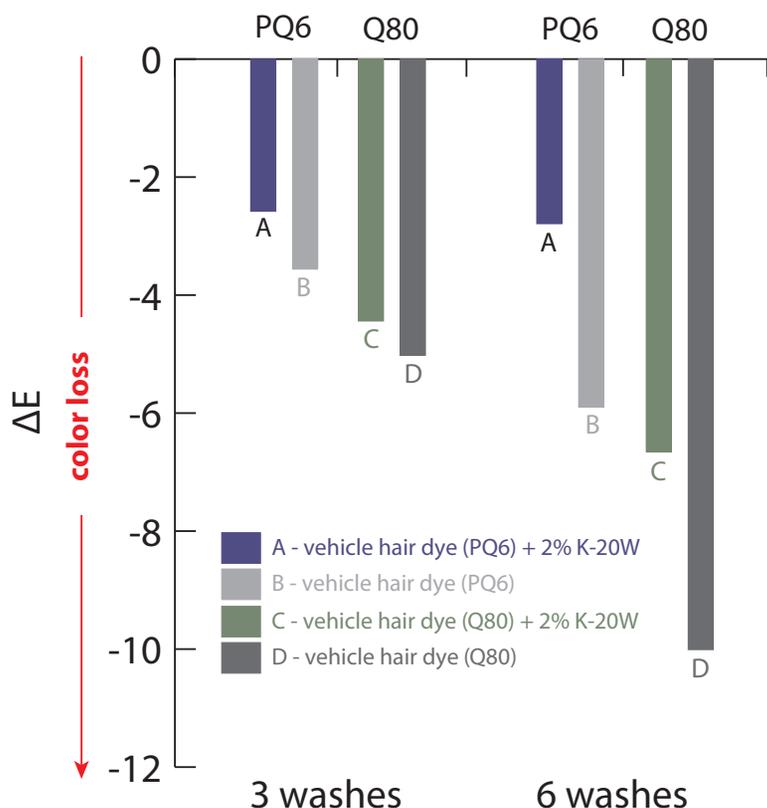




Floraesters® K-20W Jojoba Improved Color Retention in a Semi-Permanent Hair Dye

Hair Color Retention



Objective:

To evaluate Floraesters K-20W Jojoba in a semi-permanent hair dye for its potential to increase the color that remained on the hair after washing.

Method:

Hair tresses were dyed with brown semi-permanent hair dyes with and without 2% Floraesters K-20W Jojoba. The change in color (ΔE) of the hair tresses was measured immediately after dyeing, and again after 3 and 6 wash cycles.

Results:

Hair tresses dyed with semi-permanent hair dye containing 2% Floraesters K-20W Jojoba **resulted in up to 53% less color loss** after 6 wash cycles.

A = vehicle hair dye + Polyquaternium-6 + 2% Floraesters K-20W Jojoba / B = vehicle hair dye + Polyquaternium-6 / C = vehicle hair dye + Quaternium-80 + 2% Floraesters K-20W Jojoba / D = vehicle hair dye + Quaternium-80

Vehicle Hair Dye (%wt/wt): Deionized Water (q.s.), Cetyl Alcohol (and) Oleyl Alcohol (and) Cetearyl Alcohol (and) Stearic Acid (15.0%), Laureth-7 (10.0%), Cetareth-20 (4.0%), Polyquaternium-6 or Quaternium-80 (4.0%), Mineral Oil (2.0%), Propylene Glycol (2.0%), Sodium Cetearyl Sulfate (1.0%), Citric Acid (and) Water (0.35%), Basic Orange 31 (0.25%), Basic Yellow 87 (0.18%), Basic Blue 124 (0.05%), and Basic Red 51 (0.03%).

Floratech Ingredient: Floraesters K-20W Jojoba

The ex vivo study of Floratech® test formulation (CTL_15-062) was conducted on naturally curly, dark brown, six inch long hair tresses (DeMeo Brothers Inc.) that were double-bleached and then washed with sodium lauryl sulfate prior to use in the study (n=5 tresses per test article), then air-dried overnight. Treatment consisted of one application of 1 ml of the dye test article per 1.5 g of hair, with 20 minutes of residence time (with heat). A wash cycle consisted of a 30 second rinse, a 30 second wash (i.e. rubbed) with shampoo, and another 30 second rinse. The study was blinded, and carried out under controlled temperature and humidity conditions. Color intensity for each tress was measured using a Colorimeter CL 400 (Courage + Khazaka) immediately after 20 minutes of dye residence time, and after 3 and 6 wash cycles. Color change was calculated from $L^*a^*b^*$ values using the following equation: $\Delta E = \sqrt{[(L_2^* - L_1^*)^2 + (a_2^* - a_1^*)^2 + (b_2^* - b_1^*)^2]}$. The inclusion of Floraesters K-20W Jojoba resulted in statistically significantly ($p < 0.05$) less color loss after 6 washes compared to the vehicle. (Clinical Study 15-062 - Phase II - Brown report available upon request.)