PALLADIUM-CATALYZED FUNCTIONALIZATION OF 2-IODOIMINOGLYCALS AS VERSATILE SUBSTRATES TO ACCESS 1,2-UNSATURATED IMINOSUGARS WITH STRUCTURAL DIVERSITY AT *C2* POSITION

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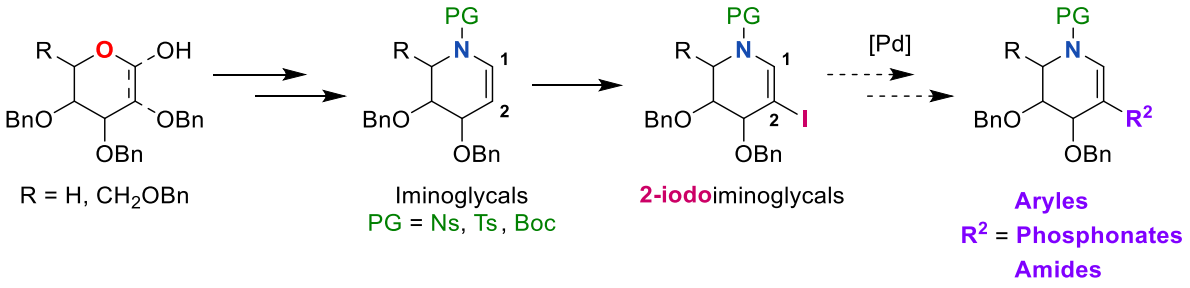
Iminoglycals[1] are limited in literature, even if they have been used in Ferrier rearrangement,[2] and scarcely in Heck and Stille reactions.[3] Although the synthetic potential of the enamide moiety in these iminosugar derivatives is underexplored, cyclic enamides have emerged as a powerful functional group that has been involved in a variety of new synthetic transformations, providing key intermediates for the synthesis of natural products and/or bioactive molecules.[4] The π-donating ability of the nitrogen atom renders enamides more electron-rich than simple alkenes and they afford a means of activating carbon–carbon double bonds, giving them both nucleophilic and electrophilic properties.
Importantly, the electronic bias can be controlled by adjusting the nitrogen-protecting group, suggesting sugar-derived enamides as a powerful platform to access iminosugars and analogs with unprecedented structural diversity. The direct and selective functionalization of iminoglycals being an attractive challenge, we will present the synthesis of a range of iminoglycals and 2-iodoiminoglycals, with different protecting groups on the nitrogen and their use in metal-catalyzed cross-coupling reactions.



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