

# The flavor compounds of yeast extract and the change after heat treatment

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## Outline

1. Introduction
2. Aroma compounds of yeast extracts
3. Changes in flavor precursors after heat treatment of yeast extract
  - Non-volatile substances
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## Abstract

Yeast extracts (YEs) has been widely used in the food seasoning due to their tastes and rich aroma substances. The objective of the research was to study the key aroma-active compounds of YEs and changes in flavor precursors during thermal treatment to provide useful informations for quality control. Four YEs (LA00L, LA00, FA31, and KA02) with different yeasty intensities were analyzed by sensory analysis, gas chromatography-olfactometry (GC-O) and PLSR analysis. After that, the treatment of LA00 at thermal treatments (25, 100, 110, 120, 130, 140 °C) were measured of flavor precursors and aroma-active compounds. The results showed LA00L had the highest scores in sulfurous flavors. FA31 had a floral aroma, which was related to the high content of aromatic compounds. LA00 had octanal and nonanal with grassy and fatty flavors. High acid compounds associated with fermented flavor in LA00 and KA02. Indoles with strong off-odor that provide animal flavor in YEs. There was a positive correlation between umami, salty, kokumi and sweet flavor ( $p < 0.05$ ), and a negative correlation with sour and bitter in LA00. Producing the strongest meaty and green odors at 100 - 110 °C, roast and buttery at 120 °C, and strong sour taste and odor at 130 - 140 °C. Precursors contents decreased significantly as increasing temperature, while aroma-active compounds contents increased. Because KA02 developed strong off-flavor, LA00L and LA00 were chosen to prevent bad odor for use in seasoning. Heating of YEs developed undesirable sulfur and sour odor at 130 - 140 °C, and at 120 °C for 1 h is a suitable condition to develop good flavor.

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