Amino acids, alcohols and phenolics

Application Note

Food Testing & Agriculture

Authors
Agilent Technologies, Inc.

Introduction
HPLC separation of 11 aromatic amino acids, their corresponding alcohols, and phenolic substances in white wine, using an Agilent Polaris C18 Ether column.
Conditions

Column: Polaris C18-Ether, 5 µm, 250 x 3.0 mm, Part n0.: A2020250X030,

Eluent:
- eluent A: 0.1% trifluoroacetic acid, uvasol in water
- eluent B: acetonitrile (gradient grade)

Gradient:

<table>
<thead>
<tr>
<th>t (min)</th>
<th>eluent A(%)</th>
<th>eluent B(%)</th>
</tr>
</thead>
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<tr>
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<td>0</td>
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<tr>
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<td>35</td>
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<td>64</td>
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<td>100</td>
<td>0</td>
</tr>
<tr>
<td>80</td>
<td>100</td>
<td>0</td>
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</tbody>
</table>

Injector: 20 µL

Flow: 0.5 mL/min

Detector: UV 220 nm

Sample: White wine (Chardonnay)

Sample:
- tyrosin 0.32 g/L, protocatechuic acid 0.21 g/L, phenylalanine 0.42 g/L, tyrosol 0.37 g/L, tryptophan 0.18 g/L, p-cumaric acid 0.20 g/L, 2-phenylethanol 1.51 g/L, ferulic acid 0.22 g/L, tryptophol 0.02 g/L

Courtesy: Nadine Mittag, Thomas J. Simat, Technical University of Dresden, Institute of Food Chemistry, D-01062 Dresden

Peak identification

1. gallic acid
2. tyrosine
3. protocatechic acid
4. phenylalanine
5. tyrosol
6. tryptophan
7. p-cumaric acid
8. 2-phenylethanol
9. ferulic acid
10. tryptophol
11. p-hydroxybenzoic acid ethylester