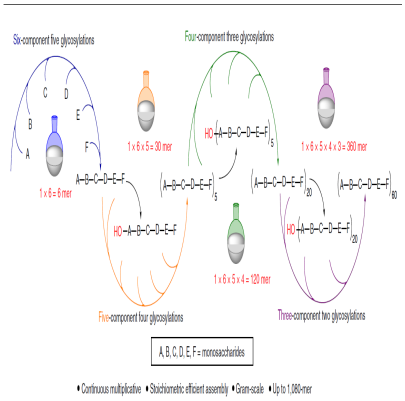
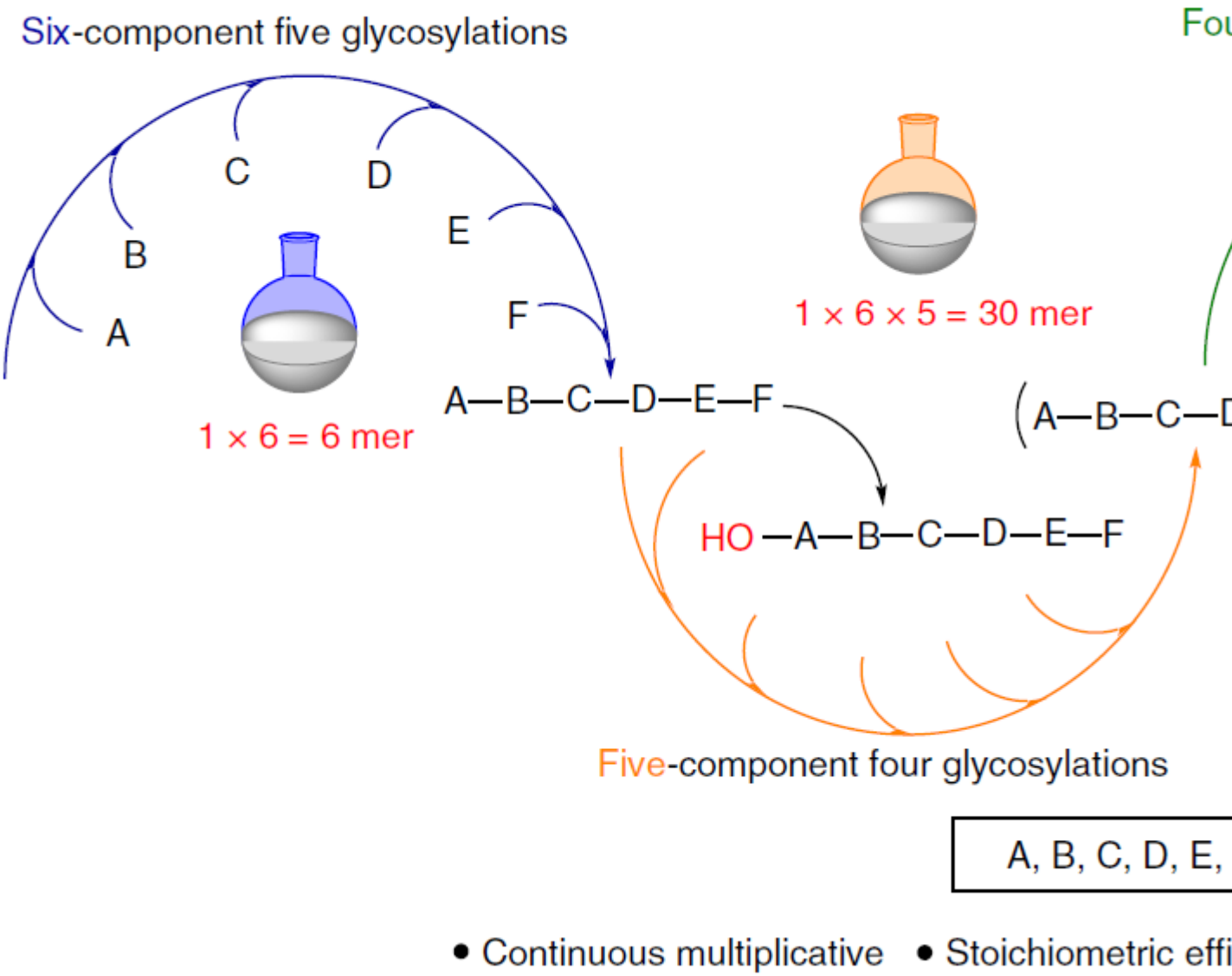


Automated solution-phase multiplicative synthesis of complex glycans up to a 1,080-mer

Description

The article reports an automated solution-phase multiplicative synthesis of complex glycans enabled by preactivation-based, multi-component, one-pot glycosylation and continuous multiplying amplification. This was achieved by making a dual-mode automated solution-phase glycan synthesizer. Using this synthesizer, a library of oligosaccharides covering various glycoforms and glycosidic linkages was assembled rapidly, either in a general promoter-activation mode or light-induced-activation mode. The automated synthesis of a fully protected fondaparinux pentasaccharide (an

anticoagulant) was realized on the gram scale.



Furthermore, automated ten-component tandem reactions were performed, allowing the assembly of arabinans up to a 1,080-mer using this automated multiplicative synthesis strategy.

Category

1. News