

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2017/005126

A. CLASSIFICATION OF SUBJECT MATTER

H01L51/44(2006.01)i, C07F7/12(2006.01)i, H01L51/48(2006.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

H01L51/42-51/48, C07F7/12

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

| | | | |
|---------------------------|-----------|----------------------------|-----------|
| Jitsuyo Shinan Koho | 1922-1996 | Jitsuyo Shinan Toroku Koho | 1996-2017 |
| Kokai Jitsuyo Shinan Koho | 1971-2017 | Toroku Jitsuyo Shinan Koho | 1994-2017 |

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

JSTPlus (JDreamIII), JST7580 (JDreamIII)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| X | ZHANG, J. et al., Bifunctional alkyl chain barriers for efficient perovskite solar cells, CHEMICAL COMMUNICATIONS, 2015.03.12, Vol.51, pp.7047-7050 | 1-3, 5, 7-8, 10-12 |
| Y | | 4, 6, 9, 16 |
| A | | 13-15 |
| X | HORANTNER, M. T. et al., Shunt-Blocking Layers for Semitransparent Perovskite Solar Cells, ADVANCED MATERIALS INTERFACES, 2016.02.22, Vol.3, pp.1500837-1-7 | 1, 10-11 |
| X | CN 104576930 A (Ningbo University), 29 April 2015 (29.04.2015), paragraphs [0032] to [0064] (Family: none) | 1-3, 5, 7-8, 10-12 |

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier application or patent but published on or after the international filing date
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- "O" document referring to an oral disclosure, use, exhibition or other means
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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- "&" document member of the same patent family

Date of the actual completion of the international search
17 April 2017 (17.04.17)

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16 May 2017 (16.05.17)

Name and mailing address of the ISA/
Japan Patent Office
3-4-3, Kasumigaseki, Chiyoda-ku,
Tokyo 100-8915, Japan

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2017/005126

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

| Category* | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|-----------|---|-----------------------|
| Y | JP 2013-168583 A (Toagosei Co., Ltd.), 29 August 2013 (29.08.2013), paragraphs [0010] to [0020] (Family: none) | 4, 6, 9, 16 |
| A | US 2015/0380170 A1 (SHARP LABORATORIES OF AMERICA, INC.), 31 December 2015 (31.12.2015), paragraphs [0031] to [0060]; fig. 3 to 6 & WO 2016/002213 A1 | 1-16 |
| A | JP 2014-175473 A (Osaka Gas Co., Ltd.), 22 September 2014 (22.09.2014), paragraph [0067] (Family: none) | 1-16 |
| P,X | WO 2016/143526 A1 (Fujifilm Corp.), 15 September 2016 (15.09.2016), paragraphs [0054] to [0108] (Family: none) | 1-12 |
| P,X | WANG, QI et al., Thin Insulating Tunneling Contacts for Efficient and Water-Resistant Perovskite Solar Cells, ADVANCED MATERIALS, 2016.05.17, Vol.28, pp.6734-6739 | 1-12 |
| P,A | JP 2016-92294 A (Fujifilm Corp.), 23 May 2016 (23.05.2016), paragraphs [0054] to [0058] (Family: none) | 1-16 |