

## 1-ethoxycarbonylmethyl-3-(ethoxycarbonylmethylene)-2-oxo quinoxaline

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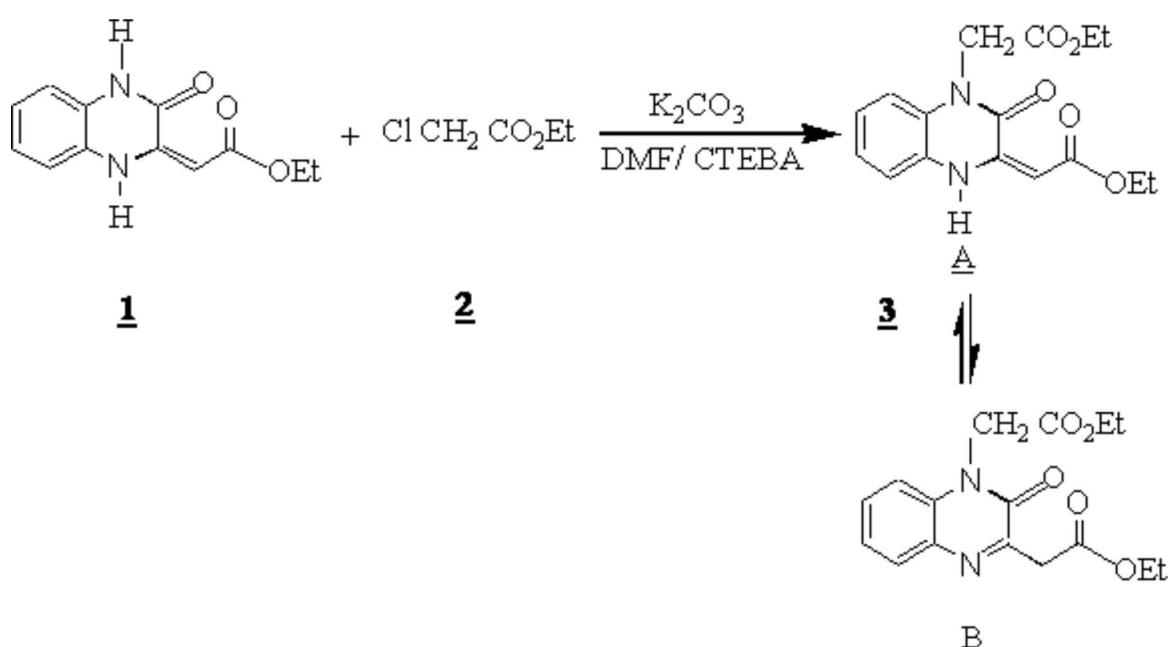
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Received: 13 February 2006 / Accepted: 18 February 2006/ Published: 28 February 2006

**Keywords:** quinoxaline, phase transfer catalysis, alkylation



The compound 3, which exists in tautomeric equilibria between enamine (form A) and methylene imine (form B), was prepared by addition of ethoxycarbonylmethyl chloride **2** (1.23g, 0.01 mol) to a solution of 3-(ethoxycarbonylmethylene)-2-oxo quinoxaline, **1** [1] (2.32 g, 0.01 mol) in 60 ml DMF, K<sub>2</sub>CO<sub>3</sub> (1.38g, 0.01mol) and triethylbenzylammonium chloride (0.001 mol). The mixture was stirred for 24 hours at room temperature. After filtration, the solvent was evaporated and the residue was recrystallized from ethanol affording **3** in 90% yield.

Melting point: 154-156°C.

IR (KBr, cm<sup>-1</sup>) : 1650 (n<sub>N-C=O</sub>); 1720 (n<sub>N-C=O</sub>).

<sup>1</sup>H-NMR (250 MHz, CDCl<sub>3</sub>): δ= 11.20 (0.5H, s, NH, form A); 7.87-6.82 (8H, m, ar); 5.83 (0.5H, s, =CH, form A); 5.01 (1H, s, NCH<sub>2</sub>); 4.89 (1H, s, NCH<sub>2</sub>); 4.21 (8H, m, CH<sub>2</sub>); 3.95 (2H, s, CH<sub>2</sub>, form B); 1.27 (12H , m, CH<sub>3</sub>).

<sup>13</sup>C-NMR (250MHz, CDCl<sub>3</sub>): δ= 170.7 (Cq); 169.3 (Cq); 167.3 (Cq); 166.9 (Cq); 156.4 (Cq); 154.4 (Cq); 142.5 (Cq); 132.7 (Cq); 130.6 (CH<sub>ar</sub>); 130.4 (CH<sub>ar</sub>); 126.0 (Cq); 124.5 (CH<sub>ar</sub>); 124.0 (CH<sub>ar</sub>); 122.5 (CH<sub>ar</sub>); 115.4 (CH<sub>ar</sub>); 113.8 (CH<sub>ar</sub>); 113.2 (CH<sub>ar</sub>); 86.7 (=CH form A); 62.1 (CH<sub>2</sub>); 62.0 (CH<sub>2</sub>); 62.2

(CH<sub>2</sub>); 59.9 (CH<sub>2</sub>); 44.0 (NCH<sub>2</sub>); 43.6 (NCH<sub>2</sub>); 40.7 (CH<sub>2</sub> form B); 14.4 (CH<sub>3</sub>); 14.1 (CH<sub>3</sub>).

MS (I.E): 318 [M<sup>+</sup>].

### Reference

1. Kurasawa, Y. and Takada, A.; Heterocycles, 1985, 23, N°8

*Sample Availability:* Available from MDPI.

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