



- (51) **International Patent Classification:**
A61K 31/11 (2006.01) *A61K 8/18* (2006.01)
- (21) **International Application Number:**
PCT/US2012/020550
- (22) **International Filing Date:**
6 January 2012 (06.01.2012)
- (25) **Filing Language:** English
- (26) **Publication Language:** English
- (30) **Priority Data:**
61/430,923 7 January 2011 (07.01.2011) US
- (71) **Applicant (for all designated States except US):** SKIN-MEDICA, INC. [US/US]; 5909 Sea Lion Place, Suite H, Carlsbad, CA 92010 (US).
- (72) **Inventors; and**
- (75) **Inventors/Applicants (for US only):** MEHTA, Rahul, C. [US/US]; 695 Shenandoah Avenue, San Marcos, CA 92078 (US). MAKINO, Elizabeth, Tsin Ho [US/US]; 6408 Jasper Way, Carlsbad, CA 92009 (US). SONTI, Sujatha, D. [US/US]; 1273 Avenida Fragata, San Marcos, CA 92069 (US). GARRUTO, John, A. [US/US]; 249 Sierra Ridge Drive, Encinitas, CA 92024 (US).
- (74) **Agent:** WESTIN, Lorelei, P.; Wilson Sonsini Goodrich & Rosati, 650 Page Mill Road, Palo Alto, CA 94304-1050 (US).

(81) **Designated States** (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

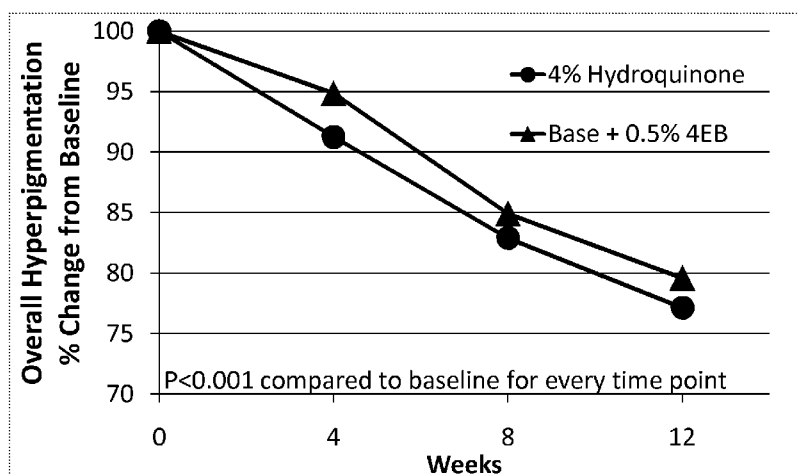
(84) **Designated States** (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(54) **Title:** MELANIN MODIFICATION COMPOSITIONS AND METHODS OF USE

FIG. 7

Significant Reduction in Hyperpigmentation

(57) **Abstract:** A method for the modification of melanin distribution, and the composition thereof to modify melanin distribution are disclosed. A method for the reduction of melanin distribution, and the composition thereof to reduce melanin distribution are disclosed. A representative composition comprises 4-ethoxybenzaldehyde and one or more additional active agent, s as well as a pharmaceutically acceptable carrier or excipient. Carriers and excipients may be formulated for topical administration. Compositions may also be formulated for transdermal administration. The compositions may be used for the prevention and treatment of pigmentation disorders, by way of non-limited example, post-inflammatory hyperpigmentation and others. The compositions may be used for lightening skin.

