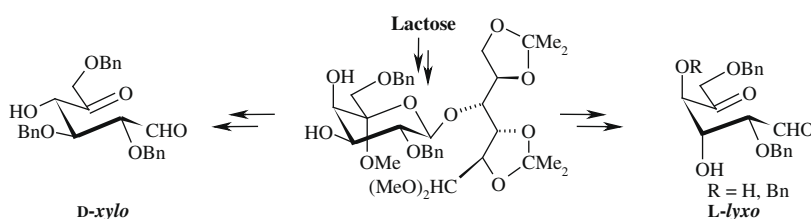


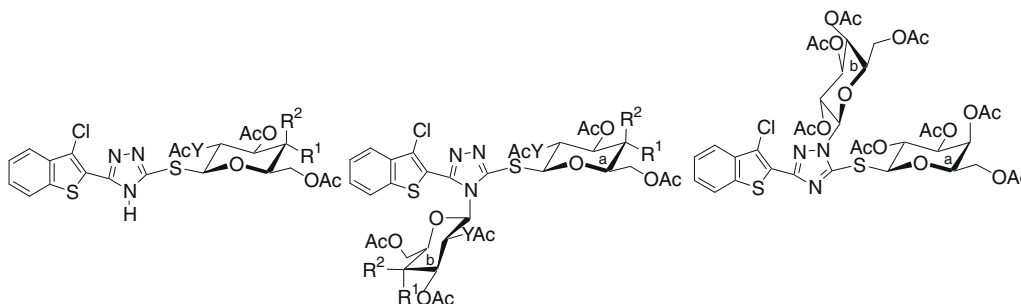
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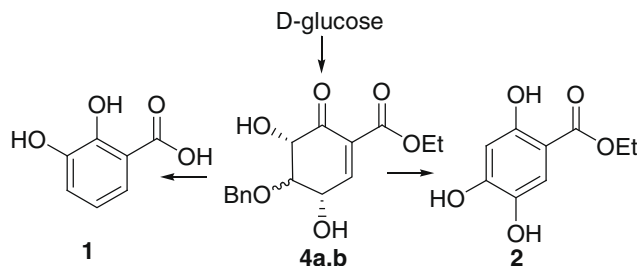
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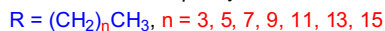
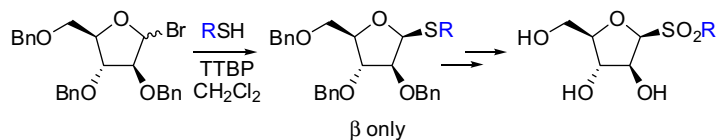
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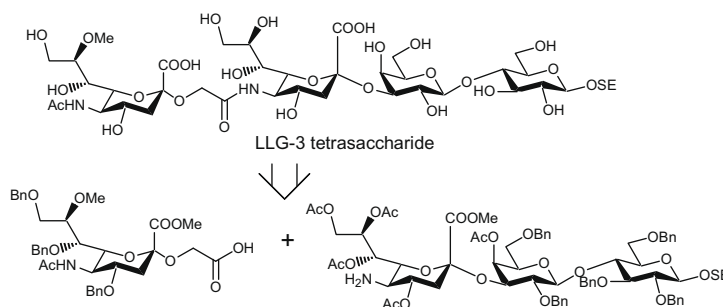
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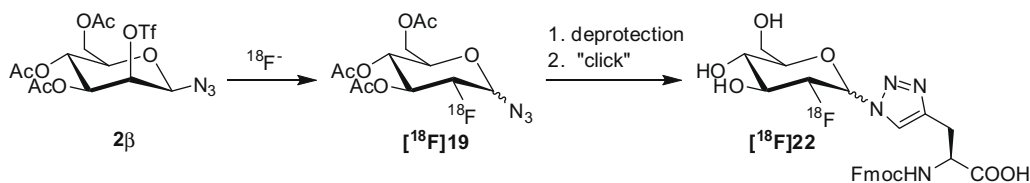
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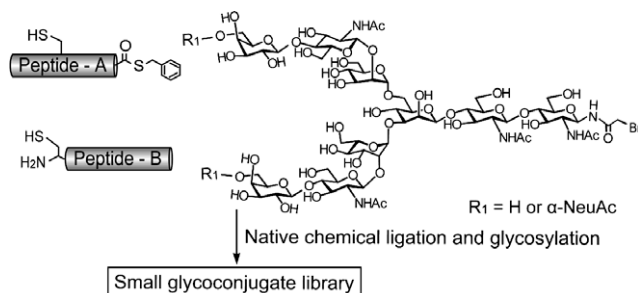
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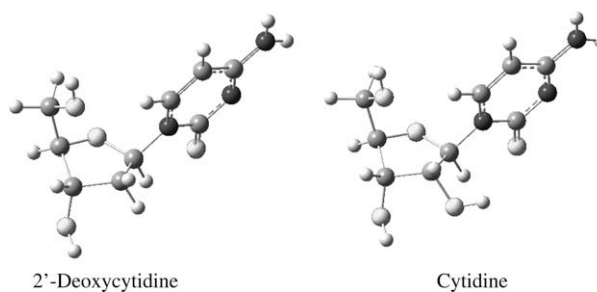
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Zahra Aliakbar Tehrani, Alireza Fattahi<sup>\*</sup>, Ali Pourjavadi<sup>\*</sup>

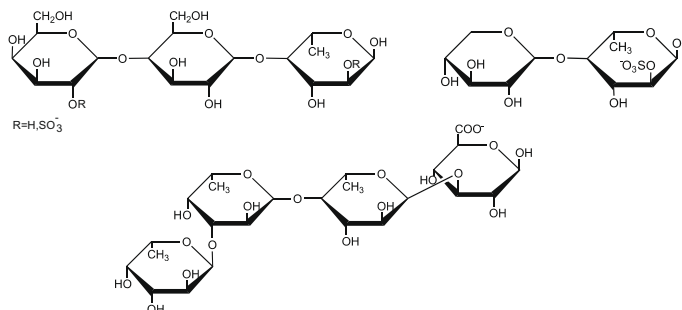


Conformational properties of cytosine nucleosides, that is, cytidine and 2'-deoxycytidine molecules during complexation with Li<sup>+</sup>, Na<sup>+</sup>, and K<sup>+</sup> cations at the B3LYP/6-311++G(d,p) density functional level, are described.



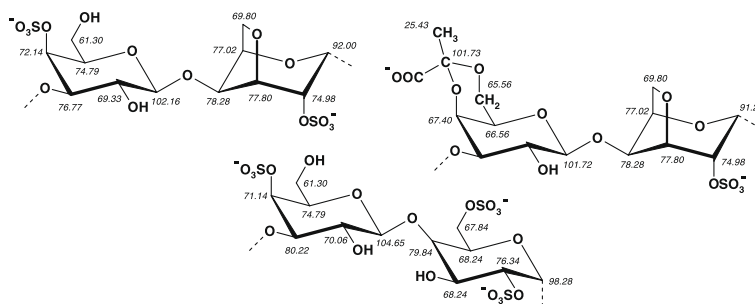
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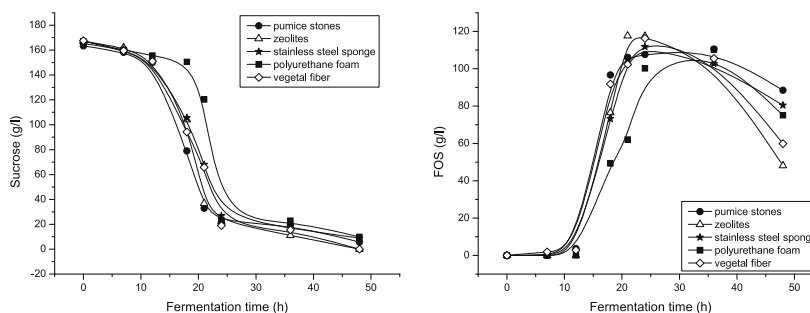
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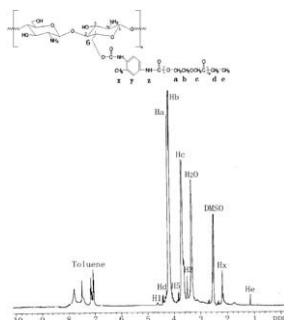
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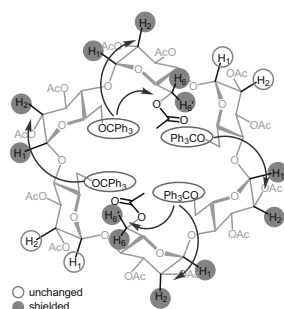
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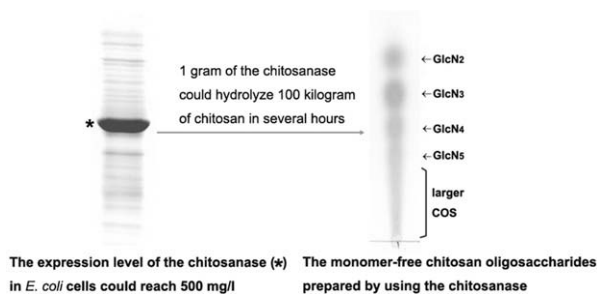
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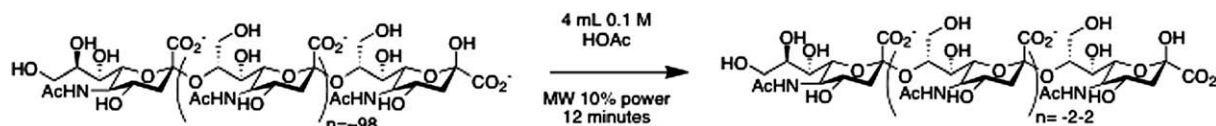
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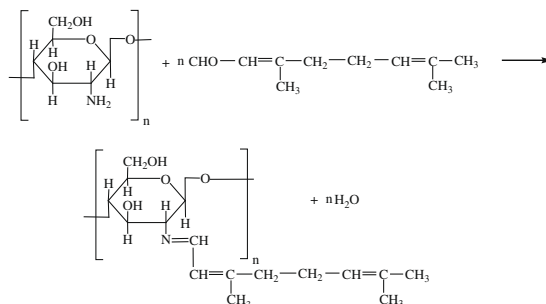
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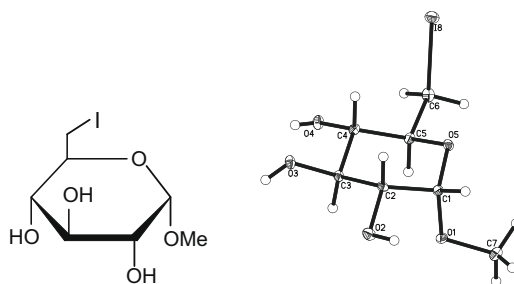


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**COVER**

Shown is a fluorescence image of cell-surface glycans in a 3-day old zebrafish larva. Different colors represent glycans biosynthesized at different times in development. The glycans were imaged in live zebrafish using a two-step approach termed the bioorthogonal chemical reporter strategy. Embryos were first metabolically labeled with the unnatural monosaccharide *N*-azidoacetyl galactosamine, which targets the core position of mucin-type O-glycans; subsequently, the azide-containing glycans were reacted with a cyclooctyne–fluorophore conjugate by copper-free click chemistry, a step that was repeated multiple times to target temporally distinct glycan pools with different fluorophores. This work is the result of a collaboration between the Departments of Chemistry and Molecular and Cell Biology at the University of California, Berkeley [Laughlin, S. T.; Baskin, J. M.; Amacher, S. L.; Bertozzi, C. R. *Science* **2008**, 320, 664].  
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