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PYRIDINETHIONES PREPARATION AND CHEMISTRY OF 1-SUBSTITUTED-2-FORMYL-2(1H)-PYRIDINETHIONES AND -SELONES

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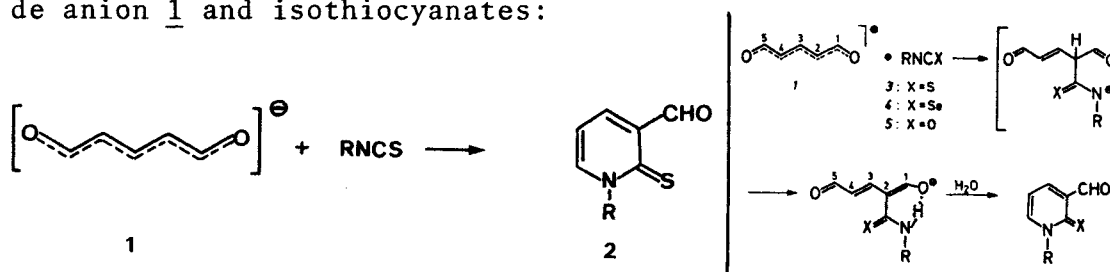
PYRIDINETHIONES

PREPARATION AND CHEMISTRY OF 1-SUBSTITUTED-2-FORMYL-2(1H)-PYRIDINETHIONES AND -SELONES.

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Ring closure reactions of glutacondialdehyde derivatives have been reported. We have reported the synthesis of 1-substituted-3-formyl-2(1H)-pyridinethiones 2 from the glutacondialdehyde anion 1 and isothiocyanates:

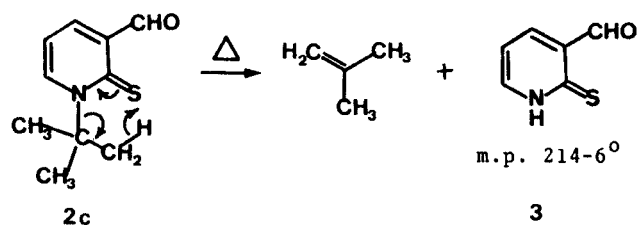


R	yield	m.p.	R	yield	m.p.
<u>2a</u> methyl	58%	126-8 ⁰	<u>2d</u> phenyl	95%	180-2 ⁰
<u>2b</u> cyclohexyl	98%	152-4 ⁰	<u>2e</u> 2',6'-dimethylphenyl	79%	190-2 ⁰
<u>2c</u> <u>tert</u> -butyl	38%	86-7 ⁰	<u>2f</u> 2-naphthyl	94%	195-6 ⁰

Scheme 1

Due to the low solubility of the glutacondialdehyde anion (sodium or potassium salt) in organic solvents of low polarity, the reactions were run in DMF or DMSO. In the aromatic series the exothermic reactions took place at room temperature, whereas an elevated temperature (ca. 80⁰C) was necessary to complete the reactions in the aliphatic series.

Attempts to prepare 3-formyl-2(1H)-pyridinethione, 3, from 1 and reagents such as (SCN)₂ and HSCN were unsuccessful. However, 3 was isolated in quantitative yield by thermolyses (ca. 190⁰C/



latm.) of 2c. Thermal syn-elimination of alkenes from corresponding structural arrangements are well known (e.g. Chugaev reaction).

The poster will discuss the chemistry of 3 and the preparation of a number of related systems.

REFERENCES

- Baumgarten, P., Ber. 57 1622 (1924).
 Becher, J., Acta Chem. Scand. 26 3627 (1972).
 Becher, J., Haunsø, N. and Pedersen, T., *ibid* 29B 124 (1975).
 Becher, J. and Frandsen, E. G., Tetrahedron Letters, 3347 (1976).
 Becher, J. and Frandsen, E. G., Acta Chem. Scand. 30B 863 (1976).
 Becher, J. and Frandsen, E. G., *ibid* 30B 904 (1976).
 Becher, J. and Frandsen, E. G., Tetrahedron 33 341 (1977).
 Becher, J., Frandsen, E. G., Dreier, C. and Henriksen, L., Acta Chem. Scand. 31B 843 (1977).