

# ARYLGLYOXALS IN SYNTHESSES OF 3-HYDROXY(ALKOXY)-5-ARYLHYDANTOINS, 2-THIOHYDANTOINS AND BENZOINS

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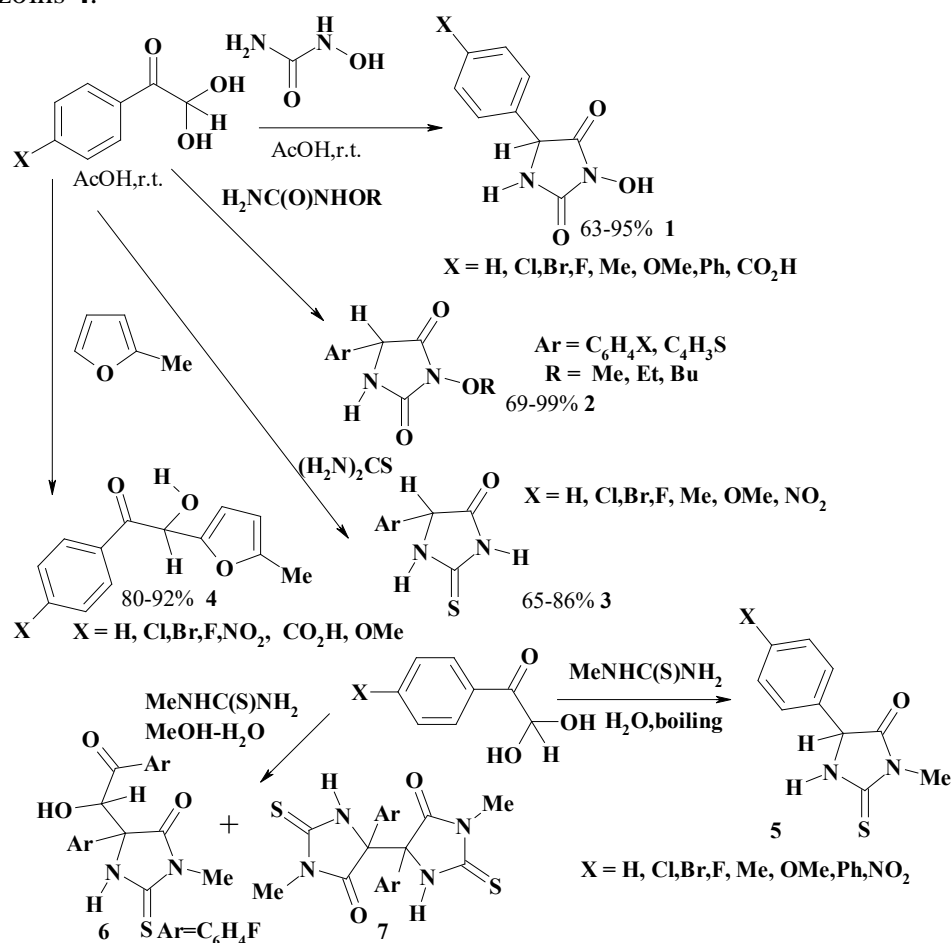
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The reaction of arylglyoxals with N-hydroxyurea and N-alkoxyureas in acetic acid at room temperature (i) selectively yields 3-hydroxy-5-arylimidazolidine-2,4-diones **1** and 3-alkoxy-5-arylimidazolidine-2,4-diones **2**, respectively. In the same conditions arylglyoxals react with thiourea yielding 5-arylimidazolidine-4-one-2-thiones **3**. Aryl glyoxal interaction with 2-methylfuran in acetic acid at room temperature is the simple route to unsymmetrical arylfurylbenzoins **4**.



In boiling water arylglyoxals reacts with N-methylthiourea yielding 3-methyl-5-arylimidazolidine-4-one-2-thiones **5**. In aqueous MeOH at 10<sup>0</sup>C 4-fluorophenylglyoxal reacts with N-methylthiourea yielding unusual products **6** and **7**. Structures of **1-7** were confirmed by XRD study.