

News Release

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BASF presents new findings and products of innovation platforms for actives at IFSCC Conference 2019

- **Quorum Quenching keeps skin microbiota balanced**
- **Subcritical water extraction efficiently harnesses the Chaga mushroom's skin-relaxing power**
- **DN-Aura® rejuvenates the skin by shrinking and lightening pigmented spots via epigenetic mechanisms**
- **BASF's Rambutan Program sources raw materials sustainably from organic-certified gardens in Vietnam**
- **2nd skin film former for skin protection**

Milan, Italy – September 30, 2019 – At this year's International Federation of Societies of Cosmetic Chemists (IFSCC) Conference in Milan, Italy, BASF experts will share insights into their scientific research and present a range of innovative solutions. They will be available for discussions in booth B01 on October 1 and 2, take part in speaking sessions and present posters. There will be a strong focus on bioactive ingredients stemming from the development platforms for epigenetics, microbiome and extraction methods.

Keep skin microbiota balanced with Quorum Quenching

Our skin is inhabited by millions of microorganisms such as bacteria, virus and fungi. This skin microbiota is involved in skin homeostasis and protects the skin against colonization by pathogenic microorganisms. At the conference, BASF researchers will present a promising strategy to protect the skin against opportunistic pathogens:

quenching quorum sensing (also known as “Quorum Quenching”) could disturb microbial cell-to-cell communication – which is an essential mechanism for many pathogens to infect and survive in the host. This microbial control strategy can therefore soothe and reinforce agressed and sensitive skin.

Extracting phytochemicals efficiently

To extract BASF’s latest bioactive Inolixir™ from Chaga mushrooms, the company uses subcritical water extraction (SWE). Instead of organic solvents, this method uses pressurized water heated to between 100 and 374°C for extraction. In vitro tests have proven that SWE extracts phytochemicals more efficiently than other common methods, such as conventional hydroethanolic extraction and water extraction. As a result, Inolixir retains much of the Chaga’s power for strengthening the skin barrier, protecting blood vessels and relaxing the skin. Study participants reported that Inolixir was as effective as a five-day relaxation cure at mitigating fatigue lines, dark circles and dullness. Moreover, the bioactive reduces redness and makes sensitive skin feel healthier and more comfortable.

Fighting pigmented spots through epigenetics

As we age, pigmented spots appear on our skin – a process accelerated by sunlight and environmental factors such as traffic-related air pollution. BASF’s DN-Aura®, a natural active ingredient extracted from leaves of the *Lansium domesticum* tree, shrinks and lightens these spots, thereby mitigating a major sign of ageing. The bioactive acts on miR-490-3p. This microRNA molecule controls the production of tyrosinase, an enzyme that plays an important role in the synthesis of melanin pigments. DN-Aura’s epigenetic mode of action has been proven by a combination of *in silico*, *in vitro* and *in vivo* studies.

The sustainable Rambutan Program

Three of BASF’s new hair and skincare bioactives are based on by-products from the production of rambutan fruits: Nephoria™ from the rambutan trees’ evergreen leaves rejuvenates the skin, Nephhydrat™ from the spiny fruit peel strengthens and hydrates it, and Rambuvital™ from the seeds reinforces the scalp’s skin barrier. With its dedicated Rambutan Program, BASF sources the raw materials sustainably from organic-certified gardens in Vietnam’s Dong Nai province, providing local farmers with a reliable, above-average income, health insurance, free meals and safe working conditions.

2nd skin film former for skin protection

To meet market demands for anti-pollution and intensive moisturizing, BASF is introducing a 2nd skin film former comprising solid lipid particles with a skin mimic structure. The material comes from natural sources (>90%) and is 100% biodegradable, making it an environmentally friendly solution. Because of the unique melting behavior of the particles, a homogeneous solid lipid film is formed on the skin's surface. It meets market demands by offering reduced pollutant adhesion (33%) and long-lasting moisturization (24 hrs).

BASF experts on the scientific program

Presentations	
Tuesday, Oct. 1, 2019 5.00 p.m. – 5.20 p.m.	Dr. Manon Gault: Quorum quenching: the new way to keep microbiome under control
Wednesday, Oct. 2, 2019 9.45 a.m. – 10.05 a.m.	Dr. Valerie Andre-Frei: Eco-friendly subcritical water extraction technology for effective natural extracts
Poster session: Mars (Ingredients)	
87	Corinne Reymermier Combination of in silico, in vitro and in vivo studies to demonstrate a new epigenetic mechanism linked to pigmented spots
1	David (DongRyeol) Lee (BASF Advanced Chemicals Co. Ltd.) 2nd skin film former for skin protection
Poster session: Mother Earth (Sustainability)	
290	Monia Benvegnu The sustainable Rambutan program
Poster session: Uranus (Bioimitation)	
1	David (DongRyeol) Lee (BASF Advanced Chemicals Co. Ltd.) 2nd skin film former for skin protection

About the Care Chemicals division at BASF

The BASF division Care Chemicals offers a broad range of ingredients for personal care, home care, industrial & institutional cleaning, and technical applications. We are a leading global supplier for the cosmetics industry as well as the detergents and cleaners industry, and support our customers with innovative and sustainable products, solutions and concepts. The division's high-performance product portfolio includes surfactants, emulsifiers, polymers, emollients, chelating agents, cosmetic active ingredients and UV filters. We have production and development sites in all regions and are

expanding our presence in emerging markets. Further information is available online at www.care-chemicals.basf.com.

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The approximately 122,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into six segments: Chemicals, Materials, Industrial Solutions, Surface Technologies, Nutrition & Care and Agricultural Solutions. BASF generated sales of around €63 billion in 2018. BASF shares are traded on the stock exchange in Frankfurt (BAS) and as American Depositary Receipts (BASFY) in the U.S. Further information at www.basf.com.