

including one bond and multiple bond ($J = 10$ Hz) ^1H and ^{13}C correlation experiments (Table 1) combined with comparison of similar data for **1** and **2** allowed unequivocal assignment of structure **3** to diplamine. This structural assignment was confirmed by oxidative demethylation of varamine A (**1**, where $\text{R}=\text{Me}$) with ceric ammonium nitrate,⁷ to obtain a product that was identical in every respect to the natural product.

Diplamine is a member of a growing class of alkaloid pigments reported in the last year from both sponges⁸ and tunicates.⁹ All of these compounds have planar structures and reported cytotoxicity, suggesting they may intercalate into DNA. The varamines and diplamine, which have the same carbon skeleton as the cystodytins, are an order of magnitude more cytotoxic than the cystodytins, indicating that the thio-methyl may also be important in cytotoxicity.

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6. mp. 202-204°C (dec.); IR (neat) ν_{max} 3323, 3066, 2984, 2923, 1651, 1600, 1533 cm^{-1} ; UV λ_{max} 377 nm (ϵ 5,984), 300 (ϵ 14,722), 263 (ϵ 24,874).
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