NOTES

6-Methyl-5,8-quinoline Quinone

By W. G. Christiansen and M. A. Dolliver

In the course of an investigation of compounds having antihemorrhagic activity, 6-methyl-5,8-quinoline quinone has been prepared. According to the method of Nolting and Trautmann,[1] 6-methylquinoline was converted to 5-hydroxy-6-methylquinoline. This, in turn, was coupled with diazotized sulfanilic acid, and the product reduced with stannous chloride to the amine which was oxidized to the quinone by means of potassium dichromate as in the method for the preparation of quinoline quinone reported by O. Fischer and E. Renouf.[2]

6-Methyl-5,8-quinoline quinone is obtained as yellow needles, m. p. 167–168° (uncor.), from benzene–petroleum ether mixture. It is readily soluble in dilute hydrochloric acid and gives a positive Craven test[3] for quinones.

Anal. Calcd. for $C_{10}H_7O_2N$: C, 69.4; H, 4.1. Found: C, 69.4; H, 4.2.

Biological tests[4] showed that the compound had low, if any, antihemorrhagic activity.

[1] Nolting and Trautmann, *Ber.*, **23**, 3564 (1890).

[2] O. Fischer and E. Renouf, *ibid.*, **17**, 1642 (1884).

[3] Craven, *J. Chem. Soc,*, 1605 (1931).

[4] Ansbacher, *Proc. Soc. Exp. Biol. Med.*, in press.

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Received April 2, 1941

Electric Moments of the Mercuric Halides in Dioxane. A Correction

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Dielectric constants of solutions of the mercuric halides in 1,4-dioxane were measured a few years ago in this Laboratory. The values reported[1] for the electric moments were, in Debye units, 1.29, 1.06, and 0.58 for the chloride, bromide and iodide, respectively. These values were calculated with the aid of the electronic polarizations, 30.36, 55.30 and 94.28, reported by Bergmann and Engel[2] for the halides in benzene solution. It is now evident that these values of the molar refractions are far too large. They are much greater than the total polarizations of the mercuric halides in the vapor state reported by Braune and Linke.[3] Consistent with these values of the total polarizations are the molar refractions listed by Fajans[4] for mercuric chloride, bromide, and iodide in the vapor state, and for the chloride and bromide in water solution. As the solution values are slightly lower than the refractions in the vapor state, and as the former are needed to calculate the electric moments of the halides in solution, the molar refraction of mercuric iodide in dioxane has been determined. The data obtained are listed in Table I.

Table I

Indices of Refraction, Densities and Molar Refractions of Solutions of Mercuric Iodide in Dioxane at 25°

c_2	n_D	d	MR_{12}	MR_2
0.00000	1.41966	1.0273	21.699	
.01146	1.42539	1.0775	21.933	42.1
.01167	1.42546	1.0785	21.934	41.8
.01201	1.42566	1.0798	21.947	42.3

The average value for the molar refraction of mercuric iodide calculated from the data of Table I is 42.1. This is somewhat lower than the value reported by Fajans for the vapor, 44.76. The electric moments of the mercuric halides have been recalculated from the solute polarizations at infinite dilution previously reported[1] with the aid of the new value for the molar refraction of mercuric iodide and the values reported by Fajans for the chloride and bromide in water solution. The corrected moments are listed in Table II.

Table II

Polarizations, Molar Refractions and Electric Moments at 25°

	P_∞	MR_D	μ
Mercuric chloride	65.0	22.9	1.43
Mercuric bromide	78.6	30.1	1.53
Mercuric iodide	101.4	42.1	1.67

The dielectric constants of the mercuric halides in the vapor state[3] reveal that these molecules are linear. The electric moments of the halides in dioxane listed in Table II indicate a non-linear configuration. This is probably due to the formation of O–Hg dipole–dipole bonds, similar

[1] Curran and Wenzke, This Journal, **57**, 2162 (1935).

[2] Bergmann and Engel, *Z. physik. Chem.*, **13B**, 247 (1931).

[3] Braune and Linke, *ibid.*, **31B**, 12 (1935).

[4] Fajans, *Z. Elektrochem.*, **34**, 517 (1928).