

## Abstract

This work deals with the preparation of a small library of enamines derived from isoxazole, compounds with the ability to inhibit a FOXO3-DNA interaction. The first part of the work is focused on the preparation of the key building block, (*E*)-*N,N*-dimethyl-2-(3-methyl-4-nitroisoxazole-5-yl)ethen-1-amine, and other starting materials. The second part is focused on the preparation 4-nitroisoxazole derivatives bearing methyl group at position 3 and a substituted vinyl moiety in position 5. Various secondary amines were used as substituents in order to modulate the polarity of the prepared 4-nitroisoxazole derivatives and to increase their solubility in water.