

CASCAT GmbH

Business Strategies

CASCAT combines the best of two worlds: synthetic biotechnology and classical chemical catalysis to realize novel green process routes for chemicals. We boost multi-stage processes toward industrial scale. In order to obtain stable and robust processes our enzymes are perfectly adapted to process conditions and the presence of their chemical counterparts. The use of promiscuous biocatalysts enables short cascades and reduced needs of cost intensive co-factors thus lowering production costs. We realize economic, highly efficient synthetic cascades for the production of bio-based bulk, fine and specialty chemicals to enhance efficiency in the field of bio-economy.

Core Technologies and Services

Our expertise is the implementation of artificial chemo-enzymatic cascade reactions by linking enzymes with chemical catalysts. Our approach includes the design and evaluation of novel process routes as well as the identification and optimization of appropriable biocatalysts in view of their chemical counterparts. For this purpose we hold a large bank of enzyme variants to efficiently screen the most suitable candidates. Our proprietary technology for enzyme optimization guarantees a high grade of freedom to operate. Our driving force is the realization of economic and sustainable processes which feature low process costs as well as efficient atom economy in combination with reduced costs for downstream processing. The use of biogenic resources opens new value chains for already established chemical products, not only for specialties and fine chemical, but even for bulk chemicals. In the case of bulk chemical production we cooperate closely with our partners having the production plant to perform industrial scale-up. Additionally we accompany and consult customers and partners in the field of bio-economy to implement and optimize processes based on alternative substrates. Thereby we offer licensing of our in-house developed processes or support customers as a development service provider for new techniques.

Patent, Licenses, Co-operations

CASCAT holds patents in the field of its own enzyme engineering technique as well as processes for the production of bulk chemicals. A strong cooperation network including partners in Germany and Europe guarantees the future strategic developments of the CASCAT philosophy. We are always looking for new partnerships. Our business model is based on R[&]D tasks for novel process routes, license agreements of already existing routes, as well as an own product portfolio of highly valuable fine and specialty chemicals of highest quality and purity.