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# A New Method for the Synthesis of Arylstibonic Compounds

## Preliminary Communication

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In a recent paper Hanby and Waters[1] have shown, that arylarsines are formed in following reaction (in acetone suspension):

$$3\ RN_2Cl + AsCl_3 + 3\ Zn = R_3As + 3\ N_2 + 3\ ZnCl_2 \qquad (1)$$

While working on the preparation of some antimony compounds, I have found a similar procedure advantageous.

By adding antimony trichloride to a diazonium salt solution, a double salt, of the composition $RN_2Cl,SbCl_3$ is formed in nearly quantitative yield.[2] The intention was to decompose this salt under such conditions that:

$$RN_2Cl,SbCl_3 = RSbCl_4 + N_2 \qquad (2)$$

would be the main reaction, but I found, that only compounds with reducing power were catalytically active, and therefore (2) was more or less accompanied by:

$$2\ RN_2Cl,SbCl_3 - 2\ Cl = R_2SbCl_3 + SbCl_3 + 2\ N_2 \qquad (3)$$

and:

$$3\ RN_2Cl,SbCl_3 - 4\ Cl = R_3SbCl_2 + 2\ SbCl_3 + 3\ N_2 \qquad (4)$$

Suspended in dry acetone the double salts are decomposed at 0° C by sodium iodide, iron, ferrous chloride, copper, cuprous chloride etc. Also many organic compounds, for instance formaldehyde, hydroquinone, etc., catalyze the decomposition, but require acetone with 5—10 % water.

With sodium iodide the yield of stibonic acid is as good as or better than by the Scheller reaction[3] and only small amounts of diarylstibonic chloride are formed. With iron (ferrum reductum) as a catalyst, (3) is the main reaction and the diarylstibonic chloride is formed in good yield. The experimental data and discussion of the reaction will be published later.

## REFERENCES

1. Hanby, W. E., and Waters, W. A., *J. Chem. Soc.* (1946) 1029.
2. May, P., *J. Chem. Soc.* **101** (1912) 1037.
3. Scheller, X., Brit. pat., 261026 (1925) (*C. A.* **21** (1927) 3 371).

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