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Compositions comprising santalins, santarubins for artificially coloring the skin

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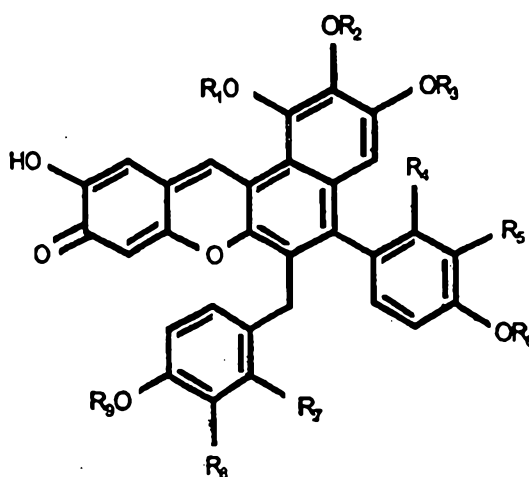
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(54) Title: COMPOSITIONS COMPRISING SANTALINS, SANTARUBINS FOR ARTIFICIALLY COLORING THE SKIN

(54) Titre: COMPOSITIONS COMPRENANT DES SANTALINES, SANTARUBINES POUR LA COLORATION ARTIFICIELLE DE LA PEAU

(57) Abstract

The invention relates to cosmetic and/or dermopharmaceutical compositions comprising at least one extract of red wood as a skin-coloring agent; said compositions may further comprise dihydroxyacetone. The invention also relates to cosmetic and/or dermopharmaceutical compositions comprising at least one compound of the following formula: (I) wherein: R₁, R₂, R₃, R₆, and R₉, identical or different, independently represent a hydrogen atom or an alkyl radical in C₁-C₄, R₄, R₅, R₇, and R₈, identical or different, independently represent a hydrogen atom, a hydroxyl radical, or an alkoxy radical in C₁-C₄. The invention also relates to the applications of said compositions to coloring the skin.



(57) Abrégé

La présente invention se rapporte à des compositions cosmétiques et/ou dermatologiques comprenant au moins un extrait de bois rouge à titre d'agent de coloration de la peau, ces compositions pouvant comprendre en outre de la dihydroxyacétone. L'invention se rapporte également à des compositions cosmétiques et/ou dermatologiques comprenant au moins un composé de formule (I) dans laquelle R₁, R₂, R₃, R₆ et R₉ identiques ou différents représentent indépendamment un atome d'hydrogène ou un radical alkyle en C₁-C₄; R₄, R₅, R₇ et R₈ identiques ou différents représentent indépendamment un atome d'hydrogène, un radical hydroxyle ou un radical alkoxy en C₁-C₄. L'invention concerne également les applications de ces compositions à la coloration de la peau.

COMPOSITIONS COMPRISING SANTALINS OR SANTARUBINS
FOR THE ARTIFICIAL COLOURING OF THE SKIN

The present invention relates to novel
cosmetic and/or dermatological compositions comprising
5 at least one specific compound, namely a redwood
extract, in order to confer on the skin an artificial
colouring similar to natural tanning, and to their uses
in the abovementioned cosmetics field.

In this day and age, it is important to look
10 well and a tanned skin is always a sign of good health.
However, natural tanning is not always desirable
insofar as it requires prolonged exposure to UV
radiation, in particular to UV-A radiation, which
causes browning of the skin but, on the other hand, can
15 induce a detrimental change in the latter, in
particular in the case of sensitive skin or skin
continually exposed to solar radiation. It is therefore
desirable to find an alternative to natural tanning
which is compatible with the requirements of such skin.

20 The majority of cosmetic products intended
for the artificial tanning of the skin are based on
carbonyl derivatives which make possible the formation
of coloured products by interaction with the amino
acids of the skin.

25 To this end, it is known that
dihydroxyacetone or DHA is a particularly advantageous
product which is commonly used in cosmetics as an agent
for the artificial tanning of the skin; applied to the



latter, in particular to the face, it makes it possible to obtain a tanning or browning effect with an appearance similar to that which can result from prolonged exposure to the sun (natural tanning) or
5 under a UV lamp.

However, the use of DHA can exhibit certain disadvantages. Thus, DHA has an unfortunate tendency, more or less pronounced, depending on the nature of the medium in which it is formulated, to decompose over
10 time, this decomposition generally being reflected in the long run by an undesirable yellowing of the compositions in which it is present. Such a phenomenon means that the activity of the DHA, in particular its ability to colour the skin, may be decreased at the
15 time of the application of these compositions to the skin. Thus, the intensity of the colouring obtained on the skin may appear to be still insufficient.

Another disadvantage of DHA is the slowness with which the colouring develops: this is because
20 several hours (3 to 5 hours in general) are required for the colouring to develop. Furthermore, the colouring produced on the skin with DHA is often regarded as too yellow by users. There therefore exists an increasing demand for self-tanning products which
25 act rapidly and which confer a colouring closer to natural tanning.

For the purpose of responding to this need, provision has been made to combine DHA with various



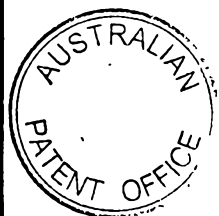
compounds: thus, the document WO 95/15742 discloses the combination of DHA with amino acids. However, such combinations are very seldom used insofar as their use requires either a two-step application or complex separate
5 packagings. The document FR-2,726,761 discloses, for its part, the combination of DHA with lawsone and/or juglone: here again, this combination is not very satisfactory, due this time to the risks of sensitization which it exhibits.

Thus, a search is still being maintained for new
10 compounds and new compositions which make it possible to artificially confer on the skin a colouring similar to natural tanning in a simple, efficient, rapid and risk-free way.

In point of fact, following much research carried
15 out in the field of the artificial colouring of the skin, the Applicant Company has now discovered that the use of specific compounds, furthermore known in the state of the art as dyes, makes it possible to confer on the skin a lasting artificial colouring similar to natural tanning
20 which is achieved immediately after application to the skin.

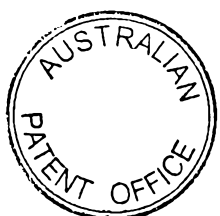
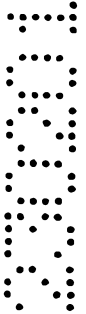
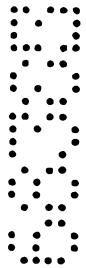
The subject matter of the present invention is therefore a process for the cosmetic treatment of the skin intended to confer on it an artificial colouring similar
25 to natural tanning, characterized in that it consists in applying, to the skin, an effective amount of a redwood extract as agent for colouring the skin.

Within the meaning of the present invention, the term "agent for colouring the skin" is understood to mean
30 a compound having a specific affinity for the skin which allows it to confer on the latter a lasting artificial colouring. The term "lasting colouring" is understood to mean a colouring which is removed neither with water nor using a solvent and which withstands both rubbing and
35 washing with a solution comprising surfactants. Such a lasting colouring is therefore distinguished from the superficial and short-lived colouring contributed, for



example, by a make-up product or by face painting.

The compositions and the uses in accordance with the invention make it possible to obtain an artificial colouring similar to natural tanning in an exceptionally
5 short period of time. An immediate



colouring is thus obtained which makes it possible to see the application and consequently makes possible better homogeneity in the spreading of the composition over the skin and therefore of the colouring which results therefrom. Furthermore, the artificial colouring obtained on the skin according to the invention is extremely close to natural tanning and also highly resistant to water and to time (it can persist on the skin for several days).

10 Other characteristics, aspects and advantages of the present invention will become apparent on reading the detailed description which will follow.

 The compounds used in the present invention are redwood extracts: these redwoods include those
15 known as "soluble" redwoods and those known as "insoluble" redwoods.

 The term "soluble" redwoods" generally encompasses different species of the genus "Cesalpinia", such as *Cesalpinia sappan*, more commonly
20 known as sappanwood, *Cesalpinia brasiliensis*, also known as brazilwood, *Cesalpinia crista* or *Cesalpinia echinata*.

 The term "insoluble" redwoods" generally encompasses the Asian and West African species of
25 redwoods of the genus "*Pterocarpus*" and of the genus "*Baphia*": these woods are, for example, *Pterocarpus santalinus*, *Pterocarpus osun*, *Pterocarpus soyauxii*, *Pterocarpus erinaceus*, *Pterocarpus indicus* or *Baphia*



nitida. These woods may also be known as padauk,
sandalwood, narrawood, camwood or barwood.

Extracts which can be used in the present
invention can thus, for example, be obtained from red
5 sandalwood (*Pterocarpus santalinus*) by basic aqueous
extraction, such as the product sold under the trade
name "Santal Concentré SL 709C" by the company Copiaa,
or alternatively by means of solvent extraction of
sandal powder, such as the product sold under the trade
10 name "Santal Poudre SL PP" by the same company Copiaa.
Mention may also be made of the aqueous/alcoholic
extract of red sandalwood powder from the company Alban
Müller.

Extracts which are also suitable for the
15 present invention can be obtained from reddish wood,
such as camwood (*Baphia nitida*) or barwood (*Pterocarpus*
soyauxii, *Pterocarpus erinaceus*): the latter is thus
split up and then milled: a conventional alcoholic
extraction or an extraction by percolation is
20 subsequently carried out on this milled material in
order to collect a pulverulent extract particularly
suited to the implementation of the present invention.

These extracts are preferably obtained from
the corresponding red heartwood.

25 Extracts from redwoods known as "insoluble"
redwoods will preferably be employed in the present
invention.

Compounds extracted from such woods and which

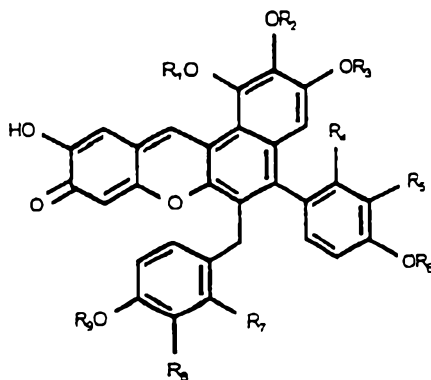


are particularly well suited to the implementation of the present invention are, for example, santalins A, B and C and santarubins A, B and C.

Some of these compounds are known as dyes for foodstuffs or as dyes for leather or for wool. They are described, for example, in "Santalin - A peerless natural colourant", Cosmetics & Toiletries, Vol. 101, April 1986, page 69.

However, their use as an agent for colouring the skin as defined above has never been described.

The redwood extracts used in the present invention preferably comprise at least one molecule corresponding to the following formula (I):



(I)

in which:

- R₁, R₂, R₃, R₆ and R₉, which are identical or different, independently represent a hydrogen atom or a C₁-C₄ alkyl radical,
- R₄, R₅, R₇ and R₈, which are identical or different, independently represent a hydrogen atom, a hydroxyl



radical or a C₁-C₄ alkoxy radical.

The compounds used in the present invention are preferably those corresponding to the above formula (I) in which R₂ and R₆ each represent a hydrogen atom.

5 A particularly preferred family of compounds suitable for the present invention is that of the compounds corresponding to the above formula (I) in which R₂, R₅, R₆, R₇ and R₉ each represent a hydrogen atom. A preferred compound of this family is that in
10 which, in addition, R₁ and R₃ each represent a methyl radical, R₄ represents a methoxy radical and R₈ represents hydrogen. Another preferred compound of this family is that in which, in addition, R₁ and R₃ each represent a methyl radical and R₄ and R₈ each represent
15 a methoxy radical. A third preferred compound of this family is that in which, in addition, R₁ and R₃ each represent hydrogen and R₄ and R₈ each represent a hydroxyl radical.

 Another particularly preferred family of
20 compounds suitable for the present invention is that of the compounds corresponding to the above formula (I) in which:

- R₂, R₄ and R₆ each represent hydrogen,
- R₁ and R₃ each represent a methyl radical,
- 25 - R₇ represents the methoxy radical.

A preferred compound of this second family is that in which, in addition, R₅ represents a methoxy radical, R₈ represents hydrogen and R₉ represents a



methyl radical. Another preferred compound of this second family is that in which, in addition, R_5 represents a hydroxyl radical, R_8 represents hydrogen and R_9 represents a methyl radical. A third preferred
5 compound of this second family is that in which, in addition, R_5 and R_8 each represent a hydroxyl radical and R_9 represents hydrogen.

The redwood extract is preferably present in the compositions according to the present invention in
10 proportions sufficient to confer on the skin, after application, a colouring similar to the colouring obtained as a result of natural tanning. It is thus generally present in proportions of between 0.05 and 10% by weight with respect to the total weight of the
15 composition and preferably of between 0.1 and 5% by weight with respect to the total weight of the composition.

The cosmetic and/or dermatological compositions targeted by the present invention can, of
20 course, comprise one or more other agents for colouring the skin, such as, for example, mono- or polycarbonyl derivatives, such as isatin, alloxan, ninhydrin, glyceraldehyde, meso-tartaraldehyde or pyrazoline-4,5-dione derivatives, it being possible for these agents
25 for colouring the skin optionally to be used in combination with direct dyes or indole derivatives.

In a preferred embodiment of the invention, the compositions additionally comprise dihydroxyacetone



(DHA) .

Another subject-matter of the present invention is thus a cosmetic and/or dermatological composition, characterized in that it comprises, in a
5 cosmetically acceptable vehicle, a redwood extract as defined above and dihydroxyacetone.

This is because dihydroxyacetone and the redwood extracts defined above exhibit excellent chemical compatibility within the compositions
10 comprising them, as well as very good complementarity of the colourings which they confer on the skin, which makes it possible, by combining them in appropriate proportions, to arrive at an artificial colouring of the skin which is remarkably similar to the colouring
15 conferred by natural tanning.

Dihydroxyacetone or DHA is present in the compositions according to the invention in proportions which make it possible for the combination of the two agents for colouring the skin, namely the redwood
20 extract and dihydroxyacetone itself, to confer on the skin, after application, a colouring which is as close as possible to that obtained as the result of natural tanning. DHA is thus generally present in proportions of between 0.5 and 10% by weight with respect to the
25 total weight of the emulsion and preferably of between 1 and 7% by weight with respect to the total weight of the composition.

Dihydroxyacetone can also be applied to the



skin in the form of an independent composition, separately from the composition comprising the redwood extract, for example before or after the application of the latter.

5 In a preferred embodiment of the cosmetic treatment according to the invention, a composition comprising dihydroxyacetone is applied in a first step and then, in a second step, the composition comprising the redwood extract is applied, for the purpose of
10 varying the hue, according to the wish of the user, of the colouring contributed by dihydroxyacetone alone, which is sometimes regarded as being somewhat yellow.

 The compositions according to the invention can also comprise one or more hydrophilic or lipophilic
15 sunscreen agents active in the UVA and/or UVB (absorbers) or alternatively coated or uncoated metal oxide pigments.

 The compositions in accordance with the present invention can additionally comprise
20 conventional cosmetic adjuvants chosen in particular from fatty substances, organic solvents, ionic or nonionic thickeners, softeners, antioxidants, agents for combating free radicals, opacifiers, stabilizers, emollients, silicones, α -hydroxy acids, antifoaming
25 agents, moisturizing agents, vitamins, fragrances, preservatives, surfactants, fillers, sequestering agents, polymers, propellants, basifying or acidifying agents, dyes or any other ingredient commonly used in



the cosmetics and/or dermatological field, in particular for the manufacture of antisun compositions in the form of emulsions.

The fatty substances can be composed of an oil or a wax or their mixtures. The term "oil" is understood to mean a compound which is liquid at room temperature. The term "wax" is understood to mean a compound which is solid or substantially solid at room temperature and which has a melting point generally of greater than 35°C.

Mention may be made, as oils, of mineral oils (liquid petrolatum); vegetable oils (sweet almond oil, macadamia oil, blackcurrant seed oil, jojoba oil); synthetic oils, such as perhydrosqualene, fatty alcohols, acids or esters (such as the benzoate of C₁₂-C₁₅ alcohols sold under the trade name "Finsolv TN" by the company Finetex, octyl palmitate, isopropyl lanolate or triglycerides, including those of capric/caprylic acids), or oxyethylenated or oxypropylenated fatty esters and ethers; silicone oils (cyclomethicone, polydimethylsiloxanes or PDMS); fluorinated oils or polyalkylenes.

Mention may be made, as waxy compounds, of paraffin wax, carnauba wax, beeswax or hydrogenated castor oil.

Mention may be made, among organic solvents, of lower alcohols and polyols.

The thickeners can be chosen in particular



from crosslinked polyacrylic acids, guar gums and celluloses which may or may not be modified, such as hydroxypropylated guar gum, methylhydroxyethylcellulose and hydroxypropylmethyl cellulose.

5 Of course, a person skilled in the art will take care to choose the optional additional compound or compounds mentioned above and/or their amounts so that the advantageous properties intrinsically attached to the use of the compounds of formula (I) above in
10 accordance with the invention are not, or not substantially, detrimentally affected by the envisaged addition or additions.

The compositions according to the invention can be prepared according to techniques well known to a
15 person skilled in the art, in particular those intended for the preparation of emulsions of oil-in-water or water-in-oil type.

This composition can be provided in particular in the form of a simple or complex emulsion
20 (O/W, W/O, O/W/O or W/O/W), such as a cream or a milk, or in the form of a gel or of a cream gel, or in the form of a lotion, powder or solid stick and can optionally be packaged as an aerosol and be provided in the form of a foam or of a spray.

25 The compositions according to the invention are preferably provided in the form of an oil-in-water emulsion.

When it relates to an emulsion, the aqueous



phase of the latter can comprise a nonionic vesicular dispersion prepared according to known processes (Bangham, Standish and Watkins, J. Mol. Biol., 13, 238 (1965), FR 2,315,991 and FR 2,416,008).

5 Concrete but in no way limiting examples illustrating the invention will now be given.

EXAMPLE 1:

This example is targeted at showing, in a first step, the intensity of the colouring obtained
10 with a redwood extract in accordance with the present invention, as well as the speed with which this colouring develops.

In a second step, the improvement, in terms of colouring hue, contributed by a composition
15 according to the invention (Composition A comprising a DHA/redwood extract combination according to the invention) will be shown with respect to a conventional composition comprising only DHA (Composition B).

The Applicant Company has prepared the
20 following Composition A (the amounts are expressed as percentage by weight with respect to the total weight of the composition):

Composition A:

- cetylstearyl glucoside/cetylstearyl	7.5%
25 alcohol mixture, sold under the trade name "Montanov 68" by Seppic	
- dimethicone	0.5%



- benzoate of C_{12}/C_{15} alcohols, sold under the trade name "Finsolv TN" by Finetex 15%
- propylene glycol 10%
- dihydroxyacetone 5%
- 5 - sandalwood extract, sold in the form of a powder under the trade name "Santal Poudre SL PP" by the company Copiaa 0.3%
- preservatives q.s.
- water q.s. for 100%

10 The Applicant Company has also prepared a Composition B which is identical to A but which does not comprise any sandalwood extract.

Evaluation protocol:

15 Compositions A and B were applied at the rate of 1 mg/cm² to an area of 7 x 7 cm² defined on the backs of four volunteers.

The three series of colorimetric measurements which follow were carried out using a Minolta CM-1000 colorimeter:

- 20 - 1°) before application of the composition (T_0),
- 2°) 30 minutes after application ($T_{30 \text{ min}}$),
- 3°) 5 hours after application and after washing (T_{5h}).

The results are expressed in the (L^* , a^* , b^*) system, in which L^* represents the brightness, a^* represents the red-green axis ($-a^*$ = green, $+a^*$ = red) and b^* represents the yellow-blue axis ($-b^*$ = blue, $+b^*$

25



= yellow). Thus, a^* and b^* express the hue of the skin.

The matters of interest in evaluating the intensity of the colouring are:

- ΔL^* , which reflects the darkening in the colour: the more negative ΔL^* , the more the colour has darkened,
- the $\Delta a^*/\Delta b^*$ ratio, which reflects the red-yellow balance and therefore the hue.

The results obtained are collated in the following Table (I):

Table (I):

		Composition A (invention)	Composition B (comparative)
Δa^* (mean)	at $T_{30 \text{ min}}$	2.59	-
	at T_{5H}	1.06	0.91
Δb^* (mean)	at $T_{30 \text{ min}}$	2.49	-
	at T_{5H}	1.36	1.45
ΔL^* (mean)	at $T_{30 \text{ min}}$	-1.74	0.13
	at T_{5H}	-0.86	-0.94
$\Delta a^*/\Delta b^*$ (mean)	at $T_{30 \text{ min}}$	1.05	-
	at T_{5H}	0.81	0.63

It is thus found that, 30 minutes after application, Composition B, which comprises only DHA, has conferred virtually no colouring on the skin, since the DHA has not yet had the time to act ($\Delta L^* = 0.13$). On



the other hand, the composition according to the invention has already conferred a significant colouring ($\Delta L^* = -1.74$) on the skin while retaining a good red-yellow balance ($\Delta a^*/\Delta b^* = 1.05$). Thus, the sandalwood
5 extract in accordance with the invention confers on the skin, entirely by itself alone, an intense colouring similar to natural tanning.

Furthermore, it is found that, 5 hours after application of the compositions and after washing, the
10 two compositions A and B have conferred on the skin a darkening of similar intensity ($\Delta L^* = -0.86$ and $\Delta L^* = -0.94$) due to the action of DHA but that Composition A according to the invention confers on the skin a colouring which is much less yellow than DHA and
15 much closer to the red-yellow balance ($\Delta a^*/\Delta b^* = 0.81$ against $\Delta a^*/\Delta b^* = 0.63$ for Composition B).

Thus, the composition according to the invention confers on the skin a colouring which is particularly close to natural tanning and does so very
20 quickly.

EXAMPLE 2:

The Applicant Company has prepared the two following compositions C (according to the invention) and D (composition comprising only DHA) (the amounts
25 are expressed as percentage by weight with respect to the total weight of the composition):



Composition C:

	- cetylstearyl glucoside/cetylstearyl alcohol mixture, sold under the trade name "Montanov 68" by Seppic	7.5%
5	- dimethicone	0.5%
	- benzoate of C ₁₂ /C ₁₅ alcohols, sold under the trade name "Finsolv TN" by Finetex	15%
	- propylene glycol	10%
10	- dihydroxyacetone	5%
	- alcoholic extract of Pterocarpus soyauxii in the form of a powder*	0.3%
	- preservatives	q.s.
	- water	q.s. 100%

15 * The alcoholic extract of Pterocarpus soyauxii in the form of a powder was obtained according to the following extraction method: reddish wood from Pterocarpus soyauxii is split up into small twigs which are passed into a Thermomix 3300 (Vorweck) mixer. This

20 first coarse milled material is subsequently subjected to a Retsch mill equipped with a 0.5 mm screen. 50 g of powder are placed in a column surmounted by a separating funnel filled with alcohol (60° EtOH, 500 ml). Percolation is carried out at a flow rate of

25 30 to 50 ml/hour. The eluent collected is evaporated



and then dried under vacuum over P_2O_5 .

Composition D is identical to Composition C but does not comprise any *Pterocarpus soyauxii* [lacuna].

5 Evaluation protocol:

Compositions C and D were applied twice, at an interval of 24 hours, at the rate of 1 mg/cm² to an area of 7 × 7 cm² defined on the backs of four volunteers.

10 The colorimetric measurements were carried out using a Minolta CM-1000 colorimeter before application of the composition (T_0) and then 5 hours after the second application (T_{24+5}).

15 As in Example 1, the results are expressed in the L^* , a^* , b^* system.

$$\Delta a^* = a^*_{T_{24+5}} - a^*_{T_0}$$

$$\Delta b^* = b^*_{T_{24+5}} - b^*_{T_0}$$

The results are collated in Table (II) below:

Table (II):

	Composition C (invention)	Composition D (comparative)
20 Δa^* (mean)	4.61	2.82
Δb^* (mean)	4.77	4.50
$\Delta a^*/\Delta b^*$ (mean)	0.94	0.64

Just as in the preceding example, the value of $\Delta a^*/\Delta b^*$ is higher for the composition of the

invention: thus it is that the colouring conferred by this composition on the skin has a redder hue than that conferred by the composition comprising only DHA, which is too yellow. Thus, the colouring conferred by the
5 composition according to the invention on the skin is much closer to the red-yellow balance and therefore closer to the colouring contributed by natural tanning.

A composition such as Composition C makes it possible to quickly achieve a first colouring and then,
10 after the development of the DHA, to obtain a lasting colouring very similar to that conferred by natural tanning.

Throughout the specification and claims, the words "comprise", "comprises" and "comprising" are used in a non-exclusive sense.



THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:

1. Process for the cosmetic treatment of the skin intended to confer on it an artificial colouring similar to natural tanning, characterized in that it consists in applying, to the skin, an effective amount of a redwood extract as agent for colouring the skin.

2. Process according to claim 1, characterized in that the redwood is chosen from so-called "insoluble" redwoods.

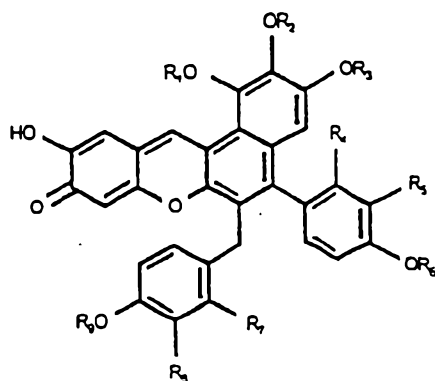
3. Process according to claim 2, characterized in that the redwood is of the genus "Pterocarpus" or of the genus "Baphia".

4. Process according to claim 3, characterized in that the redwood is of the genus "Pterocarpus".

5. Process according to claim 4, characterized in that the extract is obtained by basic aqueous extraction of *Pterocarpus santalinus*.

6. Process according to claim 4, characterized in that the extract is obtained by aqueous/alcoholic extraction of *Pterocarpus soyauxii*.

7. Process according to any one of the preceding claims, characterized in that the extract comprises at least one compound of following formula (I):



(I)

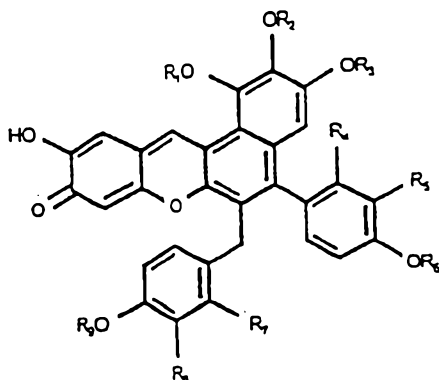


in which:

- R_1 , R_2 , R_3 , R_6 and R_9 , which are identical or different, represent a hydrogen atom or a C_1 - C_4 alkyl radical,

- R_4 , R_5 , R_7 and R_8 , which are identical or different, represent a hydrogen atom, a hydroxyl radical or a C_1 - C_4 alkoxy radical.

8. Process according to any one of the preceding claims, wherein the extract comprises at least one compound of following formula (I):



(I)

in which:

- R_1 , R_2 , R_3 , R_6 and R_9 , which are identical or different, represent a hydrogen atom or a C_1 - C_4 alkyl radical,

- R_4 , R_5 , R_7 and R_8 , which are identical or different, represent a hydrogen atom, a hydroxyl radical or a C_1 - C_4 alkoxy radical,

as agent for colouring the skin.

9. Process according to claim 7 or 8, characterized in that the R_2 and R_6 radicals each represent a hydrogen atom.

10. Process according to any one of claims 7 to 9, characterized in that the compound of formula (I) is a santalin.

11. Process according to any one of claims 7 to 9, characterized in that the compound of formula (I) is a santarubin.

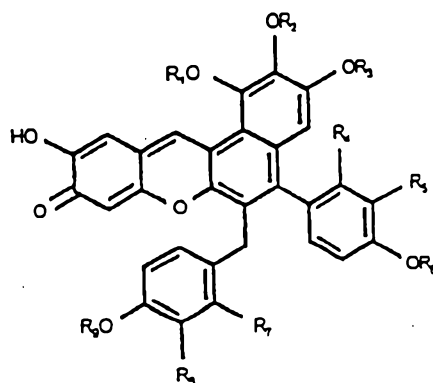
12. Process according to any one of claims 1 to 11, characterized in that it comprises the following two



stages:

- (i) a composition comprising dihydroxy acetone is applied to the skin;
- (ii) when the colouring contributed by dihydroxyacetone has developed on the skin, any one of the redwood extract is applied to the skin in order to vary the hue of this colouring.

13. Cosmetic and/or dermatological composition intended to confer to the skin an artificial colouring similar to natural tanning, characterized in that it comprises in a cosmetically acceptable vehicle, dihydroxyacetone and an effective amount of a redwood extract of a compound of formula (I):



(I)

in which:

- R₁, R₂, R₃, R₆ and R₉, which are identical or different, represent a hydrogen atom or a C₁-C₄ alkyl radical,
- R₄, R₅, R₇ and R₈, which are identical or different, represent a hydrogen atom, a hydroxyl radical or a C₁-C₄ alkoxy radical.

14. Composition according to claim 13, characterized in that the extract or compound of formula (I) is present in the final composition at a content ranging from 0.05 to 10%, preferably ranging from 0.1 to 5% by weight with respect to the total weight of the composition.

15. Composition according to any one of claims 13 and 14, characterized in that the dihydroxyacetone is present in the composition at a content ranging from 0.5 to 10%,



preferably from 1 to 7% by weight with respect to the total weight of the composition.

16. Cosmetic and/or dermatological composition when used to confer to the skin an artificial colouring similar
5 to natural tanning, characterized in that it comprises an effective amount of a redwood extract which is obtained by aqueous/alcoholic extraction of *Pterocarpus soyauxii*.

17. Composition according to claim 16, wherein the redwood extract is present in the final composition at a
10 content ranging from 0.05 to 10% preferably from 0.1 to 5% by weight with respect to the total weight of the composition.

15 Dated this 26th day of June 2001.

L'OREAL

By their Patent Attorneys

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20 Trade Mark Attorneys of Australia

