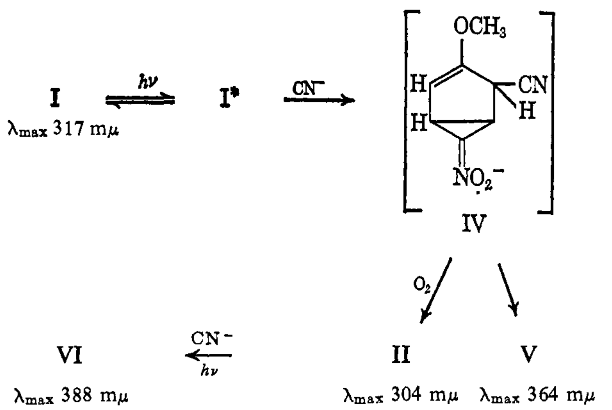
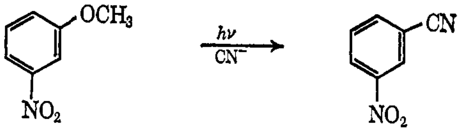


It was found that II as well as I underwent a photoinduced reaction with cyanide ion. Pseudo-first-order kinetics were obtained for both the reaction of II (followed spectrophotometrically by the increase in absorbance at 385 mμ) and the reaction of I (followed spectrophotometrically by the decrease in absorbance at 335.5 mμ, the isosbestic point for conversion of II to VI). Under the same conditions of irradiation (1×10^{-4} *M* nitro compound, 4×10^{-3} *M* CN^-, 25°, Pyrex filter) I reacted 16 times faster than II ($t_{1/2}$ = 50 and 815 sec for I and II, respectively). This factor is sufficiently great that a high conversion of I to II may be realized before II reacts further. Formation of II in these experiments was confirmed by both spectral and chromatographic data. When the irradiation of I was carried out in the absence of oxygen, a maximum developed at 364 mμ and no maximum appeared at 304 mμ, the region in which II absorbs.

With a good departing group *meta* to the nitro group, direct displacement by cyanide may occur. For example, it was found that irradiation of a solution of 100 mg of *m*-nitroanisole and 400 mg of sodium cyanide for 10 min in 20 ml of *t*-butyl alcohol and 450 ml of water afforded 32 mg of *m*-nitrobenzonitrile and 28 mg of unreacted *m*-nitroanisole. Oxygen was not necessary for this reaction.



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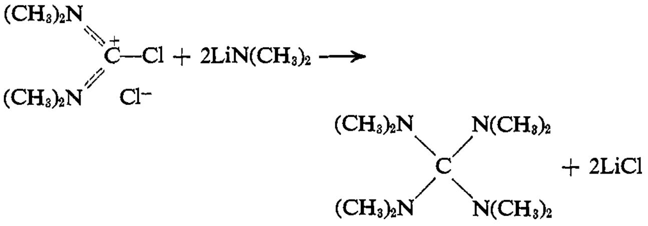
Received April 1, 1966

Preparation of Tetrakis(dimethylamino)methane

Sir:

We wish to report the synthesis and characterization of tetrakis(dimethylamino)methane, the first tetraminomethane described in the literature. Although the silicon,[1] germanium,[2] and tin[3] analogs have been described, there was some doubt as to whether the carbon derivative could exist. The potential guanidinium precursors are generally quite stable and steric crowding of the four dialkylamino groups would tend to destabilize the tetramine (covalent radii for C, 0.77 A; Si, 1.17 A).

The tetrakis(dimethylamino)methane is prepared in 70% yield by allowing tetramethylchloroformamidinium chloride[4] to react with a slurry of lithium dimethylamide in benzene at room temperature for several hours. The tetramine is a readily sublimable, hygroscopic solid, mp 122.5–124.5° (from *n*-pentane). Its structural assignment is based on its origin, molecular weight, nmr spectrum, and elemental analysis. *Anal.* Calcd for $C_9H_{24}N_4$: C, 57.4; H, 12.8; N, 29.8; mol wt, 188. Found: C, 57.4; H, 12.8; N, 29.4; mol wt, 189 ± 3 (cryoscopy in benzene). The nmr spectrum (benzene solvent, TMS internal standard) exhibited a sharp singlet at τ 7.39.



Experiments are in progress to elucidate the chemistry of the tetraminomethanes.

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Received April 18, 1966