

# Studies with 2-(Arylhydrazono)aldehydes: Synthesis and Chemical Reactivity of Mesoxalaldehyde 2-Arylhydrazones and of Ethyl 2-Arylhydrazono-3-oxopropionates

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The coupling reaction of 3-(dimethylamino)acrolein (**2a**) and ethyl 3-(dimethylamino)acrylate (**2b**) with arenediazonium chlorides afforded the 2-(arylhydrazono)aldehydes **1a–e**. Compounds **1a, b** reacted with hydroxylamine hydrochloride to yield the oximes **4a, b**. The dioxime **5** was obtained from reaction of **1a** with an excess of hydroxylamine hydrochloride. This dioxime afforded the 1,2,3-triazole carbonitrile **6** when treated with acetic anhydride, while  $\alpha$ -hydrazono propionitrile **8** was obtained when **5** was treated with acetic acid. Compounds **1a–e** could be utilized for the synthesis of a variety of pyrazoles and arylazolopyrimidines *via* reaction with hydrazines, haloketones and aminoazoles, respectively.

**Key words:** 2-Arylhydrazonopropane-1,3-dial, 2-Aryl-1,2,3-triazole-4-carbonitrile, Formazanes