STUDIES IN ALICYCLIC SYSTEMS

ABSTRACTS OF PAPERS PRESENTED AT DIFFERENT SCIENCE CONGRESSES

BY THE AUTHOR

sulphonamide bases when the corresponding 4,6-dimethyl-5-(arylazo/N-substituted *p*-sulphamylbenzeneazo)pyrimidine-2-thiols were obtained. The structures were confirmed by elemental analysis, IR and NMR spectral data. These showed considerable in vitro activity against *S. aureus*, *E. coli* and *P. pyocyanea*.

Org. 4. Synthesis of 2-Alkyl-3-Substituted Indoles as Potential Biodynamic Agents.

ANIL K. SEN GUPTA, (Miss) NEERA SRIVASTAVA
and ANURAG AJEET GUPTA, Lucknow

Ethyl-2-alkylindole-acetates were treated with hydrazine hydrate to furnish 2-alkylindolacetyl hydrazides. These on condensation with carbonyl compounds furnish 2-alkyl-3N[N-1-methyl-1-phenyl)imino]-acetamidoindoles. On the other hand the cyclisation of 2-alkyl inolacetyl-hydrazides with CS_2/KOH gave 3-(2-mercapto-5-oxadiazolyl)methyl-2-indole. The "Mannich Reaction" of 3-(2-mercapto-5-oxadiazolyl) methyl-2-indole with different aromatic amines furnished 3[2-Thiozo-3(2-aryl)amino methyl-5-oxadiozolyl]-methyl-2-alkyl indoles. The compounds have been found to be non-toxic psychotropic agents. Some of them are antibacterial agents against *Staphylococcus aureus* and *Bacillas subtilis*.

Org. 5. A New Synthesis of Phenothiazines:

G. S. S. MURTHI, A. MAJUMDER and (Mrs.) M. MURTHI, Darjeeling

Phenothiazine and its 3-methyl, 3-chloro and 3-nitro derivatives have been prepared by a new method which consists in the condensation of aniline, p-toluidine, *p*-chloro aniline and *p*-nitro aniline with cyclohexanone followed by heating the resultant Schiff base with sulphur at 250 – 260° for six to eight hours. The compounds have been identified by comparison with authentic samples.

171. Synthetic Approach Towards 1-Oxo-Tetrahydro-β-Carboline.

(Mrs.) Asima Chatterjee, Uttam Kumar Pandit and Somnath Ghosh, CALCUTTA

The ethanolic extract of the root bark of *Alstonia venenata* R. Br. (Apocyanaceae) has afforded a new base-5-methoxy-1-oxo-tetrahydro-β-carboline which is presumed to act as a biogenetic precursor for the yohimbinoid alkaloids. In continuation of our studies on the synthesis of such systems a simple route to the synthesis of the desmethoxy compound has been developed. The latter can serve as an important model experiment for the synthesis of alkaloids having this heterocyclic unit.

Tryptamine (I) was condensed with ethylchloroformate to afford N-[2-(2-carbethoxy-3-indolyl)-ethyl]-urethan (II) in 71% yield along with a minor amount of N-[2-(3-indolyl)-ethyl]-urethan (III). The diester (II) was selectively hydrolysed to yield the monoester (III). The latter was cyclised to 1-oxo-tetrahydro-β-carboline (IV) by Bischler Napieralski reaction. This method has been extended for the synthesis of a few other 1-oxo derivatives.

172. Synthesis of Some Substituted Diazo Phenylthiazoles and Evaluation of their Antifungal and Antibacterial Properties.

Suryamani Behera, BHUBANESWAR

Various Phenols were used for the synthesis of some substituted diazo phenylthiazoles through the preparation of amino phenyl thiazole and subsequent diazotisation. Their fungicidal and bactericidal properties were studied and found to be quite encouraging.

173. Synthesis of 1,2 Bis (p-carboxy)-phenoxy Ethane and 1,4 Bis-(p-carboxy) Phenoxy Butane.

G. S. S. Murthi and (Mrs) M. Murthi, DARJEELING

The title compounds whose aryl esters are likely to find use as liquid crystals have been prepared from 1,2-diphenoxy ethane and 1,4-diphenoxy butane Friedel Crafts acetylation of the phenoxy alkanes

with acetic anhydride using anhydrous aluminium chloride as catalyst gave 1,2 bis-(p-acetyl)-phenoxy ethane and 1,4 bis-(p-acetyl)-phenoxy butane in 80% yields. Oxidation of the diacetyl compounds with either alkaline potassium permanganate or sodium hypobromite yielded the title compounds. The acids have been identified as their ethyl esters by comparison with authentic samples prepared by condensing ethyl p-hydroxy benzoate with 1,2-dibromo ethane and 1,4-dibromo butane.

174. Biologically Active Imidazoles.

Late K. Kishore, LUCKNOW
and
R. C. Gupta, MEDZIPHEMA (Nagaland)

Some new 1-Phenyl (4'-aryl thio semi carbazide) imidazoles have been synthesised to study their pharamacological properties. These compounds have been tested for amoebicidal and fungicidal activity.

175. Synthesis and Carcinogenic Activity of some Substituted Dihydro Benzo acridines and Corresponding B-Homo Analogues.

Jayanta K. Koy. KHARAGPUR

Some substituted cyclohexanones, indanones, tetralones and suberones were converted to their chloroaldehydes by Vielsmayer-Reaction ($POCl_3$-DMF). The resultant products were converted to substituted benzoacridines and related compounds through anil derivatives followed by cyclisation at high temperature. The synthesised acridine derivatives were tested for carcinogenic activity by flurescence technique and a few were found to be good flurochrome.

176. Synthesis for Some 2-Benzoylcoumaran-3-Ones.

A. K. D. Majumdar, K. Kumar, G. C. Saha, T. K. Sinha
and K. D. Banerji. BHAGALPUR

Synthesis of several 2-benzoylcounmaran-3-ones, most of which contain halogen atoms in both the benzenoid rings, have been described following three different routes. All the coumaranones obtained by the three routes have been found to be identical in all respects.

172. Studies in Alicyclic Systems-Synthesis and Reactions of 1,2-Bis-(2' Oxocyclohexyl)-Ethane

G. S. S. Murthi and M. Murthi, Darjeeling

Cyclohexanone has been condensed with 1,2-dibromoethane to yield the hitherto unknown 1, 2-bis (2'oxocyclohexyl)-ethane. The structure has been assigned on the basis of its mass spectrum. The title compound has been converted to a dihydroxy perhydrophenanthrene.

173 Isolation and Synthesis of New Anthraquinone Glycoside from the Pods of Cassia occidentalis.

J. Singh, Allahabad

A new anthraquinone glycoside, $C_{27}H_{30}O_{16}$ was isolated from the ethanolic extract of the pods of Cassia occidentalis pods. The structure of the glycoside has established on the basis of colour reactions, spectral data and chemical reactions. For definite structure proof, the glycoside was synthesised by usual methods.

Anthraquinone 1, 3, 5, 8-tetrahydroxy-2-methyl anthraquinone has been synthesised by condensing 3, 6 dihydroxy phthalic anhydride with 2, 6-dihydroxy toluene in the presence of $AlCl_3$/NaCl followed by bromination and then cyclisation with oleum in presence of boric anhydride.

Glycosidation of aglycone with α-bromorutinose is carried out in presence of silver carbonate and pyridine. The resulting product obtained was deacetylated with NaOMe in methanol to yeild glycoside identical in every respect with natural product.

174 Synthesis of N¹-Isonicotinoyl-3-Methyl-4 (Substituted Arylidene) 2-Pyrazolin-5-ones and evaluation of their Antifungal Activity.

C. P. Singh and Archana Singh, Najibabad

Nine N¹-isonicotinoyl-3-methyl-4 (substituted arylidene)-2-pyrazolin-5-ones have been synthesised with a view to study their antifungal activity. All

226. **Studies in alicyclic systems actions of BF_3-AcOH on 1,2-DI-(2-Oxocyclohexyl)-Ethane.**

G. S. S. Murthi, (Mrs) M. Murthi and A. Majumder
Department of Chemistry
North Bengal University
Darjeeling-734 430

1,2-di-(2-oxocyclohexyl) - ethane was cyclized by born-trifluoride-acetic acid complex to $\Delta^{1\text{-}6}$ bicyclo [4 : 3 : 0] nonan-7-spirocyclohexan-2-one. The structure was assigned on the basis of NMR, Mass and IR Spectra. Cyclization by NaOMe to 6-hydroxy bicyclo—[4 : 3 : 0] nonan-7-Spiro cyclohexane-2 one was attempted without success.

m-cresol in a 5 step sequence. The structure has been confirmed by Mass Spectrum. Attempted Reformatsky reaction with the compound failed.

228. **Alicyclic Compounds Action of Base on 4, 10 α-Epoxy-9-β-Tosyloxymethyl 3-Oxo-Decalin.**

G. S. S. Murthi and (Mrs) M. Murthi

Department of Chemistry
University of North Bengal
Darjeeling 734430

4, 10 α-Epoxy-9-β-tosyloxymethyl-3-oxo-decalin has been prepared in a seven step sequence from ethyl cyclohexanone-2-carboxylate. Treatment of the epoxy keto tosylate with sodiumhydroxide at 0° for three hours gave a neutral compound as a sweet smelling oil. The mass. spectrum indicated the formation of the compound by the elimination of the tosyloxy group. On the basis of ir, Uv & PMR spectra cyclodecadione structure has been proposed.

229. **Synthesis of Condensed Pyrimidines : Reaction of Heterocyclic Amines with Ethoxymethylene Malonate**

A. Nayak

Department of Chemistry, Sambalpur University
Jyoti Vihar, Sambalpur-768019, Orissa

The synthesis of a few new 3-aryl-6-carboethoxythiazolo [3, 2-a] and 2-aryl-6-carboethoxy-1, 3, 4-oxa/thiadiazolo [3,2-a] pyrimidine-5 (H)-ones have been reported by the reactions of aminothiazoles and oxa/thiadiazoles respectively with ethoxymethylenes diethylmalonate. The structures of these compounds have been established by the characterisation of their intermediates as well as the spectral studies.

hydroxycholest-5-en-7-one oxime (iv). The structures of these compounds were established on the basis of Elemental and spectral analysis.

226. Studies in alicyclic systems actions of BF_3-AcOH on 1,2-DI-(2-Oxocyclohexyl)-Ethane.

G. S. S. Murthi, (Mrs) M. Murthi and A. Majumder
Department of Chemistry
North Bengal University
Darjeeling-734 430

1,2-di-(2-oxocyclohexyl) - ethane was cyclized by born-trifluoride-acetic acid complex to Δ^{1-6} bicyclo [4 : 3 : 0] nonan-7-spirocyclohexan-2-one. The structure was assigned on the basis of NMR, Mass and IR Spectra. Cyclization by NaOMe to 6-hydroxy bicyclo—[4 : 3 : 0] nonan-7-Spiro cyclohexane-2 one was attempted without success.

227. "A novel synthesis of w-Bromo-o-aroyloxyacetophenones."

V. G. Thakare & K. N. Wadodkar
Department of Chemistry
Vidarbha Mahavidyalaya
Amravati-444 604

A novel and more convinient method for the synthesis of w-bromo-o-aroyloxyacetophenones involves the bromination with dioxane-Br_2 complex in presence of DMF. Thus eight varidly substituted o-aroyloxyacetophenones (Ia-h) on bromination with Br_2 in dioxane in presence of DMF give