Natural tetrapyrroles – just "click" it!

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Over the last decade copper (I) catalysed 1,3-dipolar azide – alkyne cycloaddition (CuAAC, "click reaction") has become an important reaction in the synthesis of highly complex molecules with potential biological activity.[1] However its popularity has not crossed over into the construction of compounds possessing natural tetrapyrrole motifs such as vitamin B_{12} (**B12**) or protoporphyrin IX (**PpIX**). This disinterest is owed to a lack of properly functionalised derivatives and the use of copper, which enjoys hoping into the prophyrins cavity.[2]

Our work therefore focuses on eradicating these disadvantages by developing a simple and convenient route for the preparation of "clickable" B12 and PpIX derivatives and their further CuAAC based functionalisation (Figure 1).[3,4]

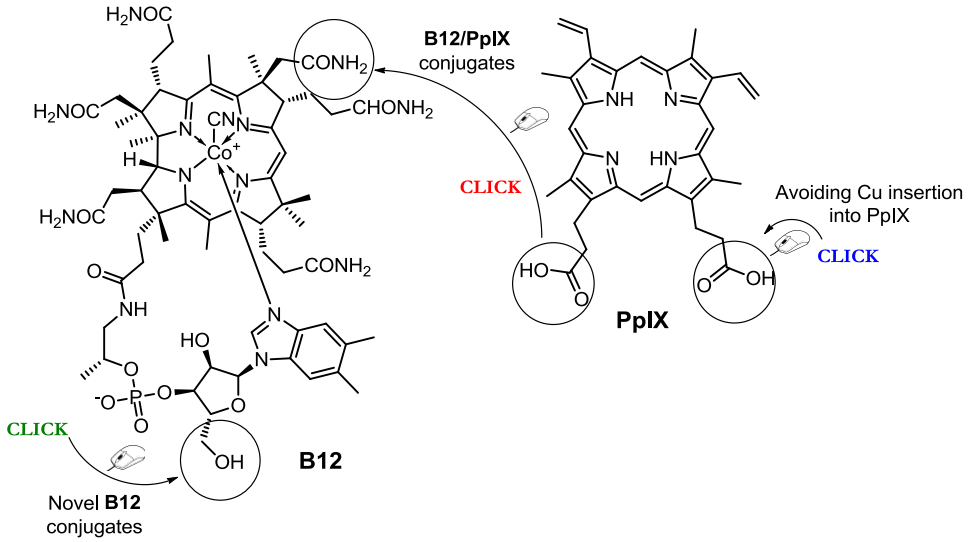

Figure 1

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