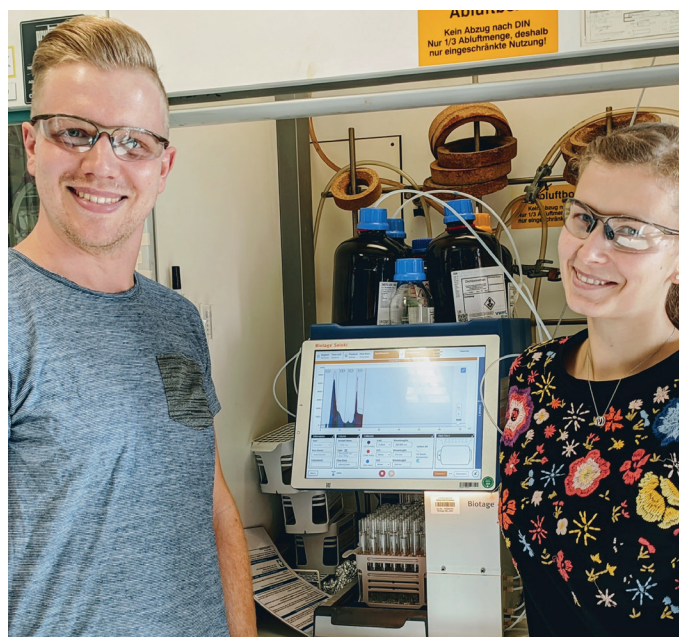


Biotage® Selekt in Polymer Material Research at Konstanz University

Customer Case

The Biotage® Selekt Flash purification system is designed for the rapid and simple isolation of target molecules from complex mixtures. Typically, this is seen in the area of drug discovery, where large numbers of molecules are synthesized in order to find active pharmaceutical ingredients for future pharmaceutical use. However, flash purifications can be employed in any work that involves the requirement to purify compounds, which is most branches of chemistry.

In this customer case we talk to Florian Wimmer and Natalie Schunck, Ph.D. Students working in the field of chemical materials science at the Department of Chemistry in the University of Konstanz, Germany. Florian and Natalie are working with their recently purchased Biotage® Selekt system, which has proved to be important for their work.



“ We chose Biotage because of the impression we had gained while using other Biotage systems in our previous research groups”

What do you do?

‘We synthesize building blocks and catalysts, which are then used to synthesize polymeric materials.’

Polymers are synthesized by the addition of monomers, small molecules themselves, to a growing polymer chain, mono meaning ‘one’ and poly meaning ‘many’. There are a large number of ways in which a polymer can be synthesized, as there are many types of monomers and different forms of polymerization reactions that can be used to tie them together to form a polymer. However, in every case the monomers themselves are synthesized by typical organic chemistry procedures. Indeed, in many laboratories that focus on metal-organic or polymer chemistry, the majority of the work is actually happening at the workbench is organic chemistry. Likewise, catalyst development often involves organic synthesis, as most ligands are complex organic molecules that must be prepared and purified before ligating to a metal ion.



Why do you need to use Flash Purification?

‘We perform a lot of organic synthesis, where flash chromatography is a ubiquitous purification technique. This is especially true in ligand synthesis for transition metal catalysts, that require the high purities easily achieved with column chromatography. However, the solvent mixtures necessary for such separations are often very complex. These tasks can be performed by a machine in a very accurate and time saving fashion compared to manual chromatography.’

Column chromatography is the most versatile way to isolate target molecules from complex mixtures. However, due to the nature of the components chromatographic methods can be complex. Automated flash systems like the Biotage Selekt allow complex separations to be performed with ease and in a fast and reproducible manner.

What made you look to Biotage for your Flash purification solution?

‘We chose Biotage because of the impression we had gained while using other Biotage systems in our previous research groups.’

Biotage have a long history in flash purification and microwave synthesis, and our systems are employed by academic research groups across the world.

What does the Selekt do really well?

‘Flash chromatography with complex solvent mixtures’ – the Biotage® Selekt system along with Biotage® Sfär columns gives high resolution without compromising on loading, allowing even complex mixtures of compounds to be purified with ease.

‘Flash chromatography of large substance quantities’ – the Selekt system is able to run large Sfär columns, which have double the loading of traditional flash purification columns. As a result, the Selekt is able to purify large sample volumes simply and easily, saving time and solvent compared to other solutions.

‘Stepwise elution of products and impurities’ – step gradients can be employed on the Selekt system to reduce solvent consumption, run time and produce more concentrated sample fractions, reducing the time taken to isolate the pure compound from the fraction.



What would you like to see on the Selekt in the future?

‘Our daily routine would be facilitated even more by a flash chromatography system, which offers the possibility to connect even more than 4 solvents at a time to the machine as we change solvents very frequently during everyday operation.’

As the only flash system with two column channels the Selekt system is able to accommodate two column set up without the need to flush column lines, so Selekt is already designed with this kind of complex separation in mind.

EUROPE

Main Office: +46 18 565900
Toll Free: +800 18 565710
Fax: +46 18 591922
Order Tel: +46 18 565710
Order Fax: +46 18 565705
order@biotage.com
Support Tel: +46 18 56 59 11
Support Fax: +46 18 56 57 11
eu-1-pointsupport@biotage.com

NORTH & LATIN AMERICA

Main Office: +1 704 654 4900
Toll Free: +1 800 446 4752
Fax: +1 704 654 4917
Order Tel: +1 704 654 4900
Order Fax: +1 434 296 8217
ordermailbox@biotage.com
Support Tel: +1 800 446 4752
Outside US: +1 704 654 4900
us-1-pointsupport@biotage.com

JAPAN

Tel: +81 3 5627 3123
Fax: +81 3 5627 3121
jp_order@biotage.com
jp-1-pointsupport@biotage.com

CHINA

Tel: +86 21 68162810
Fax: +86 21 68162829
cn_order@biotage.com
cn-1-pointsupport@biotage.com

KOREA

Tel: +82 31 706 8500
Fax: +82 31 706 8510
korea_info@biotage.com
kr-1-pointsupport@biotage.com

INDIA

Tel: +91 22 4005 3712
india@biotage.com

Distributors in other regions
are listed on www.biotage.com

Literature Number: PPS602

© 2020 Biotage. All rights reserved. No material may be reproduced or published without the written permission of Biotage. Information in this document is subject to change without notice and does not represent any commitment from Biotage. E&OE. A list of all trademarks owned by Biotage AB is available at www.biotage.com/legal. Other product and company names mentioned herein may be trademarks or registered trademarks and/or service marks of their respective owners, and are used only for explanation and to the owners' benefit, without intent to infringe.