

[1+1]-Cyclization of 4-(1-Adamantyl)-2,6-diformylphenol with 1,3-Bis(aminoalkyl)adamantanes

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Abstract—Selective [1+1]-cyclization of 4-(1-adamantyl)-2,6-diformylphenol with 1,3-bis(aminoalkyl)-adamantane under high dilution conditions in methanol was used to synthesize a new type of adamantane araliphanes, macrocyclic nitrogen-containing compounds with phenolic and adamantane fragments incorporated in the macroring. The [1+1]-cyclization reaction proceeds unusually to form, along with macrocyclic Schiff bases, methanol addition products at one of the N=CH groups of these compounds. The [1+1]-cyclization pattern is shown to depend on the reaction conditions and the structure of the starting diamine.

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