RADICAL-MEDIATED DEAROMATIZATION OF INDOLES WITH SULFINATE REAGENTS AND PHOSPITHES FOR THE SYNTHESIS OF FLUORINATED AND PHOSPHONATED SPIROCYCLIC INDOLINES

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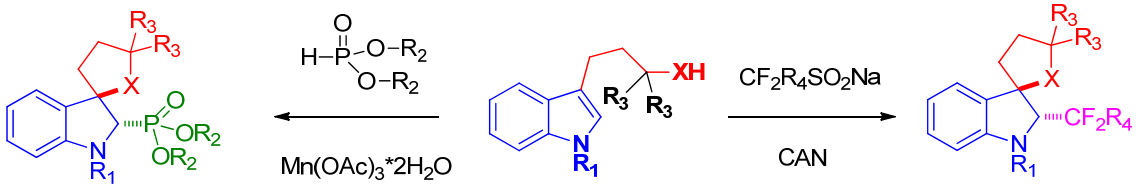
The spirooxindole scaffold is frequently found in natural products and biologically active compounds[1]. Some pharmaceuticals containing spirooxindole motif were also reported, stimulating a great interest in construction and modification of this skeleton[2]. However only few works were done to replace the carbonyl in position 2 by another valuable fonctional group[3].

Considering the importance of CF3, CF2H and $PO(OR)_2$ groups in therapeutic and radical chemistry[4], we believe that the diastereoselective introduction of these functional groups into the structure of spiroindolines can lead to compounds of biological interest. Based on the recognized expertise of our group in the creation of spiroindoline compounds using the umpolung of indole[5], we developed a simple and efficient diastereoselective method for the synthesis of fluorinated and phosphonated spirocyclic indoline using respectively sulfinate reagents and CAN* as oxidant [6] or phospithes and $Mn(OAc)_3$.



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