

Discover the value of better quality chemistry

Taros is an independent, privately owned contract research organisation, based in Dortmund, Germany, that has been serving the chemistry needs of pharmaceutical, chemical and biotech companies since 1999. Chief Operating Officer Dr Alexander Piechot explains its success.

What types of products and services does Taros provide?

Taros operates state-of-the-art lab facilities, employing a team of scientists (65% of whom hold post-graduate degrees in Chemistry) who are committed to supporting the diverse needs of its customers in efficient drug discovery, medicinal chemistry, classical synthetic chemistry, and process development. This experienced group of skilled chemists is involved in the design and synthesis of novel, innovative libraries of tens to hundreds of compounds, using parallel chemistry. The design of novel molecules based on divergent ideas is key to the success of any medicinal chemistry project. We use cutting-edge technologies and the latest insights early in the discovery process to bring different approaches based on new paradigms.

What is the core value that your team provides?

Taros' scientists combine more than 140 years of industrial organic chemistry experience with over 60 years of active drug discovery experience from big pharmaceuticals and biotechs. Our chemists have expertise across a broad range of therapeutic areas and in all small molecule target classes. We pride ourselves on producing high-quality compounds that enable our customers to validate their hypotheses with reliable data.

What are the key challenges for your team?

Every molecule provides an answer to a diagnostic question resulting from a chemical, pharmaceutical or biopharmaceutical background. Preparing

complex molecules requires dedicated professionals, capable of developing entirely new syntheses from such starting points. In most cases, rapid optimisation is a key factor in the drug discovery process. Successful implementation of parallel chemistry, isolation and purification of compounds, as well as characterisation and identification of impurities, are crucial elements to the delivery of high-quality compound libraries.

How did you meet the goals of the EU Lead Factory (ELF), IMI's largest single funded early drug discovery project?

One of the ELF's goals is to design and synthesise some 200,000 completely new, innovative and drug-like compounds to feed into the large ELF screening compound collection. Taros, as the ELF's chemistry leader, committed itself to deliver 40,000 novel compounds within four years. From the day Taros was awarded the Chemistry Leadership of the ELF consortium, it has been clear that automation is key to success from the concepts all the way to synthesis and logistics of compounds. We have invested with a focus on automated synthesis, isolation, data management and compound handling to enhance the daily production capacity and to increase overall throughput of delivered compounds at the highest level of quality.

What key learnings would you like to share?

Since we are dealing with complex synthetic mixtures, analytical uHPLC/MS has been shown to be an ideal high-throughput analysis-purification set-up.



Dr Alexander Piechot, Chief Operating Officer, Taros

The automatic transfer of analytical results to the purification systems eliminates a fair amount of manual work, which helps us gain up to 40% more valuable chemistry time. While we experienced the system requiring only a minimal learning curve for untrained operators, implementation into our workflow was still straightforward, including a convenient export of fraction information from the purification software to the liquid handler.

How could you leverage support from Agilent as a solution and service provider?

After thorough investigation Taros decided on Agilent's Preparative Scale Purification and UHPLC-MS system, a truly automated LC/MS-system supporting analytical and preparative purification workflows with minimal method development or scale-up work. Agilent is a world leader in separation science and instrumentation, both for analysis and purification. They worked with us from the very beginning in the test phase. We recognised that they understand our needs and they turned out to be a valuable partner for us. ■



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