

## THIOPHENE ALDEHYDE AND ITS DERIVATIVES. II

V. S. Egorova, V. N. Ivanova, and N. I. Putokhin

Kimiya Geterotsiklicheskikh Soedinanii, Vol. 3, No. 5, p. 829, 1967

UDC 547.733:542.953

Condensation of thiophene-2-aldehyde with p-aminobenzoic and barbituric acids gives 2-thenylidene-p-aminobenzoic acid and 2-thenylidenebarbituric acid. Similarly, 5-nitro-thiophene-2-aldehyde gives 5-nitro-2-thenylidene-p-aminobenzoic acid and 5-nitro-2-thenylidenebarbituric acid. Condensation of thiophene-2-aldehyde with nitroethane gives 1-(2-thienyl)-2-nitroprop-1-ene; and 1-nitro-2-(2-thienyl-5-nitro)ethene is synthesized by nitrating thienylnitroethylene.

A study is being made of the condensation reactions of thiophene aldehyde to ascertain the effect of the thiophene ring, free and bound, on specific reactions of the aldehyde group [1]. Bearing in mind the importance of barbituric acid, p-aminobenzoic acid, and their derivatives, we synthesized the corresponding derivatives of thiophene aldehyde and nitrothiophene aldehyde. Furthermore, the synthesis of derivatives of thiophene aldehyde, nitrothiophene aldehyde, and nitroparaffins is continued. The table gives the structures and analyses of the compounds.

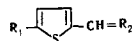
## REFERENCES

1. V. S. Egorova, V. N. Ivanova, and N. I. Putokhin, *ZhOKh*, **34**, 12, 1964.
2. A. A. Ponomarev, S. G. Tsynkina, and E. I. Bunder, *Uch. zap. Sarat. univ.*, **43**, 67, 1956.
3. A. A. Ponomarev and P. S. Dichkova, *Uch. zap. Satat. univ.*, **42**, 45, 1955.
4. Ya. L. Gol'dgard, *ZhOKh*, **31**, 3933, 1961.

8 January 1966

Kuibishev Polytechnic  
Institute, Kuibishev

## Thiophene Aldehyde Derivatives



R <sub>1</sub>	R <sub>2</sub>	MP, °C	Formula	Found, %		Calculated %		Yield, %
				N	S	N	S	
H	N-C <sub>6</sub> H <sub>4</sub> -COOH	214	C <sub>12</sub> H <sub>9</sub> NO <sub>2</sub> S	6.03; 6.10	13.40; 13.62	6.06	13.85	60
H	C $\begin{matrix} \text{CO-NH} \\ \text{CO-NH} \end{matrix}$ CO	271	C <sub>9</sub> H <sub>6</sub> N <sub>2</sub> O <sub>3</sub> S	12.40; 12.85	14.07; 14.10	12.61	14.41	49.5
NO <sub>2</sub>	N-C <sub>6</sub> H <sub>4</sub> COOH	257	C <sub>12</sub> H <sub>7</sub> N <sub>2</sub> O <sub>4</sub> S	10.10; 10.21	11.36; 11.27	10.18	11.63	80
NO <sub>2</sub>	C $\begin{matrix} \text{CO-NH} \\ \text{CO-NH} \end{matrix}$ CO	272	C <sub>9</sub> H <sub>5</sub> N <sub>3</sub> O <sub>5</sub> S	15.40; 15.15	12.04; 12.10	15.67	11.97	50
H	C-NO <sub>2</sub>   CH <sub>3</sub>	120	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub> S	8.00	19.10	8.28	18.93	50
NO <sub>2</sub>	CH-NO <sub>2</sub>	63	C <sub>6</sub> H <sub>4</sub> N <sub>2</sub> O <sub>4</sub> S	13.89	15.80	14.00	16.00	50