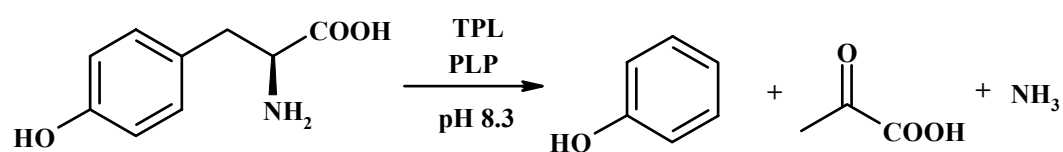


Effects of cyclodextrins on the catalytic activity of tyrosine phenol-lyase

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Tyrosine phenol-lyase (TPL) catalyses reversible decomposition of L-tyrosine to phenol and ammonium pyruvate. The reverse reaction may be applied as an efficient method of the syntheses of L-tyrosine derivatives.



Cyclodextrins are known to complex aromatic compounds, thus the inhibitory effect on the catalytic activity of the above mentioned enzyme may be expected. Moreover, the impact may be observed on the yields of the syntheses of L-tyrosine and its derivatives.

The effect on the activity of tyrosine phenol lyase is supposed to be connected with the formation of host – guest complex.

The kinetic studies were performed using spectrophotometric detection of the oxidation of NADH. The latter is used in the coupled enzymatic system converting pyruvate to lactate with L-lactic dehydrogenase.

α -, β -, and γ -cyclodextrins, and their methyl derivatives were studied regarding their impact on maximal velocity, and on Michaelis constant.