

Synthesis of Macrolides Containing an Azine or Hydrazide Fragment via Successive Tishchenko Disproportionation and [1+1]-Condensation*

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Abstract—Eight potentially useful 15-, 17-, 20-, and 22–25-membered macrolides having an azine or hydrazide fragment were synthesized starting from L-menthol, tetrahydropyran, and 4-methyltetrahydropyran via [1+1]-condensation of hydrazine hydrate and some dicarboxylic dihydrazides with 7-oxooctyl 7-oxooctanoate, 3-methyl-7-oxooctyl 3-methyl-7-oxooctanoate, and (3*R*)-3,7-dimethyl-6-oxooctyl (3*R*)-3,7-dimethyl-6-oxooctanoate obtained by the Tishchenko reaction from 7-oxo-, 3-methyl-7-oxo-, and (3*R*)-3,7-dimethyl-6-oxooctanals, respectively.

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