1,3-Dipolar Cycloaddition of (2*R*,4a*R*,8a*S*)-2-phenyl-4,4a-dihydropyrano[3,2-*d*][1,3]dioxin-6(8a*H*)-one with Aromatic Diazomethyl Compounds

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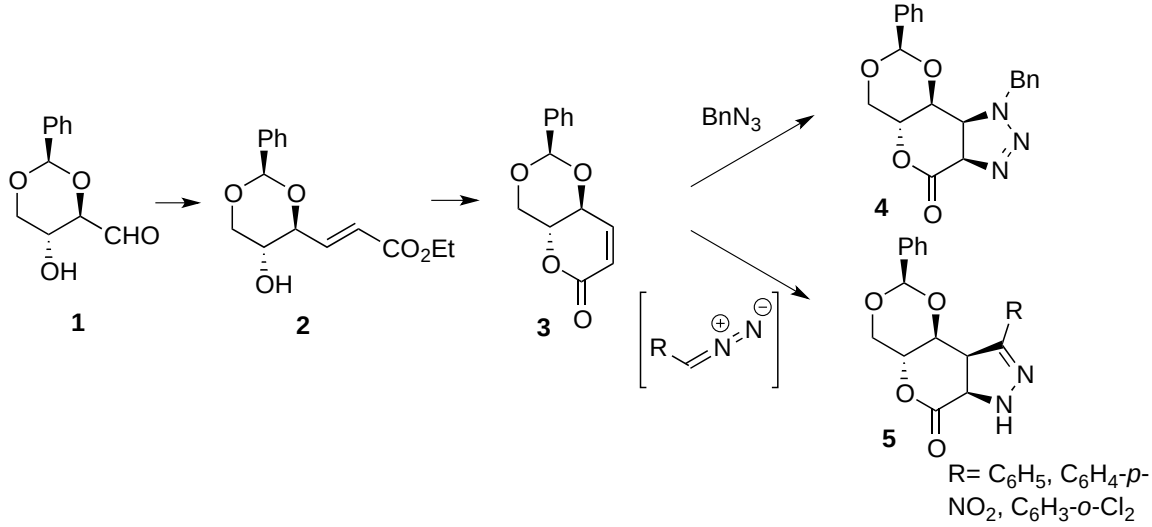
Small chiral synthons are being more and more appealing to synthetic chemists to build up target molecules possessing multi-stereogenic centres. We have been looking at the usefulness of D-erythrose derivatives obtained from D-glucose. The aldehyde **1**[1] was reacted with phosphorane to give α,β-unsaturated compound **2** which was cyclized to lactone **3** in 63.4 % overall yield from **1**. The open chain compound **2** resisted to 1,3-dipolar cycloaddition with benzyl azide, but lactone reacted smoothly with benzylazide to afford triazole **4** in 81.3 % yield, with total *regio*- and *stereo*-selectivity. Diazomethyl compounds have also shown the same trend of excellent selectivities and good yields. All compounds **5** were fully characterized and the stereochemistry studied by n.o.e. experiments.



[1] Mukhopadhyay, A.; Ali, S.M.; Husain, M.; Suryawanshi, S.N.; Bhakuni, D.S. *Tetrahedron Lett*. **1989**, *30*, 1853–1856.