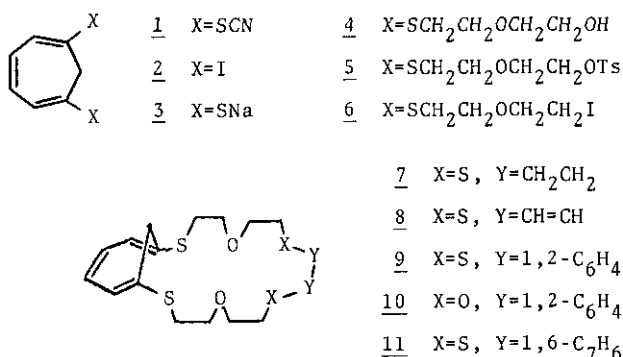


SYNTHESES AND REACTIONS OF BRIDGED HETEROCYCLIC COMPOUNDS

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Several bridged heterocyclic compounds containing sulfur and nitrogen were synthesized from 1,6-dithiocyanato-(1) and 1,6-diiodocycloheptatriene (2).

Dithiolate (3) obtained from the reduction of 1 reacted with diiodomethane, 1,2-dibromoethane, and cis-dichloroethylene to give the corresponding sulfur heterocycles. Polythiaethers of type 7-11 were also synthesized from 6, which was prepared via 4 and 5, and ethanedithiol, dimercaptoethylene, 1,2-benzenedithiol, 1,2-benzenediol, and 1,6-dimercaptocycloheptatriene. These medium and large membered thioethers are the first example of thiacrowns having cycloheptatriene moiety in their skeleton.



Other bridged heterocycles such as 12, 13 and 14 were synthesized from the diiodide (2).



Diels-Alder reactions of some of these bridged heterocycles with maleic anhydride or N-phenyl-1,2,4-triazoline-3,5-dione gave the corresponding 1:1 adduct, and the reactivity in the cycloaddition is briefly discussed.