**Synthesis of E,E-dibenzalacetone (E,E-DBA)**

Afra ALMashari

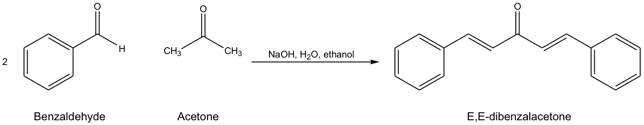
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**Abstract**

The preparation of E,E-dibenzalacetone (Scheme 1), from benzaldehyde and acetone in the presence of ethanol and Ethanolic sodium hydroxide, is described. E,E-dibenzalacetone was purified by recrystallization, E,E-dibenzalacetone was recrystallized from. E,E-dibenzalacetone was obtained in 67.1% yield. The crude and purified products were characterized by melting point determination.

**Introduction**

The purpose of this experiment was to employ a based-catalyzed aldol condensation in the synthesize of E,E-dibenzalacetone and to characterize the crude and purified samples of E,E-dibenzalacetone by melting point determination. As shown in Scheme 1 this involved allowing benzaldehyde to react with acetone in the presence of ethanol and Ethanolic sodium hydroxide.

**Scheme 1**

**Results**

The results of the synthesis of E,E-dibenzalacetone are summarized in Table 1.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Compound*** | **molar**  **mass (g/mol)** | **volume/mass moles** | **yield** | **Melting point (C)** |
| benzaldehyde (density 1.043 g/mL) | 106.2 g/mole | 0.25 ml  0.26 g  0.002 mole | N/A | N/A |
| acetone (density 0.788 g/mL) | 580.08 g/mole | 0.1 ml  0.07 g  0.001 mole | N/A | N/A |
| *E,E*-DBA  (a yellow solid) | 234.24 g/mole | N/A | Theoretical  0.234 g  0.001 mole | Literature value  110-111oC |
| *E,E*-DBA  (a yellow solid) | 234.24 g/mole | N/A | Actual  crude\*  0.645 g  63.7%    purified\*\*  0.14 g  67.1 | Actual  Crude  109-110 Oc  purified  110-111 Oc |

**\*** a yellow solid \*\* a yellow crystals solid

Discussion

Experimental Procedure