Accepted Manuscript

Recent advances in the enzymatic synthesis of sugar-nucleotides using nucleotidylyltransferases and glycosyltransferases

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PII: S0008-6215(18)30470-1

DOI: 10.1016/j.carres.2018.09.002

Reference: CAR 7605

To appear in: *Carbohydrate Research*

Received Date: 15 August 2018

Revised Date: 9 September 2018

Accepted Date: 10 September 2018

Please cite this article as: S. Ahmadipour, L. Beswick, G.J. Miller, Recent advances in the enzymatic synthesis of sugar-nucleotides using nucleotidylyltransferases and glycosyltransferases, *Carbohydrate Research* (2018), doi: https://doi.org/10.1016/j.carres.2018.09.002.

Abstract/Graphical Abstract

Sugar-nucleotides are imperative to carbohydrate metabolism and glycoconjugate biosynthesis. Enzymatic methods to access these key materials offer a powerful alternative to traditional chemical synthesis routes. Herein we review recent advances in the enzymatic pyrophosphorylation of glycosyl 1-phosphates for the provision of both native and modified sugar-nucleotides.