

Multicomponent Synthesis of 1,3-Bis[(alkylsulfanyl)methyl]-1,3,5-triazinan-2-ones

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Abstract—Previously unknown 5-alkyl-1,3-bis[(alkylsulfanyl)methyl]-1,3,5-triazinan-2-ones have been synthesized by three-component condensation of available *N,N'*-bis[(alkylsulfanyl)methyl]ureas with formaldehyde and primary amines in ethanol in the presence of sodium hydroxide or triethylamine. A one-pot four-component procedure has been proposed for the synthesis of the title compounds via successive thiomethylation of urea with a mixture of formaldehyde and alkanethiol and cycloaminomethylation of intermediate *N,N'*-bis[(alkylsulfanyl)methyl]ureas with formaldehyde and alkylamine.

Keywords: aminomethylation, urea, multicomponent reactions, Mannich reaction, thiol, 1,3,5-triazinan-2-one, thiomethylation

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