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## **Metal free click chemistry on nucleosides and oligonucleotides**

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**METAL FREE CLICK CHEMISTRY ON NUCLEOSIDES AND OLIGONUCLEOTIDES**Ishwar SINGH<sup>a</sup>, Frances HEANEY<sup>a</sup>, Caroline BATCHELOR<sup>b</sup> and Joseph S. VYLE<sup>c</sup>*Department of Chemistry, Department of Biology, National University of Ireland, Maynooth,  
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Chemoselective ligation of biologically significant moieties through azide alkyne Click Chemistry has recently received much attention<sup>1</sup>. The reaction is attractive in that it regioselectively affords stable triazole linked bioconjugated products under mild conditions. However, from the view point of the synthetic oligonucleotide chemist, a significant disadvantage is that the non-thermal reaction requires an *in situ* generated Cu(I) catalyst. Unwanted Cu(I) mediated chemistry, specifically oxidative degradation, has meant the number of examples of Click reactions with nucleic acids is still relatively small<sup>2</sup>. Whilst judicious choice of copper ligand can help to minimise this problem we are interested in a more general solution to this problem. To this end we are developing metal free Click Chemistry and we present our results with nucleoside and oligonucleotide substrates in this poster.

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