

## **Towards more sustainable and efficient manufacturing routes – a glimpse at flow and batch processes using immobilized lipases**

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Biocatalysis is steadily gaining ground as an enabling technology in the pharmaceutical industry, where enzymes' unparalleled selectivity has the potential to unlock highly challenging syntheses. At Novartis, we are working towards the gradual implementation of biocatalysis in our portfolio, in our quest for more efficient and sustainable manufacturing processes. In this context, we are interested in exploring the advantages of enzyme immobilisation. Prior to moving on to less established enzyme classes, we have investigated the implementation of immobilised lipases in different reaction setups. Examples from our portfolio and using model reactions will be presented, where potential benefits of immobilised enzymes in flow and batch are illustrated.