

Case Study

How the re-designed synthesis of a complex carbohydrate can reduce cycle time.









Project challenge:

Complex carbohydrate chemistry involving a linear sequence of 10 chemical transformations, unstable intermediates and column chromatographic purications

Solution design:

research and Process optimization performed to develop a robust and scalable process which was implemented on commercial scale.

- Telescoping of reactions reduced the number of isolable intermediates thereby reducing the cycle time by 50% >
- Riskofhandlinghighlyunstableintermediates was mitigated.
- Use of Stereoselective glycosylation to maximize the desired stereoisomer
- Efficient crystallization procedure developed by identifying the onset conditions thereby avoiding column chromatography purication



Conclusion:

Development and manufacturing of carbohydrates bearing labile functional groups is exemplied with this example. Several molecules where protection-deprotection strategy and highly stereoselective transformations are involved have been worked on by our team.









Thank You



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