

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2019/049348

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl. C01F17/00 (2020.01) i, B82Y30/00 (2011.01) i, B82Y40/00 (2011.01) i
 FI: C01F17/00A, B82Y30/00, B82Y40/00

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)

Int.Cl. C01F17/00, B82Y30/00, B82Y40/00

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)

JSTPlus (JDreamIII), JST7580 (JDreamIII), JSTChina (JDreamIII)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	MERRIFIELD, R. C. et al., Synthesis and characterization of polyvinylpyrrolidone coated cerium oxide nanoparticles, Environmental Science & Technology, 2013, vol. 47, pp. 12426-12433, Methodology, table 1, p. 12431, left column, l. 32 to right column, ll. 1, 2	1, 3, 5, 8 9-12 2, 4, 6-7
X A	SONG, W. et al., Ceria nanoparticles stabilized by organic surface coatings activate the lysosome-autophagy system and enhance autophagic clearance, 2014, vol. 8, no. 10, pp. 10328-10342, Synthesis and Characterization of Ceria Nanoparticles	1, 3 2, 4-12
X A	ZHOU, F. et al., CeO ₂ spherical crystallites: synthesis, formation mechanism, size control, and electrochemical property study, Journal of Physical Chemistry, 2007, vol. 111, pp. 1651-1657, 2. Experimental section	1, 3 2, 4-12

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

"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
15.01.2020

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PCT/JP2019/049348

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	WO 2017/159763 A1 (TORAY INDUSTRIES, INC.) 21.09.2017 (2017-09-21), example 3, table 4	1, 3 2, 4-12
Y	WO 2015/019849 A1 (KONICA MINOLTA, INC.) 12.02.2015 (2015-02-12), paragraph [0017]	9
Y	JP 2016-514163 A (PEROXYIUM, INC.; DELAWARE C CORP.) 19.05.2016 (2016-05-19), paragraph [0014]	10
Y	WO 2012/053497 A1 (NIPPON PARKERIZING CO., LTD.) 26.04.2012 (2012-04-26), paragraphs [0013], [0014]	11
Y	JP 2017-514670 A (SECURE NATURAL RESOURCES LLC) 08.06.2017 (2017-06-08), claims 1-2	12
A	JP 2008-532246 A (HONEYWELL INTERNATIONAL INC.) 14.08.2008 (2008-08-14), claim 6	1-12
A	JP 2001-083713 A (TOKYO OHKA KOGYO CO., LTD.) 30.03.2001 (2001-03-30), paragraph [0020]	1-12
A	US 2014/0088116 A1 (LABORATORIOS SENOSIAIN S.A. DE C.V.) 27.03.2014 (2014-03-27), claim 1	1-12

INTERNATIONAL SEARCH REPORT
Information on patent family members

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WO 2017/159763 A1	21.09.2017	US 2019/0085317 A1 example 3, table 4 EP 3431598 A1 CA 3015610 A1 CN 108779455 A
WO 2015/019849 A1	12.02.2015	(Family: none)
JP 2016-514163 A	19.05.2016	US 2014/0271899 A1 paragraph [0016] WO 2014/153160 A2 CA 2904758 A1
WO 2012/053497 A1	26.04.2012	US 2013/0196167 A1 paragraphs [0020], [0021] EP 2639274 A1 CN 103154167 A KR 10-2013-0084667 A
JP 2017-514670 A	08.06.2017	US 2015/0251926 A1 claims 1-2 CA 2942263 A1 KR 10-2016-0132074 A CN 106573796 A
JP 2008-532246 A	14.08.2008	US 2005/0196676 A1 claim 6 WO 2006/096370 A1 EP 2175512 A1 CN 101171717 A KR 10-2007-0011363 A
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US 2014/0088116 A1	27.03.2014	CA 2834818 A1 claim 1 WO 2012/150537 A2