RESOLUTION OIV-OENO 489-2012

DETERMINARTION OF β-D-GLUCOSIDASE ACTIVITY IN ENZYMATIC PREPARATIONS- REVISIONS OF THE MONOGRAPH (OENO 5/2007)

The GENERAL ASSEMBLY,

In view of article 2, paragraph 2 iv of the Agreement of 3 April 2001 establishing the International Organisation of Vine and Wine was founded,

Taking note of the works of the "Specification of Oenological Products" expert group,

CONSIDERING the resolution OENO 5/2007 adopted by the OIV

DECIDES on the proposal of Commission II "Oenology" to modify resolution OIV-Oeno 5-2007 published in the International Oenological Codex according to the following marked modification:

Determination of glycosidase activity in enzymatic preparations

Introduction

Enzymes of the glycosidase type are used to reveal the flavours of wines based on their glycosylated precursors.

Aromatic molecules are partially in the form of heterosides; they are for the main part associated with glucose; the measurement of enzymatic activity sufficient to break this specific bond has been described under "β-D-glycosidase activity". However, this activity is not really functional if the glucose is itself bound to another type of sugar (which is the case for most aromatic precursors). These are essentially apiose, arabinose, rhamnose and yxlose.

In order to measure the true efficiency of an enzymatic preparation so as to obtain the aromatic potential of the grape or wine, the measurement concerning ß-D-glucosidase activity should include the measurement of apiofuranosidase, arabinofuranosidase, ß-D-galactosidase, rhamnosidase, and xylosidase activities.

Determination of glucosidase activity in enzymatic preparations

(activity β-D-glucosidase)

(EC 3.2.1.21 – CAS no. 9001-22-3)

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(OENO 5/2007)

General specifications

These enzymes are usually present among other activities, within an enzymatic complex. Unless otherwise stipulated, the specifications must comply with the resolution OENO 365-2009 concerning the general specifications for enzymatic preparations included in the International Oenological Codex.

1. Origin

Reference is made to paragraph 5 “Source of enzyme and fermentation environment” of the general monograph on Enzymatic preparation

The enzymatic preparations containing these activities are produced by directed fermentations of Aspergillus niger.

2. Scope/Applications

Reference is made to the International Code of Oenological Practices, OENO 16/04 and 17/04.

Enzymes belonging to the glycosidase type are used to reveal and enhance the flavours of wines. This is realized through the hydrolysis of the glycosylated aroma precursors. The enzymes can also be added to the wine before the end of alcoholic fermentation but they will become active only after completion of the alcoholic fermentation

The following points remain unchanged

3. Principle
4. Apparatus
5. Products
6. Solutions
7. Preparation of the standard range of p-nitrophenol (p - Np) from 0 to 50 μg/ml
8. Preparation of the sample
9. Procedure
10. Calculations

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11. Characteristics

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