

Short Note

5,5'-(1,4-Phenylenedimethylylidene)bis(1,3-diethyl-2-thioxodihydropyrimidine-4,6(1*H*,5*H*)-dione)

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Abstract: A novel compound, 5,5'-(1,4-phenylenedimethylylidene)bis(1,3-diethyl-2-thioxodihydropyrimidine-4,6(1*H*,5*H*)-dione) (**3**) has been synthesized by condensation of 1,3-diethyl-2-thiobarbituric acid and terephthalaldehyde in anhydrous ethanol in the presence of pyridine. The structure of this compound was established by elemental analysis, IR, ¹H-NMR, ¹³C-NMR and EI-MS spectral analysis.

Keywords: thiobarbituric acid; pyridine; Knoevenagel condensation

Barbituric acid derivatives such as phenobarbital [1] and mephobarbital [2] are used for clinical treatment of epilepsy. Thiobarbituric acid dramatically increases the diversity of biological activity. Substitution reactions at the C-5 position with different aldehydes in the presence of base or Lewis acid catalysts such as ZnCl₂ [3], CdI₂ [4], by Knoevenagel condensation give donor acceptor chromophores. These donor acceptor chromophores are applicable in optical limiting [5], electrochemical sensing [6], Langmuir film and photoinitiated polymerization [7]. As evident from the literature, it was noted that a lot of research has been carried out on donor acceptor chromophores but no work has been done on this type of bis-donor acceptor chromophore [8]. In this paper, we report the synthesis of a novel bis donor acceptor chromophore from thiobarbituric acid and terephthalaldehyde.