

RECENT DEVELOPMENTS AND CHALLENGES IN AUTOMATED GLYCAN ASSEMBLY

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Automated reactors are indispensable tools to meet the growing demand for complex synthetic molecules. Specially biooligomers synthesis benefits from devices performing iterative operations [1-3]. Up to now Automated Glycan Assembly (AGA) has offered access to well defined glycans for custom-made research tools in glycosciences [4-6]. However the initial platforms left room for significant improvements in terms of cost and operability. The instrument sets the limits as to the types of chemistries that can be executed. We developed a the new generation of AGA instruments, smaller, and more economical, allowing quick temperature adjustments between -40 and +90°C based on an energy-efficient local temperature-controlled (LTC) reactor. The power of the new instrument is illustrated in the context of several syntheses of complex oligosaccharides. At the same time, we identify remaining challenges to be address for wide spreading this technology.

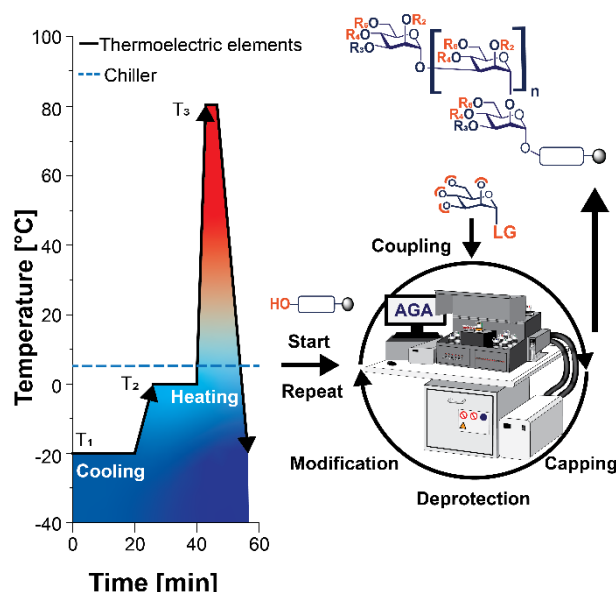


Figure 1. Optimized automated glycan assembly device.

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