMITRIS KATSOU LIS

Agent(s): LAMB RICHARD ANDREW; NEILSON MARTIN MARK; POLYPATENT; SOGA MICHIHARU; LATHROP AND GAGE LC; HOWARD AND HOWARD ATTORNEYS PLLC; DOW CORNING CO1232 CORP; LATHROP AND GAGE LLP; CLAUDE F; CLEVELAND DAN

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 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 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

37) Family number: 32284558 (US2005218397A)

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Title: NANO-ELECTRONICS FOR PROGRAMMABLE ARRAY IC

Abstract: Systems and methods are disclosed to process a programmable semiconductor substrate by fabricating a first layer on the substrate using semiconductor fabrication techniques; fabricating a second layer above the first layer having one or more NANO-bonding areas; self-assembling one or more NANO-elements; and bonding the NANO-elements to the NANO-bonding areas.

Classifications:

International (IPC 8-9): B82Y10/00 B82Y20/00 B82Y30/00 C40B40/02 D06M10/00 D06M11/83 G01N27/12 G01N27/414 G01N33/00 G02B6/12 G11B9/00 G11B9/14 G11C11/00 G11C11/21 G11C11/54 G11C13/00 G11C13/02 G11C13/04 G11C23/00 G11C7/10 H01L21/58 H01L21/82 H01L23/00 H01L23/02 H01L23/433 H01L23/48 H01L23/49 H01L23/495 H01L23/52 H01L23/62 H01L27/144 H01L27/146 H01L27/148 H01L27/24 H01L29/00 H01L29/06 H01L29/15 H01L29/40 H01L29/66 H01L29/786 H01L31/00 H01L31/0312 H01L45/00 H01L47/00 H01L51/42 H01L51/50 H01Q21/00 H04B10/04 H04B10/06 (Advanced/Invention); B82Y10/00 B82Y15/00 B82Y40/00 H01L27/148 H01L27/32 H01L51/42 (Advanced/Non-invention); D06M10/00 G02B6/12 G11B9/00 G11C11/00 G11C11/54 G11C13/02 G11C13/04 H01L21/70 H01L23/02 H01L23/48 H01L23/52 H01L23/58 H01L27/144 H01L27/146 H01L27/148 H01L29/00 H01L29/02 H01L29/40 H01L29/66 H01L31/00 H01L31/0264 H01L45/00 H01L51/50 H01Q21/00 H04B10/04 H04B10/06 (Core/Invention); H01L27/148 H01L27/28 H01L51/42 (Core/Non-invention)

International (IPC 1-7): D06M10/00 H01L23/02 H01L23/48 H01L23/52 H01L29/06 H01L29/15 H01L29/40 H01L31/0312

CPC: Y10S977/932 H01L27/14603 G11C13/0011 H01L27/14683

H01L27/3281 H01Q21/0093 H01L2924/01032 H01L2924/01087 H01L2924/10272 H01L2924/10335 H01L45/12 G11C13/0023 G11B9/14 G11C11/54 H01L51/4226 H01L51/4253 Y02E10/549 G11C23/00 B82Y20/00 B82Y30/00 G11C13/0014 G11C13/0019 G11C13/02 G11C13/025 G11C13/04 G11C2213/17 G11C2213/79 H01L23/4952 H01L24/45 H01L24/48 H01L27/14806 H01L51/5012 H01L2224/05624 H01L2224/45015 H01L2224/45144 H01L2224/45164 H01L2224/45169 H01L2224/45173 H01L2224/45178 H01L2224/48624 H01L2924/01005 H01L2924/01006 H01L2924/01007 H01L2924/01011 H01L2924/01012 H01L2924/01014 H01L2924/01015 H01L2924/01016 H01L2924/01019 H01L2924/0102 H01L2924/01022 H01L2924/01023 H01L2924/01027 H01L2924/01028 H01L2924/01029 H01L2924/0103 H01L2924/01031 H01L2924/01033 H01L2924/01038 H01L2924/0104 H01L2924/01042 H01L2924/01044 H01L2924/01045 H01L2924/01046 H01L2924/01047 H01L2924/01049 H01L2924/0105 H01L2924/01051 H01L2924/01052 H01L2924/01056 H01L2924/01058 H01L2924/01061 H01L2924/01063 H01L2924/01072 H01L2924/01073 H01L2924/01074 H01L2924/01075 H01L2924/01076 H01L2924/01077 H01L2924/01078 H01L2924/01079 H01L2924/01082 H01L2924/01083 H01L2924/01094 H01L2924/01105 H01L2924/01322 H01L2924/01327 H01L2924/014 H01L2924/10253 H01L2924/10329 H01L2924/12041 H01L2924/12044 H01L2924/1306 H01L2924/13091 H01L2924/14 H01L2924/1433 H01L2924/19041 H01L2924/19042 H01L2924/19043 H01L2924/30105 H01L2924/30107 H01L2924/3011 H01L2924/3025 Y10S977/724 Y10S977/734 D06M16/00 D06M23/08 H01L2924/12032 H01L2924/20752 H01L2924/00 H01L2924/0002 H01L2924/181 H01L2924/12042 H01L2924/12043 H01L45/1253 G01N27/4148 Y10T428/249954 Y10T428/249955 Y10T428/249957 H01L27/2463 H01L45/1233 H01L24/85 H01L2924/01003 H01L2924/00014 G11C13/004 B82Y15/00 B82Y40/00 Y10S977/762 Y10S977/775 Y10S977/938 Y10S977/957 B82Y10/00 G11C11/21 H01L2924/01004 H01L2924/01013 H01L2924/01024 H01L2924/01025 G01N33/0034 G01N27/122 H01L45/16 G01N27/128 G01N27/4146

European: B82Y10/00 B82Y20/00 B82Y30/00 D06M16/00 D06M23/08 G11B9/14 G11C11/54 G11C13/00R5B G11C13/00R5C G11C13/00R5C4 G11C13/02 G11C13/02N G11C13/04 G11C23/00 H01L23/495C2 H01L24/45 H01L24/48 H01L27/146A2 H01L27/146V H01L27/148A H01L51/42D2B H01L51/50E H01Q21/00F1 L82T201/01T S11C13/04 S11C213/17 S11C213/79 S11C23/00 T01L224/05624 T01L224/45015 T01L224/45139 T01L224/45144 T01L224/45164 T01L224/45169 T01L224/45173 T01L224/45178 T01L224/48599 T01L27/148A T01L27/32M4 T01L51/42H T01L924/01003 T01L924/01004 T01L924/01005 T01L924/01006 T01L924/01007 T01L924/01011 T01L924/01012 T01L924/01013 T01L924/01014 T01L924/01015 T01L924/01016 T01L924/01020 T01L924/01022 T01L924/01025 T01L924/01027 T01L924/01028 T01L924/01029 T01L924/01030 T01L924/01031 T01L924/01038 T01L924/01040 T01L924/01042 T01L924/01046 T01L924/01047 T01L924/01050 T01L924/01051 T01L924/01056 T01L924/01058 T01L924/01063 T01L924/01073 T01L924/01074 T01L924/01075 T01L924/01077 T01L924/01078 T01L924/01079 T01L924/01083 T01L924/01105 T01L924/01327 T01L924/10253 T01L924/10272 T01L924/10329 T01L924/10335 T01L924/13091 T01L924/14000 T01L924/14330 T01L924/19041 T01L924/19042 T01L924/19043 T01L924/30105 T01L924/30107 T01L924/30110 T01L924/30250 Y02E10/50 **US:** 1/1 136/252 136/254 136/254S 250/200 250/200S 257/109 257/14 257/14P 257/2 257/202 257/202S 257/204 257/211 257/213 257/2S 257/315 257/4 257/5 257/5P 257/5S 257/666 257/672 257/677 257/678 257/680 257/680P 257/712 257/735 257/735P 257/784 257/784S 257/9 257/98 257/9P 257/E21.505 257/E23.025 257/E23.025S 257/E23.033 257/E23.033S 257/E23.074 257/E23.09 257/E23.165 257/E23.004 257/E27.004S 257/E27.131 257/E27.131S 257/E27.151

PatBase - US2005218397_AA

Patent Application Publication Oct. 6, 2005 Sheet 1 of 10 US 2005/0218397 A1

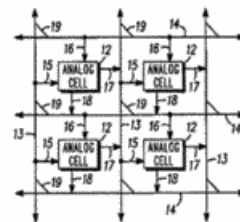


FIG. 1

257/E27.151S 257/E29.001 257/E29.001S 257/E29.168 257/E29.168S 257/E45.001 257/E45.001S 257/E45.002 257/E45.002S 340/540 360/324.1 360/324.100P 365/148 365/148P 365/151 365/151P 365/189.05 365/189.050P 365/215 365/215S 385/14 385/14S 398/201 398/201S 398/214 398/214S 428/305.5 428/306.6 428/307.7 438/122 438/128 438/128S 438/777 506/13 600/382 600/388 8/115.51 8/115.510P 8/115.6 977/724 977/724S 977/734 977/734S 977/901 977/901S 977/932 977/932S 977/943 977/943S G9B/009.001 G9B/9.001 G9B/9.001S

Family:

Publication number	Publication date	Application number	Application date
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Priority:

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Probable Assignee: AVAILABLEIP COM

Assignee(s): (std): AVAILABLE FOR LICENSING ; AVAILABLEIP COM ; TRAN BAO ; TRAN BAO Q

Assignee(s): AVAILABLEIPCOM ; RONDEVOO TECHNOLOGIES LLC

Inventor(s): (std): TRAN BAO ; TRAN BAO Q

Agent(s): AVAILABLE FOR LICENSING INC; TRAN AND ASSOCIATES; BAO Q TRAN; TRAN ASSOCIATES

38) Family number: 28200574 (US2002050287A)

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Title: PROTECTIVE SHEET FOR SOLAR BATTERY MODULE, METHOD OF FABRICATING THE SAME AND SOLAR BATTERY MODULE

Abstract: A protective sheet for a solar battery module comprises a weather-resistant sheet (1) of, for example, a fluorocarbon resin, and a deposited inorganic oxide thin film (2) formed on one of the surfaces of the weather-resistant sheet (1). A surface-treated layer (3) is formed in the weather-resistant sheet (1) to enhance adhesion between the weather-resistant sheet (1) and the deposited inorganic oxide thin film (2).

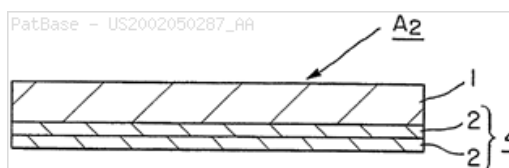
Classifications:

International (IPC 8-9): B32B17/00 B32B27/00 B32B27/30 B32B9/00 C08J7/06 H01L21/205 H01L25/00 H01L31/00 H01L31/0216 H01L31/04 H01L31/042 H01L31/048 H01M14/00 (Advanced/Invention); B32B27/00 B32B27/30 B32B9/00 H01M14/00 (Advanced/Non-invention); B32B27/00 B32B27/30 B32B9/00 C08J7/00 H01L21/02 H01L31/0216 H01L31/04 H01L31/042 H01L31/048 H01M14/00 (Core/Invention); B32B27/00 B32B27/30 B32B9/00 H01M14/00 (Core/Non-invention)

International (IPC 1-7): B32B27/00 B32B27/30 B32B9/00 C08J7/06 H01L21/205 H01L25/00 H01L31/00 H01L31/0216 H01L31/04 H01L31/042 H01L31/048 H01M14/00

CPC: Y10T428/26 Y10T428/265 Y10T428/269 B32B17/10 B32B17/1077 B32B17/10788 B32B37/1284 B32B38/0008 B32B38/06 B32B2037/246 B32B2307/71 B32B2309/105 B32B2309/14 B32B2367/00 B32B2457/12 Y10T428/31525 Y10T428/3154 Y10T428/31612 Y10T428/31645 Y10T428/31663 Y10T428/31667 B32B17/10633 B32B17/10678 H01L31/049 Y02E10/50 H01L31/02167

European: B32B17/10 B32B17/10G30 B32B17/10G36 B32B38/00B H01L31/0216B3 H01L31/048 L32B307/710 L32B309/10C



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US: 136/244 136/244S 136/251 136/251S 136/256 136/256S 427/74 427/74S 428/332 428/332S 428/336 428/336S 428/339
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 438/66 438/66P

Family:

Publication number	Publication date	Application number	Application date
EP1054456 A2	20001122	EP19990125952	19991227
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JP2000188412 A2	20000704	JP19990136110	19990517
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JP2000332277 A2	20001130	JP19990135888	19990517
JP2001007368 A2	20010112	JP19990179533	19990625
JP2001036126 A2	20010209	JP19990230611	19990817
JP4478250 B2	20100609	JP19990230611	19990817
JP4757364 B2	20110824	JP19990136110	19990517
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US2004229394 AA	20041118	US20040872728	20040622
US6335479 BA	20020101	US19990418193	19991013
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Priority:

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Probable Assignee: DAINIPPON PRINTING CO LTD

Assignee(s): (std): DAINIPPON PRINTING CO LTD

Assignee(s): DAI NIPPON PRINTING CO ; DAI NIPPON PRINTING CO LTD

Inventor(s): (std): ARAO EIKI ; OKAWA KOJIRO ; TAKAZAWA KAZUYUKI ; TSUZUKI ATSURO ; YAMADA YASUSHI ;
 YAMAMOTO HIROSHI ; YAMADA HIROSHI ; TSUZUKI ATSURO ; TAKASAWA KAZUYUKI ; SUZUURA
 YASUKI ; OKAWA KOUJIRO ; KONNO KATSUTOSHI ; GOTO TAKAKAZU ; ARAO HIDEKI

Agent(s): OLIFF AND BERRIDGE PLC

Designated states: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

39) Family number: 32280609 (US2008241262A)

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Title: NANOSHELLS AND DISCRETE POLYMER-COATED NANOSHELLS, METHODS FOR MAKING AND USING SAME

Abstract: Nano-structures are disclosed that are ideally suited for microelectronics, medical treatment, drug-delivery systems, targeted thermal absorption media, or other similar applications, where the nano-particles include metal oxide nano-particles and metallic nano-particles including a metallic nano-shell or metallic nano-rods deposited on the surface of the nano-particles or nano-shell nano-particles including metallic nano-rods deposited on the surface of the nano-particles and where the nano-structures have a plasmon resonance. For in vivo medical applications, the plasmon resonance is tuned to a tissue-transparent frequency range. Hydrogel-coated nanostructures are also disclosed, which are capable of transitioning between a non-collapsed hydrogel and a collapsed hydrogel via thermal activation induced by electromagnetic irradiation.

Classifications:

International (ipc 8-9): A61K41/00 A61K9/00 A61K9/14 A61P35/00 B01J13/02 B22F1/00 B22F1/02 B32B5/16

G01N21/55 (Advanced/Invention);

A61K9/51 (Advanced/Non-invention);

A61K41/00 A61K9/00 A61K9/14 A61P35/00 B01J13/02 B22F1/00

B22F1/02 B32B5/16 G01N21/55 (Core/Invention);

A61K9/51 (Core/Non-invention)

International (ipc 1-7): A61K41/00 A61K9/00 B01J13/02 B22F1/00

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CPC: A61K9/0009 A61K9/5115 A61K9/5138 B22F1/0018 B22F1/025

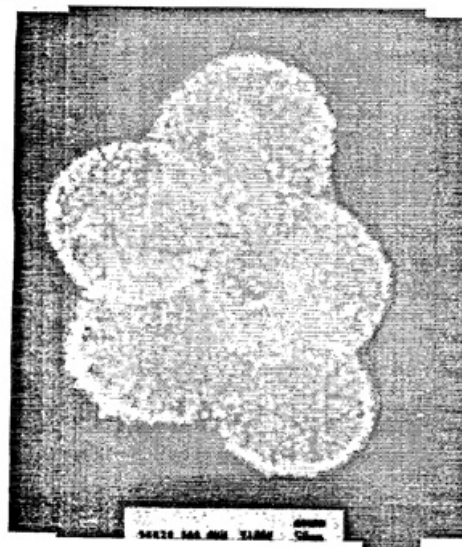
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European: A61K9/00L8 A61K9/51H6B B22F1/00A2B4 B22F1/02B

B82Y30/00 K61K9/51H2 L22F998/00

US: 424/490 424/490P 428/403 428/403S 428/407 428/407S

PatBase - US2008241262_AA



Family:

Publication number	Publication date	Application number	Application date
US2008241262 AA	20081002	US20050594708	20050329
WO05092286 A2	20051006	WO2005US10528	20050329
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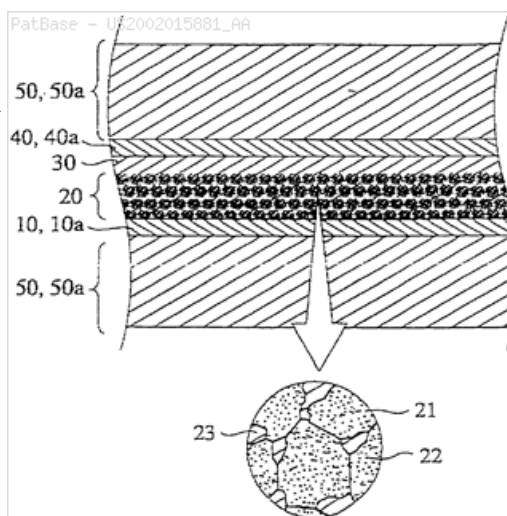
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Probable Assignee: UNIV HOUSTON SYSTEM**Assignee(s):** (std): KIM JUN HYUN ; LEE T RANDALL ; UNIV HOUSTON SYSTEM**Assignee(s):** HOUSTON SYSTEM UNIV ; OF HOUSTON SYSTEM UNIV ; THE UNIVERSITY OF HOUSTON SYSTEM ; LEE T**Inventor(s):** (std): KIM JUN HYUN ; LEE T RANDALL**Inventor(s):** LEE T**Agent(s):** ROBERT W STROZIER PLLC**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**40) Family number: 28173610 (US2002015881A)**

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Title: Photoelectric conversion device and photo cell**Abstract:** A photoelectric conversion device comprising a particulate semiconductor layer, wherein the particulate semiconductor layer is prepared by a method comprising a step of irradiating semiconductor particles with electromagnetic wave or a step of heating semiconductor particles at a temperature of 50 degrees centigrade or higher and lower than 350 degrees centigrade under a pressure of 0.05 MPa or lower.**Classifications:****International (IPC 8-9):** H01G9/20 H01L31/04
H01M14/00 (Advanced/Invention)**International (IPC 1-7):** H01L25/00 H01L31/04 H01M14/00 H01M6/30**CPC:** H01G9/2009 H01G9/2031 H01M14/005 Y02E10/542 Y02P70/521**European:** H01G9/20B2 H01G9/20D2 H01M14/00B Y02E10/50
Y02E10/54D**US:** 136/250 429/111 429/111P 438/63 438/63S**Family:**

Publication number	Publication date	Application number	Application date
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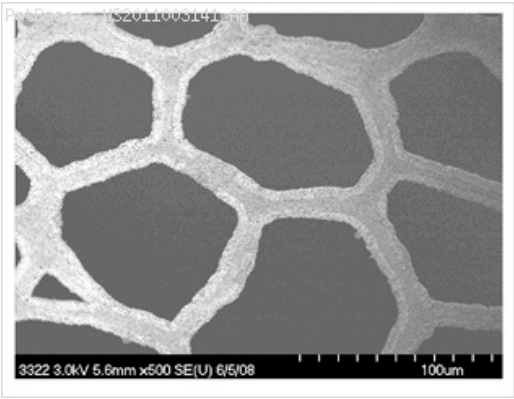
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Probable Assignee: FUJIFILM HOLDINGS CORP**Assignee(s):** (std): FUJIFILM CORP ; FUJI PHOTO FILM CO LTD ; TADAKUMA YOSHIO**Assignee(s):** FUJI PHOTO FILM CO ; FUJIFILM HOLDINGS CORP ; KAGAWA YOSHIKATSU ; NAKAMURA YOSHISADA**Inventor(s):** (std): KAGAWA YOSHIKATSU ; TADAKUMA YOSHIO ; NAKAMURA YOSHISADA ; KAGAWA OKIMASA**41) Family number: 43470616 (US2011003141A)**

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Title: MICROSTRUCTURED MATERIAL AND PROCESS FOR ITS MANUFACTURE**Abstract:** A micro-structured article is disclosed comprising a free-standing network of interconnected traces surrounding randomly-shaped cells wherein the interconnected traces comprise at least partially-joined nanoparticles. In a preferred embodiment, the nanoparticles comprise a conductive metal. The article is preferably formed by coating a nanoparticle-containing emulsion onto a substrate and drying the emulsion. The nanoparticles self-assemble into the network pattern which is subsequently removed from the substrate. A preferred method of removing the network from the substrate comprises the steps of electroplating the traces and subsequently exposing the traces to acid to release the network from the substrate.**Classifications:****International (IPC 8-9):** B05D1/12 B05D5/12 B22F5/10 B32B15/02
B32B3/10 B32B3/24 B32B37/12 B32B38/10 B32B5/16 B81B1/00
B81C1/00 B82B1/00 B82B3/00 C09D163/00 C09D179/00
C09D179/02 C09D181/00 C09D201/00 C09D4/02 C09D5/02
C09D5/24 C09D7/12 C09K19/00 C25D1/00 C25D15/00 C25D3/00

G02F1/1343 H01B1/02 H01B1/04 H01B1/08 H01B1/12 H01B1/20
H01B1/22 H01B1/24 H01B13/00 H01B5/14 H01J1/62 H01L31/0216
H01L31/0224 H01L31/0256 H01L31/04 H01L31/042 H01L31/18
H01L33/38 H01L33/42 H01L35/24 H01L51/44 H01L51/46 H01L51/48
H01L51/50 H05B33/02 H05B33/10 H05B33/14 H05B33/26 H05B33/28
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B05D5/12 C09D5/24 C09D7/12 C25D3/00 H01B1/02 H01B1/22
H01B5/14 H01L31/0216 H01L31/0224 H01L31/042
H05B33/02 (Advanced/Non-invention);
B05D1/12 C09K19/00 H01B1/22 H01L31/0256 (Core/Invention);
B81B1/00 B81C1/00 H01B1/08 H01B1/12 H01L31/0224 H01L31/042
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CPC: H05B33/26 B32B15/02 H01L33/38 H01L51/445 C25D1/006
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T05K1/02C4Z4 T05K201/02A2E T05K201/03C1D T05K201/09C5C Y02E10/54D
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257/E51.03 257/E51.030S 264/104 264/104S 313/509 313/509P 419/61 427/66 427/66S 428/204 428/204S 428/206
428/206S 428/328 428/328P 438/61 438/61S 977/742 977/742S 977/762 977/762S 977/773 977/773S 977/902 977/902S
977/954 977/954S



Family:

Publication number	Publication date	Application number	Application date
CN101945710 A	20110112	CN200880126893	20081219
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CN101945975 A	20110112	CN200880126897	20081219
CN101952973 A	20110119	CN200880126892	20081219
CN101952973 B	20120926	CN200880126892	20081219
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JP2011513890 T2	20110428	JP20100539894T	20081219
JP2011515003 T2	20110512	JP20100539895T	20081219
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JP5302332 B2	20131002	JP20100539501T	20081219
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KR101586506 B1	20160118	KR20107016188	20081219
KR101586619 B1	20160121	KR20157022520	20081219
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KR20100099737 A	20100913	KR20107016248	20081219
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KR20150103309 A	20150909	KR20157022520	20081219
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US2014306263 AA	20141016	US20140317098	20140627
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Priority:

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Probable Assignee: CIMA NANOTECH ISRAEL LTD

Assignee(s): (std): GARBAR ARKADY ; VEGA FERNANDO DE LA ; NIR MOIRA M ; DE LA VEGA FERNANDO ; GRANSTROM ERIC L ; MANGOLINI LORENZO ; DELA VEGA FERNANDO ; CIMA NANOTECH ISRAEL LTD ; CIMANANOTECH ISRAEL LTD ; CIMA NANO TECH ISRAEL LTD

Assignee(s): CIMA NANOTECH INC ; CIMA NANOTECH ISRAEL LTD IL ; CLEARVIEW FILMS LTD

Inventor(s): (std): VEGA FERNANDO DE LA ; NIR MOIRA M ; DE LA VEGA FERNANDO ; GRANSTROM ERIC L ; MANGOLINI LORENZO ; MOIRA NIR M ; ARKADY GARBAR ; LA VEGA FERNANDO DE ; ERIC L GRANSTROM ;

Inventor(s): LORENZO MANGOLINI ; FERNANDO DE LA VEGA ; DELA VEGA FERNANDO ; GARBAR ARKADY
GARBAR, Arkady ; DE LA VEGA, Fernando

Agent(s): VON KREISLER SELTING WERNER; VOSSIUS AND PARTNER; ONO SHINJIRO; SHAMOTO ICHIO;
KOBAYASHI YASUSHI; TOMITA HIROYUKI; CHIBA AKIO; AOKI ATSUSHI; KOGA TETSUJI; ISHIDA
TAKASHI; FISH AND RICHARDSON PC; SHUMAKER AND SIEFFERT PA; WHELAN DOROTHY P; GWIN JR
H SANDERS

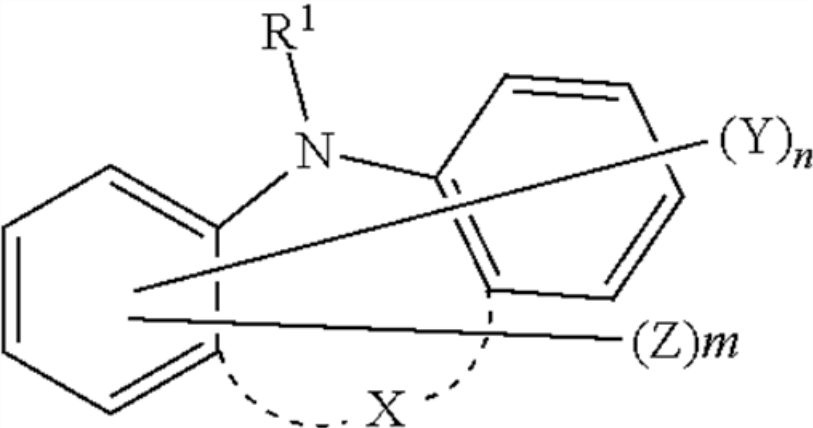
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42) Family number: 48533633 (US2011073187A) © PatBase

Title: METHOD OF PRODUCING PHOTOELECTRIC CONVERSION ELEMENT, PHOTOELECTRIC CONVERSION ELEMENT, AND PHOTOELECTROCHEMICAL CELL

Abstract: A method of producing a photoelectric conversion element, which the element contains an electrically conductive support, a photosensitive layer having porous semiconductor fine particles, a charge transfer layer; and a counter electrode; containing the steps of:

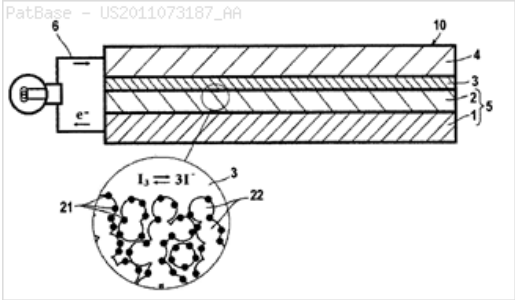
- applying a semiconductor fine particle dispersion liquid, in which the content of solids excluding semiconductor fine particles is 10 percent by mass or less based on the total amount of the dispersion liquid, on the support, to form a coating;
- heating the coating, to obtain porous semiconductor fine particles; and
- sensitizing the porous particles by adsorption of the following dye:



wherein X represents a group of non-metallic atoms necessary for forming a 7-membered ring; Y represents a dye residue; n represents an integer of 1 or more; Z represents a substituent; m represents 0 or a positive integer; and R¹ represents a hydrogen atom or a specific substituent.

Classifications:

International (IPC 8-9): B05D5/12 C09B23/00 C09B23/04
C09B23/06 H01G9/20 H01L21/00 H01L31/00 H01L31/04 H01L51/00
H01L51/44 H01L51/46 H01L51/48 H01M14/00 (Advanced/Invention);
H01L51/00 (Advanced/Non-invention)
CPC: C09B23/04 C09B23/06 H01G9/2013 H01G9/2031 H01G9/2059
H01L51/0059 H01L51/0064 H01L51/0069 H01L51/0071 Y02E10/542
European: C09B23/04 C09B23/06 H01G9/20L H01L51/00M6F
T01G9/20B4 T01G9/20D2 T01L51/00M6H12 T01L51/00M6H14
T01L51/00M6H4 Y02E10/54D
US: 136/263 257/E51.041 257/E51.041S 427/74 438/82 438/82S



Family:

Publication number	Publication date	Application number	Application date
DE602010014143 D1	20140424	DE201060014143T	20100923
EP2306479 A2	20110406	EP20100178694	20100923
EP2306479 A3	20120229	EP20100178694	20100923
EP2306479 B1	20140312	EP20100178694	20100923
JP2011071069 A2	20110407	JP20090223449	20090928
JP5620081 B2	20141105	JP20090223449	20090928
US2011073187 AA	20110331	US20100889928	20100924
US8647708 BB	20140211	US20100889928	20100924

Priority:

JP20090223449 20090928 EP20100178694 20100923

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std): FUJIFILM CORP ; FUJIFILM HOLDINGS CORP ; KIMURA KEIZO ; KOBAYASHI KATSUMI ; SATOU HIROTAKA

Inventor(s): (std): KOBAYASHI KATSUMI ; KIMURA KEIZO ; SATOU HIROTAKA ; KOBAYASHI KATSU ; SATO MUNEYOSHI

Agent(s): HOFFMANN EITL PATENT U RECHTSANWALTE PARTMBB; HOFFMANN EITL; YOUNG AND THOMPSON

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR

Title: NANO STRUCTURES, DEVICE USING THE SAME, AND METHOD FOR FABRICATING THE NANO STRUCTURES

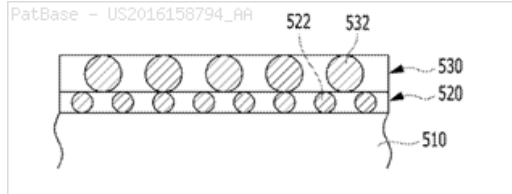
Abstract: Provided are a method for fabricating nano structures which includes: preparing a substrate; preparing a polymer including a plurality of metal atoms; applying the polymer to the substrate to attach the metal atoms onto the substrate; and making one or more metallic nano particles from the metal atoms.

Classifications:

International (IPC 8-9): B05D1/00 B05D1/18 B05D1/36 B05D3/00 B22F1/00 B32B15/04 B82B1/00 B82B3/00 C07F7/02 C08F292/00 C08G77/50 C08J3/02 C08K3/10 C08K3/16 C08K3/20 C08K3/22 C08K3/28 C08K5/32 C08K5/54 C08L83/02 C09D1/00 G11C11/401 G11C16/04 H01L21/02 H01L29/06 (Advanced/Invention); B82Y30/00 B82Y40/00 G11C13/00 H01L21/28 (Advanced/Non-invention)

CPC: Y10S977/892 B82Y40/00 C08K3/16 C08K3/28 C08K3/20 C08K2003/2206 C08G77/58 B82B3/00 B82B3/0004 B82B3/0009 B82B1/008 B32B15/04 B82B1/002 H01L29/0665 H01L21/02601 C08F292/00 C08J3/02 C08K3/22 B22F1/0018 C08K5/54 B22F1/0022 B22F1/0074 C08K3/10 B22F1/0062 B22F2999/00 B82Y10/00 H01L29/1033 H01L29/127 H01L29/42364 H01L29/7613 H01L29/78 C22C5/00 B22F9/24 C09D1/00 C07F7/025 B05D1/18 B05D1/005 Y10S977/773 Y10S977/81 Y10S977/896 B82Y30/00 C23C18/14 C23C18/44 C23C18/08 G11C16/0466 G11C11/401 G11C13/0016 G11C2213/80 H01L21/28273

US: 106/1.23 427/241 427/331 524/236 524/300 524/361 524/376 524/379 524/401 524/424 524/428 524/436 528/30 977/892



Family:

Publication number	Publication date	Application number	Application date
KR20160066901 A	20160613	KR20140172290	20141203
KR20160066902 A	20160613	KR20140172291	20141203
KR20160077649 A	20160704	KR20140187801	20141224
KR20160077651 A	20160704	KR20140187804	20141224
KR20160139319 A	20161207	KR20150073963	20150527
KR20160139351 A	20161207	KR20150074007	20150527
KR20160146333 A	20161221	KR20150083451	20150612
KR20160146334 A	20161221	KR20150083452	20150612
US2016158794 AA	20160609	US20150958301	20151203
US2016159988 AA	20160609	US20150958366	20151203
US2017335113 AA	20171123	US20170666007	20170801
US10269428 BB	20190423	US20150958301	20151203

Priority:

KR20140172290 20141203 KR20140172291 20141203 KR20140187801 20141224
 KR20140187804 20141224 KR20150073963 20150527 KR20150074007 20150527
 KR20150083451 20150612 KR20150083452 20150612 US20150958366 20151203
 US20170666007 20170801

Probable Assignee: SK INNOVATION CO LTD

Assignee(s): (std): SK INNOVATION CO LTD

Assignee(s): SK INNOVATION CO

Inventor(s): (std): KIM JUN HYUNG

Agent(s): IP AND T GROUP LLP

Title: PHOTOELECTRIC CONVERSION ELEMENT AND DYE-SENSITIZED SOLAR CELL

Abstract: A photoelectric conversion element comprising: a substrate; a first electrode; a photoelectric conversion layer comprising a semiconductor layer containing a dye and a semiconductor and a charge transport layer; and a second electrode, in this order, wherein the photoelectric conversion layer comprises a compound represented by Formula (1), wherein R1 and R2 each represent a hydrogen atom or an alkyl group which may have a substituent, X, Y and Z each represent a hydrogen atom or a substituent, wherein at least one of X, Y and Z is an electron withdrawing group.

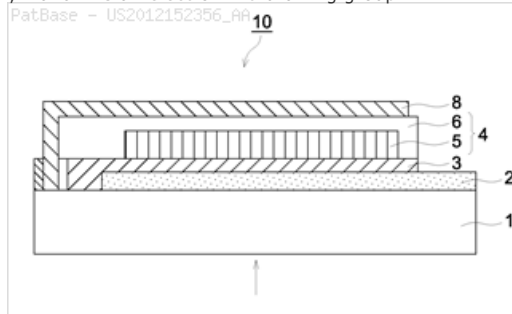
Classifications:

International (IPC 8-9): H01G9/20 H01L31/0216 H01L31/0256 H01L31/04 H01L51/44 H01M14/00 (Advanced/Invention); C09B23/00 C09B57/10 (Advanced/Non-invention)

CPC: H01G9/2059 H01G9/2031 Y02E10/542

European: H01G9/20L T01G9/20D2

US: 1/1 136/263



Family:

Publication number	Publication date	Application number	Application date
JP2012133962 A2	20120712	JP20100284220	20101221
JP5614272 B2	20141029	JP20100284220	20101221
US2012152356 AA	20120621	US20110315505	20111209
US9202636 BB	20151201	US20110315505	20111209

Priority:

JP20100284220 20101221

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Agent(s): LUCAS AND MERCANTI LLP

Title: Dye sensitized photoelectrochemical cell

Abstract: The present invention provides a semiconductor for photoelectric conversion which exhibits a high open circuit voltage, as well as a photoelectric converting device which is excellent in photoelectric conversion characteristics and a photocell. In the semiconductor for photoelectric conversion, a compound is bonded at least to a surface of a semiconductor, and a dye is fixed to the compound bonded to the semiconductor through an interaction between an acidic group or an anionic group, formed by removing a proton from an acidic group, and a basic group and/or a group having a cationic group. The photoelectric converting device and the photocell include the semiconductor for photoelectric conversion.

Classifications:

International (IPC 8-9): D06P1/36 H01G9/20 H01L31/04

H01M14/00 (Advanced/Invention);

H01L51/00 H01L51/30 (Advanced/Non-invention);

D06P1/00 H01L31/04 H01M14/00 (Core/Invention)

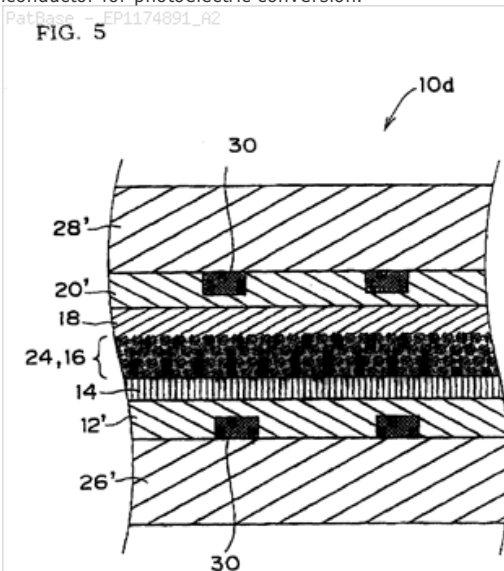
International (IPC 1-7): D06P1/36 H01G9/20 H01L31/04 H01M14/00

CPC: Y02E10/542 H01G9/2013 H01G9/2031 H01G9/2059

H01L51/0077 H01L51/0078 H01L51/0086

European: H01L51/00M12F4 T01G9/20B4 T01G9/20D2 T01G9/20L

T01L51/00M12 T01L51/00M12B T01L51/30M Y02E10/54D



Family:

Publication number	Publication date	Application number	Application date
EP1174891 A2	20020123	EP20010117297	20010717
EP1174891 A3	20040225	EP20010117297	20010717
JP2002042907 A2	20020208	JP20000218660	20000719
JP2002042908 A2	20020208	JP20000220470	20000721
JP4937438 B2	20120523	JP20000218660	20000719
JP5036094 B2	20120926	JP20000220470	20000721

Priority:

JP20000218660 20000719 JP20000220470 20000721

Probable Assignee: FUJI PHOTO FILM CO LTD

Assignee(s): (std): FUJI PHOTO FILM CO LTD

Assignee(s): FUJI PHOTO FILM CO

Inventor(s): (std): WARIISHI KOJI ; WATANABE TETSUYA

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

Title: NON-VOLATILE MEMORY DEVICE INCLUDING FLEXIBLE NANO FLOATING GATE AND METHOD FOR FABRICATING THE SAME

Abstract: A non-volatile memory device includes a floating gate for charging and discharging of charges over a flexible substrate. The floating gate includes a linker layer formed over the substrate and including a plurality of linkers to a plurality of metal ions and a plurality of metallic nanoparticles formed out of the metal ions over the linker layer.

Classifications:

International (IPC 8-9): B32B5/08 B32B7/10 H01L21/02 H01L21/28

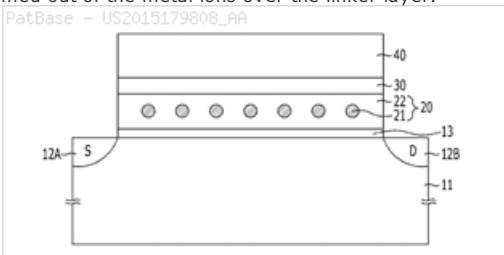
H01L21/8247 H01L27/115 H01L29/423 H01L29/49 H01L29/66

H01L29/788 (Advanced/Invention)

CPC: H01L21/28273 H01L29/66825 H01L27/11541 H01L29/42332

B82Y30/00 H01L29/7881

US: 257/321 438/594



Family:

Publication number	Publication date	Application number	Application date

CN104733465 A	20150624	CN201410805919	20141219
KR20150072280 A	20150629	KR20130159738	20131219
TW201535615 A	20150916	TW20140140008	20141119
US2015179808 AA	20150625	US20140554977	20141126

Priority:

KR20130159738 20131219

Probable Assignee:

SK INNOVATION CO LTD

Assignee(s): (std):

SK INNOVATION CO LTD

Assignee(s):

SK INNOVATION CO

Inventor(s): (std):

KIM JUN HYUNG

47) Family number: 59572700 (US2015179807A)

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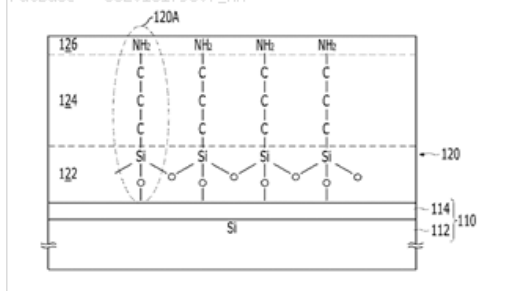
Title: NON-VOLATILE MEMORY DEVICE INCLUDING NANO FLOATING GATE AND METHOD FOR FABRICATING THE SAME

Abstract: A non-volatile memory device includes a floating gate for charging and discharging of charges over a substrate. The floating gate comprises a linker layer formed over the substrate and including linkers to be bonded to metal ions and metallic nanoparticles formed out of the metal ions over the linker layer.

Classifications:

International (IPC 8-9): B32B3/00 C09C3/06 H01L21/28 H01L21/336 H01L21/8247 H01L27/115 H01L27/11521 H01L29/423 H01L29/49 H01L29/51 H01L29/66 H01L29/788 H01L51/05 (Advanced/Invention)
CPC: H01L21/28273 H01L29/66825 H01L27/11541 H01L51/0529 H01L51/0533 H01L51/0537 H01L51/0591 H01L29/7883 H01L29/518 H01L27/11521 H01L51/055 H01L29/42332 H01L29/4966
US: 1/1 257/321 438/594

PatBase - US2015179807_AA



Family:

Publication number	Publication date	Application number	Application date
CN104733467 A	20150624	CN201410806527	20141219
EP2889896 A1	20150701	EP20140197878	20141215
KR20150072278 A	20150629	KR20130159736	20131219
TW201532202 A	20150816	TW20140140009	20141119
US2015179807 AA	20150625	US20140554937	20141126
US2016343816 AA	20161124	US20160228943	20160804
US9437703 BB	20160906	US20140554937	20141126
US10038068 BB	20180731	US20160228943	20160804

Priority:

KR20130159736 20131219

US20140554937 20141126

US20160228943 20160804

Probable Assignee: SK INNOVATION CO LTD

Assignee(s): (std): SK INNOVATION CO LTD

Assignee(s): SK INNOVATION CO

Inventor(s): (std): KIM JUN HYUNG

Agent(s): BREVLEX; IP AND T GROUP LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

48) Family number: 28211733 (EP1293997A2)

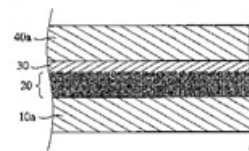
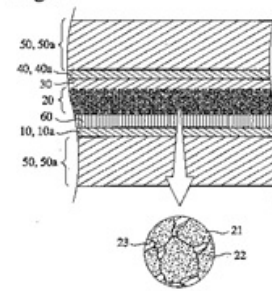
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Title: IMIDAZOLIUM COMPOUNDS AND ELECTROLYTIC COMPOSITION FOR A DYE SENSITIZED SOLAR CELL

Abstract: An electrolytic composition having an electrolyte salt represented by the following general formula (I): $Q^+ \cdot X^-$ (Q 1) $n_1 \cdot (X) n_2$ $f_1 f_2 f_3 f_4 f_5 f_6 f_7 f_8 f_9 f_{10}$ (I), wherein Q 1 represents a cation, X represents an anion having a silicon atom, and each of n 1 and n 2 represents an integer of 1 to 3. A photoelectric conversion device and a photo-electrochemical cell comprise the electrolytic composition.

Classifications:

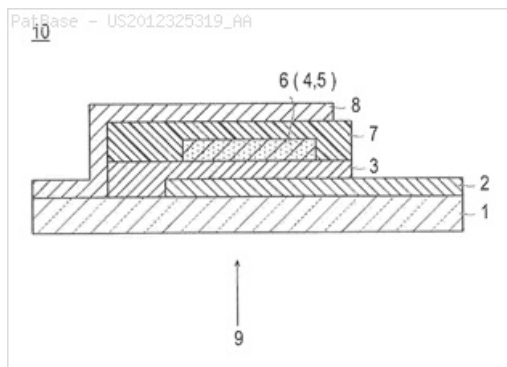
International (IPC 8-9): C07D213/20 C07D231/12 C07F7/08 C07F7/10 C07F9/44 H01B1/06 H01B1/12 H01G9/20 H01L31/04 H01M14/00 H01M6/16 (Advanced/Invention); C07F7/08 H01M4/02 H01M6/16 (Advanced/Non-invention); C07D213/00 C07D231/00 C07F7/00 C07F9/00 H01B1/06 H01B1/12 H01G9/20 H01L31/04 H01M14/00 H01M6/16 (Core/Invention); C07F7/00 H01M4/02 H01M6/16 (Core/Non-invention)
International (IPC 1-7): C07F7/10 C07F9/44 H01B1/06 H01B1/12 H01G9/20 H01L31/04 H01M14/00
CPC: C07F7/081 C07D213/20 C07D231/12 C07F7/0812 H01G9/2009 H01G9/2013 H01G9/2031 H01G9/2059 H01M14/005 H01M2004/021 H01M2300/0025 H01M2300/0085 Y02E10/542
European: C07D213/20 C07D231/12 C07F7/08C6B C07F7/08C6D H01G9/20B2 H01M14/00B T01G9/20B4 T01G9/20D2 T01G9/20L T01M300/00B4 T01M300/00G T01M4/02C Y02E10/54D



Publication number	Publication date	Application number	Application date
AT397279 E	20080615	AT20020019739T	20020903
DE60226822 D1	20080710	DE20026026822	20020903
EP1293997 A2	20030319	EP20020019739	20020903
EP1293997 A3	20060607	EP20020019739	20020903
EP1293997 B1	20080528	EP20020019739	20020903
JP2003092153 A2	20030328	JP20010283172	20010918

Designated states: AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

Publication number	Publication date	Application number	Application date
CN104724667 A	20150624	CN201410370503	20140730
CN104729997 A	20150624	CN201410804507	20141219
DE602014027228 D1	20180712	DE201460027228T	20140711
EP2886203 A1	20150624	EP20140176658	20140711
EP2886203 B1	20180620	EP20140176658	20140711
EP2886204 A1	20150624	EP20140197874	20141215
EP2886204 B1	20190424	EP20140197874	20141215
JP2015116808 A2	20150625	JP20140133653	20140630
KR20150072294 A	20150629	KR20130159753	20131219
KR20150072302 A	20150629	KR20130159761	20131219
KR20150072303 A	20150629	KR20130159762	20131219
KR20150072304 A	20150629	KR20130159763	20131219
TW201525178 A	20150701	TW20140121664	20140624
TW201534923 A	20150916	TW20140140011	20141119



Family:

Publication number	Publication date	Application number	Application date
JP2013030466 A2	20130207	JP20120133774	20120613
JP5900175 B2	20160406	JP20120133774	20120613
US2012325319 AA	20121227	US20120494209	20120612

Priority:

JP20110139792 20110623 JP20120133774 20120613

Probable Assignee: KONICA MINOLTA HOLDINGS INC

Assignee(s): (std): ISOBE KAZUYA ; KONICA MINOLTA BUSINESS TECH ; NISHIMURA KAZUKUNI ; ONAKA KENICHI

Assignee(s): KONICA MINOLTA BUSINESS TECHNOLOGIES INC ; KONICA MINOLTA HOLDINGS INC ; KONICA MINOLTA INC

Inventor(s): (std): ISOBE KAZUYA ; NISHIMURA KAZUKUNI ; ONAKA KENICHI

52) Family number: 57267781 (WO14129575A1)

PatBase

Title: PHOTOELECTRIC CONVERSION ELEMENT, METHOD FOR MANUFACTURING PHOTOELECTRIC CONVERSION ELEMENT AND DYE-SENSITIZED SOLAR CELL

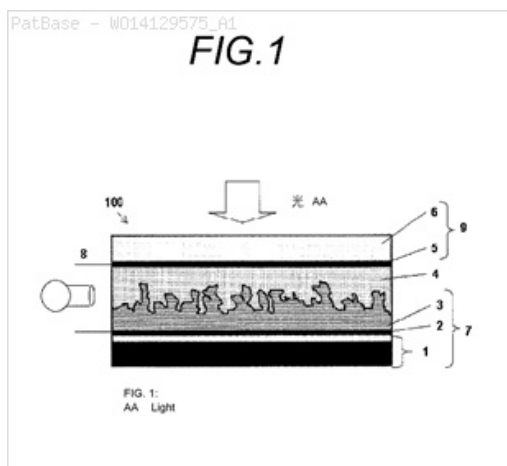
Abstract: This photoelectric conversion element has a laminate structure, which comprises a first electrode, a photosensitive body having a porous semiconductor fine particle layer to which a dye is adsorbed, a charge transfer body and a counter electrode, on an insulating layer of a substrate that is composed of at least an aluminum layer and the insulating layer which has a porous structure and is obtained by anodizing at least one surface of the aluminum layer. The insulating layer has a strain in the compression direction at 23 degrees centigrade This method for manufacturing a photoelectric conversion element comprises: a step for forming an insulating layer having a strain in the compression direction at 23 degrees centigrade by anodizing at least one surface of an aluminum material; and a step for providing a laminate structure, which comprises a first electrode, a photosensitive body having a porous semiconductor fine particle layer to which a dye is adsorbed, a charge transfer body and a counter electrode, on the insulating layer. This dye-sensitized solar cell is provided with the photoelectric conversion element.

Classifications:

International (IPC 8-9): H01G9/20 H01L31/04

H01M14/00 (Advanced/Invention)

CPC: Y02E10/542 H01G9/2027 H01G9/2059 Y02P70/521



Family:

Publication number	Publication date	Application number	Application date
EP2960980 A1	20151230	EP20140753984	20140221
EP2960980 A4	20160309	EP20140753984	20140221
JP2014164846 A2	20140908	JP20130032945	20130222
JP5972811 B2	20160817	JP20130032945	20130222
WO14129575 A1	20140828	WO2014JP54128	20140221

Priority:

JP20130032945 20130222 WO2014JP54128 20140221

Probable Assignee: FUJIFILM HOLDINGS CORP

Assignee(s): (std): FUJIFILM CORP ; FUJIFILM HOLDINGS CORP

Inventor(s): (std): KAITO RYOZO ; KOBAYASHI KATSUMI ; YUUYA SHIGENORI ; YUYA SHIGENORI ; KOBAYASHI MASARU ; KAKIUCHI RYOZO

Agent(s): HOFFMANN EITL; IIDA TOSHIZO; ODAHARA SHUICHI 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 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 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

53) Family number: 58802805 (US2017033258A)

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Title: METHOD FOR MANUFACTURING LIGHT ABSORPTION LAYER OF THIN FILM SOLAR CELL AND THIN FILM SOLAR CELL USING THE SAME

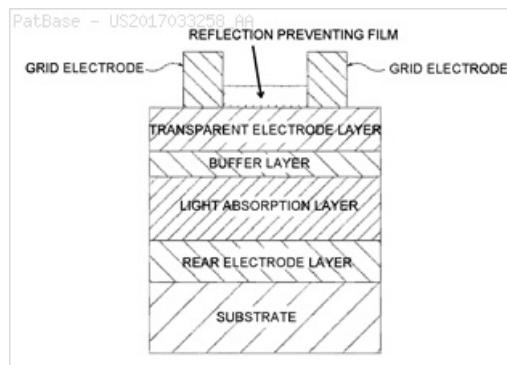
Abstract: A method for manufacturing a light absorption layer of a thin film solar cell includes: manufacturing a Ib group element-Via group element binary system nano particle; manufacturing a binary system nano particle slurry of the Ib group element-Via group element by adding a solution precursor including a solvent, binder and Va group element to the Ib group element-Via group element binary system nano particle; distributing and mixing the binary system nano particle slurry of the Ib group element-Via group element; coating the binary system nano particle slurry of the Ib group element-Via group element on the rear electrode layer; and performing a heat treatment process on the coated nano particle slurry by supplying the Via group element.

Classifications:

International (IPC 8-9): H01L31/032 H01L31/04 H01L31/054
H01L31/0749 H01L31/18 H01L31/20 (Advanced/Invention)

CPC: H01L31/208 H01L31/04 H01L31/032 Y02E10/52

US: 136/256



Family:

Publication number	Publication date	Application number	Application date
CN106233470 A	20161214	CN201480078016	20141218
KR101503043 B1	20150325	KR20140044484	20140414
US2017033258 AA	20170202	US20140782773	20141218
US10096739 BB	20181009	US20140782773	20141218
WO15160069 A1	20151022	WO2014KR12549	20141218

Priority:

KR20140044484 20140414 WO2014KR12549 20141218

Probable Assignee: KOREA INST OF ENERGY RESEARCH

Assignee(s): (std): KOREA ENERGY RES INST ; KOREA ENERGY RESEARCH INST ; KOREA INST ENERGY RES

Assignee(s): KOREA INST OF ENERGY RESEARCH ; KOREA INSTITUTE OF ENERGY RESEARCH

Inventor(s): (std): AHN SEOUNG KYU ; CHO ARA ; CHO JUN SIK ; EO YOUNG JOO ; GWAK JIHYE ; KIM KIHWAN ; PARK JOO HYUNG ; SHIN KEE SHIK ; YOON KYUNG HOON ; YUN JAE HO ; YOUN KYEONG HOON ; YOUN JAE HO ; YOU JIN SU ; U YEONG JOO ; SHIN KI SHIK ; PARK JU HYEONG ; KWAK JI HYE ; KIM KI HWAN ; JO JOON SHIK ; JO A RA ; AHN SEUN KYU ; AHN SE JIN

Agent(s): KNOBBE MARTENS OLSON AND BEAR LLP; HAN SANG SOO

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 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

54) Family number: 50115809 (US2013098438A)

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Title: TRANSLUCENT LAMINATED FILM AND SOLAR CELL MODULE USING IT

Abstract: To provide a translucent substrate which sufficiently improves the power generation efficiency of a solar cell, and a solar cell module. A translucent laminated film to be provided on the light receiving surface side of a photoelectric conversion layer, which comprises, in order from the light receiving surface side of the photoelectric conversion layer, a translucent substrate which protects the photoelectric conversion layer, a substrate front side wavelength conversion film having a wavelength conversion function to convert a light in a wavelength region in which the photoelectric conversion efficiency is low, which includes a light in a wavelength region in which the transmittance through at least the translucent substrate is low, into a light in a wavelength region in which the photoelectric conversion efficiency is high, and an antireflection film which reduces reflection of the received light.

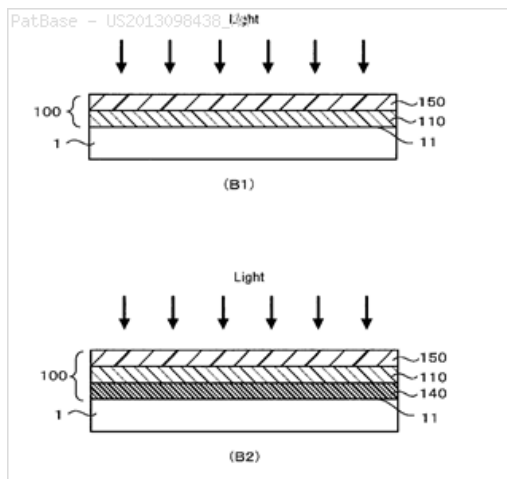
Classifications:

International (IPC 8-9): B32B7/02 H01L31/0203 H01L31/0232
H01L31/04 H01L31/042 H01L31/052 (Advanced/Invention)

CPC: H01L31/0203 H01L31/055 H01L31/02168 Y02E10/52
C09K11/02 C09K11/025 C09K11/54 C09K11/565 C09K11/574
C09K11/7794 C09K11/883 H01L31/0481

European: H01L31/048 H01L31/055 Y02E10/50

US: 136/256 257/432



Family:

Publication number	Publication date	Application number	Application date
CN102939663 A	20130220	CN201180028840	20110610
EP2581943 A1	20130417	EP20110792571	20110610
JP2011155614 A1	20130815	JP20120519442T	20110610
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US2013098438 AA	20130425	US20120710720	20121211
WO11155614 A1	20111215	WO2011JP63416	20110610

Priority:

JP20100134296 20100611 WO2011JP63416 20110610

Probable Assignee: ASAHI GLASS CO LTD

Assignee(s): (std): ASAHI GLASS CO LTD ; KAWAI YOHEI ; YONEDA TAKASHIGE

Assignee(s): ASAHI GLASS CO ; N A ; ASAHI GLASS COMPANY LIMITED

Inventor(s): (std): YONEDA TAKASHIGE ; KAWAI YOHEI

Agent(s): EHLICH HENDRIK; SENMYO KENJI 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 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

55) Family number: 66524815 (US2019031586A)

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Title: ORGANIC COMPOUND, THREE-DIMENSIONAL ORGANIC FRAMEWORK FORMED BY USING ORGANIC COMPOUND, SEPARATION SIEVE AND OPTICAL LAYER, WHICH COMPRISE ORGANIC FRAMEWORK, AND OPTICAL DEVICE COMPRISING OPTICAL LAYER AS OPTICAL AMPLIFICATION LAYER

Abstract: An organic compound, a three-dimensional organic structure formed by using the organic compound, a separation sieve and an optical layer having the organic structure, and an optical device having the optical layer as an optical amplification layer are provided. The organic structure includes a plurality of organic molecules self-assembled by non-covalent bonding. Each of the unit organic molecules has an aromatic ring, a first pair of substituents being connected to immediately adjacent positions of substitutable positions of the aromatic ring, and a second pair of substituents being connected to immediately adjacent positions of remaining substitutable positions of the aromatic ring. The unit organic molecules are self-assembled by van der Waals interaction, London dispersion interaction or hydrogen bonding between the first and the second pairs of the substituents and by pi-pi interactions between the aromatic rings.

Classifications:

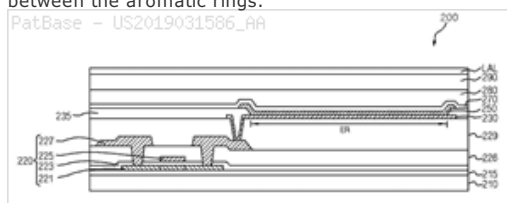
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CPC: C07C43/235 C07C13/66 C07C15/20 C07B2200/13 C07C43/20

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US: 534/556



Family:

Publication number	Publication date	Application number	Application date
KR101796859 B1	20171113	KR20160061682	20160519
KR101973261 B1	20190502	KR20170058035	20170510
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KR20170127368 A	20171121	KR20170058035	20170510
US2019031586 AA	20190131	US20170072986	20170124
WO17131406 A1	20170803	WO2017KR00803	20170124

Priority:KR20160011018 20160128
WO2017KR00803 20170124KR20160056767 20160510
KR20170058035 20170510

KR20160061682 20160519

Probable Assignee: IUCF HYU INDUSTRY UNIV COOPERATION FOUND HANYANG UNIVERSITY**Assignee(s):** (std): COOPERATION FOUNDATION HANYANG IND UNIV ; IUCF HYU INDUSTRY UNIV COOP FOUND HANYANG UNIVERSITY ; IUCF HYU INDUSTRY UNIV COOPERATION FOUND HANYANG UNIVERSITY ; UNIV COOP FOUND HANYANG UNIV IND ; UNIV COOPERATION FOUNDATION HANYANG UNIV IND**Assignee(s):** IUCF HYU INDUSTRY UNIV COOPERATION FOUNDATION HANYANG UNIVERSITY ; IUCF HYU INDUSTRY UNIVERSITY COOPERATION FOUNDATION HANYANG UNIVERSITY**Inventor(s):** (std): CHOI KYOUNGHWAN ; SUH DONGHACK ; CHOI KYOUNG HWAN ; SUH DONG HACK**Agent(s):** E SANG PATENT AND TRADEMARK LAW FIRM**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 DJ 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 KH KM KN KP KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW 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**56) Family number: 32246818 (US2005202589A)**

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Title: TECHNIQUE AND APPARATUS FOR DEPOSITING THIN LAYERS OF SEMICONDUCTORS FOR SOLAR CELL FABRICATION

Abstract: The present invention advantageously provides for, in different embodiments, low-cost deposition techniques to form high-quality, dense, well-adhering Group IBIIIAVIA compound thin films with macro-scale as well as micro-scale compositional uniformities. In one embodiment, there is provided a method of growing a Group IBIIIAVIA semiconductor layer on a base, and includes the steps of depositing on the base a film of Group IB material and at least one layer of Group IIIA material, intermixing the film of Group IB material and the at least one layer of Group IIIA material to form an intermixed layer, and forming over the intermixed layer a metallic film comprising at least one of a Group IIIA material sub-layer and a Group IB material sub-layer. Other embodiments are also described.

Classifications:

International (IPC 8-9): H01L21/36 H01L31/20 B05C11/00 B05C13/00 B05D3/02 B05D5/12 B22F7/00 B29D11/00 B44C1/22 C23C14/00 C23C14/06 C23C14/20 C23C14/24 C23C14/34 C23C14/50 C23C14/56 C23C16/00 C23C16/54 C23C6/00 C25B11/00 C25B13/00 C25B9/00 C25C1/22 C25D17/00 C25D3/00 C25D3/02 C25D3/54 C25D3/56 C25D5/10 C25D5/16 C25D7/00 F24F7/00 F26B3/28 F26B3/34 F27B9/04 F27B9/06 F27B9/20 F27B9/28 F27B9/36 H01L21/00 H01L21/06 H01L21/20 H01L21/28 H01L21/3205 H01L21/324 H01L21/363 H01L21/44 H01L21/66 H01L21/67 H01L21/677 H01L21/76 H01L21/84 H01L29/04 H01L29/06 H01L29/08 H01L29/22 H01L31/00 H01L31/0224 H01L31/024 H01L31/0264 H01L31/0272 H01L31/032 H01L31/04 H01L31/042 H01L31/18 H01L35/24 H01L51/00 (Advanced/Invention); C23C14/20 C23C14/24 C23C14/50 C23C14/56 C23C16/00 H01L21/06 H01L21/20 H01L31/04 H01L31/042 (Advanced/Non-invention); B05C11/00 B05C13/00 B05D5/12 C23C14/00 C23C14/34 C23C16/00 C25B11/00 C25B13/00 C25B9/00 C25D17/00 C25D3/02 C25D3/56 C25D5/00 C25D5/10 C25D7/00 F24F7/00 F26B3/00 F26B3/32 H01L21/00 H01L21/02 H01L21/66 H01L21/67 H01L21/70 H01L29/02 H01L31/00 H01L31/0224 H01L31/0264 H01L31/04 H01L31/042 H01L31/18 H01L35/12 H01L51/00 (Core/Invention); H01L21/324 H01L21/67 H01L31/042 H01L31/18 (Core/Non-invention)

International (IPC 1-7): H01L21/06

CPC: C23C16/305 C23C16/54 C25D3/56 C23C16/545 H01L21/0237 C23C14/3414 Y02E10/543 H01L31/072 H01L31/0725 H01L31/073 H01L21/02425 H01L21/02658 H01L31/0296 C23C14/5866 C23C14/14 H01L31/0324 H01L31/1844 Y02E10/544 Y10T29/41 H01L31/0392 C23C14/562 C23C14/0623 Y02P70/521 C25D5/10 C25D5/50 C25D7/0635 C25D17/00 C25D21/12 F27B9/045 F27B9/063 F27B9/20 F27B9/28 F27B9/36 H01L21/67109 H01L21/67126 H01L21/67706 H01L21/67721 H01L21/6776 H01L21/02568 H01L21/02614 H01L31/022425 H01L31/022466 H01L21/02491 H01L21/02628 H01L31/03925 H01L31/022483 H01L31/0322 Y02E10/541 H01L31/03928 H01L31/0749 C25D3/54 H01L31/03923 H01L31/18

European: C23C14/06D C23C14/14 C23C14/34B2 C23C14/56B C23C14/58H6 C23C16/30C C23C16/54 C23C16/54B C25D17/00 C25D21/12 C25D3/54 C25D5/10 C25D5/50 C25D7/06C6 F27B9/04D F27B9/06B1 F27B9/20 F27B9/28 F27B9/36 H01L21/02K4A1 H01L21/02K4B1L H01L21/02K4C1E H01L21/02K4E2 H01L21/02K4E3L5 H01L21/677A1 H01L21/677A6 H01L21/677B14 H01L21/67S2H4 H01L31/0224B2 H01L31/0224C H01L31/0296 H01L31/032C H01L31/032D H01L31/0392 H01L31/0392E2 H01L31/072 H01L31/0725 H01L31/073 H01L31/0749 H01L31/18 H01L31/18E2 M25D3/56 T01L21/02K4A1L T01L21/02K4B1L H01L21/02K4E3L5 T01L21/02K4T2 T01L21/67S2M T01L31/032C Y02E10/50 Y02E10/52 Y02E10/54B Y02E10/54H

US: 1/1 106/1.25 118/44 118/44S 118/500 118/67 118/67P 118/715 118/715S 118/718 118/718S 118/719 136/244 136/256 136/256S 136/262 136/262S 136/264 204/192.25 204/192.250S 204/202 204/206 204/227 205/170 205/182 205/238 205/239 205/261 205/264 216/24 216/58 216/83 216/88 257/40 257/40S 257/441 257/441P 257/614 257/614S 257/E21.001 257/E21.001S 257/E21.068 257/E21.068S 257/E21.09 257/E21.090S 257/E21.461 257/E21.461S 257/E21.462 257/E21.464 257/E21.53 257/E21.530S 257/E29.094 257/E29.094S 257/E31.001 257/E31.001S 257/E31.004 257/E31.004S 257/E31.007 257/E31.008 257/E31.008S 257/E31.016 257/E31.016S 257/E31.027 257/E31.027S 257/E31.041 257/E31.041S 257/E31.124 257/E31.124S 257/E31.126 257/E31.126S 257/E31.127 257/E31.129 29/25.01 29/25.010S 34/247 34/247S 34/259 34/259S 392/407 392/407P 427/248.1 427/255.23 427/255.26 427/255.260P 427/383.1 438/102 438/104 438/104P 438/150 438/150P 438/16 438/164 438/164S 438/166 438/166S 438/16P 438/479 438/483 438/483P 438/509 438/509S 438/51 438/57 438/604 438/604S 438/63 438/687 438/687P 438/72 438/72S 438/84 438/86 438/93 438/93P 438/95 438/95P 438/95S 454/339 454/339S

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CN100573812 C	20091223	CN200580014108	20050315
CN101027749 A	20070829	CN200580014108	20050315
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US20100816236	20100615	US20100843674	20100726	US20120602975	20120904

Probable Assignee: SOLOPOWER SYSTEMS INC

Assignee(s): (std): SOLOPOWER INC ; WANG JIAXIONG ; SERDAR AKSU ; MATUS YURIY B ; PINARBASI MUSTAFA ; NORSWORTHY GREGORY ; AKSU SERDAR ; ASHJAE JALAL ; BASOL BULENT ; BASOL BULENT M ; SOLOPOWER SYSTEMS INC ; YU YING ; ZOLLA HOWARD G

Assignee(s): SOLOPOWER INC SAN JOSE ; BRIDGE BANK NATIONAL ASSOCIATION ; DEUTSCHE BANK TRUST CO AMERICAS ; SOLOPOWER INC US ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT A ; DEUTSCHE BANK TRUST CO AMERICAS COLLATERAL AGENT AS ; SPOWER LLC

Inventor(s): (std): BASOL BULENT ; BASOL BULENT M ; ZOLLA HOWARD ; YU YING ; YING YU ; WANG JIAXIONG ; WANG JIA XIONG ; ZOLLA HOWARD G ; PINARBASI MUSTAFA ; NORSWORTHY GREGORY ; JIAXIONG WANG ; JALAL ASHJAE ; BULENT BASOL ; ASHJAE JALAL ; AKSU SERDAR ; SERDAR AKSU ; MATUS YURIY B

Inventor(s): ASHJAE, Jalal ; YU, Ying ; BASOL BULENT MANHATTAN BEACH

Agent(s): KOHLER SCHMID MOEBUS PATENTANWALTE; FLINT ADAM; FREEMAN AVI; HATT ANNA LOUISE; PILLSBURY WINTHROP SHAW PITTMAN LLP; DAVID A; JAKOPIN DAVID A ET AL; JAKOPIN DAVID J ET AL; JAKOPIN DAVID 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 LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY NZ 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 YU ZA ZM ZW

57) Family number: 31882833 (US2004084080A)

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Title: OPTOELECTRONIC DEVICE AND FABRICATION METHOD

Abstract: Charge-splitting networks, optoelectronic devices, methods for making optoelectronic devices, power generation systems utilizing such devices and method for making charge-splitting networks are disclosed. An optoelectronic device may include a porous nano-architected (e.g., surfactant-templated) film having interconnected pores that are accessible from both the underlying and overlying layers. A pore-filling material substantially fills the pores. The interconnected pores have diameters of about 1-100 nm and are distributed in a substantially uniform fashion with neighboring pores separated by a distance of about 1-100 nm. The nano-architected porous film and the pore-filling, material have complementary charge-transfer properties with respect to each other, i.e., one is an electron-acceptor and the other is a hole-acceptor. The nano-architected porous, film may be formed on a substrate by a surfactant temptation technique such as evaporation-induced self-assembly. A solar power generation system may include an array of such optoelectronic devices in the form of photovoltaic cells with one or more cells in the array having one or more porous charge-splitting networks disposed between an electron-accepting electrode and a hole-accepting electrode.

Classifications:

International (IPC 8-9): B32B17/00 B81B1/00 B82B3/00 C07C61/00 C07C63/42 C08G61/00 C08G75/12 C08L65/00 C09D5/24 G06F13/00

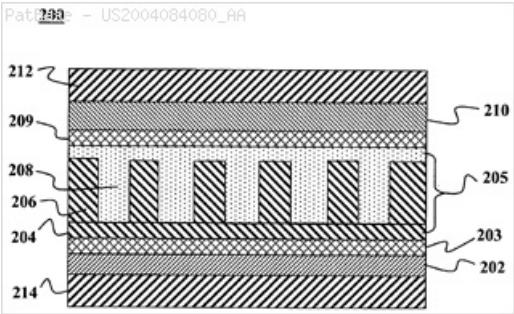
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H01L31/20 H01L35/24 H01L51/00 H01L51/30 H01L51/42 H01M4/02
H02N6/00 H04N5/445 H04N7/025 H04N7/10 (Advanced/Invention);
B82Y20/00 H01G9/20 H01L51/00 H01L51/30 (Advanced/Non-invention);
B32B17/00 C08G75/00 C08L65/00 H01L21/00 H01L31/00
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H01L51/00 H01L51/05 H01L51/42 H01M4/02 H04N7/025
H04N7/10 (Core/Invention);
H01G9/20 (Core/Non-invention);
G02B H01L H02J (Subclass/Invention)

International (IPC 1-7): B81B1/00 B82B3/00 C07C61/00 C07C63/42
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CPC: H04N5/44591 G11B27/034 G11B27/329 H04N21/812 H04N21/84 H04N21/8456 H04N21/85406 Y10S977/948
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H01L51/4226 H01L51/4213 H01L31/1884

European: B82Y10/00 B82Y30/00 G06Q30/02 G06Q30/0241 G11B27/034 G11B27/32D2 H01L31/0352 H01L31/0352B
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715/731S 715/765 725/34 725/34P 725/35 725/35S 725/41 725/42 725/47 725/47P 725/53 977/762 977/781 977/948



Family:

Publication number	Publication date	Application number	Application date
AU2003253672 AA	20040106	AU20030253672	20030617
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AU2003291756 AA	20040607	AU20030291756	20031104
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US2004084080 AA	20040506	US20020290119	20021105
US2004237101 AA	20041125	US20030443546	20030522
US2004250848 AA	20041216	US20020319406	20021211
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US2006174934 AA	20060810	US20060375413	20060313
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US2007181177 A9	20070809	US20020290119	20021105
US2010084014 AA	20100408	US20090564047	20090921
US2010211877 AA	20100819	US20100756498	20100408
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US2013020557 AA	20130124	US20120626919	20120926
US6852920 BB	20050208	US20020319406	20021211
US6946597 BB	20050920	US20030443456	20030521
US7253017 BA	20070807	US20020303665	20021122
US7291782 BB	20071106	US20020290119	20021105
US7462774 BB	20081209	US20040771250	20040202
US7594982 BA	20090929	US20030338079	20030106
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US8042047 BB	20111018	US20100756498	20100408
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WO04001926 A2	20031231	WO2003US19604	20030617
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WO04042432 A2	20040521	WO2003US35147	20031104
WO04042432 A3	20041223	WO2003US35147	20031104
WO04044948 A2	20040527	WO2003US19173	20030617
WO04044948 A3	20041111	WO2003US19173	20030617

Priority:

US20020390904P	20020622	US20020290119	20021105	US20020303665	20021122
US20020319406	20021211	US20020330665	20021230	US20030338079	20030106
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US20120347023	20120110	US20120626919	20120926		

Probable Assignee: TIVO SOLUTIONS INC

Assignee(s): (std): DAVIS ROBERT L ; GLICK SAMUEL D ; NANOSOLAR INC ; NANOSOLAR INC ; ROSCHEISEN MARTIN R ;
PICHLER KARL ; DIGITALSMITHS CORP ; DG ENTERTAINMENT MEDIA INC ; WEINBERGER BENJAMIN J ;

SAGER BRIAN M

Assignee(s): MORGAN STANLEY SENIOR FUNDING INC COLLATERAL AGENT AS ; TIVO INC ; TIVO SOLUTIONS INC ; GENERAL ELECTRIC CO ; AERIS CAPITAL SUSTAINABLE IMPACT PRIVATE INVESTMEN ; AERIS CAPITAL SUSTAINABLE IMPACT PRIVATE INVESTMENT FUND CAYMAN LP ; AERIS CAPITAL SUSTAINABLE IP LTD ; DAVIS GLICK PRODUCTIONS INC

Inventor(s): (std): YU DONG ; WEINBERGER BENJAMIN J ; SMESTAD GREG ; SAGER BRIAN M ; ROSCHEISEN MARTIN R ; PICHLER KARL ; PETRITSCH KLAUS ; NANOSOLAR INC ; MILLER GREGORY A ; MARTIN ROSCHEISEN ; KLAUS PETRITSCH ; KARL PICHLER ; JACQUELINE FIDANZA ; PETRITSCH KLAUS ; PETRITSCH KLUS ; ROSCHEISEN MARTIN ; SAGER BRIAN ; GLICK SAMUEL D ; FIDANZA JACQUELINE ; DONG YU ; DAVIS ROBERT L ; BRIAN SAGER ; SMESTAD GREGORY ; MILLER GREGORY

Inventor(s): WEINBERGER BENJAMIN ; GREGORY SMESTAD ; GREGORY MILLER ; DAVIS ROBERT

Agent(s): JOSHUA D ISENBERG; NANOSOLAR INC; NEXSEN PRUETT JACOBS AND POLLARD; DIRECTOR OF IP; NEXSEN PRUETT LLC; JDI PATENT; JOSHUA D; ISENBERG JOSHUA D; JOSEPH T

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 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 NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SN SY SZ TD TG TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW

58) Family number: 59571855 (US2015179738A)

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Title: FLEXIBLE NANO STRUCTURE

Abstract: Provided are a flexible nano structure, a fabrication method thereof, and an application device using the same. The nano structure includes: a flexible substrate; a plurality of linkers formed over the flexible substrate; and at least one metallic nanoparticle grown from a plurality of metal ions bonded to the linkers. In the nano structure, metallic nanoparticles may have an average particle diameter of about 0.5 to 3.0 nm.

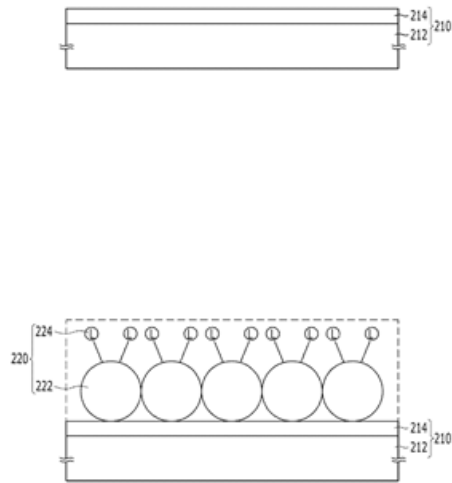
Classifications:

International (IPC 8-9): B22F9/24 B81B3/00 B82B1/00 B82B3/00 B82Y30/00 B82Y40/00 C23C18/30 C23C18/31 H01B1/02 H01B13/00 H01B5/14 H01L21/283 H01L29/06 H01L29/76 H05K1/09 (Advanced/Invention)

CPC: B82B1/002 B82B3/0019 Y10T428/25 Y10T428/31507 Y10T428/31663 Y10T428/31721 Y10T428/31786 Y10T428/31938 Y10T428/31971 H01L29/0676 B82Y30/00 H01L49/006 H01L2251/5369 B22F1/0018 B22F9/24 B22F2999/00 B82B1/008 B82Y40/00 C08L101/00

US: 428/323 428/412 428/447 428/473.5 428/480 428/523 428/532 428/704

PatBase - US2015179738_AA



Family:

Publication number	Publication date	Application number	Application date
CN104724660 A	20150624	CN201410370849	20140730
KR20150072277 A	20150629	KR20130159735	20131219
KR20150072281 A	20150629	KR20130159739	20131219
KR20150072287 A	20150629	KR20130159746	20131219
TW201525191 A	20150701	TW20140121667	20140624
US2015179738 AA	20150625	US20140311043	20140620

Priority:

KR20130159735 20131219 KR20130159739 20131219 KR20130159746 20131219

Probable Assignee: SK INNOVATION CO LTD

Assignee(s): (std): SK INNOVATION CO LTD

Assignee(s): SK INNOVATION CO

Inventor(s): (std): KIM JUN HYUNG

59) Family number: 59571861 (US2015174855A)

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Title: FLEXIBLE NANO STRUCTURE INCLUDING DIELECTRIC PARTICLE SUPPORTER

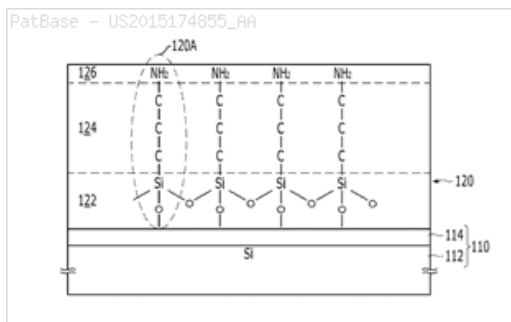
Abstract: Provided are a flexible nano structure, a fabrication method thereof, and an application device using the same. The nano structure includes a flexible substrate; a plurality of dielectric particle supporters formed over the flexible substrate; and a plurality of linkers bonded to the dielectric particle supporters; and one or more metallic nanoparticles bonded to the linkers.

Classifications:

International (IPC 8-9): B32B15/04 B32B23/04 B32B27/06 B32B27/28 B32B27/32 B32B27/36 B32B5/16 B32B9/04 B82B1/00 B82B3/00 (Advanced/Invention)

CPC: Y10T428/25 Y10T428/31507 Y10T428/31663 Y10T428/31678 Y10T428/31721 Y10T428/31786 Y10T428/31938 Y10T428/31971 C23C18/04 C23C18/08 C23C18/1204 C23C18/1216 C23C18/1279 C23C18/168 C23C18/1682 C23C18/1882 B82B1/008 B82Y40/00 H01B3/10

US: 428/323 428/412 428/446 428/447 428/457 428/473.5 428/480
428/523 428/532 428/689 428/698 428/702



Family:

Publication number	Publication date	Application number	Application date
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KR20150072300 A	20150629	KR20130159759	20131219
KR20150072301 A	20150629	KR20130159760	20131219
KR20150072307 A	20150629	KR20130159768	20131219
TW201524893 A	20150701	TW20140121668	20140624
US2015174855 AA	20150625	US20140312315	20140623

Priority:

KR20130159759 20131219 KR20130159760 20131219 KR20130159768 20131219

Probable Assignee: SK INNOVATION CO LTD
Assignee(s): (std): SK INNOVATION CO LTD
Assignee(s): SK INNOVATION CO
Inventor(s): (std): KIM JUN HYUNG

60) Family number: 59571865 (US2015174613A)

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Title: METHOD FOR FABRICATING FLEXIBLE NANO STRUCTURE

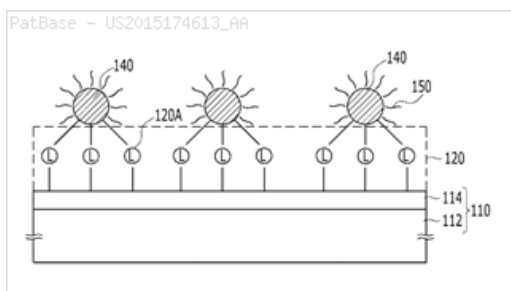
Abstract: Provided are a flexible nano structure, a fabrication method thereof, and an application device thereof. The method for fabricating a flexible nano structure includes: forming a flexible substrate; forming a plurality of linkers over the flexible substrate; forming a plurality of metal ions over the linkers; and forming one or more metallic nanoparticles over the linkers.

Classifications:

International (IPC 8-9): B05D3/02 B05D3/06 B05D7/00 B22F9/24 B82B1/00 B82B3/00 B82Y30/00 B82Y40/00 C23C16/455 C23C16/56 C23C18/30 C23C18/31 H01B1/02 H01B13/00 H01B5/14 H01L21/283 H05K1/09 (Advanced/Invention)

CPC: C23C16/45525 C23C16/56 C23C18/04 C23C18/08 C23C18/14 B82B3/0095 B82Y40/00 C08L101/00

US: 427/250 427/255.6 427/383.1 427/404 427/551 427/553



Family:

Publication number	Publication date	Application number	Application date
CN104724668 A	20150624	CN201410370828	20140730
KR20150072282 A	20150629	KR20130159740	20131219
KR20150072289 A	20150629	KR20130159748	20131219
KR20150072291 A	20150629	KR20130159750	20131219
TW201525189 A	20150701	TW20140121662	20140624
US2015174613 AA	20150625	US20140312422	20140623

Priority:

KR20130159740 20131219 KR20130159748 20131219 KR20130159750 20131219

Probable Assignee: SK INNOVATION CO LTD
Assignee(s): (std): SK INNOVATION CO LTD
Assignee(s): SK INNOVATION CO
Inventor(s): (std): KIM JUN HYUNG

61) Family number: 59571866 (US2015174607A)

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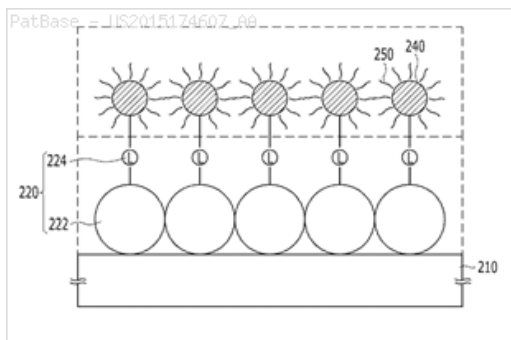
Title: METHOD FOR FABRICATING FLEXIBLE NANO STRUCTURE INCLUDING DIELECTRIC PARTICLE SUPPORTERS

Abstract: Provided is a flexible nano structure including dielectric particle supporters, a fabrication method thereof, and an application device thereof. The method for fabricating a flexible nano structure includes: forming a flexible substrate; forming a plurality of dielectric particle supporters with linkers bonded thereto over the flexible substrate; forming a plurality of metal ions over the linkers; and forming one or more metallic nanoparticles over to the linkers.

Classifications:

International (IPC 8-9): B05D1/36 B05D3/02 B05D3/06 B05D5/00 B22F9/24 B82B1/00 B82B3/00 B82Y30/00 B82Y40/00 C23C18/30

C23C18/31 H01B1/02 H01B13/00 H01B5/14 H01L21/283
H05K1/09 (Advanced/Invention)
CPC: C23C18/04 C23C18/08 C23C18/14 C23C16/45525 C23C16/56
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US: 427/214 427/552 427/557



Family:

Publication number	Publication date	Application number	Application date
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KR20150072296 A	20150629	KR20130159755	20131219
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TW201525188 A	20150701	TW20140121661	20140624
US2015174607 AA	20150625	US20140312509	20140623

Priority:

KR20130159742 20131219 KR20130159755 20131219 KR20130159756 20131219

Probable Assignee: SK INNOVATION CO LTD

Assignee(s): (std): SK INNOVATION CO LTD

Assignee(s): SK INNOVATION CO

Inventor(s): (std): KIM JUN HYUNG

62) Family number: 15254881 (US2003035917A)

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Title: IMAGE MAKING MEDIUM

Abstract: The invention relates to an image support medium for creation of an aesthetic image that is an work or object for display. This support medium includes a polymer in an amount sufficient to enable the image to have at least one aesthetic element. In different embodiments, the image support medium is an image support stabilizer, the polymer is a synthetic absorbent or conductive polymer, or the polymer is a transparent or synthetic translucent polymer and a property of this transparent or translucent polymer is enhanced to facilitate the creation or preservation of the image by at least one stabilizer. The invention also relates to a method for preparing this image support medium. The method includes forming a reaction mixture comprising a monomer in an amount sufficient to provide or enable the image to have an aesthetic element, and processing the reaction mixture into a 2- or 3-dimensional shape.

Classifications:

International (ipc 8-9): B41M1/00 B41M1/30 B41M5/24 B41M5/26 B41M5/36 B44C3/00 B44C3/04 B44C5/00 B44D3/18 B44F1/00 B44F1/06 B44F11/00 C08K3/34 C08K5/00 C08K5/34 C08K5/3445 C08L101/00 C08L81/00 D06N7/04 G03C5/00 G09B11/10 (Advanced/Invention);

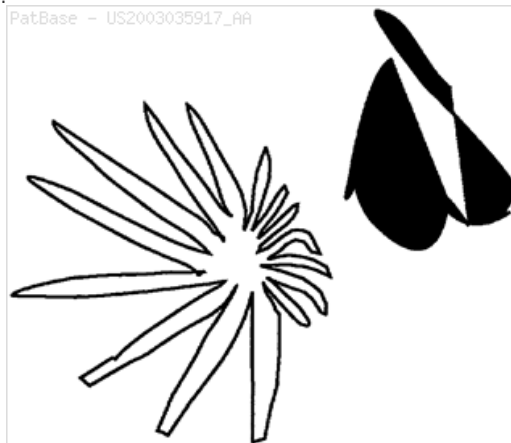
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International (ipc 1-7): B32B1/00 B32B19/00 B32B9/00 B44C1/00 B44C1/26 B44C1/28 B44C3/12 C08J3/00 C08K5/34 C08L1/00 D06N7/04

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European: B41M1/30 B41M5/36 B44C3/04F B44C3/04F2 C08K5/00P6 G03C5/00 L41M5/00S2 L41M5/24 L41M5/26 L41M5/26L

US: 156/58 156/58S 257/40 257/79 345/173 423/445R 428/141 428/141S 428/15 428/174 428/542.8 428/67 428/67P 428/69 428/690 428/690S 428/80 434/81 438/26 445/24 524/106 524/106S 524/445 524/495 524/496 524/609 524/612 528/502R



Family:

Publication number	Publication date	Application number	Application date
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AU200058715 A5	20010102	AU20000058715D	20000612
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US2014186646 AA	20140703	US20140203327	20140310
US2015125829 AA	20150507	US20140584921	20141229
US2017287351 AA	20171005	US20170630499	20170622
US2017316713 AA	20171102	US20170647051	20170711
US7629400 BB	20091208	US20020170503	20020614
US8669325 BA	20140311	US20090631627	20091204
US8921473 BA	20141230	US20050118975	20050428
US9744800 BB	20170829	US20140203327	20140310
US9786194 BB	20171010	US20140584921	20141229

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Priority:

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US20010012259 20011211 US20020170503 20020614 US20020012259 20020614
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Probable Assignee: HYMAN SYDNEY

Assignee(s): (std): HYMAN SYDNEY

Assignee(s): SYDNEY HYMAN

Inventor(s): (std): HYMAN SYDNEY

Inventor(s): SYDNEY HYMAN

Agent(s): OSLER HOSKIN AND HARCOURT LLP; WINSTON AND STRAWN LLP

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CR CU CY CZ DE DK DM DZ
EE ES FI FR GA GB GD GE GH GM GN GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR
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SZ TD TG TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

63) Family number: 49149882 (US2011158653A)

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Title: DYNAMIC INTELLIGENT BIDIRECTIONAL OPTICAL ACCESS COMMUNICATION SYSTEM WITH OBJECT/INTELLIGENT APPLIANCE-TO-OBJECT/INTELLIGENT APPLIANCE INTERACTION

Abstract: Reduced Rayleigh backscattering effect enables a longer-reach optical access communication network-thus it eliminates significant costs. Furthermore, a wavelength to an intelligent subscriber subsystem can be dynamically varied for bandwidth on-Demand and service on-Demand. A software module renders intelligence (and context awareness) to a subscriber subsystem and an appliance. An object can sense/measure/collect/aggregate/compare/map and connect/couple/interact (via one or more or all electrical/optical/radio/electro-magnetic/sensor/bio-sensor communication network(s) within and/or to and/or from an object) with another object, an intelligent subscriber subsystem and an intelligent appliance utilizing an Internet protocol version 6 (IPv6) and its subsequent versions. A construction of a near-field communication (NFC) enabled intelligent micro-subsystem and/or intelligent appliance with key applications (e.g., an intelligent, location based and personalized social network and an intelligent, location based and personalized direct and peer-to-peer marketing) are also described.

Classifications:

International (IPC 8-9): G06F19/00 G06F3/01 G06F3/041 G06K9/00
G06N3/08 G06N99/00 G06Q20/12 G06Q20/20 G06Q20/32
G06Q30/00 G06Q30/02 G06Q30/06 G06Q50/00 G06T19/00
G09G3/00 G10L15/26 H01L27/146 H01L33/00 H01L33/06 H01L33/14
H01L33/32 H01L33/50 H01L33/60 H01L51/50 H01S3/101 H01S5/183
H01S5/187 H04B10/00 H04B10/27 H04B10/272 H04B10/516
H04J14/00 H04J14/02 H04L12/64 H04N5/225 H04N5/33 H04Q11/00
H04Q11/02 H04W4/02 (Advanced/Invention);
A61B90/00 G09G3/34 G10L15/00 H01S3/00 H01S3/10 H01S5/026
H01S5/0625 H04W4/02 (Advanced/Non-invention)

CP: H04J14/0246 H04J14/025 H04Q11/0067 H04B10/5161
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H01S3/101 H01S5/0265 H01S5/06256 H01S5/06258 H04B10/272
H04J14/0256 H04J14/0282 H04Q2011/0064 H01L33/502 H01L33/60
H01L33/06 H01L33/145 H01L33/32 H01L33/0079 H01L51/502
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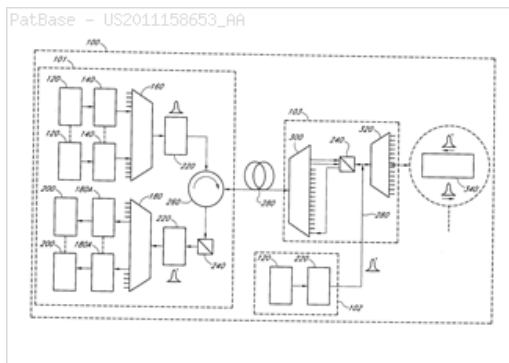
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Priority:



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US20130957343P 20130701 US20130014239 20130829 US20140120835 20140701
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US20160497979P 20161212 US20170530996 20170405 US20170731313 20170523
US20170731577 20170703 US20180350132 20181002

Probable Assignee: MAZED SAYEEDA

Assignee(s): (std): MAZED MOHAMMAD ; MAZED MOHAMMAD A ; MAZED SAYEEDA

Inventor(s): (std): MAZED MOHAMMAD A ; MAZED SAYEEDA ; MAZED MOHAMMAD

Agent(s): KINDRED | POSEY; IVAN; KINDRED POSEY; LEECH TISHMAN FUSCALDO AND LAMPL LLP; MAYER AND WILLIAMS PC

64) Family number: 42270912 (US2008248001A)

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Title: METHODS AND SYSTEMS FOR TREATING CELL PROLIFERATION DISORDERS

Abstract: Methods for the treatment of a cell proliferation disorder in a subject, involving: (1) administering to the subject at least one activatable pharmaceutical agent that is capable of effecting a predetermined cellular change when activated, either alone or in combination with at least one energy modulation agent; and (2) applying an initiation energy from an initiation energy source to the subject, wherein the applying activates the activatable agent in situ, thus causing the predetermined cellular change to occur, wherein the predetermined cellular change treats the cell proliferation disorder, preferably by causing an increase or decrease in rate of cell proliferation, and a kit for performing the method, a computer implemented system for performing the method, a pharmaceutical composition useful in the method and a method for causing an autovaccine effect in a subject using the method.

Classifications:

International (IPC 8-9): A01N65/00 A23L3/26 A23L3/28 A23L5/30

A61B18/04 A61B18/18 A61B5/00 A61B5/055 A61B6/00 A61F7/00

A61H23/00 A61K31/00 A61K31/16 A61K31/195 A61K31/197

A61K31/35 A61K31/352 A61K31/366 A61K31/37 A61K31/409

A61K31/436 A61K31/4433 A61K31/4709 A61K31/5025 A61K31/517

A61K31/525 A61K31/555 A61K31/70 A61K31/706 A61K31/7076

A61K31/714 A61K33/00 A61K33/24 A61K33/30 A61K33/34

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A61K38/28 A61K38/43 A61K39/00 A61K39/395 A61K41/00

A61K45/00 A61K45/06 A61K47/02 A61K47/42 A61K47/48

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A61K51/00 A61K51/12 A61K9/00 A61K9/14 A61K9/16 A61K9/51

A61L2/00 A61L2/08 A61L2/10 A61M37/00 A61M5/00 A61N1/40

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C09K11/56 C09K11/78 C09K11/88 C12M1/42 C12N5/00

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A61L2/08 A61N1/40 A61N5/02 A61P31/04 A61P31/12 A61P35/00

B82Y5/00 (Advanced/Non-invention);

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A61N5/06 A61N5/10 (Core/Non-invention)

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US: 1/1 359/241 359/241S 378/65 378/65S

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424/490 424/490S 424/618 424/618S

424/649 424/649S 424/85.2 424/93.4

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977/915S

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Priority:

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Probable Assignee: IMMUNOLIGHT LLC

Assignee(s): (std): AYRES JENNIFER ; AYRES JENNIFER A ; BOURKE FREDERIC A ; BEYER WAYNE F ; BOURKE JR FREDERIC A ; BOURKE FREDERIC A JR ; DUKE UNIV ; GOODEN DAVID ; CHADA VENKATA GOPAL REDDY ; FATHI ZAK ; IMMUNOLIGHT LLC ; IMMUNOLIGHT ; IMMUNOLIGHT LLC ; LMMUNOLIGHT LLC ; SODERBLOM ERIK J ; SPECTOR NEIL L ; GREGAS MOLLY K ; NORTON STEPHEN JOHN ; SIMMONS JOSEPH H ; SCAFFIDI JONATHAN P ; STANTON IAN N ; LAULY BENOIT ; STECHER JOSHUA T ; IMMUNOLIGHT LLC ; UNIV DUKE ; TOONE ERIC J ; WALDER HAROLD ; XIA WENLE ; VO DINH TUAN ; ZHANG ZHENYUAN ; ZHANG YAN ; THERIEN MICHAEL J

Assignee(s): TUAN VO DINH ; IMMUNOLIGHT LLCUS ; FREDERIC A BOURKE JR ; DUKE UNIV Y IMMUNOLIGHT LLC ; DUKE UNIV IMMUNOLIGHT LLC ; DUKE UNIVERSITY

Inventor(s): (std): AYRES JENNIFER ; AYRES JENNIFER A ; BEYER JR WAYNE F ; BEYER WAYNE F ; BENOIT LAULY ; BOURKE FREDERIC A ; BOURKE JR FREDERIC AVERY ; BOURKE JR FREDERIC A ; BOURKE FREDERICK A ; BOURKE FREDERIC A JR ; GOODEN DAVID ; FATHI ZAK ; GREGAS MOLLY K ; CHADA VENKATA GOPAL REDDY ; HANSEN KATHERINE SARAH ; FELS DIANE RENEE ; DEWHIRST MARK WESLEY ; SODERBLOM ERIK J ; SPECTOR NEIL L ; TOONE ERIC J ; THERIEN MICHAEL J ; STECHER JOSHUA T ; STANTON IAN NICHOLAS ; SIMMONS JOSEPH H ; NORTON STEPHEN JOHN ; LAULY BENOIT ; SCAFFIDI JONATHAN P ; HAROLD WALDER ; IAN N STANTON ; MICHAEL J THERIEN ; JENNIFER AYRES ; JOSHUA T STECHER ; JONATHAN P SCAFFIDI ; MOLLY K GREGAS ; STEPHEN JOHN NORTON ; JOSEPH H SIMMONS ; BOURKE JR FREDERIC J ; BOURKE FREDERIK A ; FREDERIC A BOURKE ; MACCARINI PAOLO ; STAUFFER PAUL RATH ; STANTON IAN N ; WALDER HAROLD ; XIA WENLE ; VO DINH TUAN ; ZHANG YAN ; ZHANG ZHENYUAN ; TUAN VO DINH ; ZAK FATHI ; VENKATA GOPAL REDDY CHADA ; YANG ZHANG ; WYATT CORY ROBERT ; ZHANG ZHEN YUAN

Inventor(s): VO-DINH, TUAN ; ZHENYUAN ZHANG ; WALDER ; VO DINH ; YAN ZHANG ; JR FREDERIC A ; HAROLD ; TUAN ; FREDERIC A BOURKE JR ; FREDERIC A ; BOURKE JR FREDERIC A VO DINH TUAN ; BOURKE

Agent(s): PIZZEYS PATENT AND TRADE MARK ATTORNEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY

LTD; RICHES MCKENZIE AND HERBERT LLP; SARGENT; SARGENT AND KRAHN; NOEL CHANTAL ODILE; MENA SANDRA; WALLINGER MICHAEL; TOSTMANN HOLGER CARL; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT PC; OBLON SPIVAK MCCLELLAND MAIER AND NEUSTADT LLP; OBLON MCCLELLAND MAIER AND NEUSTADT LLP; MASON J DEREK ET AL; MASON DEREK 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 IR 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 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

65) Family number: 15973912 (EP1176618A1)

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Title: RUTHENIUM COMPLEX DYE, PHOTOELECTRIC CONVERSION DEVICE AND PHOTOELECTRIC CELL

Abstract: A photoelectric conversion device comprising a semiconductor fine particle sensitized by a metal complex dye. The metal complex dye comprises a ligand represented by the following general formula (I): wherein n represents 0 or 1; R1, R2 and R3 independently represent a substituent; m1, m2 and m3 independently represent an integer of 0 to 3; R1's, R2's and R3's are the same or different groups that optionally bond together to form a ring when m1, m2 and m3 are 2 or 3, respectively; and V1, V2 and V3 independently represent a hydrogen atom or a substituent, at least one of V1 and V2 being a substituent represented by the following general formula (II): wherein L1 and L2 independently represent a substituted or unsubstituted methine group, l represents an integer of 1 to 5, and V4 represents a group such as a carboxyl group, etc.

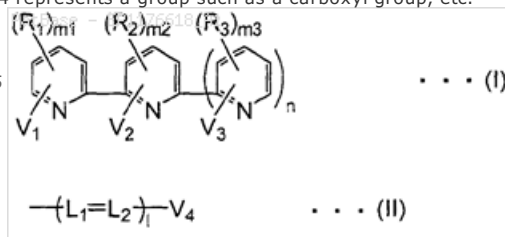
Classifications:

International (ipc 8-9): C07D213/22 C07F15/00 C09B23/00
H01G9/20 H01L31/04 H01L51/30 H01M14/00 (Advanced/Invention);
C07D213/00 C07F15/00 C09B23/00 H01G9/20 H01L31/04 H01L51/05
H01M14/00 (Core/Invention)

International (ipc 1-7): C07D213/22 C07F15/00 C09B23/00
C09B57/10 H01G9/20 H01L31/04 H01M14/00

CPC: Y02E10/549 C07D213/22 C07F15/0053 H01G9/2004
H01G9/2013 H01G9/2031 H01G9/2059 H01L51/0086 Y02E10/542

European: C07D213/22 C07F15/00N4B H01L51/00M12F4
H01L51/30M6D T01G9/20B T01G9/20B4 T01G9/20D2 T01G9/20L
Y02E10/50 Y02E10/54D



Family:

Publication number	Publication date	Application number	Application date
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DE60102044 D1	20040325	DE20016002044	20010724
DE60102044 D1	20040325	DE20016002044T	20010724
DE60102044 T2	20040916	DE20016002044T	20010724
EP1176618 A1	20020130	EP20010117952	20010724
EP1176618 B1	20040218	EP20010117952	20010724
JP2002105346 A2	20020410	JP20010038421	20010215

Priority:

JP20000224635 20000725 JP20010038421 20010215

Probable Assignee: FUJI PHOTO FILM CO LTD

Assignee(s): (std): FUJI PHOTO FILM CO LTD

Assignee(s): FUJI PHOTO FILM CO

Inventor(s): (std): TSUKAHARA JIRO ; WATANABE TETSUYA

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

66) Family number: 59564931 (US2015179299A)

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Title: NANO STRUCTURE INCLUDING DIELECTRIC PARTICLE SUPPORTER

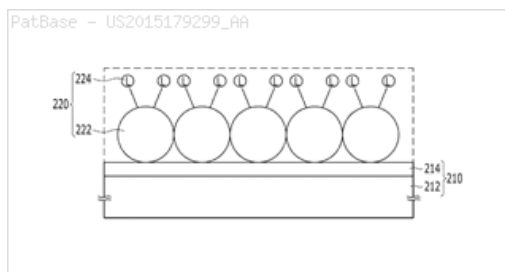
Abstract: Provided are a nano structure, a fabrication method thereof, and an application device using the same. The nano structure includes a substrate; a dielectric particle supporter having a surface, wherein the dielectric particle supporter is formed over the substrate, and a linker bonded to the surface of the dielectric particle supporter; and a metallic nanoparticle bonded to the linker.

Classifications:

International (ipc 8-9): B22F1/02 B82B1/00 B82B3/00 B82Y30/00
B82Y40/00 C03C17/00 C03C17/34 C07F1/00 C07F7/10 C23C18/18
C23C18/31 C23C28/00 G11B5/70 H01B3/18 H01L21/288
H01L21/3205 (Advanced/Invention)

CPC: H01B3/18 C07F7/10 C07F1/005 B82Y30/00 Y10T428/256
Y10T428/31663 B82B1/008 B82Y40/00 H01B3/10

US: 1/1 428/328 428/447 556/9



Family:

Publication number	Publication date	Application number	Application date
CN104724666 A	20150624	CN201410370987	20140730
EP2886511 A1	20150624	EP20140176654	20140711
JP2015116658 A2	20150625	JP20140133643	20140630
KR20150072285 A	20150629	KR20130159743	20131219
KR20150072293 A	20150629	KR20130159752	20131219
KR20150072306 A	20150629	KR20130159766	20131219
TW201525187 A	20150701	TW20140121666	20140624
US2015179299 AA	20150625	US20140312453	20140623

US9455065 BB	20160927	US20140312453	20140623
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Priority:

KR20130159743 20131219 KR20130159766 20131219 KR20130159752 20131219
JP20140133643 20140630

Probable Assignee: SK INNOVATION CO LTD

Assignee(s): (std): SK INNOVATION CO LTD

Assignee(s): SK INNOVATION CO

Inventor(s): (std): KIM JUN HYUNG

Agent(s): BREVALEX; SAEGUSA AND PARTNERS; IP AND T GROUP LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR

67) Family number: 59564932 (US2015175411A)

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Title: METHOD FOR FABRICATING NANO STRUCTURE INCLUDING DIELECTRIC PARTICLE SUPPORTERS

Abstract: Provided is a nano structure including dielectric particle supporters, a fabrication method thereof, and an application device thereof. The method for fabricating a nano structure includes: forming a plurality of dielectric particle supporters over a substrate, the dielectric particle supporters including linkers thereon; forming a plurality of metal ions to the linkers; and forming one or more metallic nanoparticles over the linkers.

Classifications:

International (IPC 8-9): B01J19/00 B01J19/08 B22F9/24 B81C1/00 B82B1/00 B82B3/00 B82Y30/00 B82Y40/00 C01B33/18 C07K17/14 C09C1/24 C23C18/30 C23C18/31 H01B1/02 H01B13/00 H01B5/14 H01L21/283 H01L29/66 H01L51/40 H01L51/48 H01L51/56 H05K1/09 (Advanced/Invention)

CPC: B81C1/00373 H01L29/66439 B82B3/0095 B82Y30/00 B82Y40/00 C01B33/18

US: 427/126.1 427/126.3 427/126.4 427/595 427/597

PatBase - US2015175411_AA



Family:

Publication number	Publication date	Application number	Application date
CN104733613 A	20150624	CN201410370876	20140730
EP2886512 A1	20150624	EP20140176659	20140711
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KR20150072305 A	20150629	KR20130159765	20131219
TW201525190 A	20150701	TW20140121663	20140624
US2015175411 AA	20150625	US20140312388	20140623
US9725313 BB	20170808	US20140312388	20140623

Priority:

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Probable Assignee: SK INNOVATION CO LTD

Assignee(s): (std): SK INNOVATION CO LTD

Assignee(s): SK INNOVATION CO

Inventor(s): (std): KIM JUN HYUNG

Agent(s): BREVALEX; SAEGUSA AND PARTNERS; IP AND T GROUP LLP

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO
PL PT RO RS SE SI SK SM TR