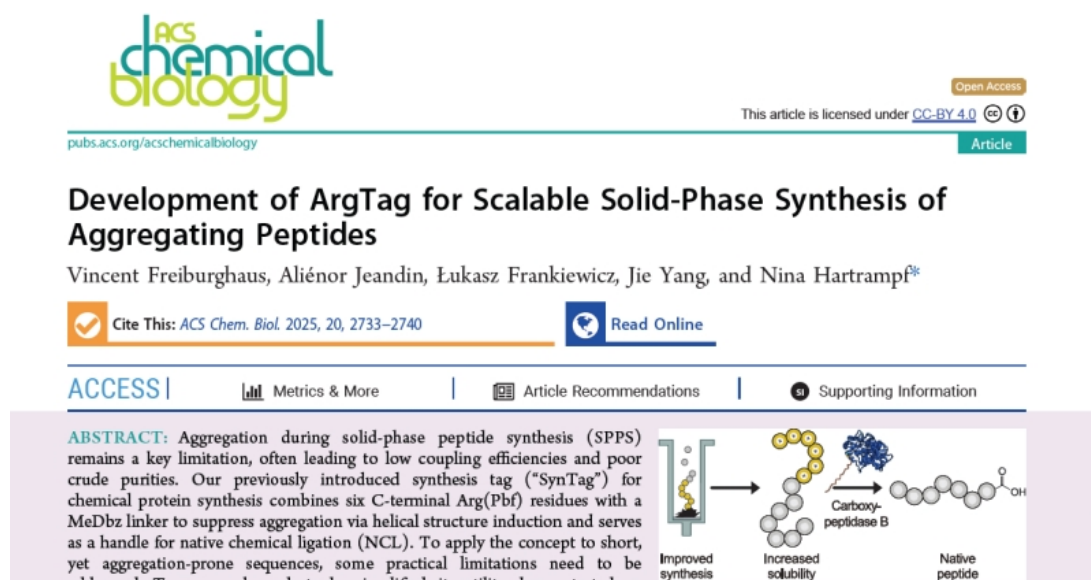


PeptiSystems' technology featured in scientific publication on scalable peptide synthesis

PeptiSystems, a life science company pioneering advanced manufacturing solutions for peptide and oligonucleotide drugs, announces that its PeptiPilot® synthesizer system is featured in a recent scientific publication from the University of Zurich, exploring scalable approaches to peptide synthesis. The researchers used PeptiSystems' flow-based technology to reduce aggregation, a common bottleneck in peptide production, and showed improved crude purity under conditions relevant to large-scale manufacturing.



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Development of ArgTag for Scalable Solid-Phase Synthesis of Aggregating Peptides

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ABSTRACT: Aggregation during solid-phase peptide synthesis (SPPS) remains a key limitation, often leading to low coupling efficiencies and poor crude purities. Our previously introduced synthesis tag (“SynTag”) for chemical protein synthesis combines six C-terminal Arg(Pbf) residues with a MeDbz linker to suppress aggregation via helical structure induction and serves as a handle for native chemical ligation (NCL). To apply the concept to short, yet aggregation-prone sequences, some practical limitations need to be addressed: Tag removal needs to be simplified, its utility demonstrated on

Improved synthesis → Increased solubility → Native peptide

Carboxy-peptidase B

Illustration from the scientific publication by the University of Zurich.

Conducted in an academic research setting, the study presents a refined method (ArgTag) to mitigate aggregation during solid-phase peptide synthesis (SPPS). The researchers evaluated the approach across six types of solid supports and at different synthesis scales, observing consistent suppression of aggregation and improved product quality under all tested conditions.

Subsequent experiments performed with the PeptiPilot® synthesizer system confirmed reproducible results under large-scale conditions, demonstrating the approach's scalability in a process-relevant environment.

“It’s encouraging to see PeptiPilot® selected as the synthesis system for this research at the University of Zurich,” says Karin Granath, CEO of PeptiSystems. “Aggregation has long been a bottleneck in peptide production, and this study shows how our flow-based technology helps address that challenge. By bridging the gap between lab-scale research and industrial peptide manufacturing, PeptiPilot® enables a faster and more sustainable path to next-generation therapeutics.”

“Our goal was to develop a practical method to improve the synthesis of difficult peptides. We were happy that the ArgTag, which we developed on our automated fast-flow peptide synthesis (AFPS) platform, performed equally well on the PeptiPilot® system under process-relevant settings,” says Professor Nina Hartrampf, University of Zurich.

“Working with PeptiSystems allowed us to assess the robustness of our approach under realistic synthesis conditions. The PeptiPilot® instrument delivered consistent results and proved well-suited for method translation from lab to larger scale,” says Vincent Freiburghaus, lead scientist and main author of the study.

The study, titled “*Development of ArgTag for Scalable Solid-Phase Synthesis of Aggregating Peptides*,” was conducted by the research group of Professor Nina Hartrampf at the Department of Chemistry, University of Zurich, with contributions from Łukasz Frankiewicz and Jie Yang of PeptiSystems AB. It has been published in the peer-reviewed journal *ACS Chemical Biology* as an open-access publication: <http://pubs.acs.org/doi/full/10.1021/acscchembio.5c00662>

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About PeptiSystems AB

PeptiSystems is a life science company developing a new generation of flow-through instruments for peptide and oligonucleotide therapeutics synthesis. Utilizing proprietary flow-through column technology, PeptiSystems' instruments significantly reduce production times, enhance synthesis control, and minimize raw material consumption while maintaining high purity and yield. With scalability in mind, these next-generation synthesis instruments seamlessly adapt from small-scale development to large-scale production, enabling pharmaceutical companies and CDMOs to meet the growing global demand for high-performance, cost-effective, and sustainable manufacturing processes. PeptiSystems is headquartered in Uppsala, Sweden. For more information, please visit www.peptisystems.com and follow us on [LinkedIn](#).