

Structure Determination of Diastereoisomeric Thia-Michael Bis-adducts of Methyl (5-Methylidene-4-oxo-cyclopent-2-en-1-yl)acetate with Ethanethiol

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Abstract—Three of the four possible diastereoisomeric thia-Michael addition products of the reaction of methyl (5-methylidene-4-oxo-cyclopent-2-en-1-yl)acetate with ethanethiol have been isolated and characterized. The major diastereoisomer is all-*trans*, while the overall fraction of the minor *cis,trans* and *trans,cis* isomers does not exceed 30%. The diastereoisomer structure has been determined on the basis of characteristic coupling constants of CH protons of the cyclopentane ring in the ¹H NMR spectra.

Keywords: thia-Michael reaction, cyclopentanone, relative configuration, diastereoisomers, vicinal coupling constants.

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