

Meet us at Prep 2009!

MIP Technologies will have a booth at Prep2009. Please visit our booth and we will be happy to present our exciting new product lines, the OPUS materials and the ExploraSep concept.

✉ Send an email if you want to book a meeting at Prep2009 with us!

info@miptechnologies.com

New product lines

OPUS materials now available:

OPUS RP125: A new RP phase with a novel pore architecture for preparative and process applications with robust and reproducible performance in true reversed phase and 'aqueous only' conditions

OPUS HLB115: A novel hydrophilic-lipophilic balanced (HLB) polymer phase for analytical & preparative scale separations

✉ Please send me information on the MIP Technologies OPUS phases info@miptechnologies.com

ExploraSep™4Process: One of our most exciting developments to date is the completion of a separation screening product, ExploraSep™4 Process. It is the largest library of proprietary separation material available for screening on the market and with its multi-chemistry plate format we believe it will be the separation phase discovery tool of the future. We hope to see you at Prep 2009 to explain the product in detail.

✉ Please send me more information about ExploraSep™4 Process

info@miptechnologies.com

Workshop

We encourage you to register for our **Tuesday morning workshop**. 7:30-8:45 Selective Separation Phases Using Novel Polymer Design

<http://www.faculty.virginia.edu/PREP2009/doc/WorkshopProgram.html>

Poster and oral presentation

You may also listen to our **oral presentation** by Ecevit Yilmaz

Tuesday, July 21, 2009, 8A. 5:30 pm NEW AND IMPROVED STATIONARY PHASES - II

What Is All the Fuss About Molecularly Imprinted Polymers (MIPs)? How Selective Resins Can Solve Demanding Separations. Brian Boyd, Ecevit Yilmaz, Anna-Karin Wihlborg, Ola Karlsson, Anthony Rees, MIP Technologies AB, Scheelevagen 22, 22363 Lund, SWEDEN.

<http://www.faculty.virginia.edu/PREP2009/doc/PREP2009ScientificProgram.pdf>

Visit our **poster** on Monday at 2pm onwards.

You find our **abstracts** below, both for the poster and oral presentation.

Poster abstract

Discovery of Selective Resins for Demanding Separations

- **The ExploraSep4Process™ Concept**

Brian Boyd, Anna-Karin Wihlborg and Ecevit Yilmaz

A new insight into the discovery of a molecularly imprinted polymer (MIP) for large scale separations is discussed. A key element of this breakthrough discovery approach is ExploraSep4Process™, a separation resin discovery tool whose principles and applications will be presented. The discovery tool is based on the manner in which 'similar' molecules are able to exploit the intrinsic functionality of the recognition sites on molecularly imprinted polymers. The discovery tool contains 128 unique separation resins, which allows a vast landscape of separation interactions to be screened. The concept is similar to the "pharmacophore" concept used in the pharmaceutical industry for the discovery of new drugs with desired biological activity. Even though the targeted biological receptor is designed for its natural effectors, artificial drugs with the same pharmacophore descriptors can also bind efficiently to the receptor. In molecularly imprinted polymers, the same phenomenon can be observed with the imprinted sites and is utilized in the ExploraSep4Process screening concept.

Several examples of this screening technique followed by the progression of the MIP through to process separations will be presented.

Abstract Oral presentation

What's all the fuss about Molecularly Imprinted Polymers (MIPs)?

- **How highly selective resins can solve demanding separations.**

Brian Boyd, Ecevit Yilmaz, Anna-Karin Wihlborg, Anthony Rees

Common separation problems can be adequately solved with generic silica and polymeric based separation materials. However for complex separations involving many constituents, generic materials often do not provide the desired selectivity. Often classical bioaffinity resins are employed to resolve the separation. However bioaffinity resins raise dilemmas such as resin stability, high cost, resin handling and compatibility with a complex matrix. Molecularly imprinted polymers (MIPs) have gained wide acceptance as a new type of polymeric based affinity interaction resins. MIPs offer a multitude of advantages, due to their high selectivity and unrivalled chemical stability. The enhanced stability of MIP resins leads to long life-times and an unrivalled flexibility in choice of regeneration protocols. The enhanced selectivity enables fewer purification steps, higher productivities and better overall purification economics for the process.

Traditionally MIPs have achieved unsurpassed results when applied to demanding analytical tasks. Since 2000, MIP Technologies have been actively working on the development of MIPs for preparative and process separations. The novel techniques employed for the evolution of a MIP from discovery in an analytical system to operation in a large

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scale process separation will be presented. An insight into a new screening concept, termed ExploraSep4Process™, for discovery of MIPs is also introduced. The screening tool is based on the exploitation of the intrinsic functionality of the recognition sites on molecularly imprinted polymers. Several examples of this screening technique followed by the progression of the MIP to process separations will be presented.

In addition, we have observed that the selectivity of MIPs is especially suited for the extraction of undesired impurities, toxic contaminants, or valuable low-level compounds present at trace concentrations in complex matrices. We would like to present applications of the performance and benefits of selective MIPs for process purifications in both the food processing and pharmaceutical industry.