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STUDIES LIST MEXAMETER®

J.B. Dawson, D.J. Barker, D.J. Ellis, E. Grassam, J.A. Cotterill, G.W. Fisher, and J.W. Feather, A theoretical and experimental study of light absorption and scattering by in vivo skin, Vol.25.No.4, 695-709, Phys.Med.Biol. 1980.

A theoretical treatment has been developed for the optical properties of a layered structure which absorbs and scatters light. This theory predicts that the logarithm of the inverse of reflectance (LIR) of the surface should be a useful parameter for the examination of that structure. This approach has been applied to a study of skin in vivo. An instrument was constructed for use in clinical situations to measure the LIR spectrum of skin over the visible region of the spectrum (450-760 nm). The contributions to the observed spectra made by pigments and the skin structure were deduced by reference to the theoretical model. Numerical indices were used to quantify the changes in skin haemoglobin content following the application of vasoconstricting preparations.

J.W. Feather, D.J. Ellis, G. Leslie, A portable reflectometer for a rapid quantification of cutaneous haemoglobin and melanin, Vol.33, No 6, 711-722, Phys.Med.Biol., 1988.

A portable reflectance instrument for the rapid quantification of cutaneous haemoglobin and melanin is presented. Light emitting diodes (LEDS) are used to illuminate the skin and a silicon photodiode to detect the light diffusely reflected from the surface. Reflectance measurements are made at only three wavelengths and the problems of pigment quantification consequent upon this are discussed. In addition to quantification of haemoglobin and melanin, qualitative information on the redox state of the blood may also be obtained. Measurements made on port wine stain, which had been treated with 576 nm cw laser radiation at times between 1 and 6 months previously, provided information on the vascular response to this thermal injury.

R.Marks, C.Edwards, Methods to aid the coice of shade from a range of colour disguise cosmetics, University of Wales College of Medicine, 26 May 1993

The range of cosmetic camouflage products for major disfiguring skin conditions are well known, and are available in a wide range of shades. They require considerable skill and training for their blending and application which also needs a finishing layer of powder for best effect. These products are admirably suited to their use on major blemishes, but would be difficult to apply by a consumer at home for minor blemishes.

I. Tausch, J. Gaßmüller, W.J .Kessler, Beurteilung der protektiven und pflegenden Potenz von Lichtschutzpräparaten mit biophysikalischen Methoden, Wissenschaft Dt.Derm. (43), 1995

Während einer zehntägigen UV-Bestrahlung wurden die Eigenschaften zweier Lichtschutzpräparate (LSF6,LSF20) untersucht. Als Vergleich dienten unbehandelte als auch mit der jeweiligen Grundlage behandelte Hautareale. Es wurde die Intensität des UV-Erythems mit einem Farbmeßgerät, die Hautfeuchtigkeit mittels der Corneometrie und die Hautoberflächenstruktur durch Profilometrie beurteilt. Beide Lichtschutzpräparate unterdrückten das UV-Erythem vollständig, der Feuchtigkeitsgehalt der Haut und die Faltentiefe blieben unverändert. In den Arealen, die einer

zehntägigen UV-Bestrahlung ohne Lokalbehandlung ausgesetzt waren, traten deutliche Erytheme, Feuchtigkeitsverluste und eine Zunahme der Faltentiefe auf. Die Anwendung der Grundlagen allein zeigte nur bei einem Präparat eine leichte Lichtschutzwirkung. Neben den UV-protaktiven Eigenschaften, die bei beiden Lichtschutzpräparaten gleich gut waren, sind die herausragenden pflegenden Eigenschaft der LSF20-Emulsion hervorzuheben.

Ch. Edwards, The Mexameter MX 16 TM, Biogeninering of the Skin: Methods and Instrumentation, CRC Press 1995

The Mexameter MX 16 TM (Courage and Khazaka Electronic GmbH, Germany) is a dual instrument incorporating a melanin index and an erythema index meter. Both of these are based on the diffuse remittance spectrometry principle, whereby a measurement is made of the absorbency of a volume of tissue at specific wavelengths, from which the concentration of absorbing pigment can be estimated and used to construct a pigment index.

Ha J.H, Jo N.S, Lee H.K, Kim J.I, Lee B.G, Park W.J, The Depigmentation Effect of A New Material Extracted from Paper Mulberry and ist Comparison by Three Colorimetric Instruments, Proceedings of the 19th IFSCC Congress, October 1996

Skin color varies depending on age, racial background, seasonal change and pigmentation disorder. Whiter skin color is a desire of oriental women. Various whitening beauty cosmetic products for inhibiting pigmentation process prevails in the market. Measuring skin color is a popular clinical tool for evaluating depigmentation effect of these products. Therefore, the cosmetic scientists need to develop new effective depigmenting ingredients as well as powerful measuring tool for skin color.

K.P. Wilhelm, proDERM institut for applied Dermatological Research GmbH. Schenfeld, Germany. Client-Server based On-Line Data Acquisition for Skin Bioinstrumentation Devices.

During dermatological safety and efficacy studies, huge amounts of data- both instrumental data as well as evaluator scores may accumulate. We have developed an integrational data with on-line data acquisition capability. The program runs in a Macintosh network. A graphical interface facilitates data entry. A multilevel password system secures unauthorised use. In order to comply with GCP/GLP requirements all data entries and any possible changes relating to experimental studies- both scores and instrumental values -are secured in a log file together with date, time, and initials of the person entering the data. The program can at present acquire data from: Chromameter(Minolta), Tewameter, Corneometer, pH-Meter, Sebumeter, Mexameter,(all Courage and Khazaka). However, the open architecture would easily allow to incorporate more instruments with a serial interface. Data can be exported in DOS, windows or Macintosh format for easy import into any spreadsheet or statistics programs. The program has been completely validated and successfully used in a contract research organisation for over 12 months. Automatic data acquisition has proven to be very useful tool to facilitate and speed up data analysis and to enhance the quality and reliability of test results.

Clinical evaluation of a depigmenting cream: TRIO-D® in melasma of the face, Nouvelles Dermatologiques Vol.16 1997

To evaluate the depigmenting activity of **TRIO-D®** (combination of Hydroquinone-Alpha Hydroxy Acids (AHA)-ascorbic acid derivative) in melasma of the face, a doouble blind, randomized, multicentric study versus excipient was conducted in 38 women. They were divides in two parallel groups and had applied to each hemiface, twice daily, either the verum or the excipient on the pigmented spots during 8 weeks. The objective assessment was done through the measurement and the comparison before and after treatment with the melanic index: Mexameter®. A clinical evaluation of the area and the intensity of the pigmented spots was assessed with Visual Analog Scales. The objective as well as the subjective results show a significant loss of pigmentation of the spots treated with **TRIO-D®** cream compared with the excipient cream since the first month of treatment. The efficacy of **TRIO-D®** cream is similar whatever the duration of melasma.

B.K.Sun, H.K.Lee, J.C.Cho, J.I.Kim, Clinical Improvement of Skin Aging by Retinol Containing Products: With Non-Invasive Methods, IFSCC Conference Mexico 25-27 September 1997

Retinol as well as RA (retinoic acid) is well known to have many beneficial effects on (photo)aged skin. But the skin irritation potential and unstable condition of the products containing them have been some problems in their cosmetic uses. So, retinol containing gel product (MDC gel) was developed for less skin irritancy and more stability in cosmetic products. To examine the clinical effects of retinol containing product, we used clinical non-invasive assessment techniques on 40 volunteers for 6 months maintaining double-blind test conditions. According to our results, the use of retinol containing product improved skin color and hydration level slightly. But there was no statistical difference. There was no erythema reaction compared to the use of RA. Especially, the skin elasticity increased above 20% and skin wrinkles of crows' feet region decreased more than 10%. Besides the instrumental analysis, a large majority of volunteers felt that their skin was improved in the case of wrinkles, elasticity, hydration and color.

P. Grimes, Cosmetic Issues For Ethnic Women, 3rd Int.Symposium on Cosmetic Efficacy, May 1998

A.O. Barel, P. Clarys, Skin Surface Color Measurements - A Comparison Between the Chromameter® and the Mexameter. 12th ISBS, Boston, 06/98.

C. Oakley, T. Barlow, Looking at the Skin: Skin Color. Cosmetics & Toiletries, Vol. 113, August 1998

C.M. Schempp, C. Blümke, J. Schule-Mönting, E. Schöpf, J.C.Simon, Der Einfluß verschiedener Salzlösungen auf die Ultraviolet-B-vermittelte Induktion von Erythem und Pigmentierung. Hautarzt 6/98.

Die Kombination von Salzwasserbädern mit anschließender UV-Bestrahlung wird seit langem bei der Behandlung der Psoriasis und der atopischen Dermatitis eingesetzt. Ziel der vorliegenden Studie war es, die photosensibilisierenden Eigenschaften von 2 handelsüblichen Badesalzen, Salz aus dem Toten Meer und Kochsalz zu untersuchen. Testareale der Unterarmbeugeseiten von 10 Probanden wurden für 15 min mit Salzlösungen in Konzentrationen von 1%,3%,5% und 15% inkubiert und anschließend mit einer erythematogenen UV-B-Dosis bestrahlt. Zum Vergleich diente Leitungswasser+UVB und UVB allein.

F. Merot, S. Rullier, Ph. Masson, Use of the Mexameter MX 16™ for the Assessment of the Sun Protection Factors (UVB and UVA). Poster - 20th IFSCC Congress Cannes, 09/1998.

G. Leone, S. Siladji, G.F. Secchi, M. Carducci, M. Fazio, A New Challenge For High SPF Sunscreens: The Outdoor Dynamic Test - Product Evaluation - 20th IFSCC Congress Cannes, 09/1998.

P.Clarys, K.Alewaeters, A.O.Barel, Comparative Study of Skin Color Using Different Bioengineering Methods. Skin Research and Technology, Vol.5 No. 2, May 1999

A. Castro, A. Vargas, Alternativas Naturales en el Tratamiento del Fotoenvejecimiento. IFSCC May 1999

A.De Castro, A.M.Vargas, Evaluacion del tratamiento del prurito con el residuo lipidico de la cebada. Actualizaciones Terapeuticas Dermatologicas y Esteticas, Vol. 22 No. 5, Sept/Oct 1999

A.M. Vargas, A. Castro, Proteina de Soja: Evaluacion de su Efecto Hidratante. IFSCC May 1999

C. Rojas, A. Castro, L. Castro, R. Brito, Utilizacion del Residuo Lipidico de la Cebada en el Tratamiento del Prurito. IFSCC May 1999

A. Vexler, I. Polyansky, R. Gorodetsky, Multi-Parametric Examination of Irradiated Skin in Breast Cancer Patients. Skin Research and Technology, Vol.5 No. 2, May 1999

J.W.Fluhr, O.Kuss, T.Diepgen, S.Lazzerini, A.Pelosi, E.Beradesca, Testing for Irritation with a Multiparametric Approach: Comparison of Eight Parameters and Five Different Irritation Models. 13th ISBS Jerusalem, March 2000.

EA Sagiv, S.Dikstein, The Efficiency of Humectants as Skin Moisturizers in Presence of Oil. 13th ISBS Jerusalem, March 2000.

A.E.Sagiv, A.Ingber, S. Dikstein, A Novel In Vivo Model in Guinea Pigs for Dry Skin Syndrome. Skin Research and Technology, Vol. 6 No. 1, February 2000.

Prof. Ph. Humbert, Melanin And Erythema Measurements By The Mexameter MX 16, Université de Franche-Comté, Laboratoire d'Ingénierie et de Biologie Cutanées, 2000.

J.W.Wiechers, C.Oakley, V.Wortel, T.Barlow, Comparison of Skin Colour Measuring Methodologies on Asian Skin. Personal Care Ingredient Asia Conference, Bangkok, March 2000.

A.de Castro, Measurement of the Effectivity of Natural Raw Materials: Soja Protein, Barley, Titanium Dioxide and Zinc Oxide. XXIst IFSCC Congress 2000, Berlin
Consumer's preference for natural materials, as well some obtained by biotechnology processes instead of animal or chemical origin, in products for skin care, obeys to the fact that on one hand they are looking to avoid possible adverse reactions, and in the other hand, they constitute renewable sources of raw material.

Young-Dae Kim. Bong Rae Cho, Polyoxypropylene-Polyoxyethylene Tocopheryl Ethers: A Series of Novel Amphiphiles from Tocopherol for Functional Cosmetics. XXIst IFSCC Congress 2000, Berlin.

E.Camel, L.Arnaud-Boissel, S.Schnebert, M.Neveu, S.K.Tan, J.P.Guillot, Does Asian Skin Induce Significant Changes in Sun Protection Factor (S.P.F.) Determination, Compared to Caucasian Skin: One of the First In Vivo Correlation. XXIst IFSCC Congress 2000, Berlin

J.W.Fluhr, O.Kuss, T.Diepgen, S.Lazzerini, A.Pelosi, E.Beradesca, Testing for Irritation with a Multiparametric Approach: Comparison of Eight Parameters and Five Different Irritation Models. 13th ISBS Jerusalem, March 2000 and Skin Research and Technology, Vol. 6, No. 3, August 2000.

EA Sagiv, S.Dikstein, The Efficiency of Humectants as Skin Moisturizers in Presence of Oil. 13th ISBS Jerusalem, March 2000 and Skin Research and Technology, Vol. 6, No. 3, August 2000

P.Clarys,K.Alewaeters, R.Lambrecht, A.O.Barel, Skin Color Measurements: comparison Between Three Instruments: The Chromameter, the DermaSpectrometer, and the Mexameter. Skin Research and Technology 2000.

Two types of skin reflectance instruments are available nowadays for the determination of skin color: a tristimulus colorimeter (Chromameter from Minolta) using the CIE L*a*b* color system and the narrow-band simple reflectance meters (DermaSpectrometer from Cortex and Mexameter from Courage-Khazaka) using the erythema/melanin indices. The purpose of this study was to compare the capabilities of the three instruments (sensitivity, repeatability and correlation) in vitro and in vivo.

E.Azizah Apt, T.Rosemiarti, C. eki Apt, R. I.S.Tranggono, Comparative Study of Several Whitening Agents in Cosmetic Products. 5th ASCS March 2001

A.Msi, T.Rosemiatri, E.Azizah Apt, R.I.S.Tranggono, Comparison Study of Single and Multi Alpha Hydroxy Acids in Decreasing the Number of Melanin. 5th ASCS March 2001

K.Y.Roh, D.Kim, S.J.Ha, Y.J.Ro, J.W.Kim, H.J.Lee, **Pigmentation in Koreans: Study of the Differences from Caucasians in Age, Gender and Seasonal Variations**. British Journal of Dermatology 3958, 2001

A.E.Sagiv, S.Dikstein, A.Ingber, **The Efficiency of Humectants as Skin Moisturizers in the Presence of Oil**. Skin Research and Technology, Vol.7, No.1, February 2001

K.Jones, St.Orndorff, **Aloesin: A Potent Skin Whitener**, Cosmetic Science Conference 2001

J.F.Hermanns, L.Petit, T.Hermanns-Le, G.Pierard, **Analytic quantification of phototype-related regional skin complexion**. Skin Research and Technology, Vol.7, No. 2, August 2001.

Narrow-band spectrophotometry that yields melanin (M) and erythema (E) indexes is a convenient method for assessing skin colour. The objective of the study was to assess the phenotype-associated body site differences in skin complexion.

Thomas Förster, Henkel KgaA, **Cosmetic Lipids and the Skin Barrier**, 2001 by Marcel Dekker

There is no doubt that the application of cosmetic lipids has many positive effects on the structure and function of the skin. These effects are pleiotropic, caused either by direct interaction with the epidermis, particularly the stratum corneum, or indirectly, by influencing the physiologic, homeostatic condition of the skin.

L. Petit, **Evaluation comparative de la colorimétrie par réflectance L*a*b* et de la spectroscopie sélective pour chromophores cutanés**. Année académique 1999-2000 (Dissertation)

Comparaisons des paramètres colorimétriques mesurés par le Mexameter MX 16 et le Chroma Meter CR-200

A. Castro, **Avaliação in vivo de Despigmentares de Origen Natural e/ou Biotecnologicos**, Cosmetics & Toiletries (Portuguese), Vol. 13 No 6, p. 80, 2001

E. Camel, L. Arnaud-Boissel, S. Schnebert, M. Neveu, S.K. Tan, J-P. Guillot, **Does Asian Skin Induce Significant Changes in Sun Protection Factor (SPF) Determination Compared to Caucasian Skin: One of the First In-Vivo Correlations**, IFSCC Magazine January/March 2002, Vol. 5, Nr. 1

The aim of this study was to compare the SPF of three sunscreens (SPF 6/8 – 15/20 – 25/30) and 2 standards (FDA, COLIPA fl a P2), according to COLIPA recommendations, in panels of Asian (Singapore) and Caucasian (France) volunteers.

Johann W. Wiechers, Frans J. Groenhof, Vincent A. L. Wortel, Richard M. Miller, Neil A. Hindle, Anthony Drewitt-Barlow, **Octadecenedioic Acid for a More Even Skin Tone**, Cosmetics & Toiletries July 2002, Vol. 117, No. 7,

Octadecenedioic acid, a new nature-derived ingredient made via biofermentation from oleic acid, has demonstrated efficacy in a variety of applications, including skin toning, dandruff reduction and deodorancy.

Liye Maeyama (Cognis Japan), **Whitening Complex with Waltheria indica Extract and Ferulic Acid**, Cosmetics & Toiletries October 2002, Vol. 117 No. 10

Waltheria indica extract, ferulic acid and certain other ingredients act synergistically in a whitening complex that inhibits tyrosinase and provides mild exfoliation.

MegaSun beauty & care, **Sonnen ohne Risiko**, Kosmetische Medizin, 4/2002, 23. Jahrgang

Sonne gilt für große Bevölkerungsteile als die Universal-Arznei aus der „Himmelsapotheke“. Doch der Dermatologe rät: Was für die Risiken und Wirkungen von Arzneimitteln gilt, gilt auch für die Solarien-Besonnung: Die Dosis ist entscheidend. Auf der Pressekonferenz am 16.10.2002 in Hamburg präsentierte

die KBL-Solarien AG den Medien sowie dem Fachhandel ein auf streng wissenschaftlicher Basis entwickeltes Gerät zur individuellen Hauttypbestimmung, um Solarstrahlen für gesunde und natürliche Bräune optimal zu dosieren – das megaSun care Terminal.

*Nirmal Koshti, Shubhangi Naik, **An absorbing matter**, SPC Asia, November 2002*

The harmful effects of solar UV radiation on skin and hair are well documented. The damage to white skin can be extremely severe. It starts with erythema, goes on to sunburn and can ultimately end in skin cancer. The damage to hair, particularly blonde, is significant, too. Solar UV radiation makes hair brittle, rough and difficult to comb. Human hair has been shown to lose tensile strength as a result of cleavage of the disulphide bond of hair keratin upon exposure to UV radiation.

*G. Yener, T. Incegül, **Importance of protection from harmful effects of solar radiation by using solid lipid microspheres of UV filters**, Journal of Cosmetic Science, Vol. 53, No. 5, September/October 2002*

Sun protecting substances are capable of protecting humans from harmful effects of solar radiation such as aging and skin cancers. Due to the depletion in ozone layer, research regarding to sun protection has become a major concern. Since these preparations are often applied on large skin areas even low penetration rates can cause significant amount of chemical UV absorber to enter the body. Sun protecting preparations need to achieve a controlled release.

*Liye Maeyama – Cognis Japan, **Synergistic whitening complex with Waltheria indica extract and ferulic acid**, Personal Care, November 2002*

Melanins are black polymeric pigments that determine skin and hair color. An abnormal increase in the amount of melanin in the epidermis is the reason for hyperpigmentation such as cloasma, freckles, etc. melanin is synthesized by specialized cells, the melanocytes, which are located in the basal layer of the epidermis. Stored in melanosomes (granules in the melanocytes), the melanins are distributed to keratinocytes surrounding the melanocytes.

*Liye Maeyama, **Whitening complex with waltheria indica extract and ferulic acid**, Cosmetics & Toiletries, Vol. 117, No. 10, October 2002*

Waltheria indica extract, ferulic acid and certain other ingredients act synergistically in a whitening complex that inhibits tyrosinase and provides mild exfoliation.

*L.M. Rodrigues, P.C. Pinto, P. Lamarao, **After-sun claims substantiation: experimental criteria to assess the in vivo effects of sun care products under controlled-using conditions**, Cosmetics & Toiletries, Vol. 117, No. 10, October 2002*

The authors describe a practical method of substantiating claims of “after-sun” products. Ten healthy women 35-65 years old were irradiated on both legs (antero-lateral) in a laboratory for six sequential days using an indoor solarium-type UV source. Efficacy assessment endpoints were defined from the product’s typical claims.

*Astrid de Castro, **Efectividad de cremas antienvjecimiento con activos naturales**, GCI Latinoamerica, Vol. 1, No. 2, Mai-August 2002,*

La autora describe un estudio con el uso de una crema que contiene una mezcla de filtros solares físicos, extractos vegetales, hidratantes, antirradicales libres, sustancias antiinflamatorias con el objetivo de comprobar la eficacia de materias primas de origen vegetal en el tratamiento y prevención del fotoenvejecimiento.

*K. Yoshimura, K. Harii, T. Aoyama, T. Iga, **Experience of a strong bleaching treatment for skin hyperpigmentation in orientals**, www.st.rim.or.jp/~ktyoshi/list/ra-prs.html*

The protocol was composed of two steps: a bleaching step (2-6 weeks) and a healing step (2-6 weeks). 0.1-0.4% all-trans retinoic acid aqueous gel was originally prepared and applied concomitantly with hydroquinone, lactic acid ointment for bleaching. After obtaining sufficient improvement of the

hyperpigmentation, corticosteroid was topically applied with hydroquinone and ascorbic acid in the healing step. Improvement was evaluated with a narrow-band reflectance spectrophotometer.

Astron Clinica, **Validation experiments**, www.fellows.rcsed.ac.uk/personal/marcmoncrieff/ch4.pdf,

This study represents the first clinical trial with the SIAscope, a system that produces information about the haemoglobin, total melanin, dermal melanin and collagen content of the epidermis and papillary dermis within the region of interest scanned. Studies have been performed that measured the theoretical accuracy of the system in determining these parameters (Cotton, 1998; Hojjatoleslami et al., 2000). It was decided that experiments should be undertaken that could determine whether the SIAscope was indeed measuring these parameters. The four sets of experiments determining each of the SIAscope parameters are described below in the style of a short paper.

C. Piérard-Franchimont, O. Martalo, A. Richard, A. Rougier, G. E. Piérard, **Sebum rheology evaluated by two methods in vivo, split-face study of the effect of a cosmetic formulation**, *European Journal of Dermatology*, www.john-libbey-eurotext.fr/articles/ejd/9/6/455-7,

Modulation of the rheological characteristics of sebum at the surface of the skin might represent a valuable strategy for the treatment of seborrhea. In this field, only a small number of studies have addressed sebum diffusion within the stratum corneum. In an open, split-face study conducted on 20 men, we measured the sebosuppressive effect of Effidrate cream which is based on a glycerol alkyl-ether. Measurements were made in the morning at three-week intervals for a total period of 3 months. Sebum casual levels and sebum excretion rates were measured using a SM810 Sebumeter.

L. R. Caspar, P Maia Campos, et. al., **Evaluation of the protective effect of alpha-tocopherol acetate in a sunscreen, preventing erythema and transepidermal waterloss**, *Posters of the 22nd IFSCC Congress*, Edinburgh 23.-26. Sep. 2002

T. Nguyen, EK Novak, M Kerminani, et.al., **Melanosome Morphologies in Murine Models of Hermansky-Pudlak Syndrome Reflect Blocks in Organelle Development**, *Society for Investigative Dermatology*, 2002

Hermansky-Pudlak syndrome is an autosomal recessive disease characterized by pigment dilution and prolonged bleeding time.

Astrid Castro, **Quantitative measurement of skin color changes with visual assessment correlation**,

The findings confirmed the suitability of developed clinical trial protocol for skin whitening efficacy evaluation using the Mexameter MX 16 as a tool for the quantitative measurement of skin color changes. The procedure of standardization used in the study is simple and workable in a clinical setting. Factors of importance include the control of test site as well as environmental controls.

Astrid Castro de Castro, **Evaluacion in vivo de despigmentantes de origen natural y/o biotecnologicos**

Teniendo presente la alta incidencia de hiperpigmentaciones, y la necesidad de obtener un producto seguro, efectivo y sin reacciones adversas, nos propusimos evaluar in vivo la accion despigmentante de una sustancia obtenida por Biotecnología mezclada con extractos naturales, que denominamos "N-M" contra otras ya conocidas de origen quimico y vegetal, que correspondian al Extracto de Glycyrrhiza Glabra, Acido Kojico, Hidroquinona y Extracto de Fagus Sylvatica.

R. Huei Chen, W. Yuu Chen, **Skinhydration effects, film formation time, and physicochemical properties of a moisture mask containing Monostroma nitidium water-soluble mucilage**, *Journal of Cosmetic Science*, Vol. 54, No. 1, Jan./Feb. 2003

The objectives of the study were to explore the effects of using the water-soluble mucilage of *Monostroma nitidium* to replace the humectant and half of the thickening agent on the rheological properties, color, storage stability, water-holding capacity, and film formation time of moisture masks thus prepared. Results showed that moisture masks containing water-soluble mucilage were pseudoplaxtic fluids.

HK Lee, SY Ahn, JH Bae, SJ Moon, IS Chang, Comparisons of skin characteristics between men and women using non-invasive methods in young healthy Asians, Skin Research and Technology, Vol. 9, Nr. 2, May 2003, "Abstract Nr. P84".

Objective: Skin has different properties depending on intrinsic effects such as inherent factors, race, gender, and so on. Besides, it has been known that skin may change because of the environmental stress such as UV, climate and life style.

H. S. Oh, M. H. Lee, S. Y. Park, H. C. Kim, New Skin colour analysis technique, Skin Research and Technology, Vol. 9, Nr. 2, May 2003, "Abstract Nr. P114".

It is very important aspect in skin color analysis that the objective evaluation of color distribution in same image. But conventional spectrophotometer are able to analysis as average value of region of interest (ROI) not to color distribution analysis. We tried to develop the new skin color analysis technique so as to objective measured skin color distribution as a pixel or ROI using liquid crystal tunable filter (LCTF) and CCD camera (so called Skin Color Distribution Analyser: SCDA).

A. Castro de Castro, S.H. T. Casares, Luis Augusto Castro Sader, Efectividad de activos naturales para evitar la formacion de la piel de naranja, Colamiq Congress in Cartagena, 2003

La aparacion de la aestetica piel de naranja conjuntamente con la disminucion de la forma, sedosidad, y brillo de la piel de un cuerpo joven, afecta la imagen femenina de tal forma que hoy en dia, se ha transformado en un verdadero problema social y psicologico, padecerla es peor que tener algun mal que genere dolor.

L.R. Gaspar, P.M.B.G.Maia Campos, Evaluation of the protective effect of alpha-tocopheryl acetate in a sunscreen, preventing erythema formation, transepidermal water loss and sunburn cell formation, IFSCC , Vol. 6, No. 3/2003

Nowadays, vitamin E acetate is used as an antioxidant and moisturizer in sunscreens. Although free vitamin E presents UV protection effects, little data has been forthcoming documenting the beneficial effects of vitamin E acetate on cutaneous photodamage, when combined with sunscreens. The aim of this study was to evaluate the protective effect of a sunscreen formulation with or without vitamin E acetate on erythema in hairless mice, transepidermal water loss (TEWL) and sunburn cell formation.

S.T. Casares, A. Castro de Castro, L.A. Castro Sader, Efectividad de activos naturales para evitar la formacion de la piel de naranja, XVI Congreso latinoamericano e iberico Quimicos Cosmeticos, 15-18. Sept. 2003

La aparicion de la aestetica piel de naranja conjuntamente con la disminucion de la forma, sedosidad, y brillo de la piel de un cuerpo joven, afecta la imagen femenina de tal forma que hoy en dia, se ha transformado en un verdadero problema social y psicologico, padecerla es peor que tener algun mal que genere dolor.

A.E. Sagiv, Y. Marcus, The connection between in vitro water uptake and in vivo skin moisturization, Skin Research and technology 2003, 9, 306-311

Adding hydroxyl groups to a consecutive set of polyhydroxyalkanes increases the humectancy of the polyols in vitro. This elevation was found to be linear at low relative humidities (Relative humidity = 31,9% and 37°C). In vivo, moisture was returned to normal within a week in all three groups. However, only glycerol managed to abolish the erythema within 7 days.

J. Wiechers, S. Swaminathan, The equaliser, SPC Asia, Nov. 2003

In the quest to find the fountain of youth for skin, formulators of personal care products search for ingredients with the potential to change skin back to the way it was when we were young adults. Formulators have yet to find these magic ingredients but in their search they have devised skin-toning materials that go a long way towards biologically changing the skin.

E. Hernandez, Bioengineering in Dermatology and Cosmetology: Methods, Studies and Prospects, SÖFW-Journal, 129. Jahrgang 11-2003.

One of the trends in modern dermatology and its perspectives for the near future are skin bioengineering and imaging. The 1st joint meeting of two scientific societies focusing on measurements and visualisation of skin function, structure and physiology – the International Society for Skin Imaging (ISSI) – took place in Hamburg, May 21-24, 2003. Before that, the meetings and conferences organised by these societies had been held separately.

PCIA, Guangzhou/ China: Conference Proceedings, Step Exhibition Ltd., Kent, UK. 2003.

This CD-Rom contains a number of interesting articles about the usage of different, cosmetological applicants (like applying special, new designed facial colour products, special natural products etc.). The effect on skin is investigated, such as sebum or melanin.

Dr. Hans Lautenschläger, Individuell den Sonnenschutz messen, Kosmetik International, Vol. 8, 2004.

Die Sonne aktiviert unseren Stoffwechsel und fördert unser Wohlbefinden (siehe Ki 7/04, S. 77). Allein die richtige Dosis entscheidet über die heilende oder schädigende Wirkung. Ein Übermaß an Sonnenlicht führt zu Sonnenbrand und kann bei langfristiger Lichtschädigung das Risiko für Hautkrebs erhöhen. Die Abnahme der Ozonschicht wird für den deutlichen Anstieg von Hautkrankheiten, Hautkrebs und Allergien der Atemwege verantwortlich gemacht.

S. Savic, S. Tamburic, M. Savic, N. Cekic, J. Milic, G. Valuta, Vehicle-controlled effect of urea on normal and SLS-irritated skin, International Journal of Pharmaceutics, Okt. 2004.

It is known that, depending on the concentration, treatment with urea could improve skin barrier function, despite its penetration-enhancing properties. This controversial skin effect of urea has been explored systematically in this study in terms of the effect of vehicle on the performance of urea. In the first part, a series of four semi-solid emulsions with 5% (w/w) urea, varying in the type of emulsion, nature of emulsifier and polarity of oil ingredients, have been evaluated with regard to their skin hydrating and transepidermal water loss (TEWL)-modifying properties.

C. Vincent, M. Szubert, I. Eris, The assessment of efficacy, tolerability and cosmetic features of Diosperin K 1% PROLONGATUM cream containing complex of diosmine, hesperidine and vitamin K, Poster Presentation Centre for Science and Research Dr. Irena Eris, 2005.

Face redness and couperoses can cause very negative visual effect and influent on patients' quality of life. Such type of skin requires special regime. Application of very gentle cleaners, sun protective products and appropriate cosmetic creams can improve the skin condition and minimize the red face effect.

Paola Granata, Roberto Maffei Facino, Adriano Ghirardini, Enzo Berardesca, Grazia Primavera, Manuela Carrera, TYROSYL-HISTIDINE DIPEPTIDE: A NEW APPROACH AGAINST PREMATURE AGING, Presentation at the ISCC in Florence 2005. *

Oxidative fragmentation of polyunsaturated fatty acids in the skin generates cytotoxic aldehydes, mainly 4-hydroxy-trans-2-nonenal (HNE), involved in premature skin aging and photo-aging, due to the formation of collagen and elastin cross-links, skin enzymes inactivation, accumulation of lipid peroxidation products. Since histidine-containing dipeptides have been recently shown to possess carbonyl quenching activity, we developed a series of different dipeptides with the aid of combinatorial chemistry and each of them was subjected to antioxidant and anti-carbonyl assays, in a cell-free model using the ORAC assay (Oxygen Reactive Antioxidant Capacity) for anti-lipoperoxidant activity, HPLC analysis for the evaluation of the HNE quenching ability and LC-MS/MS for the characterization of the site and of the mechanism of adduction.

G Oberto, A Berghi, F Portolan, E Bauza, C Dal Farra, and N Domloge, Cotton Honeydew Oligosaccharides for Hair Care Cosmetics, Presentation at the ISCC in Florence 2005. *

Cotton honeydew extract is a unique composition of oligosaccharides, including fructose, glucose, inositol, melezitose, saccharose, trehalose, and trehalulose.

The interaction of these oligosaccharides provides a stimulating effect on keratin synthesis, which

allows for protection against nutrient deprivation and osmotic stress. Consequently, we were interested in studying the effect of these oligosaccharides on human hair, using scanning electron microscopy.

P. Tengamnuay, T. Rojanadilok, Comparative Efficacy Evaluation of Some Commercial Skin Whitening Lotions, Presentation on the IFSCC in Florence 2005.

To have a white, smooth skin appears to be the most desirable feature among women, especially those from Asian countries like China, Japan, Korea and Southeast Asia. As a result, a great number of whitening products is available on the market. The active whitening ingredients in these products range from conventional UV filters to highly sophisticated combination of various skin-whitening agents.

Sonnen-Apotheke, Kötzing, Dermokosmetik, Beratung in der Apotheke, PTA Nr. 11, Oktober 2005.

Eine gute Unterstützung bei Promotionaktionen zum Thema „Hautpflege“ sind Hautanalysegeräte. Sie erleichtern den Einstieg in die Beratung, individuell auf den Hauttyp und Hautzustand der Kundin oder des Kunden abgestimmt.

D. Kowatzki, C. Machold, K. Krull, P. Elsner, J.W. Fluhr, Regeneration kinetic of sweating, Stratum Corneum hydration, Surface pH, Sebum production and mechanical properties is not altered by regular sauna bathing, Presentation on the ISBS Meeting 2005 in Philadelphia, USA, abstract.

Wellness and especially sauna bathing are of growing interest in modern health care. The positive effect of sauna for general health is well documented. However, to our knowledge no controlled studies have been published on the effect of sauna on skin physiology.

J.W. Fluhr, M. Breternitz, M. Flach, P. Elsner, Acute experimentally induced barrier disruption by tape stripping is influenced by pressure, time and anatomical location: Integrity and Cohesion assessed by sequential tape stripping, Presentation on the ISBS Meeting 2005 in Philadelphia, USA, abstract.

Tape stripping is a well-known procedure in stratum corneum physiology research. Adhesive films are pressed to the surface of SC and then removed. The superficial layers of SC adhere on the film and are accessible for further investigations. Although this method is widely used, only few information about standardization are known.

R. Ismail, S. Ahmad, Sodium lactates in skin lightening formulations: its synergy with other skin lightening agents, Presentation on the IFSCC in Florence 2005.

In many Western countries, skin lighteners and related products sold in the market are aimed to prevent and treat melasma, freckles and age spots. However in Asia, skin-lightening products are primarily used to achieve the beauty ideal of a white and flawless skin, although they also treat problem areas.

Wolfgang Geissel, Gesunde Haut durch gute Beratung, Igel Plus: Juni 2006, pp. 18-19.

Wird ein Mensch in der Sonne überhaupt braun und wenn ja, wie schnell und wie intensiv? Bekommt er schnell einen Sonnenbrand? Mit einer kurzen Anamnese lässt sich der Hauttyp eines Menschen grob in die Phototyp-Skala einordnen, sagt PD Joachim Fluhr von der Klinik für Dermatologie der Universität Jena.

D. Khazaka, Objective Measurement at all Stages of the treatment, 5th Asia Pacific Conference on Antiaging Medicine, Bali, September 2006.

The days are over when a dermatologist only looked at the skin to make a diagnosis and to decide about the following treatments and to recommend skin care products to use. For almost 20 years now there is scientific equipment available to measure different parameters on the skin, such as hydration and sebum level, pH, elasticity, pigmentation skin texture and wrinkles and many more.

E. Sang Park, J. Im Na, S. Ok Kim, Ch. H. Huh, S. W. Youn, K. Ch. Park, Application of a pigment measuring device - Mexameter® - for the differential diagnosis of vitiligo and nevus depigmentosus, Skin Research and Technology 2006, 12, pp.298-302.*

Vitiligo, an acquired pigmentation disorder, is characterized by a loss of melanocytes and results in white skin patches. Nevus depigmentosus (ND) is frequently confused with vitiligo, and is defined as a congenital non-progressive hypopigmented lesion that is stable in terms of size and distribution throughout life (1).

*Tracy Sherwood, **Just Below the Surface**, GCI Magazine (Dec. 2006), pp. 34-35.*

In order to substantiate claims, manufacturers and brands must prove that their products do what they claim with the safety of the consumer in mind. The Cosmetic, Toiletry and Fragrance Association (CTFA) recently introduced its new commitment code for cosmetic companies, promoting industry self-regulation regarding product safety.

*Jean Luc Levy, Lise Agopian, Bernard Chadoutaud, Philippe Msika, **Effect of a new cosmetic formulation on reducing cutaneous pigmentation**, AB174 J AM ACAD DERMATOL*

Intracellular signal transduction pathways regulating melanogenesis imply PKC, camp through the activation of PKA and NO. A new whitening formulation that targets these three different pathways, has been tested on melasma with image analysis and a particular interest on the quality of life (QoL) of the volunteers.

*Hanh Pham, Pearl Grimes, Aruna Parikh, Brian Jones, **Efficacy of a skin lightening regimen to improve melasma**, AB170 J AM ACAD DERMATOL*

Melasma is a common disorder of hyper-pigmentation. It is characterized by symmetrical brown-grey pigmentation affecting the cheeks, forehead, upper lips and chin. It impacts all women, although the disease is more commonly observed in darker racial ethnic groups. The condition is more common in areas with intense ultraviolet light exposure.

*E. Berardesca, **Bioengineering as a Tool in Occupational Dermatology**, Dermatologie in Beruf und Umwelt, Jahrgang 55, Nr. 2/2007, p. 67*

Bioengineering techniques have been proven to be helpful in monitoring changes in skin physiology and quantifying skin disease. Detection of subliminal or non visual changes is a challenge in order to predict potentially pathological conditions such as irritation or pre-clinical dermatitis.

*M. Andreas, R. Bilenchi, G. Mariotti, M. Centini, L. Andreassi, C. Anselmi **Phytic Acid: a Novel Topically Active Antioxidant Suitable for Cosmetic Preparations**, 21st World Congress of Dermatology, Buenos Aires, Argentina*

Many substances with antioxidant activity are present in the human skin, and their concentrations are generally higher in the epidermis than in the dermis. Under the effect of an oxidative stress, such as that caused by ultraviolet (UV) rays, these substances are strongly depleted, especially in the external epidermal layer

*B. Piot, J. De Rigal, C. Yarhi, D. Compan-Zaouati, M. Lefebvre, **The skin sebaceous function: in Asian and Caucasian climate influences**, 21st World Congress of Dermatology, Buenos Aires, Argentina*

Objective of the study: The first objective was to compare the sebaceous function in Asian and Caucasians, female, in real life conditions, using both instrumental measurement and visual evaluation by expert. A second objective was to investigate climate induced changes in the sebaceous function on a separate group of Japanese women, using the same methodology.

AV. Anstey, A. Carter, K. Wyness, M. Kalavala, C. Edwards, A Study to Assess the Use of TL01 Dose Response Curves to Inform an Incremental Regimen for Narrow Band UVB Phototherapy in Psoriasis, 21st World Congress of Dermatology, Buenos Aires, Argentina, 2007

Variation in narrow-band UVB (nbUVB) psoriasis treatment regimens between phototherapy units affects the starting dose, the dosage increments and the ceiling dose. In the UK it is now standard practice in most units to determine the minimal erythema dose (MED) on unaffected skin before phototherapy commences, which informs the starting dose selected for each patient. A dose-response curve for each patient can easily be constructed from the MED dose series without additional UVB irradiation.

CG. Sason, VM Verallo-Rowell, The Efficacy and Safety of Illuminants Anti-Perspirant with Gigawhite Versus Vehicle for Axillary Hyperpigmentation: a Double Blind, Parallel Group, Randomized Clinical Trial, 21st World Congress of Dermatology, Buenos Aires, Argentina, 2007

Axillary Hyperpigmentation is a significant cosmetic concern of people with skin of color, most especially those of women. The objective of this study was to determine the efficacy and safety of illuminants Anti-perspirant with Gigawhite in the treatment of axillary hyperpigmentation. This study utilized a double blind randomised parallel group design.

N. Chua-Vivar, EJ. Masa, E. Handog, MS. Obleplass, A Prospective Randomized, Double-Blind, Placebo-Controlled Trial on Efficacy of 10% Vitamin C Solution, Applied Using Iontophoresis Technology, in The Treatment of Melasma in Filipino Women, 21st World Congress of Dermatology, Buenos Aires, Argentina, 2007

Background/Objective: Melasma is one of the major cosmetic concerns among Asians and Hispanics. Among management options, hydroquinone has gained wide application despite the increasing incidence of adverse effects associated with its use, even in preparations of lower potency. Iontophoresis, a modality for enhancing drug penetration, is considered safe, effective, non-invasive and in combination with whitening agents is purported as safer alternatives in treating melasma.

P. Msika, JL. Levy, L. Agopian-Simoneau, B. Chadoutaud, Effect of a New Cosmetic Formulation on Reducing Cutaneous Pigmentation: A Clinical And Biometrological Approach, 21st World Congress of Dermatology, Buenos Aires, Argentina, 2007

Intracellular signal transduction pathways regulating melanogenesis imply PKC, camp through the activation of PKA and NO. A new whitening formulation, that targets these three different pathways, have been tested on melasma, with image analysis and a particular interest on the Quality of Life (QoL) of the volunteers. The tested product was a cosmetic cream containing protein kinase C (PKC) and protein kinase A (PKA) inhibitors, vitamins E and C.

C. Grolsman, C. Selem, S. Pérez Damonte, N. Delic. P. López, Etidronic Acid a New Concept of Action for an Active Ingredient of Conventional Use, 21st World Congress of Dermatology, Buenos Aires, Argentina, 2007

Study Purpose: The aim of this study is the Etidronic Acid use (EA). This active ingredient is a biphosphonate, the 1-Hidroxyethylidene-1, 1-di-phosphonic Acid. This active ingredient is well known in the medical field and its application in different treatments. EA is also listed as an ingredient of several cosmetic formulations such as soap bars and shampoos.

R. Yankova Skin Photoirritation and Provoked Pigmentation Rates Related to Topical Anti-Acne Agents, 21st World Congress of Dermatology, Buenos Aires, Argentina, 2007

To investigate the skin photoirritation and pigmentation due to anti-acne topical treatments we enrolled fifty volunteers in a study to evaluate the UV erythema after applying ten anti-acne formulations. 3%, 5% and 10% benzoyl peroxide gel, 0,01 %, 0.025% and 0.05% tretinoin cream, 3% tetracycline hydrochloride ointment, 1% clindamycin phosphate lotion, 1,2% zinc acetate dihydrate + 4% erythromycin lotion, and 20% azelaic acid cream.

S.H. Lim, S.M. Kim, Y.W. Lee, K.J. Ahn, Y.B. Choe **Change of biophysical properties of the skin caused by ultraviolet radiation-induced photodamage in Koreans**, *Skin Research and Technology* 2008; 14, pp. 93-102

Ultraviolet (UV) irradiation affects the function and complexion of the skin by inducing changes in physical properties through formation of erythema, proliferation of epithelial cells, DNA damage, activation or inactivation of various enzymes and proteins, and free radical formation. In this study, the authors intended to observe the overall course of changes in barrier function and reflectance of the skin induced by photodamage, and healing reaction in the course of time, and alteration of skin complexion

Naveed Akhtar, Gulfishan Ahmed, Mahmood Ahmed, Nazar Ranjha, Ahmad Mahmood, **Grapefruit Extract Cream: Effects on Melanin and Skin**, *Cosmetics and Toiletries magazine*, Vol. 123, No. 1/January 2008, pp. 55-68

Emulsions are thermodynamically unstable systems defined as microscopic dispersions of liquid droplets contained within another liquid, with a diameter ranging from 0.5 to 100 μm . Emulsions usually consist of mixtures of an aqueous phase with various oils or waxes.

Evaluation of dark circles of the lower eyelid: comparison between reflectance meters and image processing and involvement of dermal thickness in appearance

Skin and Research Technology Vol14, No.2 May 2008

Dark circles of the lower eyelid (DCLE) are areas of darkened skin that may indicate hyperpigmentation and/or stasis in the lower eyelids and may represent a beauty problem in severe cases. Furthermore, a concave sunken eye area changes light reflection to create shadowing and accentuate dark circles (1).

Efficacy evaluation and characterization of chitosan nano emulsions with Spirulina hydro-glycolic extract;

del Pozo A1, Solans M1, Fernandez C1, Dolz M2, Corrias F3, Herráez M3; Ifscc Barcelone 2008
Nanoemulsions represent an interesting prospect for use as vehicles in the development of formulations to deliver active ingredients to the human body. Particularly, nanoemulsion formulations have been shown to be superior for transdermal and dermal delivery of hydrophilic and lipophilic compounds, compared to conventional vehicles, such as hydrogels and emulsions. Lecithins (phosphatidylcholines) have been used in several studies as surfactants for topical nanoemulsion vehicles. These surfactants are able to form nanoemulsions without cosurfactants. In this context, less surfactant is associated with lesser irritation

New approach to a non-invasive visualization of whitening effects in UV-induced pigmentation using In vivo reflectance confocal microscopy;

GW Nam, EJ Kim, HK Lee, SM AHN, SH Kim, SJ Moon and IS Chang; Ifscc Barcelona 2008

Hyperpigmentation on face is a highly anxiety-producing symptom, especially for women from the aspect of beauty. Pigmentation of the skin is related to the amount of melanin that provides protection against UV radiation. *In vivo* reflectance confocal microscopy is a non-invasive imaging tool allowing visualization of the skin without tissue alteration, by placing a microscopy directly on the living skin.

Bi-Functional Study of Ion Calcium in the Skin

Silvia H.Pérez Damonte1, Claudia Liliana Selem, Claudia Groisman; Ifscc Barcelona 2008

The Calcium ion has an important function in the skin. Its gradient plays a role in regulating epidermal growth and differentiation *in-vivo*. In the intact epidermis, the extra cellular calcium content is low in both, malpighi and spinosum strata, but increases from the inner to the outer layer of the stratum granulosum [1]. Also, the calcium ion participates in the formation of the epidermal desmosomes, fibroblasts and keratinocytes, which provide the integrity and firmness of the skin [2]. All of these factors are important for the correct function of the epidermal barrier.

Safety Assessment for Nickel in Cosmetics; *Silvia H Pérez Damonte; Ana Maria Martín; Marta Edit Daraio ; Ifsc Barcelona 2008*

Many environmental chemicals produce contact hypersensitivity or local inflammatory responses in the skin. Nickel released from metal objects is well known as a sensitizing agent in humans. Since the initial damage caused by nickel remains to be the leading cause of skin disorders such as allergic contact dermatitis worldwide, the aim of this study is to investigate if the content of nickel in cosmetics could produce such reactions.

Anti-acne activity of Thyme oil and its applications for cosmeceutical acne care: An innovative Anti-acne challenger; *Ha Hyun Jo1, Chang Gyu Han1, Kwan Young Jeong1, Jang Su Kim1, Byeong Jun Park1, Ifsc Barcelona 2008*

The skin disease which acne occurs in papule, pustule, cystoma and tuber for teenagers and young generation. The origin of acne takes part in various factors. The main factors are 1) increased Sebum 2) cornification of sebaceous glands 3) Propionibacterium 4) inflammation.

Relevance of Lipid Self-Assembly in Nanostructures on the Skin Properties; *Lucyanna Barbosa-Barros, Clara Barba, Luisa Coderch, Alfons de la Maza and Olga López. Departament de Tecnologia de Tensioactius, I.I.Q.A.B.-C.S.I.C. Barcelona, Spain, Ifsc Barcelona 2008*

Phospholipid systems show high morphological diversity as a function of its structure and composition [1]. This fact plays an important role in the applications of aggregates such as micelles, bicelles and vesicles, which are extendedly used in skin research [2]. Thus, investigations that help clarifying the relation of structural parameters with the effect of the phospholipid aggregates in the skin are needed. Liposomes and micelles have often been used for skin treatment [3-4], although their application is debated due to some aspects. Liposomes seem to be too large to penetrate into the narrow interlamellar spaces of stratum corneum (SC) lipids [5]. Concerning to the micelles, the usual presence of surfactant in their composition supposes a problem due to the well known irritating effect of these solubilising agents on the skin [6]. In this line, the use of bicelles (discoidal micelles constituted by phospholipids) for skin treatment may report advantages comparing to the use of liposomes and micelles: the size of bicelles is small enough for passing through the SC lipid lamellae and their composition consists exclusively of lipids.

del Pozo A¹, Solans M¹, Fernandez C¹, Dolz M², Corrias F³, Herráez M³, Diez-Sales O.; **Efficacy evaluation and characterization of chitosan nanoemulsions with Spirulina hydro-glycolic extract;** *Ifsc Barcelona 2008 (Poster)*

Nanoemulsions represent an interesting prospect for use as vehicles in the development of formulations to deliver active ingredients to the human body. Particularly, nanoemulsion formulations have been shown to be superior for transdermal and dermal delivery of hydrophilic and lipophilic compounds, compared to conventional vehicles, such as hydrogels and emulsions [1]. Lecithins (phosphatidylcholines) have been used in several studies as surfactants for topical nanoemulsion vehicles. These surfactants are able to form nanoemulsions without co-surfactants.

B. Sadr, S. Davoudi, A. Firooz, S. Keshavarz, M. Shohrati, M. Naghizadeh; **FP0466 COMPARISON OF ERYTHEMA AND MELANIN LEVEL IN SULFUR MUSTARD INDUCED CHRONIC SKIN LESION WITH NORMAL SKIN;** *Abstract; EADV Paris 09/2008;*

Background: Sulfur mustard gas is a chemical agent that has been used in many wars, especially in Iran-Iraq war. This chemical agent affects many organs including lungs, eyes and skin and causes numerous acute and chronic lesions including erythema and hyperpigmentation, respectively.

Objective: This study was conducted to evaluate erythema and melanin in subjects with a history of exposure to sulfur mustard.

C. Huh, M. Choi, S. Lee, S. Kim, Y. Park, B. Kim, H. Park, S. Choi, S. Youn, K. Park; FP0723 Low dose 1064nm Q-switched Nd:YAG laser for the treatment of melasma; Abstract; EADV Paris 09/2008;
Background : Melasma is a common acquired pigmentary disorder that is known for its recalcitrance to the conventional treatment. Although Q-switched Nd:YAG laser(QSNYL) is widely used for the treatment of melasma, little has been published regarding its effect.
Objectives: In this study, we would like to know the effect of low dose 1064nm QSNYL(MedLite C6, HOYA Conbio, CA) on the treatment of melasma objectively.

Diana Khazaka, Christiane Uhl; More than 2 decades of bioengineering for efficacy testing and product recommendation; Household and Personal Care TODAY, n1/2009,
Due to high competition in the cosmetic and growing customer expectations, in the past two decades there has been a continuous development of new cosmetic products with more efficient ingredients covering new effects on the skin. Simultaneously to this, there was an increasing demand for new measuring techniques to substantiate the new product claims. The field of skin bioengineering has consequently been immensely enriched in the last years by inventing new physical and optical measurement methods for all kind of skin parameters.

Bernadette nedelee, Jose A. Correa, Grazyna Rachelska, Alecis Armour, Leo LaSalle; Quantitative Measurement of Hypertrophic Scar: Intrarater Reliability, Sensitivity, and Specificity; Journal of Burn Care & Research May/June 2008
The comparison of scar evaluation over time requires measurement tools with acceptable intrarater reliability and the ability to discriminate skin characteristics of interest. The objective of this study was to evaluate the intrarater reliability and sensitivity and specificity of the Cutometer, the Mexameter and the DermaScan C relative to the modified Vancouver Scar Scale (mVSS) in patient-matched normal skin, normal scar (donor sites), and hypertrophic scar.

Bernadette nedelee, Jose A. Correa, Grazyna Rachelska, Alecis Armour, Leo LaSalle; Quantitative Measurement of Hypertrophic Scar: Intrarater Reliability and Concurrent Validity; Journal of Burn Care & Research May/June 2008
Research into the pathophysiology and treatment of hypertrophic scar (HSc) remains limited by the heterogeneity of scar and the imprecision with which its severity is measured. The objective of this study was to test the interrater reliability and concurrent validity of the Cutometer measurement of elasticity, the Mexameter measurement of erythema and pigmentation, and total thickness measure of the DermaScan C relative to the modified Vancouver Scar Scale (mVSS) in patient-matched normal skin, normal scar, and HSc.

Masaki Yamaguchi, Yusuke Tahare, Teruhiko Makino, Tadamichi Shimizu, Akira Date; Comparison of Cathepsin L activity in cheek and forearm stratum corneum in young female adults; Skin Research and Technology 2009K; 15; 370-375
Noninvasive determination of skin surface proteolytic activity may be useful for the diagnosis of human disease and the potential of skin. The cathepsin family is one of the metabolizing enzymes of the skin cell and it includes aspartic protease cathepsin D and cysteine proteases cathepsin B, H, and L. Cathepsin L is a lysosomal cysteine protease with a major role in intercellular protein catabolism.

Yuan-Hong Li, Yan Wu, Hua-chen Wie, Yuan-Yuan Xu, Li-Li Jia, Jing Chen, Xue-Song Yang, Guang-Hui Dong, Xing-Hua Gao, Hong-Duo Chen; Protective effects of green tea extracts on photoaging and photomunosuppression; Skin Research and Technology 2009; 15; 338-345

Itg is well known that solar ultraviolet radiation (UVR) causes many detrimental events, e.g. sunburn, immunosuppression, skin carcinogenesis as well as photoaging. Acute UVR results in epidermal thickening and expression of proliferation and differentiation markers, such as Ki-67 and cytokeratins (CK)-1, 6 (3, 4).

Alain Khaiat, Paula Belinski, Haim Lasser, Yoram Kamron, Unique technology for safe and effective skin whitening; Personal Care, September 2009

Melanin, the dark pigment in the skin, is produced in the basal layer of the epidermis by specialized cells, the melanocytes, and transported, following its complete formation, to the upper layers of the epidermis where it enters into skin cells (keratinocytes) to give them their typical colour. Ageing-associated accumulation of melanin in the upper layer of the skin is the main cause for pigmentation disorders, which is observed in Asian skin as uneven hyperpigmentation at younger ages.

W. Pratchyapruit; Grading of improvement and relapse in melasma of thai females after 8 weeks-treatment with a combined cream of hydroquinone, steroid and tretinoin; ISBS Barcelona, 2009

Melasma is a common skin problem in any races including Asians. It commonly occurs in Thai females, age 30-40 years and females outnumber males about 13:1. In addition to multiple etiologic factors, the environmental factor of Thailand as a tropical and sunny climate country constitutes a definite factor responsible for improvement and relapse of pigmentation after any treatments. At present, the topical treatment consisting of hydroquinone (HQ), steroid and tretinoin together with sunlight protection is a standard treatment for melasma.

Kerstin Luise Gebhard, Evaluation und Standardisierung von Hauttestungen zur Diagnostik der irritativen Kontaktdermatitis; Digitale Bibliothek der Universität Marburg, 2004

Ziel der vorliegenden Arbeit ist es, durch Variation verschiedener Applikationszeiten, Konzentrationen und Vorbehandlungen (VB) der Teststellen zu evaluieren, ob der bisher übliche 24-stündige epikutane Irritationstest auf 4 Stunden verkürzt werden kann. Hierzu wurde an 36 hautgesunden Probanden ein epikutaner Natriumlaurylsulfat-Test (NLS-Test) auf die oberen Rückenpartien appliziert. Folgende Variablen wurden hierzu angewendet: a) Applikationszeiten: 4 und 24 Stunden b) Messzeitpunkte: 4, 24 und 72 Stunden c) Testkonzentrationen: 0,5%, 1%, 2%, 5% NLS-Lösung in aqua dest. d) Fünf verschiedene VB der Teststellen.

Joachim Fluhr, Objektive Messmethoden bei dermatologischen Erkrankungen; 18th Congress of EADV Berlin, 2009

Der Kurs unter Leitung von Priv. Doz. Dr. Fluhr, Berlin, Prof. Jemec, Kopenhagen (Dänemark) und Prof. Berardesca, Rom (Italien) ist darauf ausgelegt, das Basisverständnis für biophysikalische Messungen der Haut zu vermitteln. Diese Messungen sollen dann für die quantitative Bewertung der Schwere und Verlaufs von spezifischen Hauterkrankungen herangezogen werden. Über die letzten drei Dekaden wurden multiple nicht-invasive Instrumente für die quantitative oder semi-quantitative Erfassung von hautphysiologischen Parametern entwickelt und validiert

Y. Tian, T. Hoshino, C.J. chen, Y.E. S. Yabe, W. Liu, The evaluation of whitening efficacy of cosmetic products using a human skin pigmentation spot model; Skin Research and Technology 2009, 15; pp. 218-223

To establish a pigmentation spot model on human skin and to assess whitening efficacy for whitening products by this established pigmentation spot model. Twenty subjects between 20 and 45 years old with skin phototype III or IV were selected. Three consecutive daily UV exposures were performed on buttocks of the subjects as follows: Day 1 = 1 minimal erythema dose (MED), Day 2 = 0,5 MED and Day 3 = 0,5 MED.

Montserrat Mangués, José M. García-Anton, Albert Calvillo, Cristina Crreno; Assessment of new skin brightening agents; Personal Care, November 2009, pp. 31–36

Exogenous causes, particularly chronic ultraviolet light exposure, are a common factor in pigment abnormalities such as melasma, solar lentigines (or age spots), freckling, mottled pigmentation, and ephelides. There are numerous internal and external stresses that affect human skin pigmentation. Exposure to certain drugs and chemicals as well as the existence of certain disease states can result in hyperpigmentation. Post-inflammatory pigmentation, another skin hyperpigmentation disorder, usually develops after resolution of inflammatory skin eruptions like acne, contact dermatitis or atopic dermatitis.

www.mani.at/pages/gesundbheit/studie-zur-olivencreme.php

Positiver Effekt der Mani Bio-Olivenölcreme

Motivation der Studie war herauszufinden, ob die Mani Bio-Oliven Crème anti-inflammatorische (entzündungshemmende) Eigenschaften hat und zur schnelleren Wundheilung beiträgt. Bei Behandlung von leichten Verbrennungen mit dieser Creme ist aufgefallen, dass der Schmerz schnell nachlässt und die Haut sich schneller regeneriert. Aus diesem Grund hat die Firma Bläuel in Zusammenarbeit mit alchemia-nova und Unterstützung der österreichischen Forschungsförderungsgesellschaft mbH beschlossen, diesen Erfahrungswert zu überprüfen. Eine Studie von alchemia-nova kann in diesem Auftragsumfang auf keinem Fall einer klinischen ähnlich kommen und eine Bewertung auf heilende Eigenschaften kann nicht zu medizinischen Zwecken erfolgen.

Martha Tilaar, Wong Lip Who, Anna S. Ranti, S.M. Wasiaatmadja, Suryaningsih, Maily; Hibiscus rosasinensis extract – Its whitening and moisturizing properties; Household and Personal Care TODAY – n 4/2009

The demands on whitening skin care products have shown tremendous growth in recent years, along with the expectation of its safety and efficacy. With the influence of back to nature trend, people prefer the products containing natural ingredients as they have perception that those kinds of products tend to be safe and compatible with their skin. As an answer for customer needs, Martha Tilaar Innovation Centre has conducted so many researches on potential plant extracts, which can deliver the whitening effect. Several aspects should be considered when utilizing botanical materials in cosmetic, such as, the quality of the plant materials, process, biological activity, and safety consideration.

Enzo Berardesca, Norma Cameli, Grazia Primavera, Manuela Carrera;

Clinical and Instrumental Evaluation of Skin Improvement after Treatment with a New 50% Pyruvic Acid Peel; Dermatol Surg 2006

Pyruvic acid is an α -keto acid that presents keratolytic, antimicrobial, and sebostatic properties as well as the ability to stimulate new collagen production and elastic fibers formation. Because of its low pK_a and its small dimension, it penetrates rapidly and deeply through the skin, so far as to be considered a potent chemical peel agent. It has proven its efficacy for the treatment of many dermatological conditions such as acne, superficial scarring, photodamage, and pigmentary disorders. Pyruvic acid application usually

induces intense burning, and the postpeeling period is characterized by erythema, desquamation, and, sometimes, crusting.

Regina Fearmonti, MD, Jennifer Bond, PhD, Detlev Erdmann, MD, PhD, and Howard Levinson, MD;

A Review of Scar Scales and Scar Measuring Devices; Open Science Company, LLC, June 21, 2010

Objective: Pathologic scarring affects millions of people worldwide. Quantitative and qualitative measurement modalities evaluate and monitor treatments. **Methods:** This article reviews the literature on available tools and existent assessment objectively characterize scar. **Results:** We describe the attributes and deficiencies of each tool and scale and critical. **Conclusion:** An optimal, universal scar scoring system is needed in order to better characterize, understand.

The Clearing Line Skin without Dark spots and fine lines, naturally; Marzia de servi

The Marzia de Servi Clearing Line is designed to target two skin concerns: dark spots resulting from an excessive production of melanin, and wrinkles. These aesthetic problems often appear simultaneously on the skin. Marzia de Servi has created a new cosmetic line that inhibits excessive melanin formation and leaves skin visibly brighter and eventoned. It also acts on fine lines, reducing them and smoothing skin appearance. All Marzia de Servi Clearing Line natural formulas products contain highly effective key ingredients, and respect skin's delicate physiological balance.

Ulrike Eich; **THERMISCHE VERLETZUNGEN IM KINDES- UND JUGENDALTER;** Lübeck 06.06.2007

Jedes Jahr verunglücken circa 7100 Kinder im Alter von 0 bis 20 Jahren durch thermische Unfälle, sodass sie stationär in einem der 44 Betten für Kinder in einem Schwerbrandverletzentzentrum in Deutschland behandelt werden müssen[86]. Thermische Verletzungen entstehen im Kleinkind- und Vorschulalter vorwiegend (etwa 85%) in Form von Verbrühungen, d.h. bei Kontakt mit heißen Flüssigkeiten[18, 20, 84]. Der Inhalt einer Tasse mit heißem Wasser genügt, um bis zu 30% der Körperoberfläche eines Säuglings- oder Kleinkindes zu verbrühen[27]. Verbrennungen treten hingegen häufiger bei Schulkindern auf und werden vornehmlich durch Hausbrände, Grillunfälle und Experimentieren mit dem Feuer hervorgerufen[11, 43, 62]. Bei circa 3000 Kindern verbleiben nach der Therapie einschränkende Narben[43, 62]. Diese sind häufig hypertroph, verursachen Schmerzen und Juckreiz und können zu funktionellen Einschränkungen führen[32]. Gut sichtbare Narben, insbesondere an Gesicht und Händen, können zudem auch psychosoziale Probleme im Leben der Kinder nach dem Unfall hervorrufen[51].#

Renata Debowska, Carmen Vincent, Karolina Bazela, Marcin Kruszewski, Barbara Winkler-Spytkowska, Adam Maciejczyk, Katarzyna Rogiewicz and Irena Eris; **The repair effect of Folacin on skin damage due to radiotherapy;** Kosmetische Medizin 2/2007

Zusammenfassung Obwohl medizinische und pharmakologische Fortschritte unübersehbar sind, ist die Behandlung bösartiger Tumore nach wie vor mit einem hohen Risiko unerwünschter Nebenwirkungen verbunden. Insbesondere bei der Strahlentherapie sind allgemeine Nebenwirkungen (Krankheitsgefühl und Unwohlsein) und lokale Nebenwirkungen wie kutane Strahlenschäden zu beobachten. Kutane

Strahlenschäden bedürfen einer entsprechenden Behandlung und Pflege sowohl während der Radiatio als auch nach Beendigung der Strahlentherapie. Viele Patienten greifen dabei nach kosmetischen Produkten, die die vorher geschädigte wieder in eine gesunde Haut zurückführen sollen. Ziel dieser Studie war es, Wirksamkeit, Tolerabilität und kosmetische Qualität einer Folacin-haltigen Creme während und nach Strahlentherapie zu untersuchen. In vitro wurden Experimente an primären Fibroblastenkulturen vorgenommen: Der Alkalincomet-Assay wurde verwendet, um die Reparaturwirkungen von Folacin auf Röntgenstrahlen-induzierte DNA-Schaden zu erfassen. Bei 41 Patienten mit Strahlentherapie führten wir in vivo Untersuchungen durch. Über nichtinvasive Verfahren wurden die Parameter Erythem, Feuchtigkeit der Haut und Talgbildung an den bestrahlten Körperregionen (Wangen, Hals oder Brust) jeweils 2, 4 und 8 Wochen nach Behandlung mit der Creme erfasst. Die Repairrate von DNA-Schäden war nach 15–30 min post radiationem höher bei Folat-behandelten primären Fibroblastenkulturen als bei Kontrollen. Unsere Daten sprechen für eine Folsäure-modulierte Reparatur der DNA mit einer rascheren Verknüpfung der Strangbrüche. Wir stellten eine wirksame Verbesserung der Hautparameter durch Folacin-haltige Creme unter Radiotherapie fest. Die Anwendung des Verums verminderte i. Vgl. zu Kontrollen Rötung und Couperose, verbesserte aber auch Hautfeuchte und Sebumgehalt. Die Creme wurde sehr gut durch die Patienten toleriert und ihre kosmetischen Eigenschaften waren überzeugend.

marzia de servi **The Clearing Line – Skin without Dark spots and fine lines, naturally**

The Clearing Line Skin without Dark spots and fine lines, naturally The Marzia de Servi Clearing Line is designed to target two skin concerns: dark spots resulting from an excessive production of melanin, and wrinkles. These aesthetic problems often appear simultaneously on the skin. Marzia de Servi has created a new cosmetic line that inhibits excessive melanin formation and leaves skin visibly brighter and even-toned. It also acts on fine lines, reducing them and smoothing skin appearance. All Marzia de Servi Clearing Line natural formulas products contain highly effective key ingredients, and respect skin's delicate physiological balance. Dark Spots Marzia de Servi Clearing Line targets dark spots often resulting from an excessive production of melanin in localized skin areas. Pigment-producing melanocytes cells start over-producing melanin resulting in localized unwanted dark spots. Clearing Line focuses on this type of problem by inhibiting melanin production. Hence the products can only be used on hyperpigmentation spots and are therefore absolutely non-effective on all other types of skin spots; i.e. spots resulting from microscopic skin lacerations, burns, surgery involving the use of an electric needle, etc.

Anna S. Ranti, Martha Tilaar, Wong Li Wih, Maily, Suryaningsih; Whitening agent derived from combination of plants; Personal Care September 2010, pp. 21-23

Whitening products have shown tremendous growth in recent years. This is especially true of tropical places like Indonesia where the local women strive to have a lighter skin complexion. There are many harsh whitening products in the market; however, consumers are now shifting towards the safer, naturally derived whitening agents. Several aspects should be considered when utilising plant materials in cosmetic, such as, the quality of the plant materials, process, its stability, biological activity, and safety consideration. The aim of this study is to look for a whitening agent from an Indonesian botanical

resource. This paper will describe a stable natural complex ingredient (SWC now referred to as the new whitening agent) extracted with ethanol from several plants.

Beurteilung von frühkindlichen Verbrennungen – Objektivität optimiert Therapie; aesthetic TRIBUNE, Ausgabe 8, Dezember 2006

Die Beurteilung von Narben erfolgt im Allgemeinen visuell und palpatorisch durch den Arzt. Darin liegt allerdings auch ein grosses Fehlerpotential begraben, da jeder Untersucher die Narbe subjektiv beurteilt. Was leistet die objektive Einschätzung mittels Apparaten? Zur Beurteilung von Narben hat sich die Vancouver Scar Scale (VSS) etabliert. Mit ihr werden Hautrötung, Pigmentierung, Erhabenheit und Elastizität beurteilt. Allerdings spielen hier zahlreiche subjektive Einflussfaktoren durch den Untersucher mit, sodass diese Methode insbesondere den wissenschaftlichen Ansprüchen nicht genügt. Dr. Jörn Lohmeyer von der Plastischen, Hand- und Wiederherstellungschirurgie und Intensivstation für Schwerbrandverletzte in Lübeck stellte Methoden vor, Narben nach frühkindlichen Verbrennungsunfällen mit objektiven Kriterien zu beurteilen.

A.c. Dweck; **TAMANU OIL (Calophyllum inophyllum);** International Journal of Cosmetic Science, 2002,24, pl.

Tamanu Oil has been used traditionally in the South Pacific as a local medicine for a variety of purposes. The chemistry is complex and unusual, perhaps helping to explain some of the impressive physiological actions possessed by this plant. One of the many possible reasons for such incredible results and diversity of uses is Tamanu's unique absorption properties. This enables the oil to reach all three layers of the skin: epidermis, dermis and hypodermis. Tamanu oil has been proved to have cicatrizing, antibacterial, anti-neuralgic and anti-inflammatory properties. This combined with its unique absorption ability has resulted in Tamanu being used as a treatment for ailments ranging from scars, cuts, burns, rashes, stings, psoriasis, eczema and sores to rheumatism, neuralgia and sciatica.

Nima Ostovari, Nelda Saadat, Soheila Nasiri, hamideh Moraweg, Parviz Toossi; **The 308-nm excimer laser in the darkening of the white lines of striae alba;** to evaluate the true efficacy of the 308-nm excimer laser for darkening striae alba using a modified approach. Methods: ten subjects were treated using the excimer laser on the white lines off striae, while the normal skin near to and between the lines was covered with zinc oxide cream. Assessment of efficacy was performed by colorimetric scores based on mexameter measurement and also digital photographs showing before – after laser therapy, which were compared by two independent dermatologists. The mexameter-based data analysis showed that the excimer laser was weakly effective in the repigmentation of the lines of striae.

Anthony C. Dweck; **The role of natural ingredients in anti-ageing of the skin;** Australian Society of Cosmetic Chemists

The skin ages for a number of reasons. It will naturally age with increasing loss of flexibility and ageing as collagen and elastin within the epidermis slowly cross-links and become less elastic. To a degree this is part of the genetic inheritance present within all of us, since do not seem to age at the same rate, nor share identical lifestyles. It has been extensively proven that sunlight hastens the degradation of the skin by the bombardment of tissue with high energy photons present in UV-A and UV-B wavelength of sunlight. This high energy has sufficient power to cleave molecules into free radicals, which are then available to react, modify and sometimes destroy healthy cellular chemistry.

Haejun Yim, Yong Suk Cho, Cheong Hoon Seo, Boung Chul Lee, Jang Hyu Ko, Dohern Kim, Jun Hur, Wook Chun, Jong Hyun Kim; The use of AlloDerm on major burn patients: AlloDerm prevents post-burn joint contracture; BURNS, Vol. 36, Issue 3, pp. 322-328

A total of 64 patients received AlloDerm graft selectively on joint areas during the study period from March, 2005 to July, 2007. From January to March, 2008, a total of 31 patients returned to our burn center to examine the functional results by measuring range of motion of joints. Additionally, the quality of grafted skin condition criteria of skin elasticity, scar thickness, trans-epidermal water loss, melanin and erythema level was measured in a total of 11 patients among them. By analyzing the limitation level of 55 joints excluding hand areas, we found that 24 joints (43.6%) showed no limitations, 12 joints (21.8%) showed limitations below 10%, 16 joints (29.1%) showed limitations between 10 and 19% and 3 joints (5.5%) showed limitations over 20%. The scar thickness of non-AlloDerm applied areas was 2.5 ± 0.9 mm and AlloDerm applied areas was 1.8 ± 0.7 mm ($p = 0.396$). Trans-epidermal water loss for non-AlloDerm applied areas was 20.9 ± 7.7 g/h/m² and AlloDerm applied areas was 10.8 ± 3.4 g/h/m² ($p < 0.001$). Erythema value for non-AlloDerm applied areas was 436.1 ± 65.8 , whereas AlloDerm applied area was 394.4 ± 61.2 ($p < 0.001$). Acellular dermal matrix is a good option for treating major burns to prevent scar formation after burn and loss of joint function

Choi JS, Moom JH, Lee JY, Seo CÄH, Jun AY, Choi EH, Jang KU; Effect of Intradermal Injection of Placenta Hydrolysate to Postburn Hyperpigmented Skin; J Korean Burn Soc, Dec 2009; www.komci.org

The skin hyperpigmentation or hypermelanosis caused by burns results in social withdrawal due to cosmetic problem and depression as a psychiatric aspect. The treatment of the skin hyperpigmentation includes sunscreen, whitening material, skin massage, laser therapy and plastic surgery Placenta extract can be used to reduce and inactivate the synthesis of the important enzyme (tyrosinase) that compose melanin. This study was performed to estimate the effect of intradermal injection of placenta extract (placenta hydrolysate) for the postburn hyperpigmentation. Total 10 subjects who have postburn hyperpigmentation were selected. Two sites of skin area from each subject were randomly selected as possible as symmetrical body area, the one site was to be "Treated site" with placenta extract, the other site was untreated "control site".

Kiefer, Sabine; Weibel, Michaela; Smits, Julian; Juch, Mathias; Tiedtke, Jane; Herbst,

Norbert; A LIPOSOMAL ENCAPSULATED BLEND OF CITRUSFLAVONOIDS FOR SKIN LIGHTENING, IFSCC 2010 Buenos Aires, Argentina

Melanin, the substance responsible for the pigmentation of skin, is produced to protect the nucleus from harmful UV radiation and results in visible darkening of the skin. Freckles, age spots and melasmas are frequent undesired consequences of stimulated melanin production. Many cosmetic ingredients are used to lighten the skin, by inhibition of melanin production or stimulation of melanin decomposition. The use of flavonoids as cosmetic ingredients has long been known and is well established. The aim of this study was to find the ideal composition of flavonoids from various citrus fruit extracts for a skin lightening cosmetic ingredient. The subsequent liposomal encapsulation of the active ingredients enhances penetration of the active substances into deeper layers of the skin and produces a deposition effect due to film formation on the skin surface. Various citrus extracts were analyzed by HPLC-UV, with a C18 column (Uptisphere ODB) and isocratic elution mobile phase of 75% water, 10% methanol, 10% acetonitrile and 5% acetic acid.

Balogh, Tatiana S; Pedriali, Carla A; Gama, Robson M; Pinto, Claudinéia ASO; Bedin, Valcinir; Villa, Ricardo T; Kaneko, Telma M; Velasco, Maria VR; Baby, André R, STUDY OF SUNLESS TANNING FORMULATIONS USING SHED SNAKE SKIN AS ALTERNATIVE MEMBRANE MODEL, IFSSC 2010 Buenos Aires, Argentina

Sunless tanning formulations promote a secure and effective tan. The temporary pigmentation provided by these formulations resembles an UV-induced tan. The great majority of these formulations present dihydroxyacetone (DHA). This study evaluated the sunless tanning effect of carbomer gels and cold process self emulsifier base emulsions with different concentrations of a

system constituted for DHA and N- acetyl tyrosine applied in the shed snake skin by Mexameter® MX 18. Eight sunless tanning formulations were developed, four gels and four emulsions (base, base plus 4.0, 5.0 and 6.0% w/w of a system constituted for DHA and N- acetyl tyrosine). Artificial tanning was induced in the shed snake skins (2,0 x 3,0 cm) by the application of the 30 mg/cm² of each formulation. Mexameter® MX 18 was used to evaluate the shed snake skin tanning index, in the following intervals: T₀ (before the application) and

after 24, 48, 72, 168, 192 and 216 hours. It was verified that shed snake skins are promising substratum for *in vitro* sunless tanning efficacy tests, due to their similarity to the human *stratum corneum*.

Posternak, Maria E.I, 2, 3; Perez Damonte, Silvia H, INFLUENCE OF ISOPROPYL MYRISTATE IN THE ACTION OF EXTERNALLY APPLIED VITAMIN K₁ ON THE SKIN PH AND ON THE COLOR OF ERYTHEMA IN SKINS WITH ROSACEA, IFSSC 2010 Buenos Aires, Argentina

In this work, it was evaluated the influence of topic 5% vitamin K₁ on the skin pH and on the color of erythema in patients with rosacea and the influence of replacing the mineral oil contained in the formulation with an enhancer of dermal penetration, isopropyl myristate, in 5% vitamin K₁ creams on the skin pH and on the color of erythema. Four types of cream were prepared, all with pH 5 ± 0.1: 1) Base cream with mineral oil 2) Base cream with isopropyl myristate 3) 5% vitamin K₁ cream with mineral oil 4) 5% vitamin K₁ cream with isopropyl myristate. After 45 days of treatment, the statistical analysis of the measurements obtained with the MexameterR MX18 instrument shows that the two creams with 5% vitamin K₁ reduce the color of erythema significantly. After 30 days of treatment, the cream with isopropyl myristate proved to be more effective than the cream with mineral oil as regards erythema treatment. Using the equipment Minolta ChromameterRCR-200 , on the other hand, no significant reduction was observed in the color of erythema with neither of the creams with 5% vitamin K₁.

Benevenuto, Carolina G.; Di Matteo, Miguel A.S²; Maia Campos, Patrícia M.B.G; Gaspar, Lorena R., INFLUENCE OF THE PHOTOSTABILIZER IN THE PHOTOPROTECTIVE EFFECTS OF A FORMULATION CONTAINING UV-FILTERS AND VITAMIN A, IFSSC 2010 Buenos Aires, Argentina

Retinyl palmitate has been used in daily use moisturizing, antiageing and protective formulations since it acts on epithelization in dry and rough skin, as well as on keratinization considered being abnormal. However, some studies report that this substance shows some photoreactivity and can form photoproducts, which can lead to the impairment of safety and efficacy of cosmetic products containing this vitamin. Consequently, cosmetic formulators have been doing many efforts to stabilize formulations containing vitamin A derivatives and other photounstable substances such as searching for new UV-filters or using photostabilizers to increase their photostability and consequently their safety and effectiveness. Thus, the objective of this research was to evaluate the influence of different photostabilizers on the photoprotective effects of a cosmetic formulation containing UV-filters and a vitamin A derivative.

Selem, Claudia, Delic, Norberto Sphagnum Magellanicum Peat. Characterization and Proposal for Cosmetics Uses.

This paper focuses on the characterization of Spagnum Magellanicum peat, its properties and the different uses in cosmetic products. Studies were conducted to analyze the organic, inorganic and microbiological content of this material. The results determined that it is an important source of poliphenols with antioxidant capacity. It has anti-inflammatory action and is safe in contact with skin. It has germicide properties. Humic substances have a large capacity to retain multivalent ions forming metalorganic complexes acting as a natural organic sequestrant. Because the intensity of UV light absorption it can be used in the formulation of coloured sunscreen emulsions and taking into account the other properties

tested in the development of others cosmetic products. Considering the results obtained we found that Sphagnum Magellanicum peat has interesting properties for being used in the cosmetic industry coupled with the benefit of this raw material which has the important property of being natural and organic.

Sinerga Srl.; Tyrostan – Wasserlöslicher Bräunungsbeschleuniger; Biesterfeld Spezialchemie GmbH, LifeScience –Cosmetic; Nr. 11-November 2010

Tyrostan ist ein N-Acyl Derivat von Tyrosin, gewonnen durch Kondensation von Tyrosin mit dem Kaliumersatz der Caprinsäure. Der Einsatz von Tyrostan stellt der Haut etwa 10% reines Tyrosin zusätzlich zur Verfügung, wodurch unter der Einwirkung von Sonnenlicht die Melaninproduktion stimuliert und für eine schnelle Bräune gesorgt wird. Das für die Hautbräunung verantwortliche Pigment ist das Melanin, das in den Melanozyten gebildet wird. Die Ausgangssubstanz der Melaninbildung ist die Aminosäure Tyrosin. Durch die Aktivierung des Enzyms Tyrosinase werden über diverse nacheinander folgende Stoffwechselschritte die Melanine synthetisiert, wobei das UV-Licht ein wichtiger Aktivator ist. Die Bräunung der Haut bildet eine natürliche Schutzbarriere vor der UV-Strahlung der Sonne.

Razvigor Darlenski, Theresa Callaghan, Joachim W. Fluhr; Antiaging and Antiwrinkle Products; J.W. Fluhr (ed.), Practical Aspects of Cosmetic Testing; Springer-Verlag Berlin Heidelberg 2011

The chronological (intrinsic) and extrinsic aging demonstrate typical macroscopic, histological and functional characteristics. The relative improvement in different parameters characterizing aging skin can be used in efficacy proof of antiaging and antiwrinkle cosmetic products. Different approaches to investigate the efficacy of antiaging products exist such as clinical evaluation and objective assessment with non-invasive methods and invasive procedures. A multiparametric approach is useful in the assessment of antiaging products efficacy. There is no uniform consensus on the protocol and the design of studies aiming efficacy proof of antiaging cosmetics.

Elisabeth Ammitzboll Holm, Skin Colour and Pigmentation; J. Fluhr (ed.), Practical Aspects of Cosmetic Testing, Springer-Verlag Berlin Heidelberg 2011

Quantification of disease severity is a prerequisite for the development of evidence-based therapy. Today, there is no international consensus on guidelines for assessment of skin colour, and the majority of assessment methods are not standardized. Today, patient history and clinical scoring are the main tools for dermatologists when attempting to assess the morbidity of patients with various skin diseases. These methods however have their limitations; as they frequently show poor inter- and intra-observer reproducibility, due to the different ways doctors assess, for example, erythema or dry skin. In addition many of the scoring systems include assessment of disease extent, which has been shown to be difficult.