An attempt was made to ascertain whether the exclusion of oxygen would affect the color change and the continuous spectrum. A brisk stream of nitrogen was bubbled through isoamyl bromide for forty-five minutes prior to exposure and the Raman tube was closed by means of a stopcock; no diminution of the intensity of the continuous spectrum or of the color, was found.

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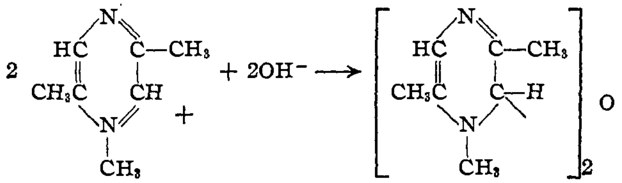
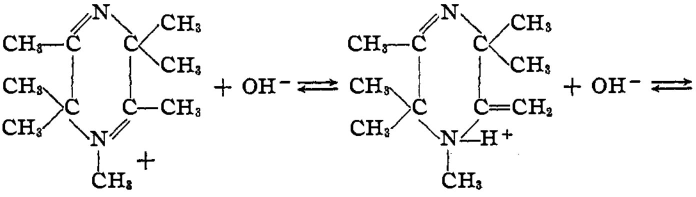
THE BASE FROM 2,5-DIMETHYLPYRAZINE-METHYL IODIDE

Sir:

Recently Princivalle[1] has reported unsuccessful attempts to isolate the base liberated from 2,5-dimethylpyrazine-methyl iodide. In connection with some work on pseudo bases, part of which has already been submitted for publication, the author has studied the action of alkali on this salt. Although the base isolated could not be obtained pure and gave analyses varying from C, 53.2; H, 6.94, to C, 49.5; H, 6.63, a kinetic study of the reaction using a conductimetric method has made it seem probable that the net reaction taking place is



The salts 1,2,2,5,5-pentamethyl-2,5-dihydropyrazinium iodide and 1,2,2,3,5,5,6-heptamethyl-2,5-dihydropyrazinium iodide have also been prepared and their behavior with aqueous alkali studied. From these two salts the bases isolated were, respectively, 1,2,2,5,5-pentamethyl-6-hydroxy-1,2,5,6-tetrahydropyrazine (m. p. 110°) and 1,2,2,3,5,5-hexamethyl-6-methylene-1,2,5,6-tetrahydropyrazine (b. p. (6.5 mm.) 78°). Certain evidence has been obtained to show that the latter base was formed by an enolic change



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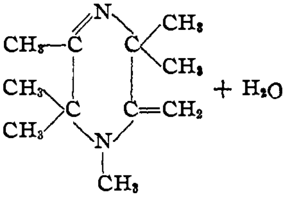
[1] Princivalle, *Gazz. chim. ital.*, 60, 298–301 (1930); *C. A.*, 24, 3792 (1930).



It is believed that the reduced conjugation in the ring is the cause of this reaction, which does not occur in the case of 1,2,5-trimethylpyrazinium iodide. It is to be noted that the same reduced conjugation occurs in 1,2,5-trimethyl-6-keto-1,6-dihydropyrazine-methyl iodide, which by the action of alkali yields 1,2,4-trimethyl-5-methylene-6-keto-1,6,4,5-tetrahydropyrazine.[2]

It seems likely, in view of the above results, that the last compound is yielded by an enolic change similar to that already mentioned and that the reduced conjugation is the important factor in its production.

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PRELIMINARY NOTE RELATING TO STUDIES ON KRYPTON AND XENON

Sir:

A research project having to do with the purification and properties of krypton and xenon has been in progress during the past four years. Some rather novel results have been obtained to which the authors desire to call attention at this time since the work has been interrupted on account of unavoidable delays attendant upon moving into a new building. A more complete report will follow at an early date.

Liquid air residues, mainly oxygen, were treated by cooled charcoal in a manner which concentrated the krypton and xenon considerably. The excess oxygen and other reactive gases were removed by suitable reagents and the remaining inert gases were separated by repeated fractional distillation. Finally about 70 cc. of krypton and 30 cc. of xenon were obtained in a condition of very high purity.

One of the first things investigated was the melting point. Krypton gave an exceedingly sharp melting point at −156.6° with a corresponding vapor pressure of 558 mm. Note a difference of about 12° from the −169° previously accepted as the melting point.

Xenon was harder to deal with in that it failed to give the sharp melting point that had been noted with krypton. Its behavior indicated the possibility of a transition point quite close to the melting point. The

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[2] Gastaldi and Princivalle, *Gazz. chim. ital.*, 59, 791 (1929); Princivalle, *ibid.*, 60, 296, 298 (1930).