

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IB2019/059561

A. CLASSIFICATION OF SUBJECT MATTER H01M 4/525 (2010.01) i FI: H01M4/525 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) H01M4/525 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Published examined utility model applications of Japan 1922-1996 Published unexamined utility model applications of Japan 1971-2020 Registered utility model specifications of Japan 1996-2020 Published registered utility model applications of Japan 1994-2020		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2000-012022 A (SEIMI CHEM CO., LTD.) 14.01.2000 (2000-01-14) claims, examples 3, 5-7	1, 4-5 1-5
Y	JP 2000-277117 A (SONY CORP.) 06.10.2000 (2000-10-06) claims, paragraphs [0018], [0019], examples	1-5
Y	JP 2018-088407 A (SEMICONDUCTOR ENERGY LABORATORY CO., LTD.) 07.06.2018 (2018-06-07) claims, paragraphs [0049]-[0051], examples	2-5
Y	JP 2013-541819 A (COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH) 14.11.2013 (2013-11-14) claims, paragraphs [0036]-[0039], examples	2, 4-5
A	JP 2016-131156 A (UMICORE) 21.07.2016 (2016-07-21)	1-5
<input type="checkbox"/> Further documents are listed in the continuation of Box C. <input checked="" type="checkbox"/> 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 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified) "O" document referring to an oral disclosure, use, exhibition or other means "P" document published prior to the international filing date but later than the priority date claimed "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone "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 06 February 2020 (06.02.2020)		Date of mailing of the international search report 18 February 2020 (18.02.2020)
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
Information on patent family members

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Patent Documents referred in the Report	Publication Date	Patent Family	Publication Date
JP 2000-012022 A	14 Jan. 2000	(Family: none)	
JP 2000-277117 A	06 Oct. 2000	(Family: none)	
JP 2018-088407 A	07 Jun. 2018	US 2018/0145368 A1 claims, paragraphs [0080]-[0082], examples CN 108110225 A KR 10-2018-0058628 A	
JP 2013-541819 A	14 Nov. 2013	US 2014/0087257 A1 claims, paragraphs [0073]-[0079] WO 2012/052810 A1 EP 2630686 A1 CN 103380529 A KR 10-2014-0040673 A	
JP 2016-131156 A	21 Jul. 2016	US 2014/0212759 A1 WO 2012/171780 A1 EP 2720981 A1 KR 10-2014-0009526 A CN 103635431 A	