Comparison of Mushroom Fragrance with MonoTrap®

Protocol

**Sample**
- 2 kinds of Mushrooms produced in different areas
  - 38g/each

**Sampling**
- MonoTrap®; DCC18 5pcs
  - Room temperature, 12 hours

**Solvent Extraction**
- Diethyl ether 1000 μL,
  - Ultrasonication 5 mins
  - Enrich by N₂ purge to a few μL

**GC/MS**

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**GC Condition**

- **System**: SHIMADZU GC-2010, GCMS-QP2010
- **Column**: InertCap Pure-WAX
  - 0.25mmI.D. × 30m df=0.25 μm
- **Column Temp**: 40°C (5min) → 4°C/min → 250°C (5min)
- **Carrier Gas**: He 95kPa
- **Injection**: Split 1:10, 1 μL
  - 250°C
- **Detection**: MS Scan (m/z; 25-450)

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3) MT Extract Cup with Vial
Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.

Mushroom A

Mushroom B

<table>
<thead>
<tr>
<th></th>
<th>Mushroom A</th>
<th>Mushroom B</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Octen-3-ol</td>
<td>2.3%</td>
<td>4.5%</td>
</tr>
<tr>
<td>3-Octanol</td>
<td>1.7%</td>
<td>33.1%</td>
</tr>
<tr>
<td>3-Octanone</td>
<td>1.8%</td>
<td>35.8%</td>
</tr>
<tr>
<td>Dimethyl trisμLfide</td>
<td>1.7%</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Comparison of Fragrances by Area %

Ref) [Food] Fragrance Encyclopedia by Japan Perfumery & Flavoring Association

Fresh mushroom contained more water while the dried one had stronger fragrance. These differences can be observed by GC/MS using MonoTrap®

http://www.gls.co.jp/gc.html