

Accepted Manuscript

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PII: S0040-4020(15)30329-X

DOI: [10.1016/j.tet.2015.12.081](https://doi.org/10.1016/j.tet.2015.12.081)

Reference: TET 27407

To appear in: *Tetrahedron*

Received Date: 15 October 2015

Revised Date: 22 December 2015

Accepted Date: 30 December 2015

Please cite this article as: Chernykh AV, Feskov IO, Chernykh AV, Daniliuc CG, Tolmachova NA, Volochnyuk DM, Radchenko DS, Synthesis of fluorinated building blocks based on spiro[3.3]heptane scaffold, *Tetrahedron* (2016), doi: 10.1016/j.tet.2015.12.081.

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Synthesis of fluorinated building blocks based on spiro[3.3]heptane scaffold

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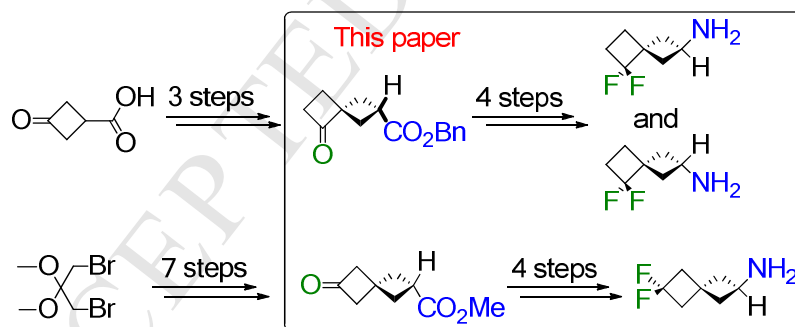
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Abstract

New non-flattened amino group-containing building blocks and fluorinated analogs based on the spiro[3.3]heptane motif were synthesized. The syntheses included a challenging deoxofluorination of sterically hindered carbonyl groups *via* an intermediate carbocation. The synthesized compounds could be useful in medicinal chemistry due to their three-dimensional shape, and a different pattern of the fluorine substitution.



Keywords: fluorine, conformational restriction, non-flattened building blocks, spiro compounds

Introduction

Since the first fluorine-containing drug fludrocortisone was introduced, the use of fluorine substitution became a common practice in drug design. Today, around 25% of marketed drugs contain fluorine. Amongst these are the extremely popular atorvastatin (Lipitor®), fluoxetine (Prozac®), escitalopram (Lexapro®). The introduction of fluorine into lead molecules during their optimization often significantly improves the pharmacokinetic and pharmacodynamic properties of drug candidates.

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