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Bis(4-Methyl-2-thiazolyl)guanidines. Preparation and Physicochemical Properties.*

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Our previous studies have shown that 2-thiazolylthioureas are potentially useful chelating agents for spectrophotometric determination of metal ions. During the course of the studies, we found that the pyrolysis of N-methyl-N'-(4-methyl-2-thiazolyl)-S-methylisothiourea afforded N-methyl-N',N"-bis(4-methyl-2-thiazolyl) guanidine (**1**). Similarly the pyrolytic product of N-ethyl-N'-(4-methyl-2-thiazolyl)-S-methylisothiourea was N-ethyl-N',N"-bis(4-methyl-2-thiazolyl) guanidine (**2**). For the identification of the compounds, they were prepared separately by the reaction of N,N'-bis (4-methyl-2-thiazolyl)-S-methylisothiourea with methylamine or ethylamine. Use of other mono- or di-substituted amines in the place of methylamine or ethylamine in the reaction gave N-mono- or N,N-disubstitued analogs of **1** and **2**. This provides a means of facile synthesis of N,N'-bis(2-thiazolyl) guanidines.

Since there are many guanidine derivatives of biological and medical interests, we prepared eighteen bis(4-methyl-2-thiazolyl) guanidines by the reaction. Compounds 1 and 2 were reported previously and other sixteen guanidines have not been described in the literature.

The ultraviolet, infrared, ^{1}H- and ^{13}C-nuclear magnetic resonance and mass spectra of the guanidines were measured and analyzed. The results supported the proposed structures.

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