

食品科学

基于主成分分析法研究麦芽蛋白水解度与功能特性的关系

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摘要:

摘要: 采用木瓜蛋白酶对麦芽蛋白进行改性, 研究水解度与功能特性的关系。在分析水解度与各功能特性相关性的基础上, 对功能特性做主成分分析, 并划分为3个主成分因子, 构建出功能特性综合指标 $F=62.769\% \times F1+17.807\% \times F2+11.710\% \times F3$, 建立了功能特性综合指标与水解度(X)的数学模型: $F=-0.0084X^2+0.4548X-5.4881$ 相关系数0.968。结果表明基于主成分分析探讨水解度对功能特性的影响是可行的, 为酶法改性蛋白的研究提供一定参考。

关键词: 改性

Studied on the relation between malt protein's hydrolysis degree and properties by principal component analysis

Abstract:

Abstract: Some properties of malt protein were improved by papain's hydrolysis and the relation between hydrolysis degree and properties were studied. The correlations between hydrolysis degree and properties were analyzed. Principal component analysis was used in malt protein's properties, and the original indexes were separated into three principal component factors. The properties synthesize target was $F=62.769\% \times F1+17.807\% \times F2+11.710\% \times F3$. The model between hydrolysis degree and properties' synthesize target was constructed, $F=-0.0084X^2+0.4548X-5.4881$. Principal component analysis can be used in discussing the effects of degree hydrolysis on malt protein's properties. And the results can offer some references for proteins' modification by enzyme.

Keywords: modification

收稿日期 2009-11-12 修回日期 2009-12-02 网络版发布日期 2010-03-20

DOI:

基金项目:

河南省科技厅科技发展计划项目

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