US009636296B2

(12) **United States Patent**
Hu et al.

(10) **Patent No.: US 9,636,296 B2**
(45) **Date of Patent: *May 2, 2017**

(54) **METHODS OF REDUCING HAIR LOSS AND/OR FACILITATING HAIR GROWTH AND/OR REGROWTH**

(71) Applicant: **JOHNSON & JOHNSON CONSUMER INC.**, Skillman, NJ (US)

(72) Inventors: **Longsheng Hu**, Piscataway, NJ (US); **Virginia Streusand Goldman**, Morris Plains, NJ (US); **Josephine A. Minerva**, Parsippany, NJ (US); **Susan Wendling**, Annandale, NJ (US)

(73) Assignee: **Johnson & Johnson Consumer Inc.**, Skillman, NJ (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **14/511,621**

(22) Filed: **Oct. 10, 2014**

(65) **Prior Publication Data**

US 2015/0025097 A1 Jan. 22, 2015

Related U.S. Application Data

(60) Continuation of application No. 13/908,507, filed on Jun. 3, 2013, now Pat. No. 8,871,773, which is a division of application No. 12/638,142, filed on Dec. 15, 2009, now Pat. No. 8,470,880.

(51) **Int. Cl.**

A61K 31/20	(2006.01)
A61K 8/97	(2017.01)
A61K 8/36	(2006.01)
A61K 8/67	(2006.01)
A61K 8/92	(2006.01)
A61Q 7/00	(2006.01)
A61K 31/19	(2006.01)
A61K 8/365	(2006.01)
A61K 8/49	(2006.01)
A61K 31/505	(2006.01)
A61K 31/201	(2006.01)

(52) **U.S. Cl.**

CPC ***A61K 8/97*** (2013.01); ***A61K 8/36*** (2013.01); ***A61K 8/365*** (2013.01); ***A61K 8/4953*** (2013.01); ***A61K 8/678*** (2013.01); ***A61K 8/922*** (2013.01); ***A61K 31/19*** (2013.01); ***A61Q 7/00*** (2013.01); *A61K 31/20* (2013.01); *A61K 31/201* (2013.01); *A61K 31/505* (2013.01); *A61K 2800/522* (2013.01); *A61K 2800/592* (2013.01); *Y10S 514/88* (2013.01)

(58) **Field of Classification Search**

CPC A61K 13/19; A61K 31/34; A61K 31/355; A61K 31/505; A61K 31/20; A61K 31/201

USPC 514/256, 558, 560, 880

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,874,794	A	10/1989	Katz	
4,912,111	A *	3/1990	Sank	A61K 31/505 514/256
5,520,918	A	5/1996	Smith	
5,652,274	A	7/1997	Martin	
5,658,956	A	8/1997	Martin et al.	
5,834,510	A	11/1998	Yu et al.	
6,051,602	A	4/2000	Bissett	
6,207,694	B1	3/2001	Murad	
6,284,234	B1	9/2001	Niemiec et al.	
6,419,913	B1	7/2002	Niemiec et al.	
6,495,498	B2	12/2002	Niemiec et al.	
6,762,158	B2	7/2004	Lukenbach et al.	
6,858,202	B2	2/2005	Niemiec et al.	
6,908,889	B2	6/2005	Niemiec et al.	
7,049,331	B2	5/2006	Eisinger et al.	
7,074,747	B1	7/2006	Lukenbach et al.	
7,262,158	B1	8/2007	Lukenbach et al.	
7,273,847	B2	9/2007	McCormack, Jr.	
7,351,739	B2	4/2008	Ho et al.	
7,357,923	B1	4/2008	Vasquez Lipi	
7,452,527	B2	11/2008	Murad	
8,470,833	B2 *	6/2013	Hu	A61K 8/361 514/256
8,871,773	B2 *	10/2014	Hu	A61K 8/36 514/256
8,927,554	B2 *	1/2015	Hu	A61K 8/361 514/256
2003/0068297	A1	4/2003	Jain	
2003/0176303	A1	9/2003	Niemiec et al.	
2008/0069779	A1	3/2008	Tamarkin et al.	
2008/0076828	A1	3/2008	Dalton et al.	
2008/0145331	A1	6/2008	Bruning	
2008/0206159	A1	8/2008	Tamarkin et al.	
2009/0068160	A1	3/2009	Castiel et al.	
2009/0087462	A1	4/2009	Trembley et al.	
2009/0117146	A1	5/2009	Khan et al.	

FOREIGN PATENT DOCUMENTS

DE	3133132 A1	3/1983
DE	3246265	6/1984
DE	4113346	10/1992
FR	2167407	8/1973
FR	2569347	2/1986
FR	2909870 A1	6/2008
GB	2341317	3/2000
JP	3167111	7/1991
JP	04-108721	4/1992
JP	04-338319	11/1992
JP	2000/038340	2/2000
JP	2002/080328	3/2002
JP	2003-073268	3/2003
RU	2034532 C1	5/1995
WO	9717953	5/1997
WO	2007/099398	9/2007
ZA	9505409 A	4/1997

OTHER PUBLICATIONS

Science of Cosmetic Oils and Fats, 2nd Print, Apr. 10, 2001, p. 7-31 (English Translation of portions of pp. 8 and 9 and Table 2-14 on p. 27).

Journal of Dermatological Science, Miyamoto I., Hamada K., vol. 10, No. 1, pp. 99-99(1), Jul. 1995.

Guide for the Care and Use of Laboratory Animals, NIH Publication No. 85-23.

* cited by examiner

Primary Examiner — Kevin E Weddington

(57) **ABSTRACT**

The present disclosure relates to methods of retarding hair loss or facilitating hair growth and/or regrowth. More specifically, the present disclosure relates to methods of using the disclosed compositions to increase the rate of terminal hair growth and/or regrowth in a mammal.

1 Claim, No Drawings