

CHIMIA

CHIMIA 2017, Volume 71
ISSN 0009-4293
www.chimia.ch
Supplementa to Issue 7-8/2017



SCS
Swiss Chemical
Society

SCS Fall Meeting 2017
Lecture Abstracts

Future Leading Companies on Stage

August 21-22, 2017
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Topadur Pharma AG: Innovative medication for the treatment of severe wounds

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TOPADUR Pharma Corp. was founded in 2015 by R&D experts with significant experience in pharmaceutical industry. The goal is to focus on research and development of new and innovative drugs for wound healing.

Approach

Diabetic foot ulcer & chronic wounds: TOP – N53
significantly improving microcirculation and fosters angiogenesis at the wound tissue

Scar & keloid prevention: TOP – N44
providing anti-inflammatory and anti-fibrotic effects

Topadur's lead R&D proprietary programs are local active, highly potent, dual mode of action drugs. Topadur's unique development candidates work on validated drug targets resulting in higher than average clinical success chances.

<http://www.topadur.com>

SpiroChem AG: innovative building blocks for the pharmaceutical and agrochemical industriesF. Beaufils¹¹SpiroChem AG, Rosental area, WRO-1047-3, Mattenstrasse 24, 4058 Basel, Switzerland

About SpiroChem

SpiroChem AG is a Swiss fine chemicals company providing innovative building blocks for the pharmaceutical and agrochemical industries. The R&D team is continuously identifying and designing new fragments (small rings, heterocycles, spirocycles, fluorinated building blocks) leading to novel IP and Structural/Functional space. These are selected to have optimized pharmacokinetic and physicochemical properties ideal for use in biomedical, agrochemical and health sciences. For example, a wide range of substituted, diverse bicyclo[x.y.z]alkane derivatives have been developed!

SpiroChem offers the broadest set of bio-isosteric replacements for discovery and lead optimization. Unlike other companies, SpiroChem is engaged in all aspects of discovery research involving small molecule building blocks: design, synthesis route development, functional group diversification, and process optimization. Compounds are available on demand from gram- to kg-scale. SpiroChem also offers custom synthesis services (FTE/FFS) and designs customized libraries (building blocks and fragments) to energize your SAR studies, expand chemical diversity and help you develop the drugs of tomorrow. It is all about chemists interacting with fellow chemists at SpiroChem!

Visit www.spirochem.com for more details on our products and services.

CyanoGuard: Making Cyanide Visible

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About the company and its history

CyanoGuard AG is a young chemical technology company with ground-breaking technology for naked-eye detection of cyanide in water, food extracts and blood samples. A spinoff of the University of Zurich, the company was founded in 2016 to improve water and food safety, environmental monitoring and emergency healthcare globally. CyanoGuard's first commercial product, CyanoKit[®], is a quick indicator of free cyanide that enables everyone to test aqueous samples in any setting, at any time. The company's core business is providing detection kits, but it also offers bespoke solutions' development and consulting services to clients in the chemical, food, and healthcare industries.

Scientific Innovation

CyanoKit[®] is based on an immobilised corrin-based chemosensor¹ that allows the colorimetric detection of endogenous cyanide in water and biological samples such as foodstuffs² and blood³. The mechanism of detection is based on a colour change, from orange to violet, of the chemosensor once its cobalt-centre binds to cyanide. The colour change is caused by the altered π - π^* transitions of the corrin macrocycle (shown in Figure 1), which leads to a major bathochromic shift of its absorption maxima.

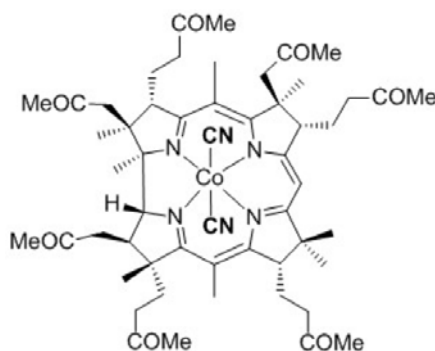


Figure 1: Structural formula of the corrin-based chemosensor

We have developed a new test tube technology where our indicator is immobilised on a hydrophobic material. In CyanoKit[®], cyanide coordinates to the immobilised indicator and is thereby removed from the matrix. This allows the user to see the results immediately and without any type of analytical instrumentation.

Our developed method for free cyanide detection is fast, simple and eliminates the use of hazardous substances. CyanoKit[®] has already been adopted by players in our target industries and its performance has been validated using real samples from our clients. Our test kit suffers from the lowest number of interferences when compared to current market alternatives and is competitive in terms of accuracy, handling and speed of detection. Promising initial results for blood testing are expected to lead to the development of the first commercial quick test for cyanide in blood.

[1] F.H. Zelder, *Inorganic Chemistry*, **2008**, 47(4), 1264-1266.

[2] F.H. Zelder, L. Tivana, *Organic & Biomolecular Chemistry*, **2015**, 13, 14-17.

[3] C. Männel-Croisé, F.H. Zelder, *Analytical Methods*, **2012**, 4, 2632-2634.

INOFEA AG - empowering enzymes

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Enzymes, or biocatalysts, are specialty proteins. Like antibodies to antigens, enzymes exhibit remarkable specificity for their substrate and naturally facilitate many chemical conversions.

However, the use of enzymes in the biotech industry (\$2.3bn) is strongly limited by the fact that enzymes are highly sensitive like most proteins and usually not fitted to *in vivo* and process conditions.

INOFEA empowers enzymes. We have developed a unique and patented platform technology to fit enzymes to *in vivo* and process conditions.

We are developing a wealth of applications from this platform technology in the Health industry. We can either formulate enzymes for bioanalysis purposes, or as bioingredients or drugs efficient in *in vivo* conditions, and improve industrial biotransformation processes.

<http://inofea.com>