A CUSTAGE INITIATIVE

APRIL 2025

CHROMATOGRAPHY Connect

6th EDITION purify'24
CHROMATOGRAPHY PURIFICATION CONCLAVE

17th December, 2024;
ITC Kohenur, Hyderabad

For Thought Provoking Leadership in
Chromatography Purification

The Event Summarised

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6th EDITION

purify24

CHROMATOGRAPHY PURIFICATION CONCLAVE®

17th December, 2024; ITC Kohenur, Hyderabad

For Thought Provoking Leadership in
Chromatography Purification

Diving Deep

...a landmark event

For Thought Provoking Leadership in
Chromatography Purification

Contents

Organised by

CUSTAGE MARKETING SOLUTIONS
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Custage Marketing Solutions LLP is a Mumbai-based boutique communications company that specialises in marketing communications services for the B2B and is adept at creating niche premium communication platforms (vide print, digital and events) that are high in impact and a source of relevant knowledge sharing for the industry.

CHROMATOGRAPHY Connect

Project Execution:
Custage Marketing Solutions LLP,
406, Vikas Centre, Dr. C. G. Road,
Chembur, Mumbai 400 074, INDIA

Numbers Crunched

A symphony of numbers that was music to the ears of all...the delegates savoured the content... the speakers enjoyed the audience's attention...the sponsors lapped up the opportunities and the exhibit zone allowed the showcase of the latest capabilities!

It was all corners covered at PURIFY'24!

For Thought Provoking Leadership in
Chromatography Purification

In **Dialogue**

Dear Valued Chromatographers,

We are happy to have executed our responsibility, 6th time in a row, with the recently concluded edition of PURIFY on 17th December, 2024 at ITC Kohenur, Hyderabad. It was most gratifying when we were told by so many that this was the best edition we executed this far!

Thank you for converting PURIFY from a conference into a movement. It's a tech-fest where experiences are shared, new relationships are forged and existing ones cemented, where the future is seen in the present and discussions are in the spirit of unified success.

Attendees at PURIFY have been fortunate to be privy to some most engaging content in chromatography purification that would simplify our today, while keeping us relevant for tomorrow. Panel discussions continue to be the high-point of the conclave. Sponsors showcase their best during their talks.

The last edition of PURIFY saw many new products launched and techniques discussed. We are so overwhelmed when we are told that PURIFY has set new standards for 'a premium conference' that is discussed in many forums.

Gathering global leaders, PURIFY, in the coming editions too, will continue to fulfill aspirations of the industry and play a quiet role in shaping the future of chromatography purification for India as the world takes cognisance of the capabilities of the Indian pharmaceutical industry.

Chromatography purification is changing, and changing fast. Purifications have to be technically advanced and commercially viable as time to market continues to be under pressure. PURIFY conclaves are today one of the most credible ways to stay up-to-date.

PURIFY is an industry congregation wherein participants learn, engage, network and grow. Wishing you all continued and meaningful presence at every PURIFY! Don't miss any edition, as every edition is turning out to be unique in its own right and well identifiable with the industry needs. PURIFY Conclaves are all about addressing challenges, creating opportunities and helping every stakeholder stay ahead of the curve!

I want to extend my sincere thanks to all the delegates, speakers and sponsors who brought their expertise and energy to this event. Thank you for being the wind beneath our wings!

Looking forward to the next opportunity of meeting you in person at the 7th edition of PURIFY on 25th July, 2025 in Ahmedabad!

Warm Regards,

Manish Chawla
Managing Partner,
Custage Marketing Solutions LLP

Acclaimed **Advisory Board**

The core competency of the esteemed advisory board ensured the most relevant content that benefitted attendees. Their deliberations have constantly served as a guiding light to build an event that is today benchmarked as the highest impact conclave witnessed by this industry.

Katkam Srinivas
Executive Vice President, Head of Global Sales & Marketing - API Business, MSN Laboratories Pvt. Ltd., Hyderabad

M. Damodharan
Chief Quality Officer, Global Quality & Regulatory Affairs, Sai Life Sciences Ltd., Hyderabad

Muralidharan Chandrakesan
Senior Vice President, Peptide-Operations, Hetero Drugs Ltd., Hyderabad

Rajiv Janjikhel
Executive Director, Alliance Management AbbVie, New Jersey

Somesh Sharma
Executive Vice President, Discovery Services, Aragen Life Sciences, Hyderabad

Y. S. Lakshmi Narasimham
Sr. General Manager - Analytical, Novel Drug Discovery and Development, Lupin Ltd. (Research Park), Pune

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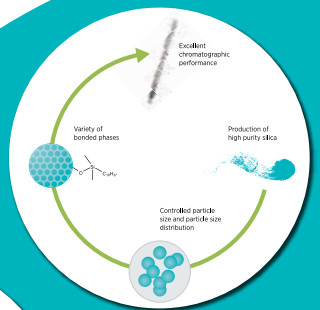

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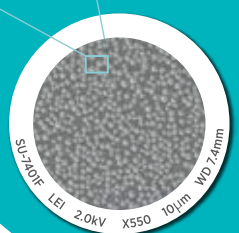

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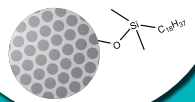

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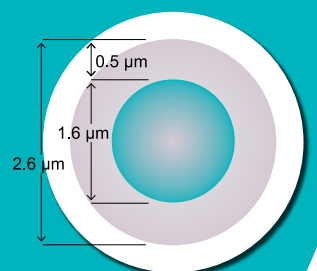

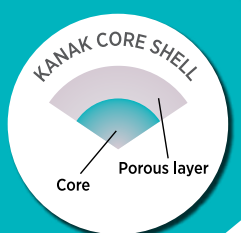

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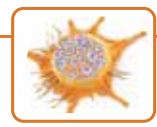

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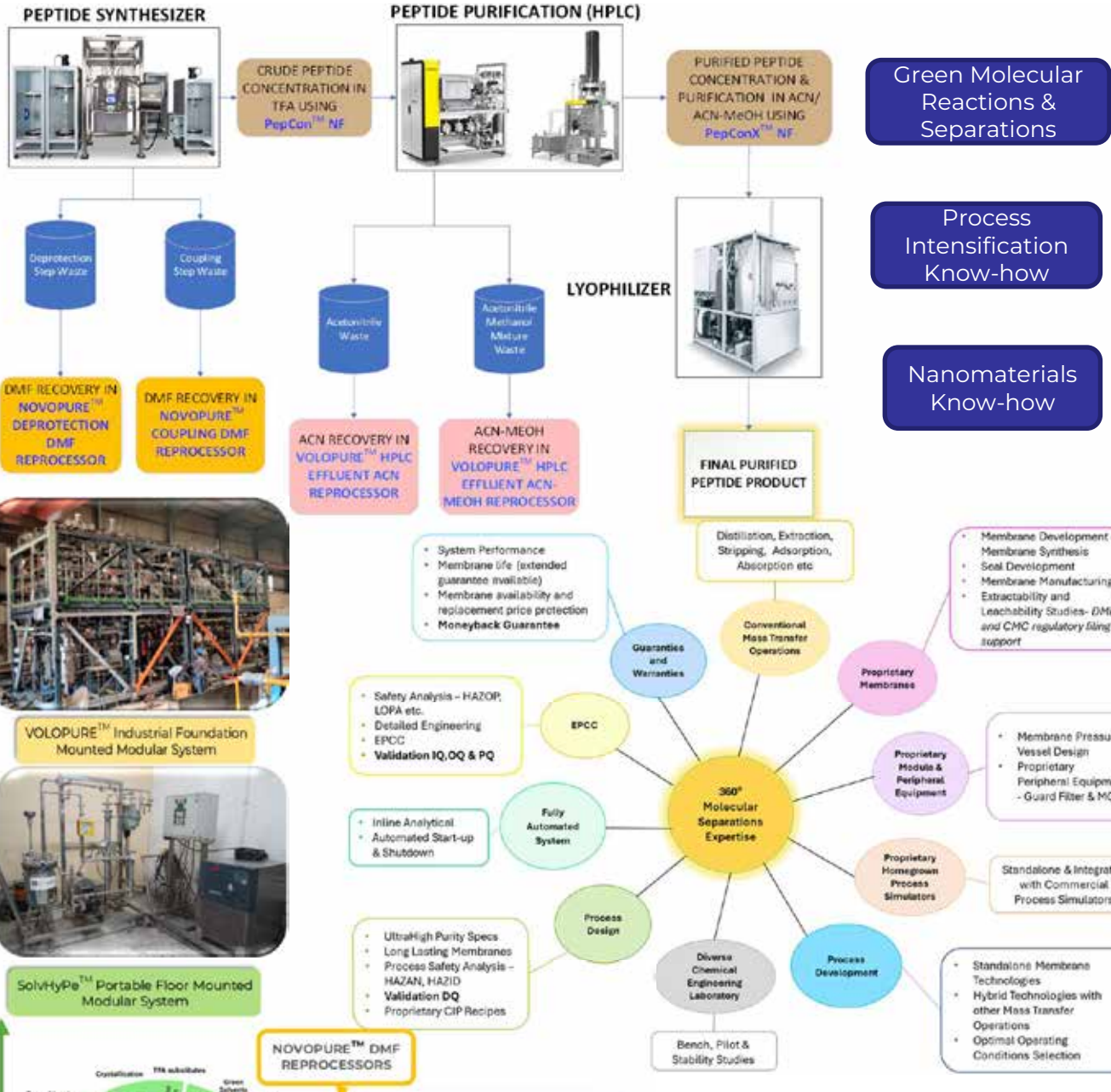

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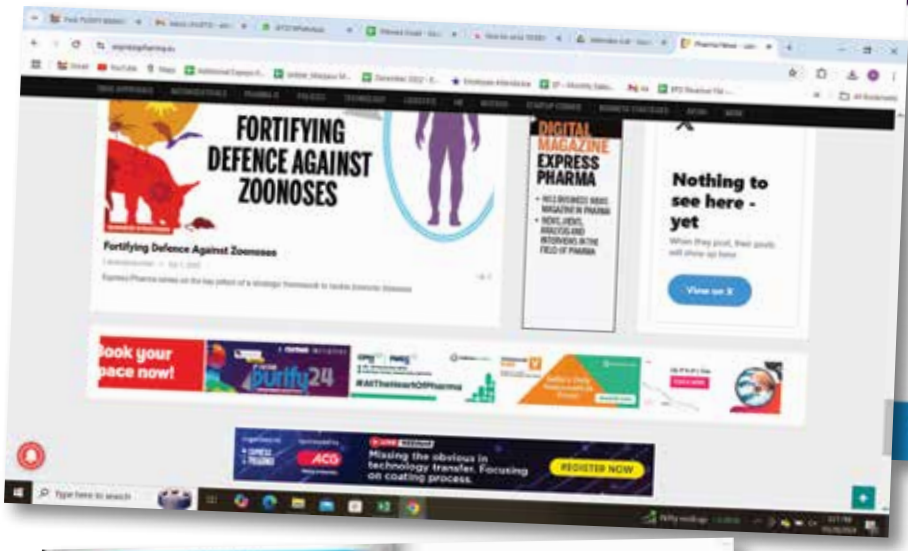
As Rome wasn't built in a day, so was the success of PURIFY'24. It's been 110+ campaigns that were thoughtfully conceived and diligently implemented. A myriad of platforms were used to put the best foot forward to approach all stakeholders in the business of 'Chromatography Purification'. The result was evident – the big success of PURIFY'24!

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A Big Thank You!


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Dear Participants,
A Quick Update!
Conference Schedule
Registration 8:00 am
Conference 9:00 am to 6:30 pm
Business Networking Cocktails & Dinner 6:30 pm onwards
FEW SEATS REMAIN!
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GET LUCKY!
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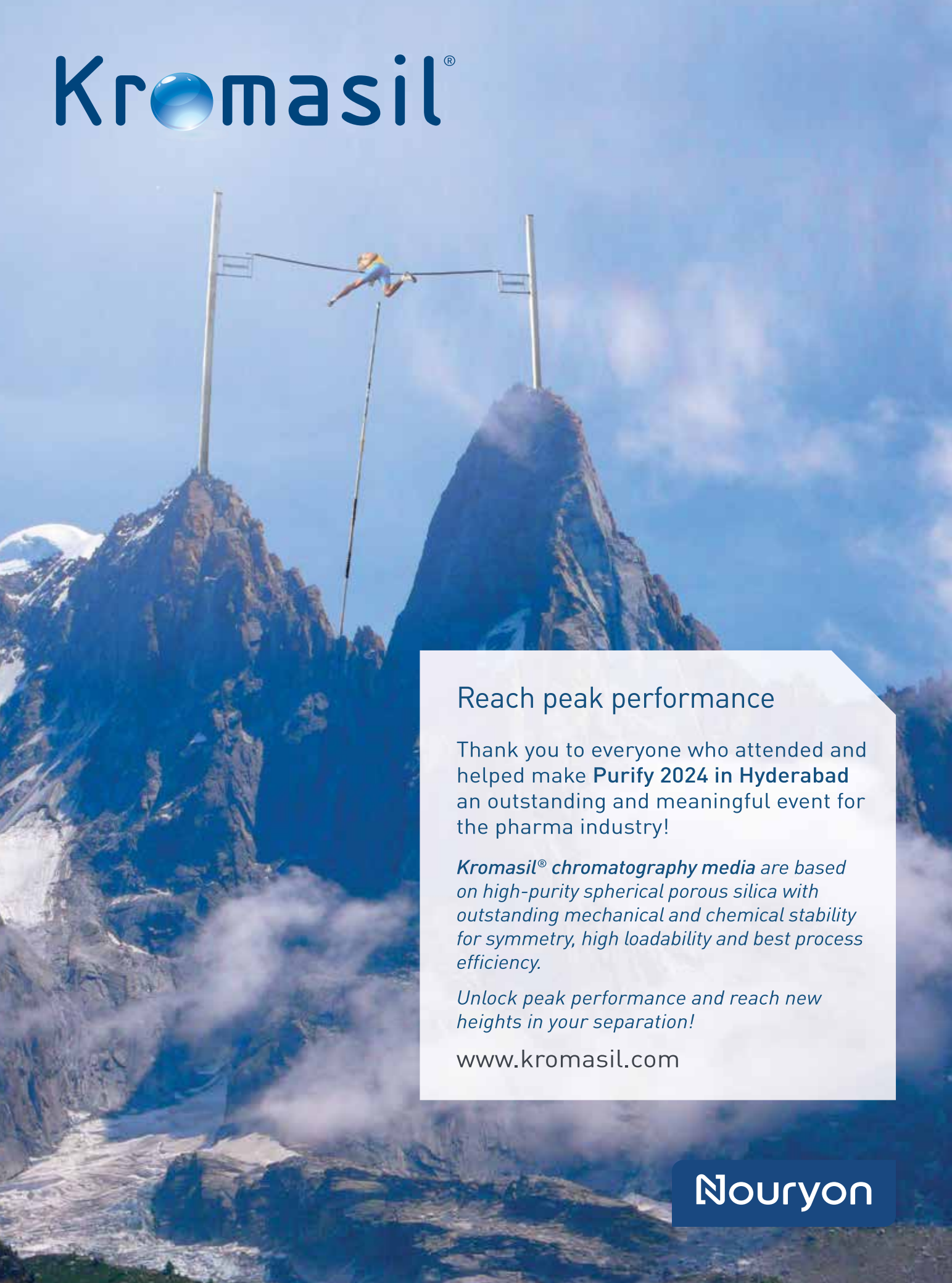
For Thought Provoking Leadership in
Chromatography Purification

Programme

Never before a programme with such diversity of talks, coupled with depth of knowledge. Speakers from PAN India adorned PURIFY'24.

Timing	Presentation	Speakers
8:00 am - 9:00 am	Registration with Networking Tea / Coffee	
9:00 am - 9:30 am	Inauguration and Welcome Address	
9:30 am - 9:45 am	New Possibilities to Achieve High Throughput in Peptide Purification Using ISMB Chromatography System + 70 μm Polymeric Resins	**Akihiro Nojiri,** Ph.D., General Manager; **Shuichi Yoshizaki,** General Manager, Mitsubishi Chemical Aqua Solutions Co., Ltd., Japan
9:45 am - 10:00 am	Demand Challenges of GLP-1; Purification Case Study Using SFC - A Green Technique	**Dr. G. Srinivasa Rao,** Ph.D., Director-Lab Projects, YMC India, Hyderabad
10:00 am - 10:15 am	Analytical Strategies for Generic Peptide Drugs Evaluation	**Ravi Rapolu,** Ph.D., Technical Consultant, Daicel Chiral Technologies India Private Limited, Hyderabad
10:15 am - 10:40 am	Panel Discussion - Addressing Challenges Faced By Peptide Purification Chemist of Today	**Md. Mohosin Layek,** Head, Process R&D, Auro Peptides Limited, Telangana; **Dr. Vasanthakumar G. Ramu,** Head R&D, Peptides and Complex API's, Alembic Pharmaceuticals Limited, Hyderabad; **Dr. Gaurav Taneja,** Ph.D., Associate Director - R&D, Piramal Pharma Limited, Navi Mumbai; Moderator: **Ganesh Ramachandran,** Ph.D., Head - Peptide Purification Research & Development, Biocon Limited, Bengaluru
10:40 am - 11:10 am	Networking Tea / Coffee Break	
11:10 am - 11:20 am	**Lucky Draw**	
11:20 am - 11:35 am	The Dual Approach: Leveraging Soft and Hard Beads for Optimal Biomolecule Purification	**Manjunath Dudhanikar,** Applications, M R Sanghavi & Co., Mumbai
11:35 am - 11:50 am	Molecular Separations (MOLSEP) Enabled Sustainable Tides and Insulin Production	**Manish Goel,** Founder & CTO, I Cube Nanotech India LLP, Noida
11:50 am - 12:05 pm	Increased Lifetime Of Reversed Phase Silica Using Cleaning In Place	**Fredrik Limé,** Ph.D., Technical Development Manager Pharma, Kromasil, Nouryon, Sweden
12:05 pm - 12:20 pm	Mastering GLP-1 Peptide Purification: Key Method Development Considerations	**Dr. Rajesh Babu Dandamudi,** Business Application Manager, Phenomenex India Pvt. Ltd., Hyderabad
12:20 pm - 12:35 pm	Even Synthetic GLP-1 Peptides Fibrillate!	**Mizuki AOI,** MSc., Research Scientist, Osaka Soda Co., Ltd., Japan
12:35 pm - 12:50 pm	Nitrosamine Impurities - Business Challenges	**Katkam Srinivas,** Executive Vice President, Head of Global Sales & Marketing - API Business, MSN Laboratories Pvt. Ltd., Hyderabad
12:50 pm - 1:05 pm	Announcements and More	
1:05 pm - 1:55 pm	**Networking Lunch Break**	
1:55 pm - 2:05 pm	**Lucky Draw**	
2:05 pm - 2:20 pm	Breaking Barriers With a Comprehensive Automated Workflow for Purification, Desalting & Compound Powderisation	**Navin Devadiga,** Deputy Manager, Shimadzu Analytical (India) Pvt. Ltd., Mumbai

Timing	Presentation	Speakers
2:20 pm - 2:45 pm	Panel Discussion - Embracing AI	**Dr. AVSS Prasad,** AVP & Head, AR&D, Shilpa Pharma Lifesciences Ltd., Raichur, Karnataka; **M. Damodharan,** Chief Quality Officer, Global Quality & Regulatory Affairs, Sai Life Sciences Ltd., Hyderabad; **Dr. Venkat Manohar,** Ph.D., Director, Indian Institute of Chromatography and Mass Spectrometry LLP, Chennai; Moderator: **Dr. KMV Narayana Rao,** Ph.D., Vice President - ARD, Natco Pharma, Hyderabad
2:45 pm - 3:00 pm	Centralised Pooling in Downstream Processing: Strategies for Optimal Monitoring and Control	**Dr. Vinay Bathineni,** Ph.D., Director of Business Operations, Intech Analytical Instruments, Hyderabad
3:00 pm - 3:15pm	Unveiling New Chiral Chemistries to Address Industry Challenges	**Kasturi Rajashekhar,** AGM - Business Development, Riki Global Trading Pvt Ltd., Hyderabad
3:15 pm - 3:25 pm	Felicitation	
3:25 pm - 3:40 pm	Announcements and More	
3:40 pm - 4:10 pm	Sharing Experiences	**Dr. Purnendu Roy Chowdhury,** Vice President - Analytical, TCG Lifesciences Pvt. Ltd., Kolkata; **Satyajit Tillu,** Sr. General Manager and Site Head, Piramal Pharma Limited, Navi Mumbai; **V. Yuvaraj,** Ph.D, Senior Director / Analytical R&D, Sai Life Sciences Ltd., Hyderabad
4:10 pm - 4:40 pm	**Networking Tea / Coffee Break**	
4:40 pm - 4:50 pm	**Lucky Draw**	
4:50 pm - 5:15 pm	Panel Discussion - Stay Updated on PAT Tools	**Om Narayan,** Senior Vice President, Head Manufacturing & MSAT (Biologics), Kashiv Biosciences, Ahmedabad; **Tushar Joglekar,** Sr. General Manager & Head (DSP & Process Analytica) R&D, Intas Pharmaceuticals Ltd. - Biopharma Division, Ahmedabad; Moderator: **Muralidharan Chandrakesan,** Senior Vice President, Peptide-Operations, Hetero Drugs Ltd., Hyderabad
5:15 pm - 5:30 pm	Peek Into Magnetic Purification	**Somesh Sharma,** Executive Vice President, Discovery Services, Aragen Life Sciences, Hyderabad
5:30 pm - 5:40 pm	Felicitation	
5:40 pm - 5:55 pm	Announcements and More	
5:55 pm - 6:40 pm	A Masterclass on Life	**Dr. Pawan Agrawal,** Renowned International Motivational Speaker, TED Speaker, Author & Educationist and Ph.D. on Mumbai Dabbawala
6:40 pm Onwards	**Lucky Draw and Networking Cocktails & Dinner**	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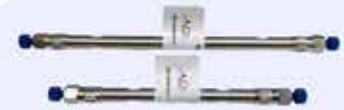

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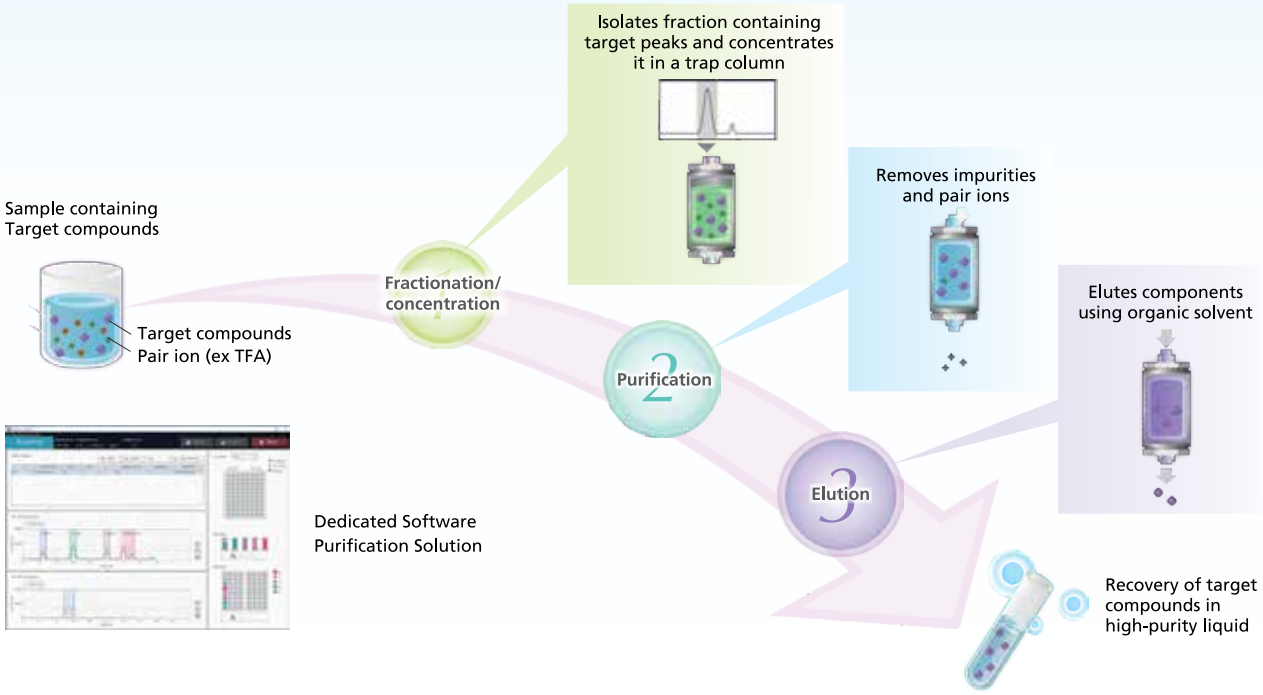

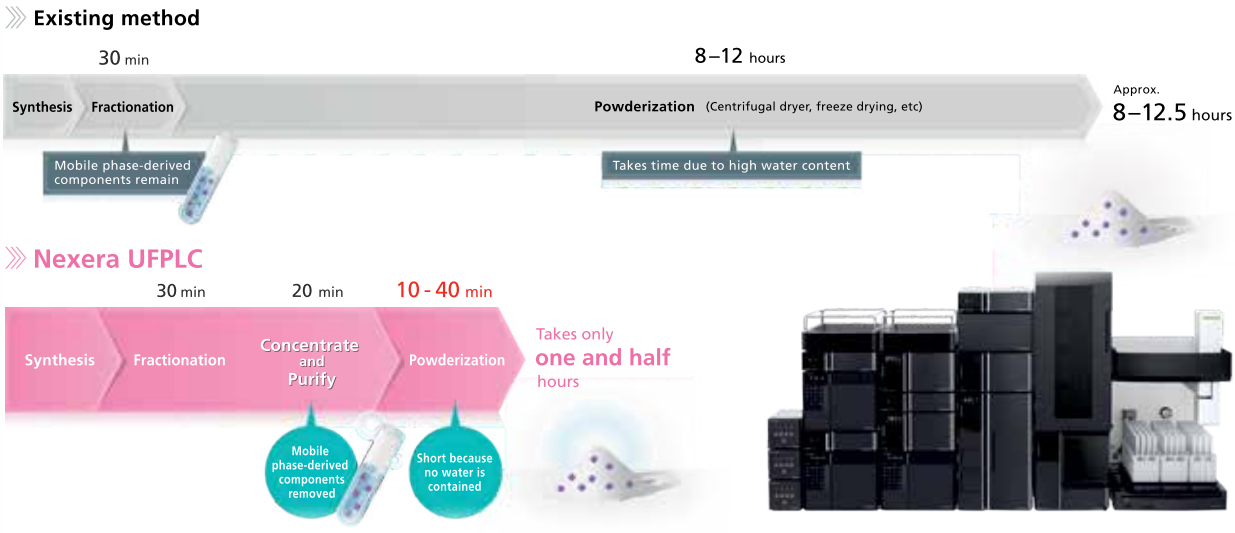

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ABSTRACTS

IN-SHORTS

New Possibilities to Achieve High Throughput in Peptide Purification Using ISMB Chromatography System + 70 μm Polymeric Resins

Akihiro Nojiri, Ph.D., General Manager
Shuichi Yoshizaki, General Manager
Mitsubishi Chemical Aqua Solutions Co., Ltd., Japan

MMD-Sep™ is a novel continuous chromatography system designed for mid-size API, such as Peptides production, achieving significant increases in recovery rates, while minimizing solvent consumption. By incorporating advanced Polymeric stationary phase, MMD-Sep™ enhances the efficiency and sustainability of peptide manufacturing .This technology not only streamlines the purification process but also addresses the growing need for environmentally friendly manufacturing practices. Real-time monitoring and automation features ensure optimized performance and reproducibility, making this system ideal for industrial scale peptide production. The implementation of our continuous chromatography approach demonstrates the potential to transform peptide production, offering substantial benefits in both resource utilization and output quality!!

Demand Challenges of GLP-1; Purification Case Study Using SFC - A Green Technique

Dr. G. Srinivasa Rao, Ph.D., Director-Lab Projects, YMC India, Hyderabad

In 2019, YMC India LAB started offering analytical and custom purification services (mgs- multi Kgs scale), isomeric and complex impurities synthesis mainly complex small molecules and peptides impurities. Also chiral application lab to develop chiral methods by setting up first class facility in Hyderabad compliance of ISO 9001:2015, GMP certified, FDA registered. Experienced scientists from Industries have been appointed and highly sophisticated state of the art lab equipped with brand new key Analytical HPLCs, Preparative HPLCs, DAC Prep systems, SFC system- Green chemistry analytical and prep, flash systems and UHPLC MS etc.

At Purify conclave 2024, I would like to share my insights on GLP-1 analogues demand and challenges. We are seeing huge growth of demand, In 2018, it took seven brand drugs to equal the total Generic

business and now In 2024 it only take two- Ozempic and Humira- $62.5B in Sales. Diabetic patients globally are increasing every year and seem 25% of the world's population will be obese by 2035. I would be sharing upcoming block buster anti diabetic and anti-obese peptide drug Tirzepatide purification process which was developed by YMC Lab. It is a Two Step process with >99.7% purity achieved. YMC Triart C8 bio and YMC Triart C4 resins are suitable for the process. Also I would share few R&D trials in our SFC purification of peptides.

YMC India purification and synthesis LAB is marching towards the global CRO partner to make healthy living and a better healthcare industry.

Analytical Strategies for Generic Peptide Drugs Evaluation

Ravi Rapolu, Ph.D., Technical Consultant, Daicel Chiral Technologies India Private Limited, Hyderabad

The evaluation of generic peptide drugs presents unique challenges compared to small molecules due to their complex structural hierarchy. Establishing the sameness of these drugs with their reference counterparts requires a comprehensive suite of analytical techniques to confirm both primary and higher-order structures. High-resolution mass spectrometry (HRMS), nuclear magnetic resonance (NMR), circular dichroism (CD), and Fourier-transform infrared spectroscopy (FTIR) are indispensable tools for elucidating structural integrity.

Aggregation studies, a critical factor in peptide drug stability, are effectively assessed using size-exclusion chromatography coupled with multi-angle light scattering (SEC-MALS). Bio-identity verification through cell-based bioassays further ensures functional equivalence. Among these methods, NMR plays a pivotal role, particularly through advanced 2D experiments such as heteronuclear single quantum coherence (HSQC), diffusion-ordered spectroscopy (DOSY), and nuclear Overhauser effect spectroscopy (NOESY), which provide insights into conformation, dynamics, and intermolecular interactions.

Additionally, chemometric approaches, including principal component analysis (PCA), Easy Comparison Higher Ordered Structure (ECHOS), and Combined Chemical Shift difference (CCSD), joined with comprehensive 1H NMR profiling, enhance the robustness of sameness evaluations. These strategies collectively address the comprehensive requirements for demonstrating the structural and functional equivalence of generic peptide drugs.

Daicel Chiral Technologies India brings extensive expertise in peptide therapeutics and offers comprehensive characterization and sameness studies for generic peptide drugs. Operating from a US-FDA-inspected facility, Daicel enables faster regulatory filings. Adding to its strengths is the availability of a complete range of high-quality peptide impurity standards, ensuring superior support for peptide drug development.

The Dual Approach: Leveraging Soft and Hard Beads for Optimal Biomolecule Purification

Manjunath Dudhanikar, Applications, M R Sanghavi & Co., Mumbai

The purification of small biomolecules, such as insulin, is a fundamental aspect of biopharmaceutical development, ensuring the safety and efficacy of therapeutic products. This presentation investigates a sophisticated purification strategy that integrates ion exchange chromatography, hydrophobic interaction chromatography (HIC), and reverse-phase high-performance liquid chromatography (RP-HPLC), of Nanologica and JNC resins. Notably, the incorporation of immobilized trypsin enhances the specificity and efficiency of the purification process. Initially, ion exchange chromatography is utilized to separate insulin based on its charge, effectively removing impurities. Subsequently, HIC exploits the hydrophobic properties of insulin to further enhance purity through selective elution. Finally, RP-HPLC serves as a polishing step, providing high resolution and specificity in isolating insulin from residual contaminants. By presenting data-driven results and case studies, this presentation highlights how the strategic application of Nanologica and JNC resins, combined with immobilized trypsin, significantly improves the yield and purity of small biomolecules, underscoring their critical role in modern purification processes.

Molecular Separations (MOLSEP) Enabled Sustainable Tides and Insulin Production

Manish Goel, Founder & CTO, I Cube Nanotech India LLP, Noida

GLP drugs are poised to reach a market size of 100 Billion dollars by 2030 as forecasted by a leading market research company. Insulin & Insulin biosimilar markets are growing and therapeutic oligonucleotides are expected to grow significantly. For the majority of GLP drugs, solid phase synthesis, followed by multiple steps of chromatography and lyophilization are established as the process for production. Though significant efforts have been made to optimize the usage of DMF & ACN, the process solvent intensity index remains in the 300-500 per AA. This is a major contributing factor to the high production costs of GLP drugs due to escalating virgin solvent and spent solvent disposal costs. Additionally, the low concentrations of the GLP drug substances and residual solvents like ACN & Methanol used in chromatography result in high energy consumption in lyophilization. This presentation is on the application of the ICN MolSep technology portfolio for sustainable production of TIDES and

insulins, with a special focus on GLPs. ICN technology encompasses molecular separation membranes - pervaporation, vapor permeation & nanofiltration combined with conventional mass transfer operations. ICN molecular separation systems greatly mitigate the challenges encountered by recovery of solvents for reuse, non-thermal concentration and residual solvent removal from the GLP drug substance. Additionally, the CAPEX & OPEX of these systems is such that ROI is attractive while simultaneously reducing the carbon footprint of GLP production by over an order of magnitude.

Increased Lifetime Of Reversed Phase Silica Using Cleaning In Place

Fredrik Limé, Ph.D., Technical Development Manager Pharma, Kromasil, Nouryon, Sweden

Silica is commonly used as stationary phase in reversed phase preparative chromatography of peptide APIs such as insulin, insulin analogues and GLP-1 receptor agonists. The reversed phase grafting of the silica is commonly an alkyl chain such as C4, C8 or C18, or an aryl group like phenyl. An issue with silica based stationary phase have been the stability of the material at highly alkaline conditions. Insulins and GLP-1s have a tendency to form fibrils or agglomerates in the purification process, that adsorbs on the stationary phase, decreasing the selectivity and efficiency of the purification. In order to remove the adsorbed contaminants, alkaline buffer and organic modifier are flushed through the column. In this process the strain on the stationary phase could led to deterioration of the phase. In this study we investigate different scenarios, to regenerate reversed phase silica by cleaning in place to increase the lifetime of the packing.

Mastering GLP-1 Peptide Purification: Key Method Development Considerations

Dr. Rajesh Babu Dandamudi, Business Application Manager, Phenomenex India Pvt. Ltd., Hyderabad

This presentation delves into the critical aspects of GLP-1 peptide purification, focusing on method development. We begin by exploring the characteristics of GLP-1 analogues and the analytical challenges they present. Emphasizing the importance of selectivity, we discuss

strategies to harness its power for effective purification. The talk also covers designing reliable separations and outlines general scouting conditions essential for method development. To provide practical insights, we include specific examples that illustrate these concepts in action. Join us to enhance your understanding and skills in GLP-1 peptide purification.

Even Synthetic GLP-1 Peptides Fibrillate!

Mizuki AOI, MSc., Research Scientist, Osaka Soda Co., Ltd., Japan

For decades, the "INSULIN people" with their eternal fight with super dirty crude plus more garbage generated during the purification step - and the carefree "synthetic peptide people" lived in parallel universes. Peptide synthesis technology improvements produced longer more complicated peptides that baffled the synthetic world with suddenly HPLC columns failing. (The breakthrough was the synthetic LIRAGLUTIDE, a GLP-1 peptide.) Yes, even synthetic peptides can fibrillate fiercely! These day's big hit GLP-1 peptides (SEMAGLUTIDE and especially TIRZEPATIDE) fibrillate! Now synthetic peptide people must learn what the insulin people was battling all the time. What is peptide fibrillation and how to deal with it is the topic of this lecture.

Breaking Barriers With a Comprehensive Automated Workflow for Purification, Desalting & Compound Powderisation

Navin Devadiga, Deputy Manager, Shimadzu Analytical (India) Pvt. Ltd., Mumbai

Advances in chromatography have empowered researchers to purify entire classes of chemicals and biomolecules, paving the way for breakthroughs in research, development, and manufacturing. While chromatography is a well-established technique in the lab, modern purification workflows demand more. The industry now seeks end-to-end solutions that enable researchers to achieve their purity goals efficiently and seamlessly.

To address these evolving needs, Shimadzu introduces the Nexera UFPLC technology, an ultra-fast preparative and purification liquid chromatography solution. This cutting-edge system transforms purification operations by automating the entire process, from separation and concentration to purification and collection.

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Embrace the future of purification with Shimadzu's Nexera Prep Series and elevate your research to achieve exceptional outcomes.

Centralised Pooling in Downstream Processing: Strategies for Optimal Monitoring and Control

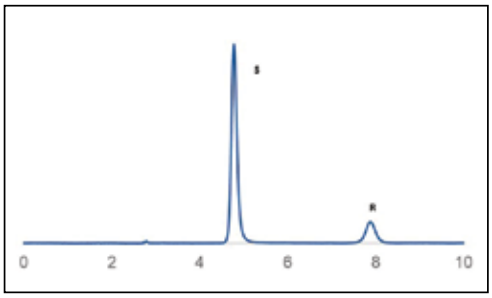
Dr. Vinay Bathineni, Ph.D., Director of Business Operations, Intech Analytical Instruments, Hyderabad

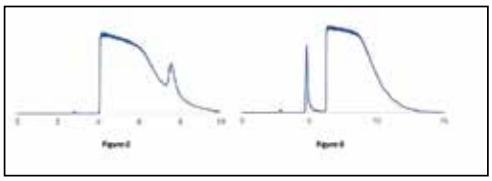
Addressing the challenges of handling large-volume fractions, we present centralized monitoring and control strategies, encompassing real-time process parameter management, post-fraction pooling, and temperature stabilization. Demonstrating the robust performance of Hanbon-Intech DAC column technology, this approach underscores improved tech transfers efficiency and reliable scalability, driving streamlined, high-quality manufacturing processes. This presentation highlights advancements in downstream processing technology, focusing on two critical aspects: Innovative column packing techniques; centralized pooling, control and monitoring strategies.

Unveiling New Chiral Chemistries to Address Industry Challenges

Kasturi Rajashekhar, AGM - Business Development, Riki Global Trading Pvt Ltd., Hyderabad

Chiral chromatography columns are widely used in the pharmaceutical, biotechnology, and chemical industries for the analysis of chiral compounds. This presentation highlights the importance of chiral isomer separation through a case study of Naproxen and its enantiomer. The S-isomer of 2-(6-Methoxynaphthalen-2-yl) propanoic acid, commonly known as Naproxen, is the active form with significant therapeutic benefits, while the R-isomer is largely inactive. Effectively separating these enantiomers and isolating the S-isomer ensures maximum efficacy, minimal side effects, and highlights the use of chiral chromatography in the development of safer drug formulations. The use of conventional amylose- and cellulose-based chiral columns failed to achieve satisfactory resolution. However, with the use of the Whelk-O 1 phase from Regis Technologies, significant improvements and notable advantages were observed. The Whelk-O 1 stationary phase features a covalently-bonded semi-rigid scaffold that includes a π-electron donor, tetrahydrophenanthren, a π-electron acceptor, 3,5-dinitrobenzoyl, and an amide functional group to facilitate better separation by acting as both a hydrogen donor and acceptor. The method developed with this phase achieved a resolution greater than 3, as shown in Figure 1.





In large-scale preparative work under overloading conditions, it was noted that baseline separation was lost and purity and potency were compromised. Fortunately, the Whelk-O 1 phase is available in two different absolute stereoisomeric configurations, (R,R) and (S,S). By switching between the configurations, we were able to invert the elution order of the enantiomers, resolving common challenges and achieving high purity and potency. The advantages of using these columns include durability, excellent efficiency, elution order inversion, and high loading capacity, as demonstrated in Figures 2 and 3.

Conclusion:

The case study demonstrates the critical role of efficient chiral separation in ensuring the optimal efficacy and safety of pharmaceuticals. The use of Regis Technologies' Whelk-O 1 phases facilitated the successful resolution of DL-Naproxen. These columns, with their unique features and flexibility, provide a reliable solution for challenging separations in both analytical and preparative applications, contributing to the development of more effective and safer drug formulations.

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APPLICATIONS

- Oil & Gas
- Chemicals
- Paint / Ceramics
- Waste Treatment
- Sludge / Slurry
- Hygienic
- Fuels
- Drum Emptying
- Bio Fuels

Performance data:

- Max. flow: 800 lpm (210 gpm)
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QF 1200 S-HT	6-1,200 lph 0.1-20 lpm
QF 4400 S	150-5,000 lph 2.5-83 lpm
QF 4400 S-HT	50-5,000 lph 0.83-83 lpm
QF 5050 S	50-5,000 lph 0.83-83 lpm
QF 10 k	500-10,000 lph 8.3-167 lpm
QF 20 k	1,000-16,000 lph 16.7-267 lpm

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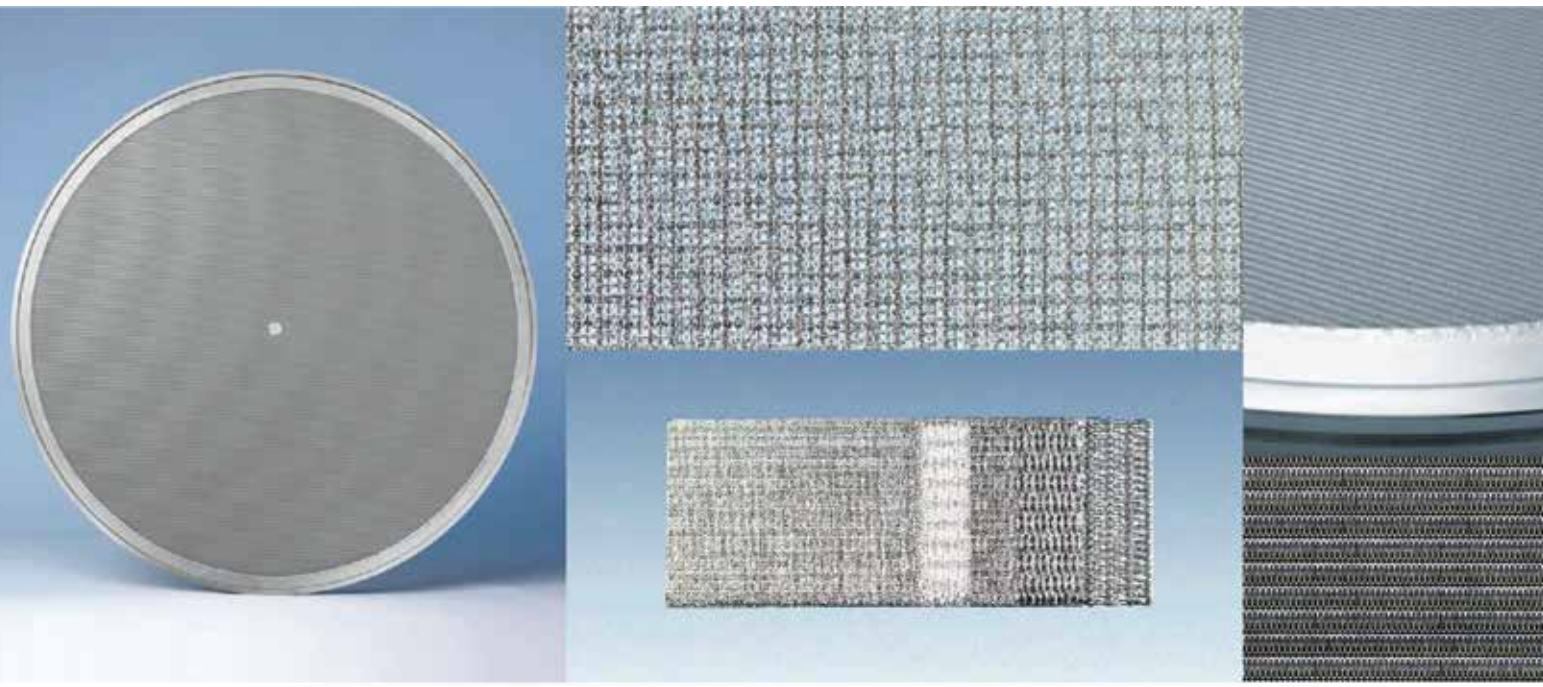
QF 1200 SU	10-1,200 lph 0.167-20 lpm
QF 1200 SU-M	10-1,200 lph 0.167-20 lpm
QF 1200 SU-CV	10-1,200 lph 0.167-20 lpm
QF 1200 SU-HT	6-1,200 lph 0.1-20 lpm
QF 4400 SU	150-5,000 lph 2.5-83 lpm
QF 4400 SU-HT	50-5,000 lph 0.83-83 lpm
QF 5050 SU	50-5,000 lph 0.83-83 lpm
QF 20 kSU	1,000-16,000 lph 16.7-267 lpm



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Dr. Vasanthakumar G. Ramu
Head R&D, Peptides and Complex API's,
Alembic Pharmaceuticals Ltd.

"Networking and knowledge sharing was the best part of Purify'24!"

Dr. Ajit Godbole
Director,
Anant Pharmaceuticals Pvt. Ltd.

"Purification technology for peptides to me was the best feature at Purify'24."

K Koteswara Rao
Deputy Manager,
Auro Peptides Ltd.

"Purify'24 was a great event to learn new advanced analysis in the market."

Murty Singamsetti
Principal Scientific Manager,
Aragen Life Sciences

"Focus on peptide research and supporting technology was the best facet of Purify'24!"

Revti Raut
Executive -1 sales & BD,
Cleanchem Laboratories

"The event shared awareness of different techniques for GLP-1 purification process."

Vivekananda Reddy G.
Sr. Manager,
Auro Peptides Ltd.

"The variety of knowledge and technology presented under one roof was the best part of Purify'24."

Viren Pandya
Sr. Manager,
Sun Pharmaceutical Industries Ltd.

"Purify'24 enabled us to connect with all purification-related needs in just one day."

Vijayalakshmi S.
Syngene International Ltd.

"Panel discussion on peptide purification was the highlight of Purify'24!"

Debjoti Guchhait
Scientist,
Biocon Ltd.

> Some of the highlights of Purify'24 include interesting discussions on recent updates on GLP analysis, purification strategies and at the scale-up panel discussion.
>
> **Chaitanya Kedari**
> Sr. Manager,
> Biological E. Ltd.

> Purify'24 presented an opportunity to be able to meet industry experts.
>
> **Dhairya Kumar Shah**
> Sales,
> Honeychem Pharma Research Pvt. Ltd.

> Panel discussion on the topic of method development opportunity using AI was the best!
>
> **CH. Satyam**
> Senior Executive,
> Natco Pharma Ltd.

> Purify'24 was an excellent informative and knowledge sharing platform.
>
> **M. Rajesh**
> Assistant Manager,
> Natco Pharma Ltd.

> Thank you for the insightful seminar on purification. The content was both informative and engaging. Good platform to meet people in the same field with new ideas and thoughts.
>
> **Dr. Niraj Shinoy**
> Sr. Scientific Manager,
> O2h Discovery Pvt. Ltd.

> Overall content as great at Purify'24!
>
> **Dr. Vinayak T Vele**
> General Manager,
> FDC Ltd.

Beyond **Business**

At PURIFY'24 along with providing 'Knowledge', we wish you an unforgettable family time!

> The event had panel discussions and presented an opportunity to meet concerned people so as to discuss problems.
>
> **Abhijit Desai**
> Manager R&D Peptides,
> FDC Ltd.

> The exciting aspect of Purify'24 was the sharing of knowledge and expertise from various purification experts (Example, The Importance of Nitrosamine Purification).
>
> **Rameswara Gopireddy**
> Senior Manager - Mfg. Sciences,
> Biological E. Ltd.

> This edition presented a chance for learning purification processes, analytical method development and column chemistry. In addition, the use of AI in the purification process was well highlighted.
>
> **Dr. Guvvala Vinodh**
> Principal Scientist - API R&D,
> Glenmark Life Sciences Ltd.

> Purify'24 managed to cover so many topics by keeping 15 mins timeline.
>
> **Anvesh Reddy Nimmala**
> Deputy Manager,
> Biological E. Ltd.

> Networking opportunity was the best at this Purify'24!
>
> **M. Bale Murali Krishna**
> Senior Research Scientist-2,
> Laurus Labs Ltd.

The Big **Bag!**

The bag got its share of appreciation as well. A quality bag containing quality content for the discerning delegates! This one had it all! The latest information sheets from the sponsors reached every single attendee.

Light of **Knowledge**

We were happy that it was more than just well begun...PURIFY continues to be a blessed event!

"The nitrosamine purification topic was the best at Purify'24!"

Praveen Kumar
Manager,
MSN Laboratories Pvt. Ltd.

"The entire day at Purify was excellent from the point of view of learning new things. I met so many industry stalwarts from the pharma industry."

K Sashidhar
Senior Manager,
Natco Pharma Ltd.

"Fast-paced, important technical talks were witnessed at Purify'24."

Deepak Nambiar
Deputy General Manager,
Unichem Ltd.

"To me, Purify'24 was the most informative event as it gave me an opportunity to connect with scientific applications in business progression. All this at a fantastic venue."

Nitin Kishor
Wockhardt R&D

"Panel discussion relating to challenges faced by peptide purification chemist of today was the best in my view!"

Dhrumil Prajapati
Manager,
Sun Pharmaceutical Industries Ltd.

"In my view, the best part of Purify'24 was the way panel discussions were designed. All the questions covered were burning industry to topics. Getting the perspective from pioneers of the industry really helped."

Anudeep G.
Manager
Neuland Laboratories Ltd.

Happy **Birthday**

At PURIFY,
we make every
celebration
memorable!

> Multiple stakeholders converged at this Purify'24 for business and knowledge.
>
> **Ravi Kumar Durisetti**
> Syngene International Ltd.

> Knowledge sharing, discussion on challenges, networking along with the discussion on the use of AI Technology were the highlights of Purify'24.
>
> **S. Md. Shavit**
> Senior Scientist
> Neuland Laboratories Ltd.

> An excellent networking event where we could meet people from across the community. Please also include vaccines and bio similar topics with peptides to signify the name Purify for all molecules.
>
> **Jyotiranjan Parija**
> Manager (MSAT - DSP)
> Biological E. Limited

> Nitrosamine purification business challenges and analytical strategies for generic peptide drugs evaluation were well explained at Purify'24.
>
> **Mangesh Todkar**
> Glenmark Life Sciences Ltd.

> Networking to me was the best facet of Purify'24.
>
> **Dr. Anand V. Mantri**
> DGM-COE,
> Zydus Lifesciences Ltd.

> Purify'24 was a good even overall. Event organisation, lightning of the lamp, national anthem, knowledge sharing, new technologies, involvement of AI, gathering of different firms and expertise under one platform. Finally, the time management was also good.
>
> **Praveen Kumar Bhanothu**
> Assistant Manager
> Neuland Laboratories Ltd.

> Panel discussion on method development opportunities using AI was the best part of Purify'24.
>
> **Satish Kumar K.**
> Procell Biologics

> Insightful panel discussions were the best feature of this Purify'24.
>
> **Nitin Patil**
> Principal Scientist,
> Praj Industries

> To me, it was the best chromatography platform, bringing together all techniques with solution recommendations for every problem.
>
> **Swapnil Anil Kshirsagar**
> Executive - Production,
> Polypeptide Laboratories Pvt. Ltd.

A Digital **Podium!**

A stylish change...from a typical static podium to a 'digital podium' with dynamic content and a unique communication platform.

> Purify'24 was all about connecting chromatographers on a single platform.
>
> **V. Yuvaraj**
> Director - Analytical R&D,
> Sai Life

> Event organisation was very nice and content also was very beneficial. All speakers were very good.
>
> **Khanderao Shejwal**
> Sr. Manager,
> Shilpa Pharma Ltd.

> Presentation at Purify'24 were of high-quality.
>
> **Shivanand K.**
> Head MSAT (API),
> Dr. Reddys Laboratories Ltd.

> Purify'24 featured very good people and it was the best knowledge sharing platform within the available time.
>
> **Hiren M. Shah**
> Manager-I,
> Sun Pharmaceutical Industries Ltd.

> The best part of Pufiy'24 was the small molecules Talks. Also, the presentations were short, innovative and useful
>
> **R. Santosh**
> DGM,
> Biological E Ltd.

> Topics, content, hospitality and the overall arrangement were great at Purify'24.
>
> **Satyajit Tillu**
> Sr. General Manager and Site Head
> Piramal Pharma Ltd.

> Purify'24 saw panelists who are big experts in their area and this indeed helps in problem solving.
>
> **Sachin Mahind**
> Sr. Team Leader,
> Syngene International Ltd.

> For me, highlights of the event include presentations by speakers which helped me to gain good knowledge. It was a good platform to meet and interact with all experts.
>
> **D. Naveen Kumar**
> Manager,
> Symbio Generics Pvt. Ltd.

Behind the **Console**

The men with their machines made the tough job look easy!

> Nitrosamine purification and the talk on molecular separations were good.
>
> **Pasam Karun Kumar**
> Associate Scientist
> Neuland Laboratories Ltd.

> Purify'24 featured a lot of good elements. These include communication, discussions, content covered during the entire day as well as food.
>
> **Harshal R Sonawane**
> Group Leader,
> Synthink Research Chemicals

> What's the best to me was the new techniques, new instruments for purification purposes, nitrosamine impurities and peptide purification challenges.
>
> **Kalyan Bhandari**
> TCG Life Sciences

> Unique platform to meet a great community and a good place to interact with vendors too!
>
> **Dr. K Laxmi Reddy**
> General Manager,
> MSN Laboratories Pvt. Ltd.

> Topics selected at Purify'24 were based on current and future challenges.
>
> **Saurabh Agarwal**
> Manager
> Sun Pharmaceutical Industries Ltd.

> Connecting with new vendors and knowing about purification process with new instruments was great at this event.
>
> **Vijay Kumar**
> Strategic Customer Development Manager,
> USP

> Panel discussions were the best aspect of this edition of the event.
>
> **Rajashekhar Bogarajula**
> VTIDES Life Sciences Pvt. Ltd.

> The best part of Purify'24 covered all technologies related to purification under one roof.
>
> **Dr. Ganpat Dan Charan**
> Principal Scientist,
> Zydus Lifesciences Ltd.

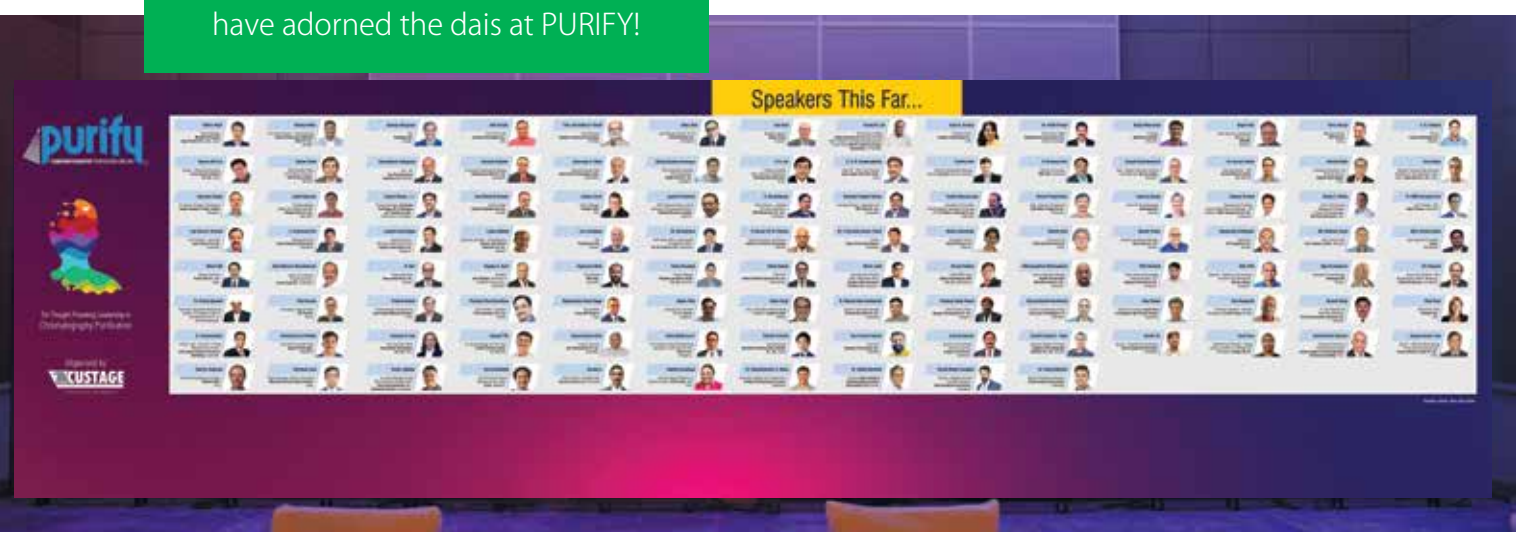
> Knowledge sharing was great!
>
> **V. Sreelatha**
> Sr. Manager,
> Matrix Pharma

> Purify'24 was a great event. It provided good opportunities for all peptides companies to gain knowledge on how to purify peptides.
>
> **S. Dharmaiah**
> Principal Scientist
> Neuland Laboratories Ltd.

> Time management, innovative purification talks and the quality of talks were the best at Purify'24!
>
> **Dr. Chandvaiah Godugu**
> Asst. Professor,
> Niper Hyderabad

Wall of **Fame**

They came, they spoke, they conquered
Over 100 experts from around the world have adorned the dais at PURIFY!



"Event Organisation, Challenges in GLP- 1 Purification Case Studies Were the Best at This Event."

T. Mohan babu
Research Associate – Left the org
Neuland Laboratories Ltd.

"Challenges in GLP- 1 purification was explained in the best possible way at this Purify!"

Srinivasulu Poly Setty
General Manager,
MSN Laboratories Pvt. Ltd.

"The event made sure that the presentations were well correlated."

Dr. Harish Kumar
Deputy General Manager,
Zydus Lifesciences Ltd.

"Everything was available under one umbrella at Purify'24!"

Dadasaheb Jadhav
Principal Scientist – CRO AR&D,
Laxai Life Sciences

"The best experience at Purify'24 was to gain relevant information from speakers."

K. Satyanarayana
Assistant Manager,
Shilpa Pharma Lifesciences

"The event provided very good information regarding purification methods."

Shivaji Digambar Dhole
Group Leader,
Synthink Research Chemicals

"Details shared in bag was the best!"

Pawan Mehra
Sr. Strategic Customer Development Manager,
USP

> Best part of the event was the panel discussion. It will be nice to see a panel discussion of actual case studies of peptide and oligo products.
>
> **Dr. Pramod Madhavrao Sabale**
> Natco Pharma Ltd.

> Purify'24 was all about networking and new product updates.
>
> **Gaurav Kumar Gupta**
> Wockhardt Ltd.

> The event featured all relevant speakers and important topics for the industry and academia.
>
> **Dr. Y. V. Madhavi**
> Asst. Professor,
> Niper Hyderabad

> Good learning and networking opportunities were the best features of Purify'24.
>
> **Ravi B. Patel**
> Manager-II,
> Sun Pharmaceutical Industries Ltd.

> Technical aspects were well covered at Purify'24.
>
> **Dr. Chintan Dholakia**
> Deputy General Manager - R&D (API),
> Zydus Lifesciences Ltd.

> Purify'24 was the best knowledge sharing platform.
>
> **Rajendra Lakshmi Prasad Babu Ghattamaneni**
> Senior Manager Corporate Quality Assurance, Sai Life Sciences Ltd.

VISUAL TOUR

Days Before to **Day Before!**

It was built brick by brick; some days challenging... some nights fun...weeks of chaos, yet together we were always on the run! We tried to keep in mind the minutest of details...we, however, did slip at places only to reaffirm that we would get up better and build another one brick by brick again!

14th Dec, 2024 10:40 am

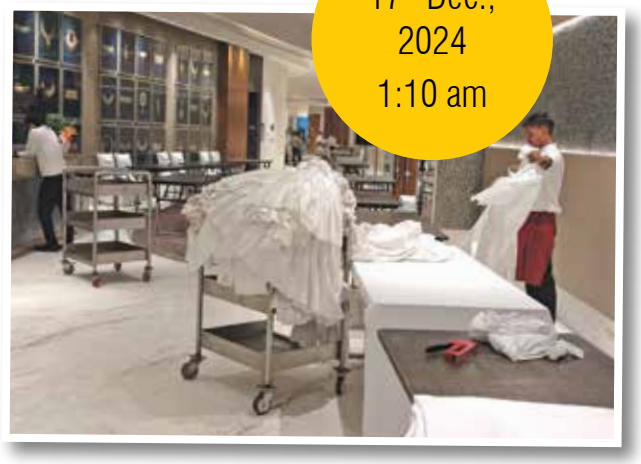
14th Dec., 2024 4:10 pm

15th Dec, 2024 2:40 pm

16th Dec., 2024 9:50 pm

16th Dec., 2024 10:25 pm

16th Dec., 2024 11:35 pm



17th Dec., 2024 1:10 am

17th Dec., 2024 2:55 am

17th Dec., 2024 3:35 am

17th Dec., 2024 3:05 am

17th Dec., 2024 3:45 am

17th Dec., 2024 3:55 am

17th Dec., 2024 4:20 am

17th Dec., 2024 5:25 am

The banquet is prim and proper... awaiting its valued attendees!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A CUSTAGE INITIATIVE
6th EDITION
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Chromatography Purification
A conference that will help stretch possibilities be it discovery, development or scaleups!


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purify


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Galaxy of Speakers
CUSTAGE


Welcome to
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purify
We Are Honoured With Your Presence!
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Crowning **Glory**

The hour dawned, unveiling of PURIFY'24 was an emotional moment for us as we were set to unveil the biggest PURIFY event ever! Pearl of an edition, rightfully, in the city of pearls! This is the biggest moment of truth for all our efforts...thank you, dear Industry, for your overwhelming response in every single way!


of Life

Constellation of **Stars**

The celestial speakers, as they spoke, took the event to another orbit. It turned out to be akin to the 'Big Bang Theory' that vividly provided a 360 degree perspective to the planet called 'Chromatography Purification'. The speakers made sure that there was no dark matter... everything highlighted was lucidly explained.

Ravi Rapolu, Ph.D.
Technical Consultant,
Daicel Chiral Technologies
India Private Limited, Hyderabad

Manjunath Dudhanikar
Applications,
M R Sanghavi & Co., Mumbai

Manish Goel
Founder & CTO,
I Cube Nanotech India LLP,
Noida

Katkam Srinivas
Executive Vice President,
Head of Global Sales & Marketing - API
Business, MSN Laboratories Pvt. Ltd.,
Hyderabad

Navin Devadiga
Deputy Manager,
Shimadzu Analytical (India) Pvt. Ltd.,
Mumbai

Dr. Vinay Bathineni, Ph.D.
Director of Business Operations, Intech
Analytical Instruments, Hyderabad

Akihiro Nojiri, Ph.D.
General Manager,
Mitsubishi Chemical Aqua Solutions Co., Ltd., Japan

Shuichi Yoshizaki
General Manager,
Mitsubishi Chemical Aqua Solutions Co., Ltd., Japan

Dr. G. Srinivasa Rao, Ph.D.
Director-Lab Projects,
YMC India, Hyderabad

Fredrik Limé, Ph.D.
Technical Development Manager
Pharma, Kromasil,
Nouryon, Sweden

Dr. Rajesh Babu Dandamudi
Business Application Manager,
Phenomenex India Pvt. Ltd.,
Hyderabad

Mizuki AOI, MSc.
Research Scientist,
Osaka Soda Co., Ltd.,
Japan

Kasturi Rajashekhar
AGM - Business Development,
Riki Global Trading Pvt Ltd.,
Hyderabad

Somesh Sharma
Executive Vice President,
Discovery Services,
Aragen Life Sciences, Hyderabad

Panel Discussion
Addressing Challenges Faced By Peptide Purification Chemist of Today

Md. Mohosin Layek
Head, Process R&D, Auro Peptides Limited, Telangana

Dr. Vasanthakumar G. Ramu
Head R&D, Peptides and Complex API's, Alembic Pharmaceuticals Limited, Hyderabad

Dr. Gaurav Taneja, Ph.D.
Associate Director - R&D, Piramal Pharma Limited,
Navi Mumbai

Ganesh Ramachandran, Ph.D.
Moderator
Head - Peptide Purification Research & Development, Biocon Limited, Bengaluru

Panel Discussion
Embracing AI

Dr. AVSS Prasad
AVP & Head, AR&D, Shilpa Pharma Lifesciences Ltd., Raichur, Karnataka

Rajendra Lakshmi Prasad Babu Ghattamaneni
Senior Manager Corporate Quality Assurance, Sai Life Sciences Limited, Hyderabad

Dr. Venkat Manohar, Ph.D.
Director, Indian Institute of Chromatography and Mass Spectrometry LLP, Chennai

Dr. KMV Narayana Rao, Ph.D.
Moderator
Vice President - ARD, Natco Pharma, Hyderabad

Panel Discussion
Stay Updated on PAT Tools

Om Narayan
Senior Vice President, Head Manufacturing & MSAT (Biologics), Kashiv Biosciences, Ahmedabad

Ganesh Ramachandran, Ph.D.
Head - Peptide Purification Research & Development, Biocon Limited, Bengaluru

Muralidharan Chandrakesan
Moderator
Senior Vice President,
Peptide-Operations, Hetero Drugs Ltd.,
Hyderabad

Sharing *Experiences*

Dr. Purnendu Roy Chowdhury
Vice President - Analytical,
TCG Lifesciences Pvt. Ltd., Kolkata

Satyajit Tillu
Sr. General Manager and Site Head,
Piramal Pharma Limited, Navi Mumbai

V. Yuvaraj, Ph.D
Senior Director / Analytical R&D,
Sai Life Sciences Ltd., Hyderabad

Baat **Bann Gayi!**

They spoke, and they spoke and they spoke! Networking opportunities scored high in both, quantity and quality. This magnum opus from Custage Marketing Solutions struck a strong chord amongst all - be it business or personal!


DAISOGEL


6th EDITION
purify24


NAUER


ENergon


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Two-**Together**


DAICEL

Knowledge, The Fibre of Success

PURIFY'24 came with something for everybody. The audience stayed right till the very end! The right speakers, the right topics, the right schedules, the timeliness of execution, all contributed to the rapt attention as knowledge was seamlessly flowing through the day for unparalleled enrichment.


purify


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For Thought Provoking Leadership in Chromatography Purification
A conference that will help stretch possibilities, be it discovery, development or scaleups!
CUSTAGE
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A Big Thank You!
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Warmth **Personified!**

Live performance as the attendees walked in was truly providing the right melody, in symphony with the elegance and elance of a PURIFY event.

PURIFY **Embraces AI**

PURIFY continues to be forward looking in its implementation and showcased the power of AI wherein every attendee could register his/her face, and AI would do image mapping and share all the images where he/she is featured, right on their 'WhatsApp'! The participants were excited at this prospect and amazed with the response!

LUCKY DRAW WINNERS!

Twinings Tea
Gift Set

JBL
Vibe 200TWS
True Wireless Earbuds

Sheaffer
Ballpoint Pen

It's not about luck favouring the brave, it's finally about attending the PURIFY conclaves! It's exciting right till the end! Best brands in its category are chosen *'dil se'* to be handed over to the 'lucky ones' at the event in a manner that the industry lauds!

Starbucks X Bodum
Recycled Plastic Coffee Press

Sheaffer
Fountain Pen

Tommy Hilfiger
Ranger Leather Passcase

Tommy Hilfiger
Hard Luggage Trolley Bag

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Make: M/s KANTO Chemicals, Japan.

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Internal Volume	: 3ml ~ 100ml
Flow rate	: 1ml/ min ~ 3 Liters/min
Production Capacity	: 5 t /year ~ 1500 t/ year
Temperature Range	: - 200 č to 400č
Heating / Cooling method	: Jacketed

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Specifications for Hastelloy – C & SS316L Pumps:

Flow	Maximum Pressure	Flow Accuracy %	SS316L Pump	Hastelloy Pump
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200ml/min	15 MPA (2175 Psi)	±0.5%	✓	✓
300ml/min	15 MPA (2175 Psi)	±0.5%	✓	✓
600ml/min	15 MPA (2175 Psi)	±0.5%	✓	✓
1000ml/min	10 MPA (1450 Psi)	±0.5%	✓	✓
2000ml/min	10 MPA (1450 Psi)	±0.5%	✓	-N.A-
3000ml/min	10 MPA (1450 Psi)	±0.5%	✓	-N.A-

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Adsorbents

Polyamide and other purification media

Overview of adsorbents

Adsorbent	Application
Polyamide 6	Separation of lipophilic and hydrophilic substances
Standard silica	Separation of lipophilic substances
Reversed phase silica	Separation of very lipophilic or highly hydrophilic substances
Aluminum oxide	Separation of lipophilic substances
Kieselguhr	Separation of hydrophilic substances (after impregnation)
Florisil®	Mainly sample preparation
Cellulose	Separation of hydrophilic substances

- Large portfolio of various adsorbents
- For small, medium and large scale purifications
- Consistently high quality

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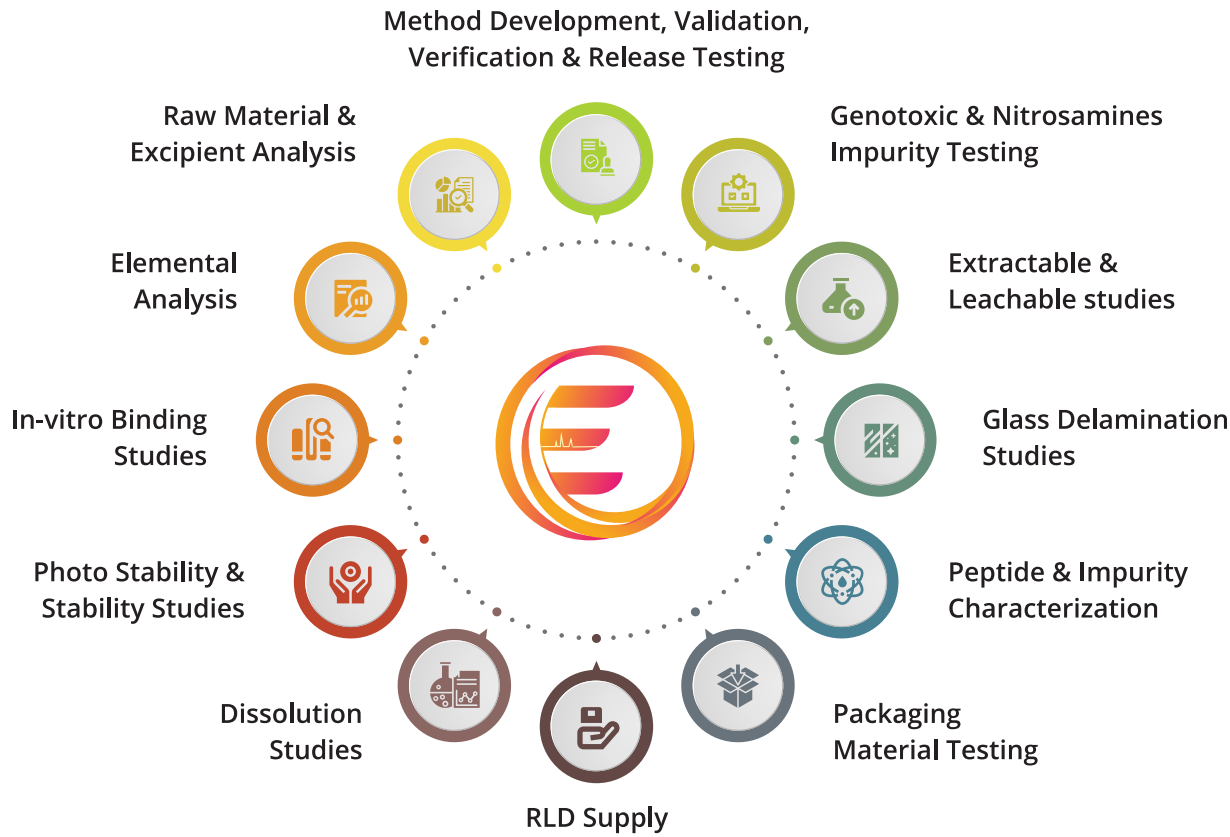

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FEW INTERACTIONS

Srushti Sanghavi Shah
CEO,
Nanghavi Chromatography,
Mumbai

Innovation for
A Sustainable Future

"Chromatography purification is evolving with trends like continuous processing, automation, AI integration and sustainability. The chromatography industry is shifting toward innovation, eco-friendly practices and precision - trends that will shape future business strategies and drive growth opportunities," mentions Srushti Sanghavi Shah, in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

From a business perspective, chromatography purification is evolving rapidly, driven by advancements in biopharmaceuticals and the need for efficient, scalable processes. One significant trend is the growing demand for biologics, monoclonal antibodies and gene therapies, which require high-purity purification methods. This has led to an increased focus on optimising chromatography systems for complex biomolecules.

Continuous processing is another key trend, as it enhances efficiency and reduces operational costs compared to batch processing. Continuous chromatography allows real-time monitoring and adjustment of purification parameters, improving product consistency and reducing time-to-market.

Automation and digital technologies are increasingly integrated into chromatography workflows. Automated systems improve reproducibility and streamline operations, while data analytics and machine learning optimise purification processes by providing insights into system performance.

Sustainability is also gaining importance, with companies adopting eco-friendly practices such as greener solvents and recyclable materials to reduce environmental impact.

Customisation of resins is becoming a priority, as tailored solutions offer enhanced separation efficiency for specific applications.

Finally, regulatory compliance remains critical, with stringent quality assurance measures required to meet Good Manufacturing Practices (GMP).

Q. Please update the reader on the latest developments of your key solution.

Nanologica has made significant strides in enhancing its key solutions, particularly in the realm of chromatography resins. Our latest development focuses on the optimisation of our silica-based resins, which are designed to improve the efficiency and selectivity of purification processes for biopharmaceuticals. Furthermore, we are investing in automation technologies to streamline the resin manufacturing process. This initiative not only improves production efficiency but also ensures consistent quality across batches. Our commitment to sustainability has led us to explore eco-friendly production methods and materials, aligning with industry trends towards greener practices.

We are also actively collaborating with leading research institutions to validate our resins in diverse applications, further demonstrating their effectiveness and reliability. These developments position Nanologica as a leader in chromatography solutions, ready to meet the evolving needs of the biopharmaceutical industry while maintaining a focus on innovation and sustainability.

Q. What role do you think sustainability would play in the purification of tomorrow?

Sustainability is poised to play a pivotal role in the purification of tomorrow, particularly within the biopharmaceutical and chemical industries. As environmental concerns gain prominence, companies are increasingly adopting sustainable practices to meet regulatory requirements, reduce carbon footprint and respond to consumer demand for eco-friendly products.

Q. What is your anticipation of the impact of AI on chromatography purification?

The integration of artificial intelligence (AI) into chromatography purification is expected to revolutionise the field by enhancing efficiency, accuracy, and decision-making processes. Here are several key areas where AI is anticipated to make a significant impact:

- Process Optimisation: AI algorithms can analyse vast amounts of data generated during chromatography processes to identify optimal operating conditions.
- Real-Time Monitoring and Control: By utilising sensors and data analytics, AI systems can detect deviations from optimal conditions and automatically adjust variables to maintain performance. This capability enhances process reliability and minimises the risk of product loss.
- Predictive Maintenance: AI can be employed to predict equipment failures before they occur. This proactive approach to maintenance can reduce downtime, enhance operational efficiency, and extend the lifespan of chromatography equipment.
- Enhanced Data Analysis: AI can streamline data interpretation by employing advanced analytical techniques, such as pattern recognition and anomaly detection. This leads to faster insights into process performance and product quality.
- Customisation and Personalisation: By analysing historical data from similar processes, AI can recommend customised approaches that optimise purification for unique biomolecules or applications.
- Accelerated Research and Development: AI-driven simulations can expedite the development of new chromatography methods and resins by predicting outcomes based on various experimental conditions.

In summary, the impact of AI on chromatography purification is poised to be transformative, driving greater efficiency, accuracy and adaptability in purification processes.

Anand Khatavkar
Senior Director - Sales and Marketing,
Daicel Chiral Technologies (India) Pvt. Ltd.,
Hyderabad

Transforming Drug Manufacturing

Trends in Chromatography Purification

"Chromatography purification is evolving with automation, AI and sustainability. AI optimises real-time purification, reducing errors and improving efficiency. Sustainable practices, including solvent recycling, drive eco-friendly purification, ensuring cost-effective, high-quality pharmaceutical manufacturing," Anand Khatavkar, in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in Chromatography Purification?

The future of chromatography purification business will focus on efficiency, scalability, sustainability and flexibility. The use of automation, continuous processes, advanced resins and AI will all play key roles in shaping the landscape of drug manufacturing using purification. As the pharma industry continues to demand faster and more cost-effective production methods, chromatography technologies will evolve to meet these challenges while ensuring high-quality products and compliance with increasingly strict regulations.

Q. Please update the reader on the latest developments of your key solution.

Daicel's innovations in chiral chromatography have accelerated drug discovery, development and commercial production of chiral drugs by utilising chromatography techniques such as LC, SFC and SMB. Daicel's immobilised chiral stationary phases (CSPs) have significantly advanced chiral chromatography by offering superior selectivity and efficiency in separating enantiomers resulting in high productivity. These columns / CSPs simplify the chiral separation process, reducing the need for complex and time-consuming methods, while enhancing reproducibility and scalability. As a result, Daicel's innovation has become a game-changer, particularly in the pharmaceutical and Agro industries, where precise enantiomeric separation is critical for producing high-quality, safe drug products.

Q. What role do you think sustainability would play in the purification of tomorrow?

Sustainability will be a driving force in the purification processes of tomorrow, as the pharmaceutical industry seeks to reduce waste, energy consumption and the use of hazardous solvents. Innovations in chromatography will focus on greener alternatives, including energy-efficient systems, >99% solvent recycling rates and sustainable eluents to minimise the environmental impact of purification. By integrating sustainable practices, companies can not only meet regulatory demands but also reduce costs and enhance their commitment to environmental responsibility in drug manufacturing.

Q. What is your anticipation of the impact of AI on chromatography purification?

AI can help optimise separation processes, predict and fine-tune conditions in real time, reducing trial-and-error in method development and predict system behaviour under varying conditions, thus improving efficiency. AI can also help control the purification process remotely by monitoring real-time data and adjusting parameters like flow rates, temperature and pressure. It can analyse trends and predict potential issues, enabling proactive decision-making without the need for on-site intervention and reducing downtime. Real-time data collection and predictive analytics will also be critical in ensuring purification process consistency and making necessary adjustments during production to improve yields and quality. Overall, AI implementation can lead to more cost-effective, faster and precise purification processes in pharmaceutical production.

Dr. Vinay Bathineni, Ph. D.
Director of Sales and Operations,
Intech Analytical Instrument,
Hyderabad

Tech-Powered Purification

The Way Forward

"Chromatography purification is evolving with trends in automation, efficiency, and sustainability. Innovations include AI-driven process control, high-performance systems and eco-friendly solutions like solvent recycling and single-use technologies. These advancements enhance scalability, purity and cost-effectiveness," shares Dr. Vinay Bathineni, in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

In chromatography purification, we anticipate trends toward higher efficiency, automation and greener technologies. The demand for faster, high-resolution separations will drive advancements in next-gen resins, AI-driven process optimisation and continuous chromatography. There's also a growing shift toward single-use systems for biopharmaceuticals, improving flexibility and reducing contamination risks. Additionally, sustainability efforts will lead to reduced solvent consumption and eco-friendly alternatives, making purification more cost-effective and environmentally responsible.

Q. Please update the reader on the latest developments of your key solution.

Our latest chromatography purification solutions focus on enhanced efficiency, automation and scalability. We have integrated high-performance preparative HPLC systems with advanced DAC columns for superior resolution and faster separations. Our AI-driven process control optimises purification, reducing solvent consumption and operational costs. Additionally, our prepacked and medium-pressure columns ensure seamless scalability from lab to production. These innovations support peptide, biotech and pharmaceutical applications, delivering high purity, reproducibility and sustainability.

Q. What role do you think sustainability would play in the purification of tomorrow?

Sustainability will be a key driver in the future of purification, shaping eco-friendly chromatography solutions. Advances in solvent recycling, green resins and energy-efficient systems will reduce environmental impact while maintaining high purity standards. Single-use technologies will minimise contamination risks and resource consumption. Additionally, AI-driven optimisation will enhance process efficiency, lowering waste and operational costs. As regulations tighten, sustainable purification methods will become essential for pharmaceutical, biotech and peptide production, ensuring both compliance and cost-effectiveness.

Q. What is your anticipation of the impact of AI on chromatography purification?

AI will revolutionise chromatography purification by enhancing efficiency, precision and automation. Machine learning algorithms will optimise separation conditions, solvent usage and flow rates, reducing process time and waste. AI-driven predictive maintenance will minimise downtime, while real-time data analysis will improve batch consistency and reproducibility. Additionally, AI-powered automation will streamline method development and scale-up processes, making purification faster, cost-effective and more sustainable for pharmaceutical and biotech applications.

Manish Goel
Founder & CTO,
I CUBE NANOTEC INDIA LLP,
Noida

Chromatography's Shift

Towards Greener and Smarter Purification

"Chromatography purification is evolving with a strong focus on solvent recovery and novel technologies to reduce mobile phase consumption. AI is expected to streamline HPLC method development, cutting labour and time while enhancing process control and quality," opines Manish Goel, in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

We see that there is tremendous interest in solvent recovery in chromatography and greater interest in adopting novel chromatography technologies that reduce mobile phase consumption.

Q. Please update the reader on the latest developments of your key solution.

GLP drugs are poised to reach a market size of USD 100 billion by 2030 as forecasted by a leading market research company. The insulin and insulin biosimilar markets are growing and therapeutic oligonucleotides are expected to grow significantly. For the majority of GLP drugs, solid phase synthesis, followed by multiple steps of chromatography and lyophilisation is established as the process for production. Though significant efforts have been made to optimise the usage of DMF and ACN, the process solvent intensity index remains at 300 - 500 per AA. This is a major contributing factor to the high production costs of GLP drugs due to escalating virgin solvent and spent solvent disposal costs. Additionally, the low concentrations of the GLP drug substances and residual solvents like ACN and methanol used in chromatography result in high energy consumption in lyophilisation. This presentation is on the application of the ICN MolSep technology portfolio for sustainable production of TIDES and insulins, with a special focus on GLPs.

ICN technology encompasses molecular separation membranes - pervaporation, vapour permeation and nanofiltration combined with conventional mass transfer operations. ICN molecular separation systems greatly mitigate the challenges encountered by recovery of solvents for reuse, non-thermal concentration and residual solvent removal from the GLP drug substance. Additionally, the CAPEX and OPEX of these systems are such that ROI is attractive while simultaneously reducing the carbon footprint of GLP production by over an order of magnitude.

Q. What role do you think sustainability would play in the purification of tomorrow?

In my view, the industry cannot sustain without sustainability. Recycling solvents is no longer optional, but mandatory.

Q. What is your anticipation of the impact of AI on chromatography purification?

Current preparative HPLC method development is an iterative, laborious and time-consuming process. A properly developed generative AI will help in developing a robust method that in turn can reduce labour and time. AI can also assist in improving process controls, which results in consistent quality.

Dr. Rajesh Babu Dandamudi
Business Application Manager,
Phenomenex India Pvt. Ltd.,
Hyderabad

Scaling Up Purification

The Future of Chromatography in Targeted Therapeutics

"Chromatography purification is evolving with the demand for scalable, efficient media for targeted therapeutics. Sustainability is gaining importance. Key strategies for sustainability include adopting eco-friendly technologies, applying green chemistry principles, reducing waste generation and assessing the environmental impact throughout the purification process lifecycle," notes Dr. Rajesh Babu Dandamudi in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

As the world advances towards targeted therapeutics, the main challenges involve developing specific and diverse media capable of supporting large-scale purification of these treatments. Scalability is a key concern, as we must ensure that methods are reproducible when transitioning from analytical to purification scales. Additionally, the availability of large quantities of media is crucial for large-scale purifications.

Q. Please update the reader on the latest developments of your key solution.

Different types of therapeutics necessitate distinct purification strategies and Phenomenex provides comprehensive solutions tailored to these needs. Our high-purity media reduces the number of purification steps, saving both time and costs. We offer a variety of media with unique selectivity to meet most purification requirements.

Q. What role do you think sustainability would play in the purification of tomorrow?

Integrating sustainability practices into purification processes not only benefits the environment but also boosts the long-term viability and competitiveness of pharmaceutical companies. Adopting greener technologies and green chemistry principles, minimising waste generation and evaluating the environmental impact of purification processes throughout their lifecycle to identify areas for improvement are key aspects of sustainability that would make an impact.

Q. What is your anticipation of the impact of AI on Chromatography Purification?

Artificial Intelligence (AI) has the potential to greatly influence chromatographic purification processes in various ways. AI can analyse extensive datasets to determine optimal conditions for chromatographic separations. Additionally, machine learning algorithms can predict the behaviour of compounds during chromatography, enabling more effective planning and execution of purification steps.

The Next Generation of Chromatography

High-Throughput Systems and AI Optimisation

Kasturi Rajashekhar
AGM - Business Development,
RiKi Global Trading Pvt. Ltd.,
Hyderabad

"The chromatography industry is shifting toward automation, AI-driven optimisation and sustainability. Labs are adopting multi-HPLC systems, new silica technologies and supercritical fluid chromatography for efficiency and eco-friendliness," shares Kasturi Rajashekhar in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

The chromatography industry is evolving rapidly, driven by the need for faster and more efficient purification processes. One of the biggest trends is the push towards automation, where analytical labs are integrating multi-HPLC column-based purification systems to improve throughput and reproducibility. As sample complexity increases, labs require smarter, high-performance purification solutions that reduce manual intervention and human error.

Another key shift is the focus on new silica technologies designed to enhance separation efficiency and scalability. These advancements allow for higher resolution and greater throughput, making large-scale purification processes more cost-effective. Researchers and pharmaceutical companies are demanding purification systems that can handle complex mixtures while maintaining consistency in results.

There's also a growing interest in alternative purification techniques such as supercritical fluid chromatography (SFC), which offers reduced solvent consumption and faster run times. As environmental regulations become stricter, many industries are moving towards more sustainable purification methods.

Lastly, we anticipate an increased emphasis on data-driven purification, where method development is optimised using predictive analytics. The ability to fine-tune purification conditions through data modelling will further improve efficiency, allowing labs to minimise trial-and-error experimentation. These trends indicate a broader shift toward more intelligent, streamlined purification processes that balance cost, speed and environmental responsibility. Companies that adapt to these changes will be well-positioned to meet the evolving demands of the chromatography industry.

Q. Please update the reader on the latest developments of your key solution.

We are at the forefront of bringing high-efficiency lab automation solutions to the industry. Our focus is on instruments that can handle hundreds of sample preparations in a fraction of the time compared to manual processes. These automated systems not only speed up workflows, but also significantly reduce sample waste caused by human error.

Beyond efficiency, we are also investing in the development of smart purification instruments that use AI-assisted optimisation to refine purification conditions in real-time. This means labs can achieve better separation performance with less trial and error. As chromatography continues to evolve, automation will play a critical role in making purification faster, more precise and cost-effective.

Q. What role do you think sustainability would play in the purification of tomorrow?

Sustainability is no longer an option in chromatography - it is becoming an industry standard. Regulatory bodies and environmental policies are pushing for cleaner purification processes, which means labs must rethink how they manage waste, solvent usage and energy consumption.

One of the biggest shifts we are seeing is the adoption of purification methods that reduce solvent use and waste generation. SFC is gaining traction as a greener alternative to traditional liquid chromatography due to its lower solvent consumption and faster processing times.

Another area of focus is the materials used in chromatography. Many labs are transitioning away from disposable plastic chromatography products in favour of more sustainable alternatives. Similarly, manufacturers are developing columns that use more sustainable silica materials while maintaining high performance.

In addition to hardware, we anticipate a rise in solvent recycling systems that allow labs to reclaim and reuse solvents. This aligns with the industry's goal of reducing hazardous waste while maintaining efficiency.

Sustainability in chromatography isn't just about environmental responsibility - it also makes good business sense. By adopting greener purification methods, companies can lower costs, improve compliance and future-proof their operations against tightening regulations.

Q. What is your anticipation of the impact of AI on chromatography purification?

AI is poised to transform chromatography purification by making processes smarter, faster and more adaptive. Traditionally, purification has relied on a trial-and-error approach, where analysts manually adjust parameters to optimise separation conditions. AI-driven chromatography eliminates much of this guesswork by using predictive modelling to determine the best purification settings beforehand.

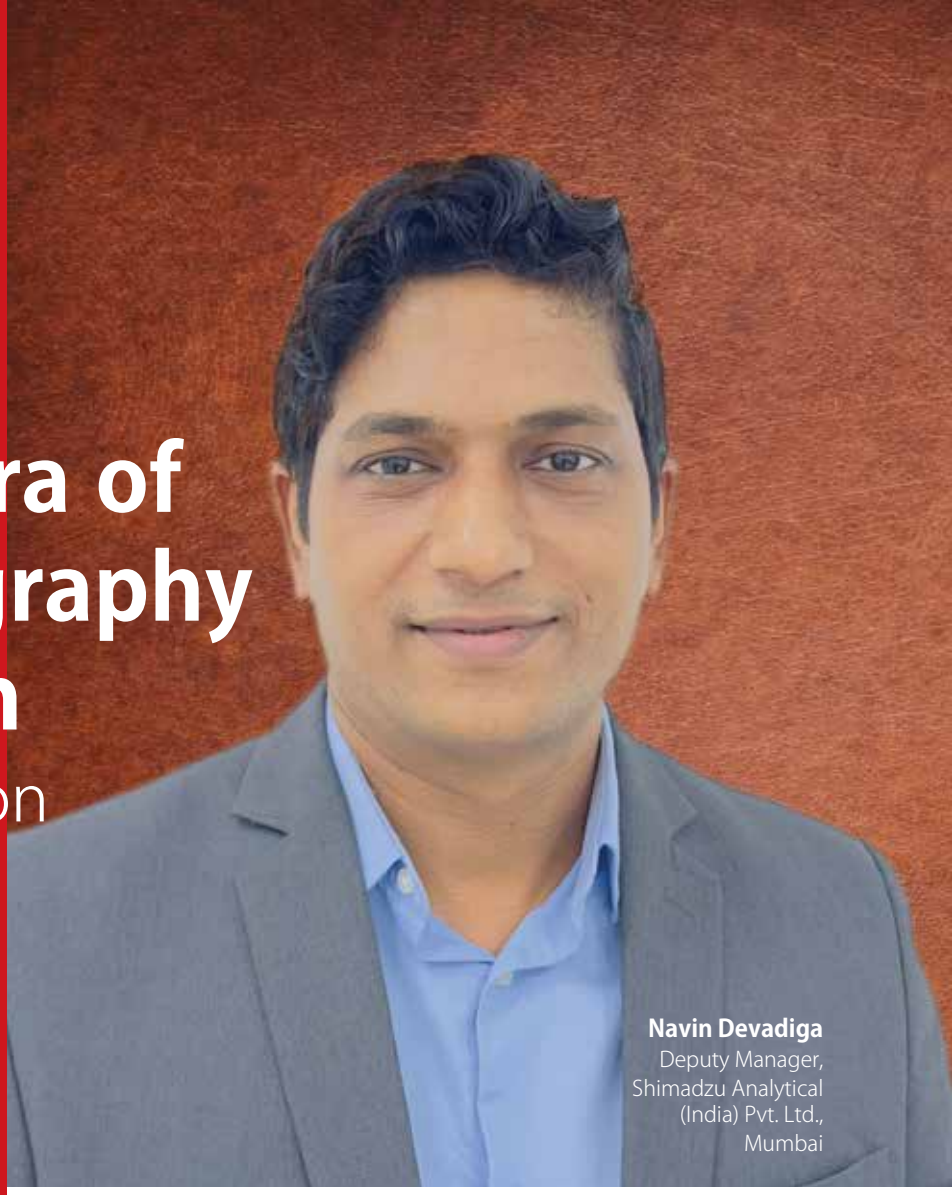
One major application of AI in purification is in retention time prediction. By analysing past data, machine learning algorithms can forecast how compounds will behave under different conditions, allowing labs to fine-tune parameters for optimal separation. This not only speeds up method development but also reduces reagent and solvent consumption, making purification more cost-effective. Another area where AI is making an impact is in real-time process monitoring.

Beyond process optimisation, AI is also improving lab automation by enabling self-correcting purification systems. AI-driven instruments can learn from each purification cycle, continuously refining protocols to enhance efficiency over time. This results in greater productivity, lower operational costs and more reliable purification outcomes.

As AI technology continues to evolve, we expect purification systems to become more autonomous, requiring minimal human intervention. The integration of AI will mark a major leap forward in how chromatography purification is conducted, driving both performance and cost efficiency.

The Next Era of Chromatography Purification

Where Innovation Meets Efficiency



Navin Devadiga
Deputy Manager,
Shimadzu Analytical
(India) Pvt. Ltd.,
Mumbai

"Chromatography purification is evolving with automation, AI integration and sustainability. AI enhances efficiency, predictive modelling and real-time monitoring. Green purification methods, like SFC, reduce solvent use," shares Navin Devadiga, in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

Chromatography purification is evolving rapidly, driven by advancements in technology and the need for higher efficiency in discovery and development. From a business perspective, several key trends are shaping the future of purification processes.

- Increased Automation and High-Throughput Workflows: AI-driven automation is enhancing efficiency, reducing manual intervention and improving reproducibility.
- Sustainability and Green Chromatography: With a global push towards sustainability, laboratories are shifting toward eco-friendly purification techniques. The industry is seeing increased adoption of supercritical fluid chromatography (SFC) to minimise solvent consumption, regenerable stationary phases to reduce waste and costs.
- Integration of AI and Machine Learning: AI-driven predictive modelling and machine learning algorithms are being incorporated into purification workflows to optimise conditions, improve yield and enhance method development. This trend will lead to more efficient decision-making and accelerated purification processes.

- Advancements in Biopharmaceutical Purification: With the rise of biologics, purification strategies are evolving to handle proteins, peptides, oligonucleotides and viral vectors. Innovations in size-exclusion, ion-exchange and affinity chromatography are improving purification yields while maintaining the integrity of sensitive biomolecules.

Businesses that embrace innovation and sustainability will gain a competitive edge by improving efficiency and accelerating development timelines.

Q. What role do you think sustainability would play in the purification of tomorrow?

Sustainability is reshaping the future of purification, driving advancements in method development, resource efficiency and waste reduction. Future purification strategies will emphasise reduction, replacement, removal and recycling of solvents to minimise environmental impact. The industry is rapidly adopting eco-friendly techniques such as supercritical fluid chromatography (SFC) to lower solvent usage and regenerable stationary phases to reduce waste.

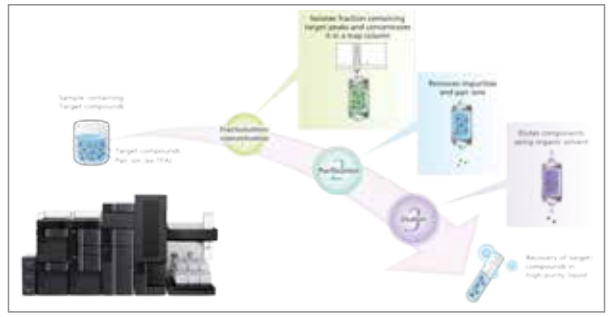
AI-driven process optimisation enhances purification workflows by enabling precise parameter control, reducing material waste and improving sustainability. As regulatory bodies and pharmaceutical companies prioritise for lower carbon footprints, investing in sustainable purification solutions will be crucial for cost savings, regulatory compliance and maintaining a competitive edge in an increasingly eco-conscious market.

Q. What is your anticipation of the impact of AI on chromatography purification?

AI is transforming chromatography purification by enhancing efficiency, accuracy and process optimisation. Machine learning algorithms analyse vast datasets to predict optimal purification conditions, reducing trial-and-error experimentation and improving reproducibility. AI-driven predictive modelling accelerates method development, ensuring faster, more reliable purification processes.

AI-powered automation enables real-time monitoring and adaptive control, dynamically adjusting workflows to optimise solvent usage, enhance yield and minimise process variability. It also detects patterns and anomalies in chromatographic separations, preventing errors and ensuring consistent quality.

With self-learning algorithms continuously refining processes, AI will revolutionise high-throughput purification. As AI-driven purification systems become standard, laboratories will benefit from increased efficiency, cost savings and sustainability, making chromatography purification smarter and more scalable than ever.



Shimadzu UFPLC

Q. Please update the reader on the latest developments of your key solution.

Shimadzu is revolutionising chromatography purification with advanced automation, AI-driven optimisation and sustainable technologies. Our latest Prep-LC systems enable full automation from method development to screening, scale-up and post-processing for enhanced efficiency and productivity in purification workflows.

LabSolutions MD integrates AI-driven algorithms to simplify method development by automatically optimising gradient conditions, significantly reducing the time and effort required for LC and SFC method development. ASAPrep is a revolutionary automation solution for seamless analytical-to-preparative chromatography. With intelligent real-time monitoring, it ensures precise scale-up, minimises manual intervention and optimises high-purity compound isolation. This technology enhances productivity and scalability in laboratories handling large sample numbers.

UFPLC: The industry's first ultra-fast purification LC (UFPCL) offers a seamless, single-step workflow, integrating purification and fraction post-processing, including desalting, counter-ion switching and enables elution in volatile solvents for rapid evaporation, significantly reducing processing time. UFPLC sets a new benchmark in high-throughput purification, making it indispensable for labs prioritising speed, precision and productivity.

Nexera UC Prep: A state-of-the-art supercritical fluid chromatography system with patented GLS unit and a compact design, now offers modern era improved green purification while maintaining high recovery and high throughput.

Shimadzu remains at the forefront of chromatography purification by embracing automation, sustainability, and AI-driven innovations. As the industry evolves, Shimadzu's unwavering commitment to innovation ensures its solutions remain at the forefront, meeting the ever-changing demands of modern purification labs.

For Thought Provoking Leadership in
Chromatography Purification

Biopharmaceutical Purification

The Transition from Batch to Continuous

Dr. G. Srinivasa Rao, Ph. D.
Director - Lab Projects,
YMC India Pvt. Ltd.,
Hyderabad

"The chromatography purification industry is evolving with high-throughput, modular and AI-driven systems. AI enhances efficiency, purity and predictive modelling. On the other hand, sustainability is key, focusing on solvent reduction and eco-friendly practices has become important," believes Dr. G. Srinivasa Rao Ph. D. in dialogue with CHROMATOGRAPHY Connect.

Q. From your business perspective, what changing trends do you anticipate in chromatography purification?

Here are some of the key trends that we observe.

High-Throughput Systems: With the increasing need for speedy analysis, high-throughput systems are becoming more popular. These systems enable the processing of multiple samples simultaneously with minimal human interaction, reducing errors and contamination in analytical and due to increase in demand for higher quantities to be purified, the scale and capabilities are emerging.

Advanced Detection Techniques: Enhancements in detection technologies such as mass spectrometry (MS) and ultraviolet-visible (UV-Vis) spectroscopy integration provide highly sensitive and selective detection options.

Modular Systems: These systems enable the swapping and combination of modular components, such as detectors, pumps and columns to optimise the purification process. High-scale YMC DAC (Dynamic Axial compression) columns and PREP systems are available in India to support various applications such as mainly peptides, biopharmaceuticals etc.

Growing Emphasis on Green Chromatography: The chromatography industry is increasingly focusing on sustainability, driving the development of

environmentally friendly chromatographic techniques that minimise hazardous solvent use, energy consumption and waste generation.

Advancements in Instrumentation Technology: Continuous innovations in chromatography technologies such as continuous chromatography instead of batch mode will become the trend in upcoming capital budgets making chromatography purification processes more productive than ever.

Q. Please update the reader on the latest developments of your key solution.

Liquid chromatography with a multi-column switching technique offers continuous separation / purification. Such continuous chromatography exhibits significant advantages over traditional single-column chromatography.

YMC offers continuous LC systems for both - lab-scale purification and pilot / industrial-scale (GMP-compliance) purification. The proprietary continuous chromatography, enabling high productivity with both high-purity and high yield in ion exchange and reversed-phase chromatography results in an excellent cost reduction for the purification of biopharmaceuticals, peptides and oligonucleotides along with our suitable media. Our continuous chromatography systems have a simple configuration due to the twin-column switching, leading to an easy understanding of the operational design.

World Largest Class Production Capacity - First Class facility of YMC India Lab

- 40 metric tonnes / year (Silica / hybrid silica-based gel)
- 40,000 litres / year (polymer-based IEX resin)

Unique Continuous Purification Processes: Our twin-column chromatography systems offer cost reduction including time-saving for purification of various substances such as antibodies, proteins / peptides, oligonucleotides, small molecules and the impurities in therapeutic products.

Q. What role do you think sustainability would play in the purification of tomorrow?

Sustainability will play a vital role in the chromatography purification of tomorrow. Here are some key aspects:

Green Chromatography

- Solvent Reduction: Minimising solvent usage through techniques like solvent-free chromatography or using eco-friendly solvents or reprocessing.
- Water Conservation: Implementing water-saving technologies and recycling water in chromatography processes.

Innovative Technologies

Supercritical Fluid Chromatography (SFC): YMC India Lab is using SFC PREP as a more sustainable alternative to traditional liquid PREP chromatography.

Environmental regulations and Sustainability standards: Adhering to sustainability standards, such as the International Organization for Standardization (ISO) 14001.

By embracing sustainability, the chromatography purification industry can minimise its environmental footprint, reduce costs and contribute to a more circular economy.

Q. What is your anticipation of the impact of AI on chromatographic purification?

The impact of AI on chromatography purification is significant, as it enables the development of predictive models to optimise purification processes. These models can simulate various chromatographic conditions, reducing the need for experimental trials and accelerating process development.

Some of the key benefits of AI in chromatography purification include the following.

- Improved Process Efficiency: AI-powered models can identify optimal chromatographic conditions, reducing processing time and increasing throughput.
- Enhanced Product Purity: AI can help optimise purification protocols to achieve higher product purity and reduced impurities.

Emerging Trends

- Hybrid Models: Combining mechanistic and data-driven models to leverage the strengths of both approaches.
- Machine Learning Algorithms: Applying algorithms like neural networks and decision trees to optimise chromatography purification processes.
- Digital Twins: Creating virtual replicas of chromatography systems to simulate and optimise purification processes.

Overall, the integration of AI in chromatography purification has the potential to revolutionise the field by enabling faster, more efficient and cost-effective purification processes.

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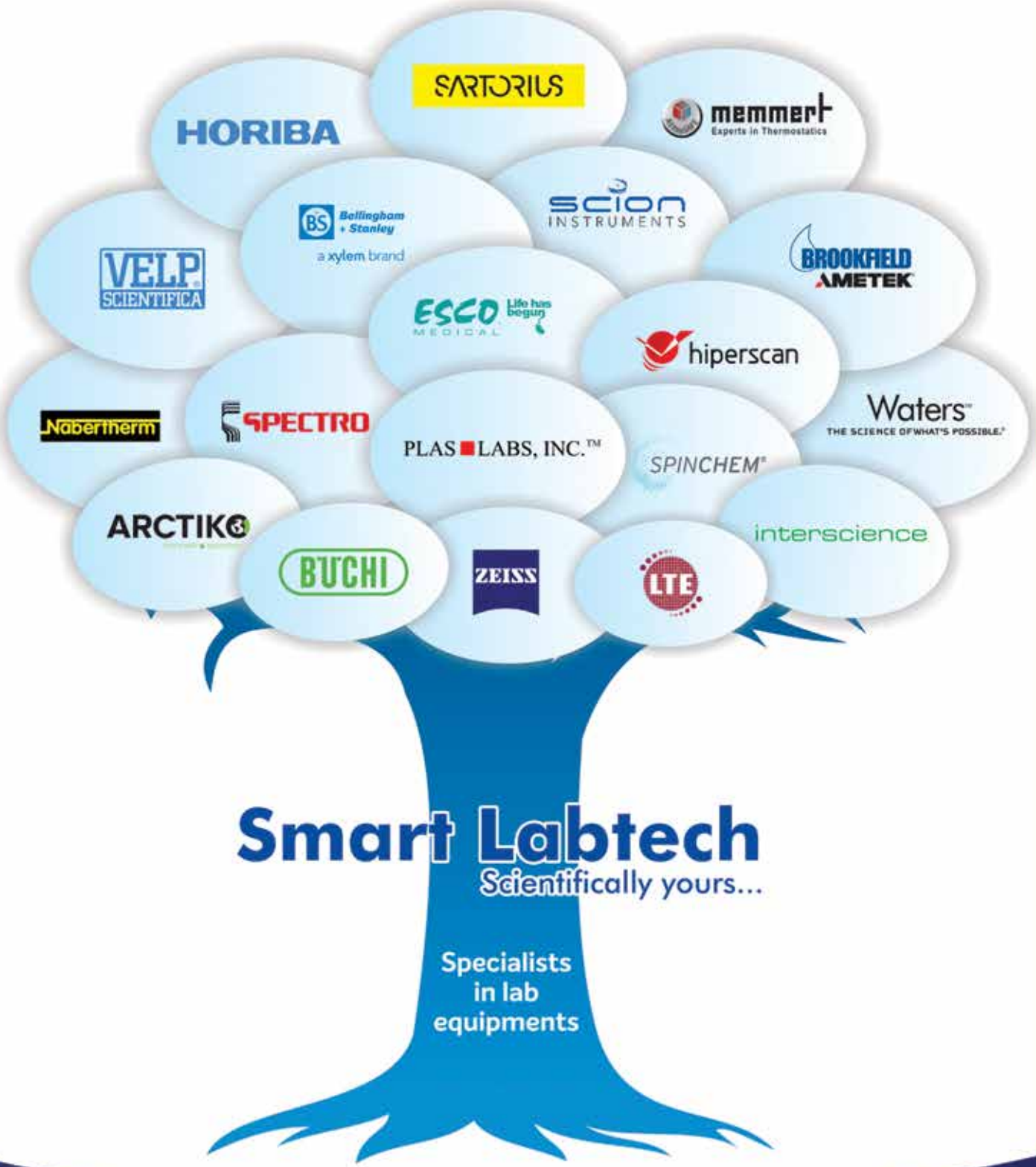

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The industry turned out in numbers at PURIFY'24, with delegates from over 26 cities. Book your seat as most certainly this is an event that no chromatographer will want to miss. With limited seating, an early decision will only help!

Partner

The surest way to make your brand visible and thus your business is to choose among the so many sponsorship opportunities available. Maximise your presence for best returns.

Speak

Stamp your authority of leadership and success; achieve acclaim across India...speaking at PURIFY'25 West is one sure way to do it.

Display

You can book a tablespace to showcase your offerings...the right people will be there to see your capabilities.

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