

Title – Synthesis of Isopropyl Benzene by modification of the Wolff-Kishner reaction.

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Category- Experimental (Basic)

Abstract

This research intends to address the reduction of an aldehyde using the Wolff-kishner reduction model. The Wolff-kishner reaction allows the reduction of Aldehydes or ketones into their derivative alkanes. To do that, the aldehyde or ketone should go through condensation with hydrazine in order to form a hydrazone. Then, the treatment of the hydrazone with a base will activate the reduction of the carbon which contained the carbon-nitrogen double bond. The oxidation of the hydrazine, will yield the alkane that corresponds to the starting material. The goal of our research is to modify the Wolff- kischner model to add two alkyl groups to benzaldehyde and synthesize isopropyl benzene. The purpose of this experiment is not to merely reproduce the Wolff-kishner model, but to modify it in different ways and still obtain the desired alkane. For this reason, this experiment was performed multiple times at different conditions. Different solvents were used during each attempted trial to synthesize the desired product. We planned to use infrared spectroscopy, Thin Layer Chromatography (TLC).

