

# NEW 2-AMINO-4-ARYL-4H-PYRANS BASED ON 1,2-BENZOXATHIIN-4(3H)-ONE 2,2 DIOXIDE

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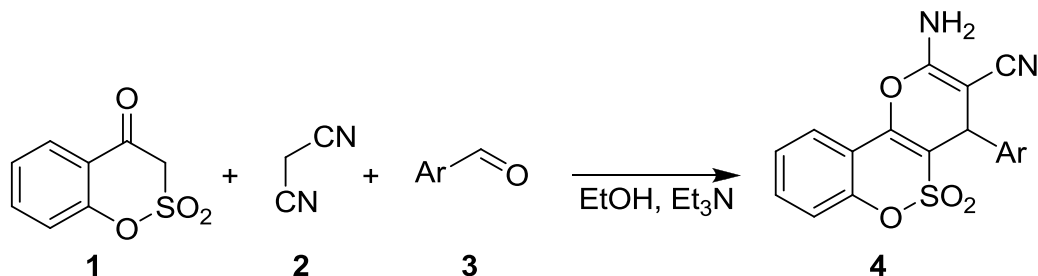
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**Introduction.** To date 1,2-benzoxathiin-4(3H)-one 2,2-dioxide was not used in multicomponent reactions. This compound is a synthetic analogue of active methylene carbonyl compounds since it comprises COCH<sub>2</sub>SO<sub>2</sub> moiety in its structure. These features open great opportunities to construct new condensed heterocyclic systems based on it. Thus, there is no information referred to fused heterocyclic systems combining 1,2-benzoxathiine 2,2 dioxide.

**Aim.** Current research was aimed to synthesize 2-amino-4-aryl-4H-pyrano[3,2-c][1,2]benzoxathiine-3-carbonitrile 5,5-dioxides based on three-component interaction of 1,2-benzoxathiin-4(3H)-one 2,2-dioxide with malononitrile and aromatic aldehydes, and also to prove the structure of the obtained compounds.

**Materials and methods.** As starting materials 1,2-benzoxathiin-4(3H)-one-2,2 dioxide, malononitrile and different substituted aromatic aldehydes were used. The methods of organic synthesis and <sup>1</sup>H NMR spectroscopy method were applied in the course of the research.

**Results and discussion.** The interaction of 1,2-benzoxathiin-4(3H)-one 2,2-dioxide (1) with malononitrile (2) and aromatic aldehydes (3) was carried out in refluxing ethanol for 1 hour (the molar ratio 1:1:1) and resulted into formation of target compounds (4) in moderate to high yields. The reaction products were obtained as colorless or yellow crystalline precipitates, further purification was not required. Triethylamine was used as easily available and inexpensive basic catalyst. The structures of the obtained compounds were confirmed by <sup>1</sup>H NMR.



**Conclusions.** During the research we have shown a possibility to synthesize new 2-amino-4-aryl-4H-pyrano[3,2-c][1,2]benzoxathiine-3-carbonitrile 5,5-dioxides *via* one-pot three-component interaction of 1,2-benzoxathiin-4(3H)-one 2,2-dioxide with malononitrile and arenecarbaldehydes. These investigations may be useful in further studies dedicated to this synthetic area.