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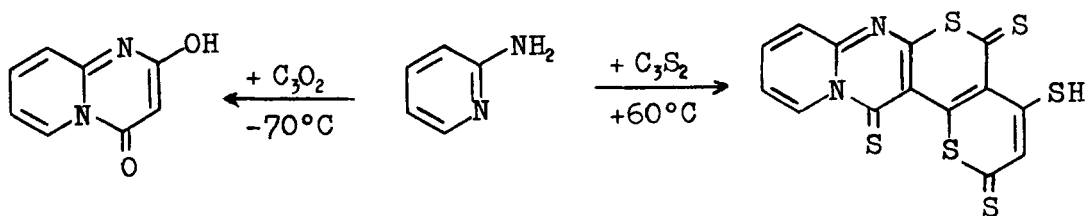
RINGCLOSURE REACTIONS WITH CARBON SUBSULFIDE

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Carbon suboxide has been used frequently in organic synthesis,¹ especially in the synthesis of heterocyclic compounds not obtainable by other routes. Although carbon subsulfide is known for more than 80 years, until recently only a few simple derivatives such as dithiomalonamides were prepared. The reason for this situation arises from the difficulties encountered in the preparation of C_3S_2 . We have recently described a modification of the known preparation procedures, taking advantage of commercially available glassware (Quickfitt).²

We have now started a study in which the behaviour of C_3S_2 as a 1,3-bielectrophile is compared with that of C_3O_2 . From our experiments the following conclusions can be drawn: a) C_3S_2 is less reactive than C_3O_2 . b) Ringclosure reactions with C_3S_2 usually will not stop at the 1:1 adduct, and polythiopyrro compounds are obtained. The reaction with 2-aminopyridine may serve as an example:



Examples with other 1,3-binucleophilic substrates such as amidines, thioamides and enols will be presented.

¹ T. Kappe, E. Ziegler, *Angew.Chem.Int.Ed.Engl.* **13**, 491 (1974).

² W. Stadlbauer, T. Kappe, *Chemiker-Ztg.* **101**, 137 (1977).