

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
24 March 2005 (24.03.2005)

PCT

(10) International Publication Number
WO 2005/025505 A2

(51) International Patent Classification⁷: **A61K**
(21) International Application Number:
PCT/US2004/029514

(22) International Filing Date:
8 September 2004 (08.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/501,498 8 September 2003 (08.09.2003) US
60/562,645 15 April 2004 (15.04.2004) US

(71) Applicant (for all designated States except US): **E. I. DU PONT DE NEMOURS AND COMPANY** [US/US]; 1007 Market Street, Wilmington, Delaware 19898 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **HUANG, Xueying** [CN/US]; 204 Cherry Blossom Place, Hockessin, Delaware 19707 (US). **HONG, Wang** [US/US]; 605 Kazio Court, Kennett Square, Pennsylvania 19348 (US). **YING, Wu** [CN/US]; 717 Scott Lane, Wallingford, Pennsylvania 19086 (US).

(74) Agent: **FELTHAM, S., Neil**; E. I. du Pont de Nemours and Company, Legal Patent Records Center, 4417 Lancaster Pike, Wilmington, Delaware 19805 (US).

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

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: PEPTIDE-BASED CONDITIONERS AND COLORANTS FOR HAIR, SKIN, AND NAILS

(57) Abstract: Peptides have been identified that bind with high affinity to hair, skin, and nails. Peptide-based hair conditioners, hair colorants, skin conditioners, skin colorants, and nail colorants based are described. The peptide-based hair conditioners and hair colorants consist of a hair-binding peptide coupled to a hair conditioning agent or a coloring agent, respectively. The peptide-based skin conditioners and skin colorants consist of a skin-binding peptide coupled to a skin conditioning agent or a colorant, respectively. The peptide-based nail colorants consist of a nail-binding peptide coupled to a coloring agent. In all these compositions, the peptide may be directly coupled to the active agent or the coupling may be via a spacer. Personal care compositions containing these peptide-based conditioners and colorants are also described.



WO 2005/025505 A2