

FACULTY RESEARCH EDITION
of
The Savannah State College Bulletin

Published by

The Savannah State College

Volume 24, No. 2 Savannah, Georgia December, 1970

HOWARD JORDAN, JR., *President*

Editorial Committee

JOAN L. GORDON

WILLIE G. TUCKER

S. M. JULIE MAGGIONI

HANES WALTON

A. J. McLEMORE, *Chairman*

Articles are presented on the authority of their writers, and neither the Editorial Committee nor Savannah State College assumes responsibility for the views expressed by contributors.

TABLE OF CONTENTS

The Structure of Psychology As A Scientific Discipline Charles A. Asbury	5
3100 A Band System of Water Kailash Chandra	11
On the Threshold and Residual Number of <i>Salmonella schottmuelleri</i> in <i>Phormia regina</i> ¹ Joseph L. Knuckles	17
The Boston's Pilot's Editorial Stance on Slavery and Secession: A Study in Decision Joseph M. McCarthy	25
Spectrophotometric Determination of Boron in the Submicrogram Range* Manchery P. Menon	43
Studies in the Reactivity of Certain Aliphatic Polyhalogen Compounds, Part 1* Reactions of Heptachloroethane Kamalakar B. Raut	49
Dimensions of Interest Inventories and Their Implications for Reading Classes Jacquelyn W. Stephens	51
Toward a Theory of Proving One-Party Systems In Africa As Democratic: The Case of Tanu Hanes Walton, Jr.	55

**STUDIES IN THE REACTIVITY OF
CERTAIN ALIPHATIC POLYHALOGEN
COMPOUNDS, PART I***

**Reactions of Heptachloroethane
Kamalakar B. Raut**

In the course of our studies of the reactivity of polyhalogen compounds, we condensed heptachloropropane with various primary aromatic amines in the presence of copper powder. Most of these amines will condense with heptachloropropane at room temperature. In the case of o-Chloroaniline, the reaction seemed to go too far and as a result a tar-like substance is obtained. This usually happens with compounds with a substituent in the ortho position. When these compounds were dissolved in concentrated sulfuric acid, very brilliant colored solutions were obtained.

Experimental

Heptachloropropane (0.01 mole) was condensed with 0.7 moles of various primary aromatic amines in the presence of copper powder. The same substances were also condensed without copper powder.

The condensation products were washed with 7% sulfuric acid and crystallized from absolute alcohol. The following table gives the summary of results:

Amines Condensed	Catalyst	Reaction Time	Temperature	M.P. of the Product
Amiline	copper powder	20 minutes	100° C	120-123° C
	none	30 minutes	100° C	125° C
	copper powder	10 minutes	room temp.	Decomb. 130° C
p-phenetidene	none	45 minutes	room temp. 1	150° C
	copper powder	45 minutes	room temp.	160° C
	none	60 minutes	room temp.	190° C
	copper powder	30 minutes	100° C	175° C
	none	30 minutes	100° C	150° C
	none	30 minutes	100° C	200° C
p-phenelenediamine	copper powder	30 minutes	100° C	125° C
p-phenelenediamine	copper powder	30 minutes	100° C	270° C
p-toluidine	none	30 minutes	100° C	270° C
	none	30 minutes	100° C	118° C

The studies on the structure of these compounds will be reported later.

*Presented in part at the Southeastern Sectional Conference of Undergraduate Student Chemist at Clemson University, Clemson, S. C.; April 1970 by Mrs. Sharveen Brown Newbold and Mr. Barry Ellis, senior, chemistry majors.