

## Synthesis and Structure of Fluorinated DL-phenylalanines and Arylpyruvic Acids

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A modified one-pot procedure for preparation of substituted fluoro-containing DL-phenylalanines from corresponding benzaldehydes via the Erlenmeyer reaction was developed. Azlactones, formed from an aldehyde and acylglycine in the first step, then undergo reduction to the target  $\alpha$ -amino acids without prior isolation. Yields (for known products) are higher than those achieved by conventional multistep procedures, based on Erlenmeyer reaction, and the entire synthesis is far more efficient and convenient. Similarly, aryl- and heteroarylpyruvic acids and their esters were obtained both by the Erlenmeyer method from benzaldehydes (with subsequent acidic hydrolysis of azlactone intermediates) and by reaction of methyl-substituted arenes and heteroarenes with diethyl oxalate. Structures of the products were established by <sup>1</sup>H and <sup>19</sup>F NMR. It was found that, although the enol predominates in all cases, enol- to keto-form ratio was strongly dependent upon the presence of an *ortho*-substituent in Ar and upon its size. The research was sponsored by IPP program, U.S. Department of Energy.

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