



Passport to Textured Hair Ingredients and Solutions

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Introduction

Textured hair needs are diverse and differ based on specific hair types such as wavy, curly, and coily. With consumers embracing their natural textures and moving away from harsh chemical treatments, they continue to look for tailored product solutions and ingredients that address a variety of needs, enhance self-expression, and maintain the overall health of their hair. This has led to BASF embarking on our own textured hair journey to further understand the challenges, needs, and gaps that textured hair consumers face daily, which may include ease of detangling, conditioning, strengthening, frizz management, and long-lasting style maintenance.

There has been an enormous gap in the hair care industry with almost all claim methodologies developed with straight hair in mind. To address this, we modified and optimized in-vitro claim substantiation techniques using curly-coily hair in the 3c-4a range for different claim benefits. We leveraged our own clinical and consumer perception testing capabilities to evaluate products on textured hair panelists. In addition, we partnered with hair stylists and influencers in this space to better understand consumer needs and develop language around relevant consumer claims.

Methodologies

We adapted and modified wet combing techniques using Instron to evaluate detangling / conditioning on bleached Type IV (Coily) hair tresses. We also used our trained panel to evaluate sensorial and styling benefits of conditioning polymers for a leave-in conditioning lotion to complement wet combing data. Strengthening and repair were evaluated on damaged coily hair using single fiber cyclic testing from Diastron. For frizz-management and curl definition we used natural coily hair tresses treated with a wash and go styler followed by exposure to high humidity using Bolero 360 from Bossa Nova. To further strengthen our data, we also conducted salon trials on Type III and Type IV hair panelists to get an overall perception of the products.

An additional, key step in our textured hair journey was to bridge our in-vitro data for different claim benefits to consumer relevant language. We evaluated different ingredients in a base chassis using the methods above to differentiate their performance and identify optimized solutions for different claim benefits.

Results

Figure 1(a) shows use of different emollients in a deep conditioner formula that helped reduce wet combing work significantly and detangled hair effectively. Emollients help hydrate or nourish damaged coily hair with performance driven by their polarity. Figure 1(b) shows use of low molecular weight vegetable proteins to reduce the number of cycles to break, indicating repair or strengthening benefits to damaged coily hair. Both proteins show long-lasting strengthening or repair benefits, and their performance differentiates based on how quickly they penetrate damaged hair. Finally, Figure 1(c) shows the evaluation



of different styling polymers in a wash-n-go styler to help identify various anionic or cationic polymers for long-lasting frizz management and style longevity without compromising curl definition.

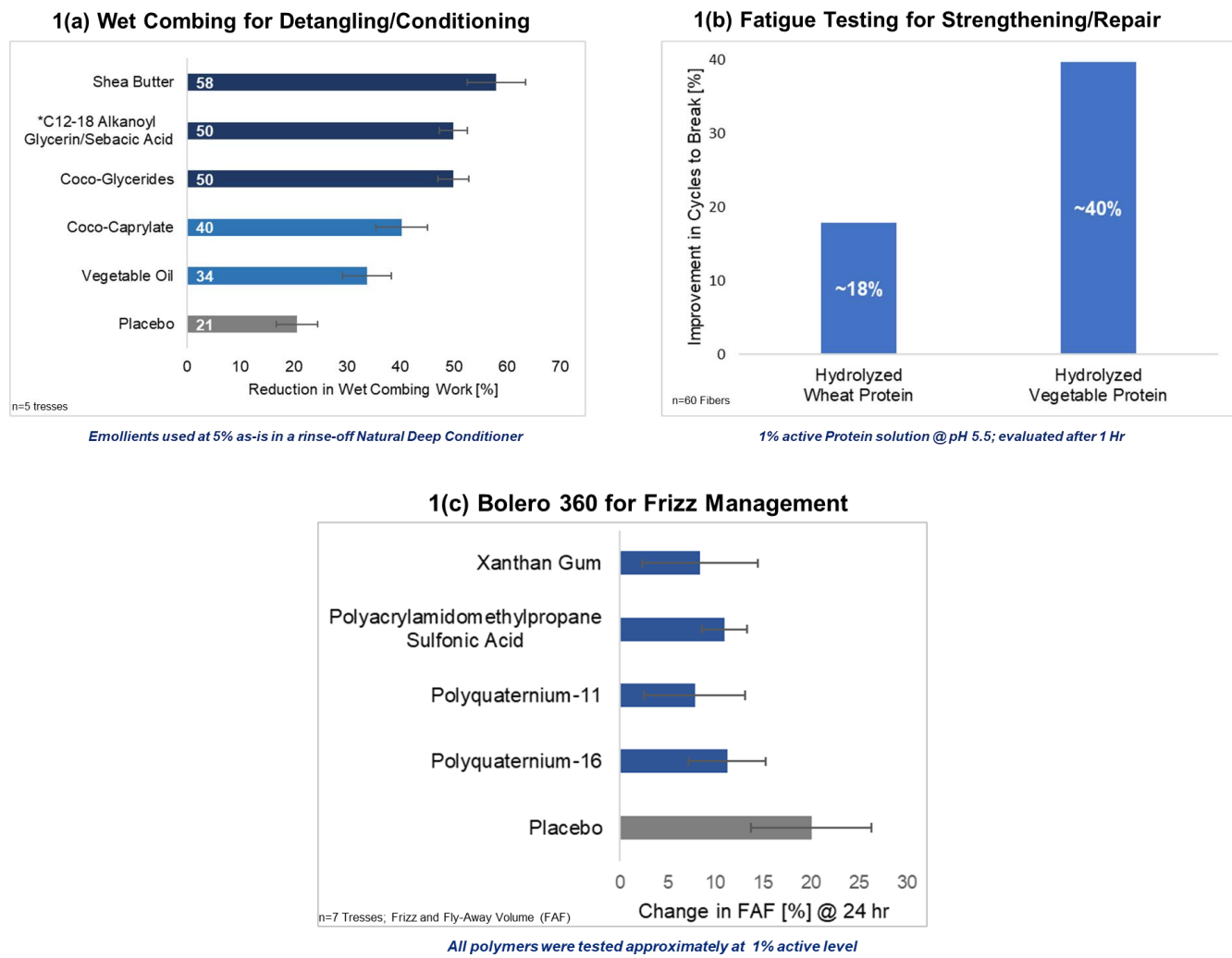


Figure 1: Identifying ingredients for different claim benefits: (a) Evaluation of detangling benefits of emollients in a deep conditioner using wet combing; (b) evaluation of strengthening / repair benefits using proteins in neat solutions using fatigue testing; (c) evaluation of frizz management benefits of styling polymers in a gel styler using Bolero 360.

Conclusion

Our textured hair journey has helped us gain knowledge on consumers’ diverse needs and challenges. By modifying and developing claim methodologies to study curly and coily hair, we are better able to identify the best ingredients for different key claim benefits from our portfolio. As we continue our journey, we will further develop methods for other unmet textured hair needs. This will help our customers develop more inclusive products using our ingredient solutions backed by testing and data.



About the speaker



Gina Guiliano Koustoubardis joined BASF Corporation in 2014. She currently works in the North American Application Technology group as an Application Specialist, focusing on hair and rinse-off, body care formulation development, customer, and technical support. She has worked in personal care for over eleven years, previously working at Avon Products. She received her B.S. in Chemistry from Manhattan College and obtained her M.S. in Cosmetic Science from the University of Cincinnati.



Mythili Nori has worked in the Personal Care industry for over a decade. Her expertise is in product claim substantiation and data science. In her current role at BASF, she is responsible for physical claim substantiation for Hair & Body Care. Prior to joining BASF, she worked for 5 years at TRI/Princeton as a Senior Research Associate, supporting claim substantiation and fundamental research activities for textile and hair surfaces. She earned a Bachelor of Technology in Chemical Engineering from Osmania University, Hyderabad, India, and received an M.S. in Chemical Engineering from North Carolina Agriculture & Technical State University, focusing on purification of drinking water.