TRANSFORMATIONS OF DIALKYL 3-OXOPENTANEDIOATE INTO \( \gamma \)-CARBOLINES, PYRAZOLO[4,3-\( d \)] [1,2]DIAZEPINES, AND SOME OTHER HETEROCYCLES

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Dialkyl 3-oxopentanedioate (1) reacts with hydrazines, to form pyrazolones or indoles with \( N,N \)-disubstituted hydrazines. Treatment with DMFDMA afforded dimethylaminomethylidene derivatives, and transformations with nucleophiles were performed according to the enaminones methodology.[1]

In continuation of our studies they were further converted into pyrazolo[4,3-\( c \)] [1,2]diazepines 2, bis(dimethylamino)prop-2-enylidene derivative 3, and alkyl ((4Z)-4-\([3-(2-ethoxy-2-oxoethyl)-5-hydroxy-1-phenyl-1H-pyrazol-4-yl]jimino\)-1-phenyl-5-oxo-4,5-dihydro-1\( H \)-pyrazol-3-yl)acetate (Rubazoic acid derivative) 4. Indoles were also treated with DMFDMA into the corresponding dimethylaminomethylidene derivative, which was consequently transformed into \( \gamma \)-carbolines 5.[2]

![Chemical structures](image)
