

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**
(PCT Rule 43*bis*.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference see form PCT/ISA/220	FOR FURTHER ACTION See paragraph 2 below
---	--

International application No. PCT/EP2019/082491	International filing date (day/month/year) 26.11.2019	Priority date (day/month/year) 26.11.2018
--	--	--

International Patent Classification (IPC) or both national classification and IPC
INV. A61Q19/00 A61K8/88 A61K8/46 A61K8/55

Applicant
DSM IP ASSETS B.V.

1. This opinion contains indications relating to the following items:



- Box No. I Basis of the opinion
- Box No. II Priority
- Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- Box No. IV Lack of unity of invention
- Box No. V Reasoned statement under Rule 43*bis*.1(a)(i) with regard to novelty, inventive step and industrial applicability; citations and explanations supporting such statement
- Box No. VI Certain documents cited
- Box No. VII Certain defects in the international application
- Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1*bis*(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Fax: +49 89 2399 - 4465	Date of completion of this opinion see form PCT/ISA/210	Authorized Officer Ovens, Annabel Telephone No. +49 89 2399-0	
---	--	---	---

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of:
 - the international application in the language in which it was filed.
 - a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, this opinion has been established on the basis of a sequence listing:
 - a. forming part of the international application as filed:
 - in the form of an Annex C/ST.25 text file.
 - on paper or in the form of an image file.
 - b. furnished together with the international application under PCT Rule 13ter.1(a) for the purposes of international search only in the form of an Annex C/ST.25 text file.
 - c. furnished subsequent to the international filing date for the purposes of international search only:
 - in the form of an Annex C/ST.25 text file (Rule 13ter.1(a)).
 - on paper or in the form of an image file (Rule 13ter.1(b) and Administrative Instructions, Section 713).
4. In addition, in the case that more than one version or copy of a sequence listing has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that forming part of the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	<u>6, 9, 11-13</u>
	No: Claims	<u>1-5, 7, 8, 10</u>
Inventive step (IS)	Yes: Claims	<u>6, 9, 11-13</u>
	No: Claims	<u>1-5, 7, 8, 10</u>
Industrial applicability (IA)	Yes: Claims	<u>1-13</u>
	No: Claims	

2. Citations and explanations

see separate sheet

1 **Re Item V**

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1.1 Reference is made to the following documents:

- D1 "Research disclosure",
RESEARCH DISCLOSURE, KENNETH MASON PUBLICATIONS,
HAMPSHIRE, UK, GB,
vol. 606, no. 33, 1 October 2014 (2014-10-01), page 5,
XP007143477,
ISSN: 0374-4353
[retrieved on 2014-09-16]
- D2 WO 2014/041019 A1 (DSM IP ASSETS BV [NL]) 20 March 2014
(2014-03-20)
- D3 WO 2014/040811 A1 (DSM IP ASSETS BV [NL]) 20 March 2014
(2014-03-20)
- D4 WO 2006/013200 A1 (OREAL [FR]; ILEKTI PHILIPPE [FR];
MONDET JEAN [FR]; RODRIGUEZ IVAN [FR]) 9 February 2006
(2006-02-09)
- D5 WO 2017/174214 A1 (BOOTS CO PLC [GB]) 12 October 2017
(2017-10-12)
- D6 WO 2007/144189 A2 (DSM IP ASSETS BV [NL]; BAUMER
RAPHAEL [DE]; DERKS FRANCISCUS JOHANNES) 21
December 2007 (2007-12-21)

1.2 **Novelty** (Article 33(2) PCT)

1.2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-5, 7, 8 and 10 is not new in the sense of Article 33(2) PCT.

1.2.2 D1 discloses (Volume Shampoo at page 1, Conditioning Shampoo and Volumizing Cream Rinse at page 2, Anti Dandruff Shampoo at page 3 and Shine Shampoo at page 4) cosmetic compositions suitable for skin care comprising the hyperbranched copolymer specified in claim 1

(polyquaternium-110, it being noted that this is identified at page 4 lines 12-13 of the application as a preferred copolymer) and at least one anionic emulsifier (one or more of sodium laureth sulfate, sodium lauryl sulfate, sodium cetearyl sulfate, ammonium laureth sulfate and ammonium lauryl sulfate). Therefore the subject-matter of claim 1 lacks novelty (Article 33(2) PCT) over D1.

Furthermore, the identified compositions also appear to satisfy the requirements of dependent claims 2-5, 7, 8 and 10 (in particular, the preferred nature of the polyquaternium-110 as the hyperbranched polymer is again noted). Therefore the subject-matter of these dependent claims is also considered to lack novelty (Article 54 EPC) over D1.

- 1.2.3 D2 and D3 are also noted as disclosing cosmetic compositions suitable for skin care comprising the required combination of hyperbranched copolymer and anionic emulsifier(s):

D2 see polymer synthesis of Examples 1a and 1b, incorporated in shampoo formulations of Tables 1 and 3, which comprise sodium laureth sulfate;

D3 see polymer synthesis of Example A3, incorporated in shampoo preparations of Tables 2 and 4, which comprise sodium laureth sulfate.

Furthermore, the identified compositions also appear to satisfy the requirements of dependent claims 2-5, 8 and 10. Therefore the subject-matter of these dependent claims is also considered to lack novelty (Article 33(2) PCT) over each of D2 and D3.

- 1.2.4 Independent claim 11 claims use of the copolymer as specified in claim 1 in a cosmetic skin care composition comprising at least one anionic emulsifier for reducing the material transfer to a contacted surface. Whilst D1-D3 disclose such a composition (as indicated in 1.2.2-1.2.3 above), they are silent as to any use of the copolymer to achieve the specified effect. Therefore the subject-matter of claims 11-13 is considered to meet the requirements of Article 33(1) PCT with respect to novelty (Article 33(2) PCT).

1.3 **Inventive step** (Article 33(3) PCT)

- 1.3.1 In view of its lack of novelty (see 1.2 above), the subject-matter of independent claim 1 cannot be considered to meet the criteria of Article 33(1) PCT with respect to inventive step (Article 33(3) PCT).

- 1.3.2 For the purposes of assessing inventive step of independent claim 11, D4, which discloses the use of linear or branched polyesteramide polymers to provide cosmetic compositions having transfer-resistance (see page 9 line 23- page 10 line 3), is considered to be the closest prior art.

No particular technical effect associated with the selection of the hyperbranched copolymer specified in claim 11 compared to the polymer used in D4 has been shown - comparisons are only provided for including or omitting it or for varying the type of emulsifier (nonionic cf. anionic).

The objective technical problem to be solved can therefore only be considered to be the provision of the use of an alternative polymer to reduce material transfer to a contacted surface.

Although the copolymer is known (see D1-D3 as discussed in 1.2 above), including its inclusion in cosmetic compositions (but intended for hair, not skin), no indication was found to suggest using it when trying to provide a composition with good transfer-resistance (also, transfer-resistance would not normally be a problem associated with the hair care compositions that the polymer is known in).

D4 indicates that the polymers it employs have film-forming properties, which could provide a motivation to use a structurally similar polymer that was known as a film-former. However, this characteristic does not appear to be clearly and unambiguously taught for the polymer required (D1-D3 all use it as a conditioning agent for hair care).

Inventive step (Article 33(3) PCT) may therefore be acknowledged for the subject-matter of independent claim 11.