Anal. Calcd. for $C_{11}H_{11}N_2Br$: Br, 31.84. Found: Br, 31.96.

It was converted by alkali to the corresponding hydroxide, m. p. 129°, identical with the substance described by Reynolds and Robinson,[6] who reported m. p. 130°. This hydroxide is alkaline to litmus in dilute methyl alcohol.

On addition of concentrated hydrobromic acid to the hydroxide in methyl alcohol, it was reconverted to the original bromide and was isolated by precipitation with absolute ether. A mixed melting point of this bromide and that made by addition of allyl bromide to quinazoline gave no depression.

Summary

1. 3-Allyl-4-quinazolone and 3-allyl-3,4-dihydroquinazoline are both easily reduced catalytically with the absorption of two atoms of hydrogen and the formation of the corresponding propyl derivatives. Vasicine and desoxyvasicine, on the other hand, cannot be reduced under similar conditions.
2. Desoxyvasicine and 3-allyl-3,4-dihydroquinazoline are not identical. Their derivatives also have different properties.
3. Dihydrodesoxyvasicine and 3-allyl-1,2,3,4-tetrahydroquinazoline are not identical. Their derivatives have different properties.

URBANA, ILLINOIS RECEIVED NOVEMBER 13, 1934

NOTES

Selenium and Tellurium as Carriers in Bromination of Benzene

BY A. A. O'KELLY

Recently a series of experiments were conducted in which benzene was brominated in the presence of selenium and tellurium as carriers, bromine being present in excess. The method employed was that of Adams and Johnson ["Laboratory Experiments in Organic Chemistry," p. 203] and a comparison of degree of bromination thus obtained was made with that resulting when iron was used. In each case 70.3 g. of benzene was used together with 2 g. of carrier and 80% excess bromine. The reaction mixture was allowed to stand for twelve hours without heat and then slight heating was conducted over a period of seven additional hours in each case. The yields reported are of that fraction of boiling point 154–156°. The yield was checked in each case by duplicate preparations under the same conditions and is based on a theoretically possible 100% bromination of the benzene, either to mono- or di-bromobenzene. Table I gives the results of these experiments.

TABLE I

COMPARISON OF DEGREE OF BROMINATION OF BENZENE IN PRESENCE OF Fe, Se, Te AND Fe–Te MIXTURE

Carrier	Benzene, g.	Monobromobenzene, g.	Yield, %	Dibromobenzene, g.	Yield, %
Fe	70.3	65.6	46.2	10	4.6
Se	70.3	36.0	25.4	7	3.2
Te	70.3	43.5	30.7	15	6.9
Te–Fe	70.3	65.6	46.2	10	4.6

STATE TEACHERS COLLEGE
MURFREESBORO, TENNESSEE
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The Preparation of Certain Nitrogen-Substituted Sulfon-*o*-toluidides

BY GEORGE H. YOUNG

In a previous communication from this Laboratory[1] the preparation of several N-alkyl *p*-toluene sulfonanilides was described. This paper reports the synthesis of still others, none of which, with the exception of the methyl compound, have been recorded previously in the literature. The methyl sulfon-*o*-toluidide was prepared in another manner by Witt and Uermenyi[2] who reported a melting point of 119–120°. Our compound, recrystallized four times from methanol, melted at 87–87.5°, and additional recrystallizations failed to raise the melting point.

Yields varied from 67–98% of the theoretical. All were purified by successive recrystallization from methanol, from which they deposit as colorless, odorless, prismatic plates and blunt needles. The compounds are insoluble in water, sparingly soluble in ether and methanol, and soluble in ethanol, acetic acid, acetone and the higher carbinols. They are stable in air and melt sharply without decomposition.

TABLE I

p-Toluene sulfon-*o*-toluidide	Formula	M. p., °C.	S, analyses, % Calcd.	S, analyses, % Found
N-methyl	$C_{15}H_{17}O_2NS$	87–87.5	11.64	11.31
n-Propyl	$C_{17}H_{21}O_2NS$	72–72.5	10.56	10.69
Isopropyl	$C_{17}H_{21}O_2NS$	92–92.5	10.56	10.61
n-Butyl	$C_{18}H_{23}O_2NS$	82.5–83	10.09	9.82
Isobutyl	$C_{18}H_{23}O_2NS$	106–106.5	10.09	9.95
n-Amyl	$C_{19}H_{25}O_2NS$	80–80.5	9.55	9.49
Isoamyl	$C_{19}H_{25}O_2NS$	95–95.5	9.55	9.70

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(1) Young, THIS JOURNAL, 56, 2167 (1934).

(2) Witt and Uermenyi, *Ber.*, 46, 296–308 (1913).