

C, N-Substituted 1,3-Dioxa-6-azacyclooctanes and 1,3-Dioxa-6-azabicyclo-[3,3,0^{2,6}]octanes

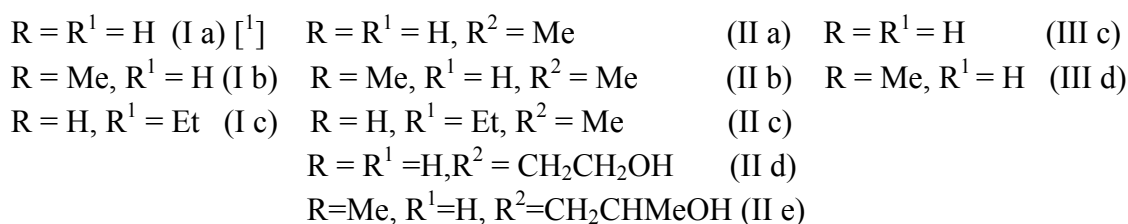
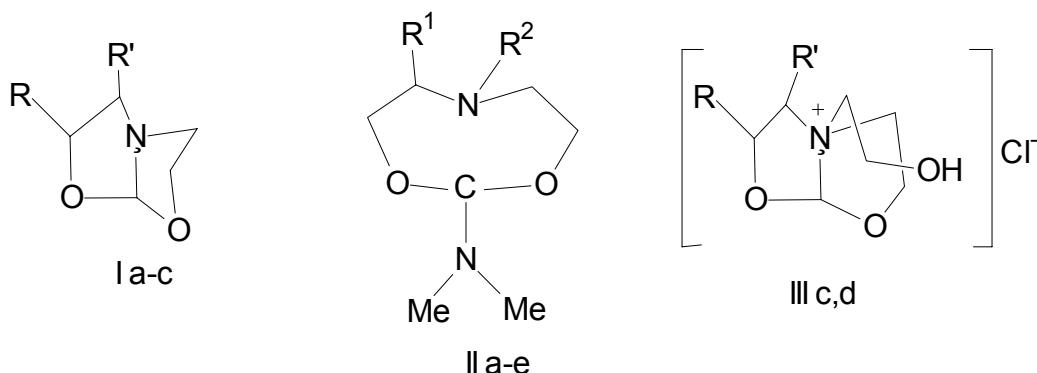
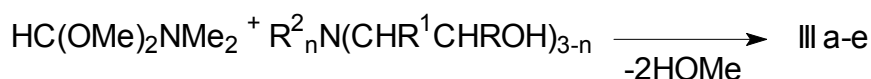
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The reaction of dimethylformamide dimethyl acetal with bis(2-hydroxyalkyl)amines yields 70-96% of 6-organyl-2-dimethylamino-1,3-dioxa-6-azacyclooctanes:



The nitrogen atom in I a, b is easy accessible to attack of CH₃I or ethylene chlorohydrin to give corresponding quaternary salts III a, b or III c, d. However 5-ethyl derivative (I c) forms quaternary ammonium halides much more difficult. Comparison to Si-O bonds in their silicon analogs, 1,3-dioxa-2,6-diorgano-2-silacyclooctanes, C-O bonds in 6-organyl-2-dimethylamino-1,3-dioxa-6-azacyclooctanes (II a-e) in acid or alkaline medium are more easily splitting. Heating of III c, d with hexamethyldisilazane gives appropriate trimethylsilyl ethers. Interaction of III c, d with CuCl leads to complex compounds. The structure of obtained compounds is investigated by a ¹H and ¹³C NMR spectroscopy.

[1] Z. Arnold, M. Kornilov. Collect. Czech. Chem. Commun., 1964, 29, 645.