Does automated analysis of open comments from consumers allow us to get relevant results to understand their preference ?
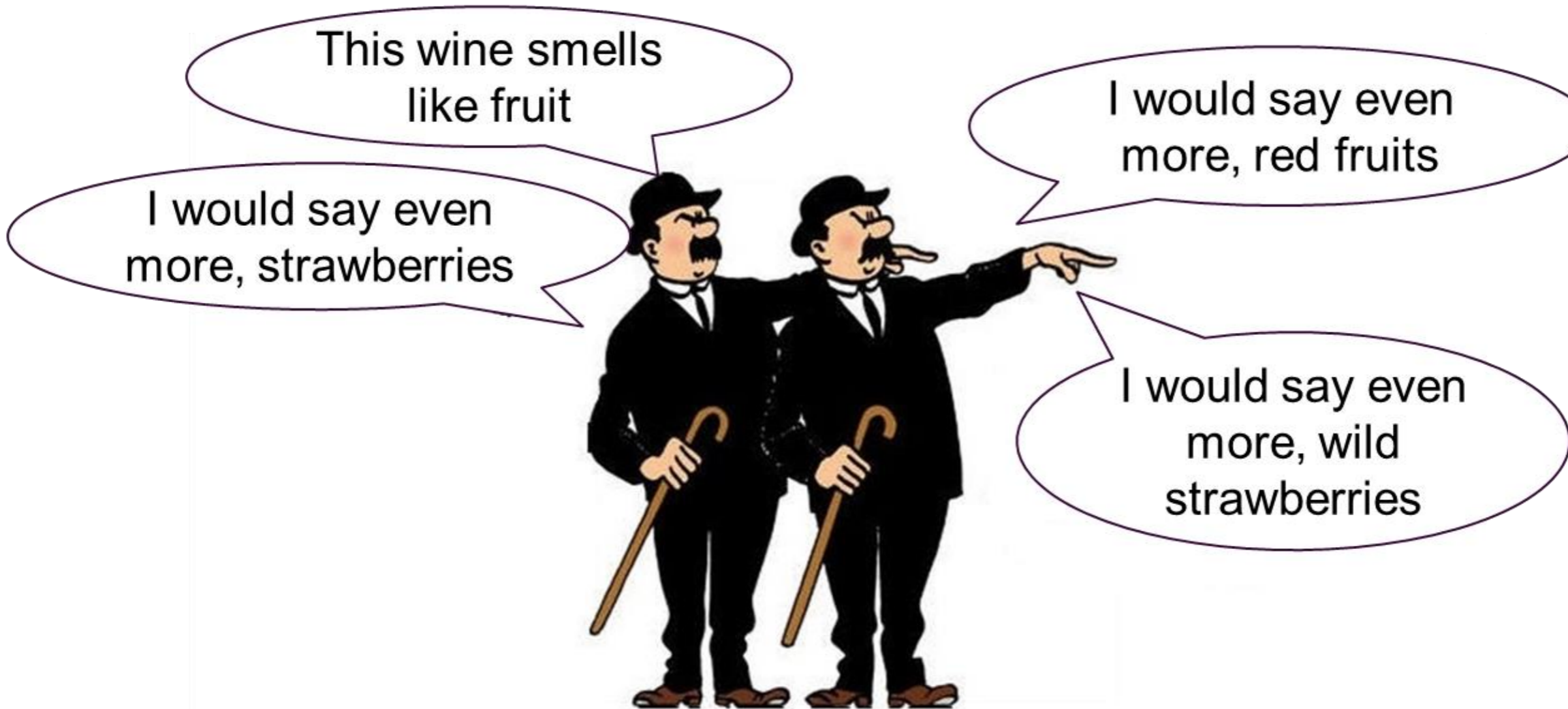
Rebenaque Pierrick, Ghorbel Hatem, Albertetti Fabrizio, Van Gysel Laure, Danthe Eve, Deneulin Pascale

Tweet #Pangborn19

Organised by:

ELSEVIER

1. Introduction-Context

1. Introduction-Context

manual analysis

slight
fruit
spice (few)

Light and digest wine,
fruit and few spice,
medium persistence,
no tannin; to put at the
table with slight dishes.

Long and subjective

word by word analysis

- slight
- digest
- fruit
- **No fruit, medium tannin, few**
- **digest, slight persistence, spicy**
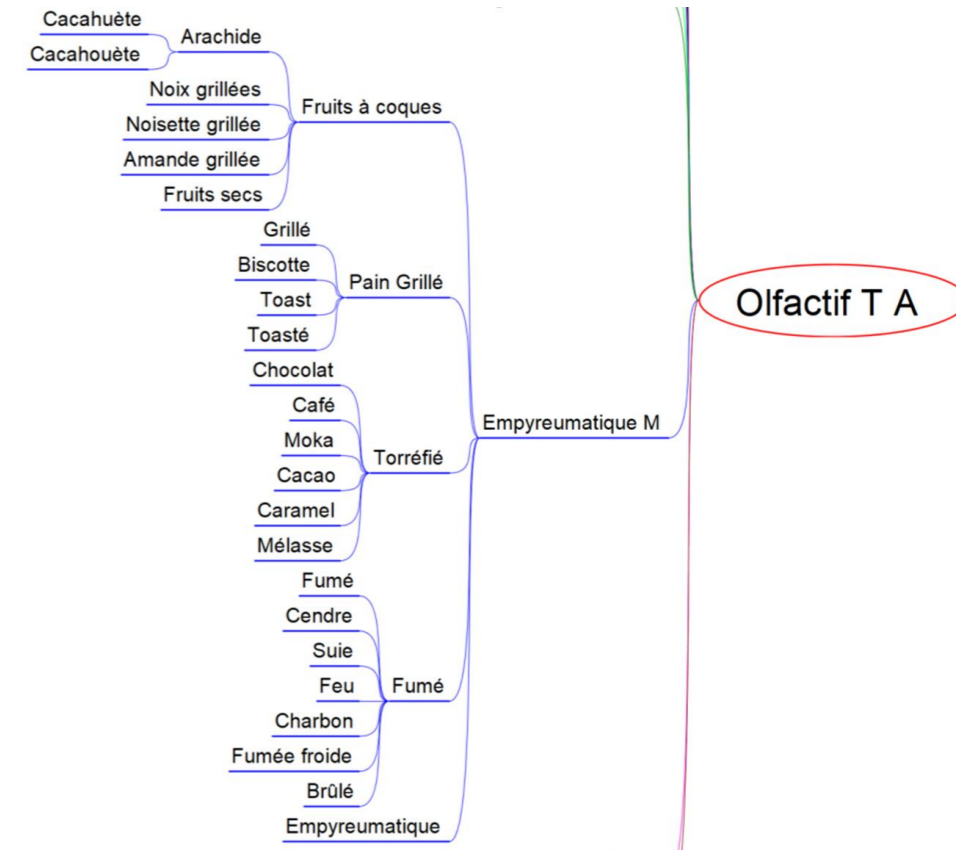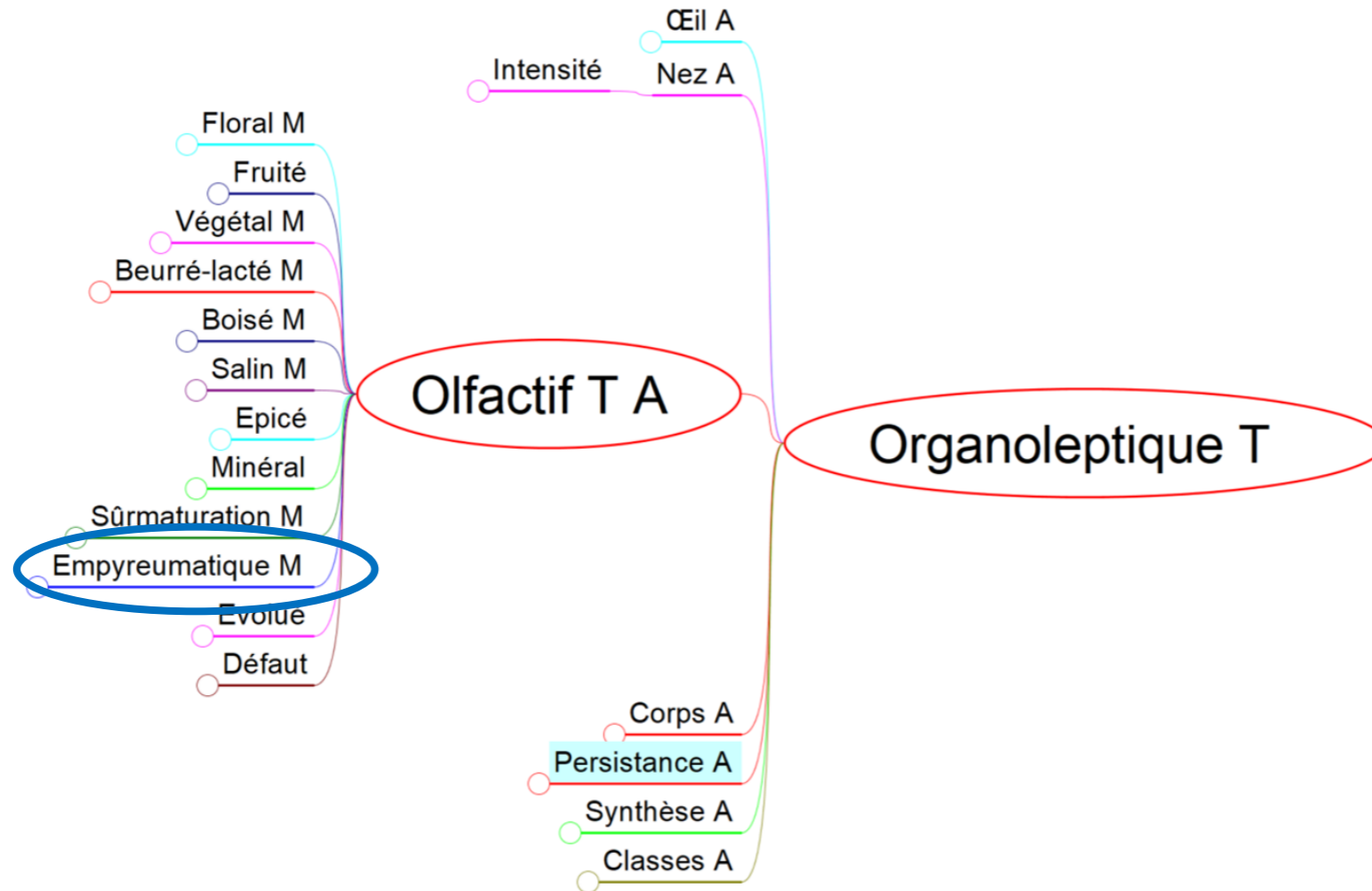- **dish**
- medium
- no
- tannin
-

Not really effective

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ingénierie
www.he-arc.ch
arc

2. Methodology

**1. Creation of sensory ontology of wine**   **2225 terms classified**

2. Methodology

1. Creation of sensory ontology of wine

comment/*commentaire*	word/*mot*	intensity/ intensité	feeling/ *sentiment*
This wine is rather sweet, it has a bit bitter side, but remains pleasant in the mouth.	sweetness/sucrosité	slight/*faible*	
Ce vin est plutôt doux, il a un côté un peu amer, mais qui reste agréable en bouche.	bitterness/*amertume*	slight/*faible*	
	pleasant/*agréable*		positive/*positif*

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2. Methodology

2. Machine learning
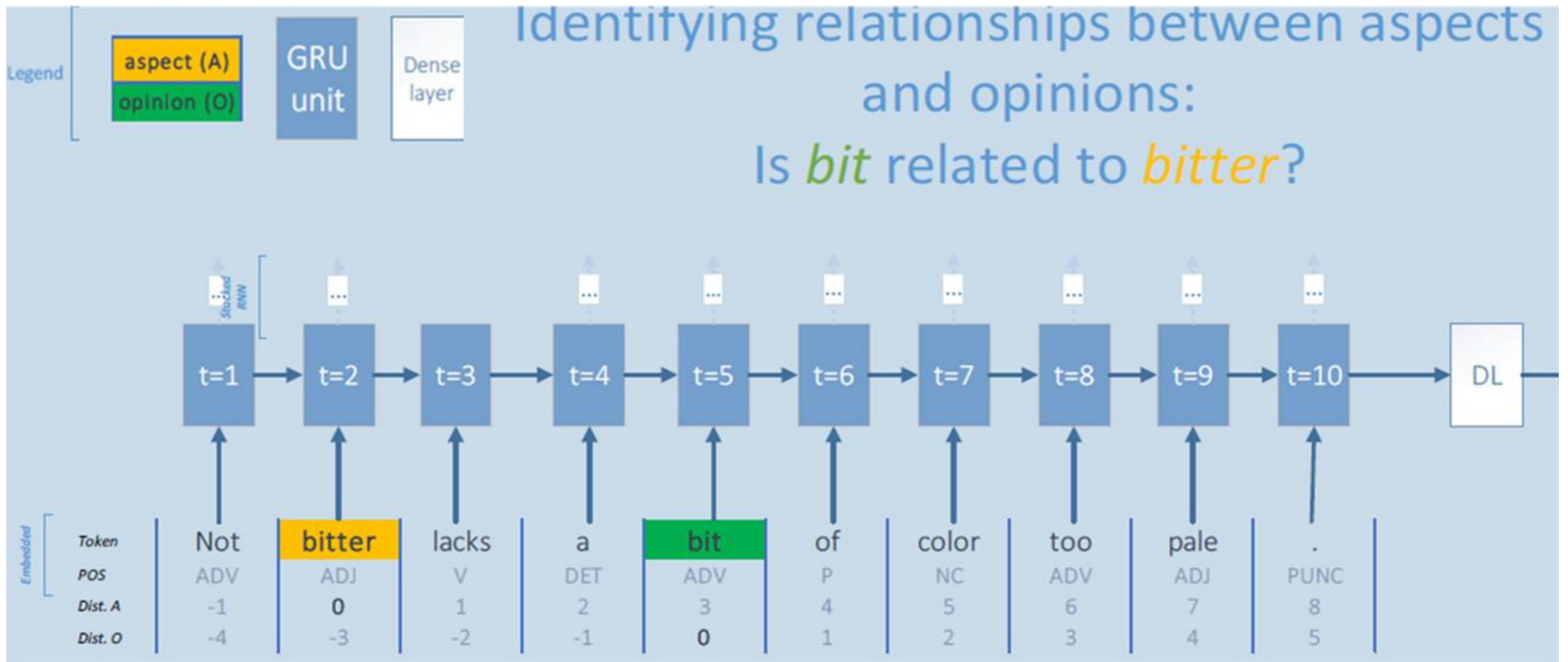
2. Methodology

3. Data set

3 whites wines from different grape varieties: Chasselas, Arvine, Pinot

Liking (score between 1 and 9)

86 open comments in french

Quantitative Descriptive Analysis from expert panel

3. Results

1. Difficult comments – BLENDED WINE

💬 nez acidite , peu ou pas de fruit , bouche acide , arriere-gout de solvant , pas de fruite

nose acidity, little or no fruit, acidic mouth, aftertaste of solvent, no fruity

3. Results

1. Difficult comments – BLENDED WINE

bonne **odeur** , leger **gout** de **mure** , legerement **piquant** sur **la** langue , note **finale** agreable

good smell, slight blackberry taste, slightly prickly on the tongue, pleasant final note

odeur Nez Nez	bonne	0.60	👍 50%
gout Corps Saveur Saveur Saveur	leger	0.25	👍 0%
de	leger	0.25	👍 0%
mure Olfactif T Fruité Fruits rouges		0.60	👍 0%
piquant Corps Alcool	legerement	0.25	👍 0%
la		0.60	👍 0%
finale Persistance Persistance	agreable	0.60	👍 50%

3. Results
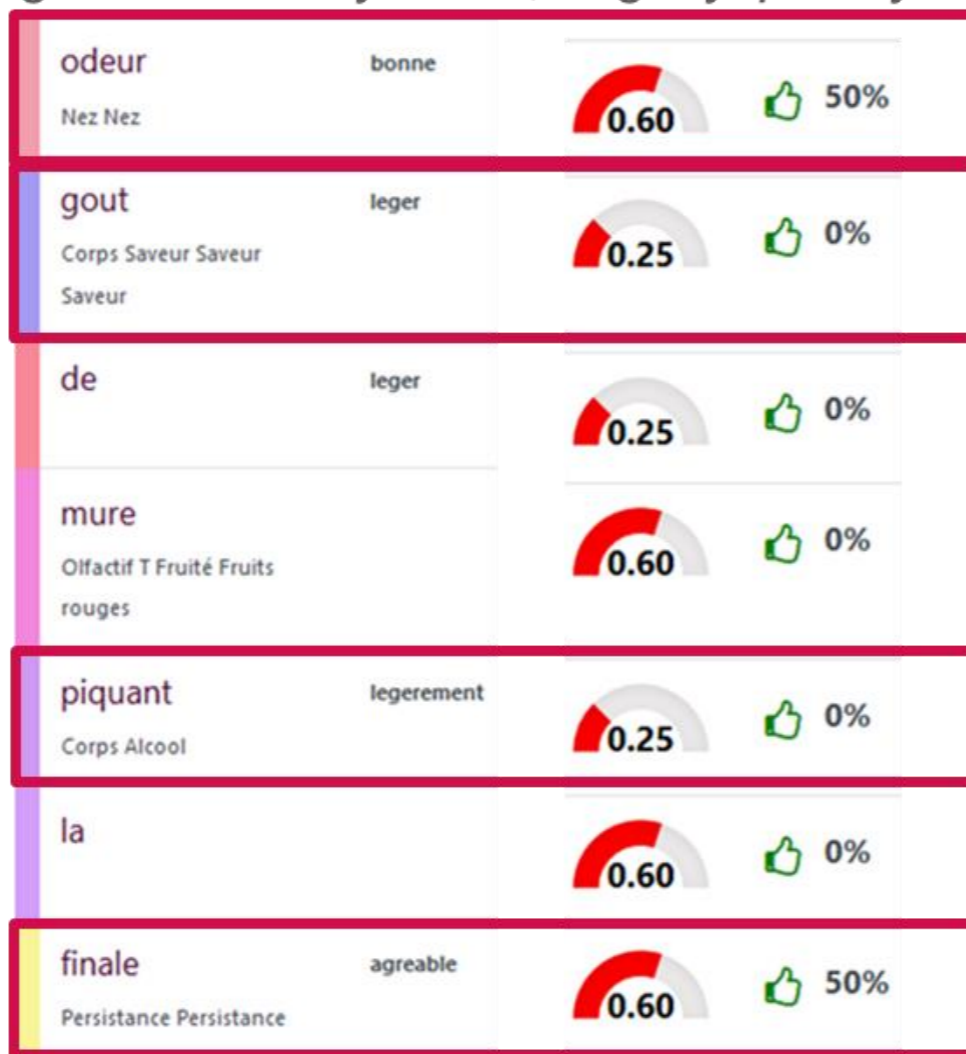
1. Difficult comments – BLENDED WINE

bonne odeur , leger gout de mure , legerement piquant sur la langue , note finale agreable

*good smell, slight blackberry taste, slightly prickly on the tongue, pleasant final note*

odeur	bonne		
Nez Nez		0.60	👍 50%

gout	leger		
Corps Saveur Saveur Saveur		0.25	👍 0%

3. Results

1. Difficult comments – BLENDED WINE

bonne odeur , leger gout de mure , legerement piquant sur la langue , note finale agreable

good smell, slight blackberry taste, slightly prickly on the tongue, pleasant final note

odeur	bonne
Nez Nez	0.60 👍 50%

gout	leger
Corps Saveur Saveur Saveur	0.25 👍 0%

de	leger
	0.25 👍 0%

mure	
Olfactif T Fruité Fruits rouges	0.60 👍 0%

piquant	legerement
Corps Alcool	0.25 👍 0%

la	
	0.60 👍 0%

finale	agreable
Persistance Persistance	0.60 👍 50%

	Wine 1	Wine 2	Wine3
Odeur	1	2	1
Goût	1	1	0
Piquant	1	1	0
...	...	...	...

3. Results

2. Automatic   versus   Manual
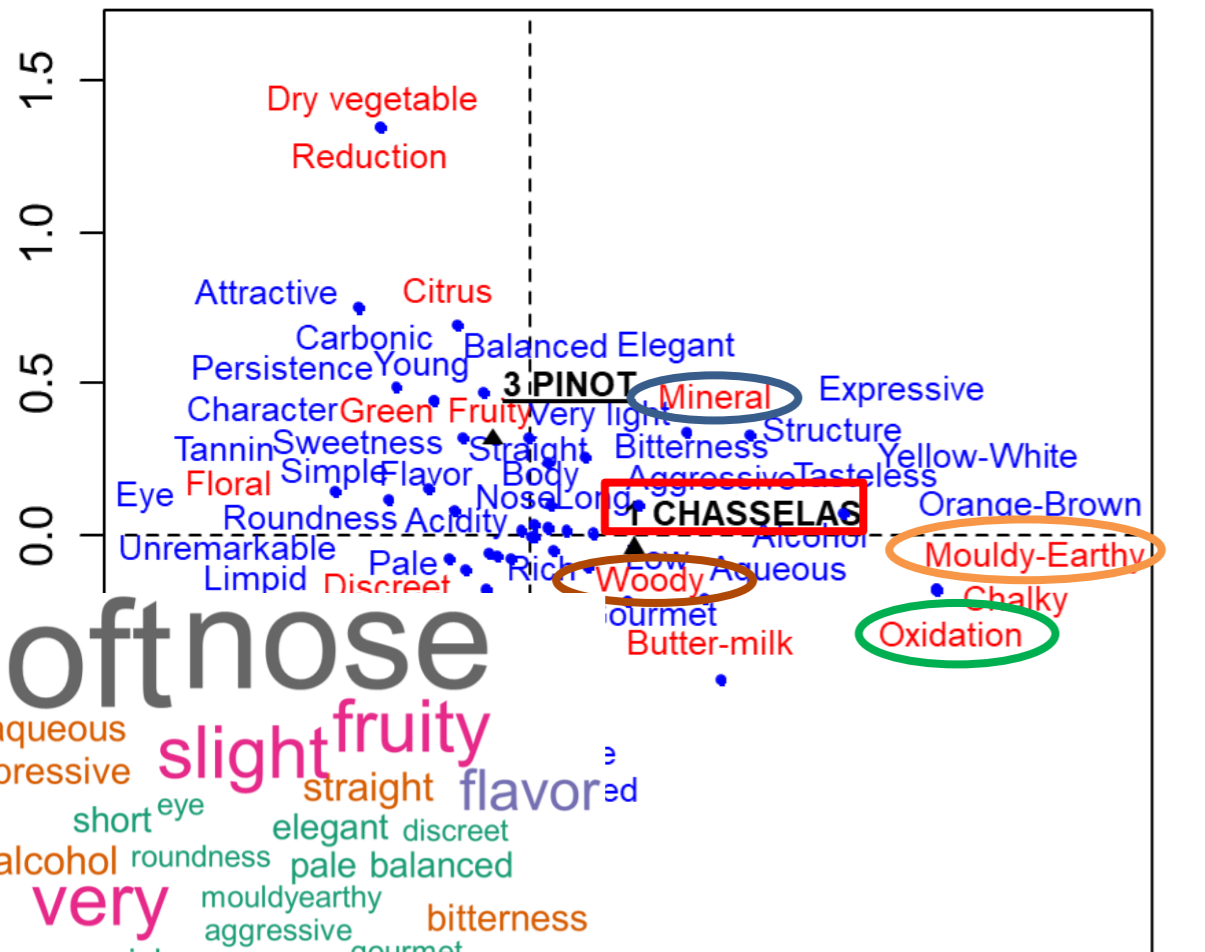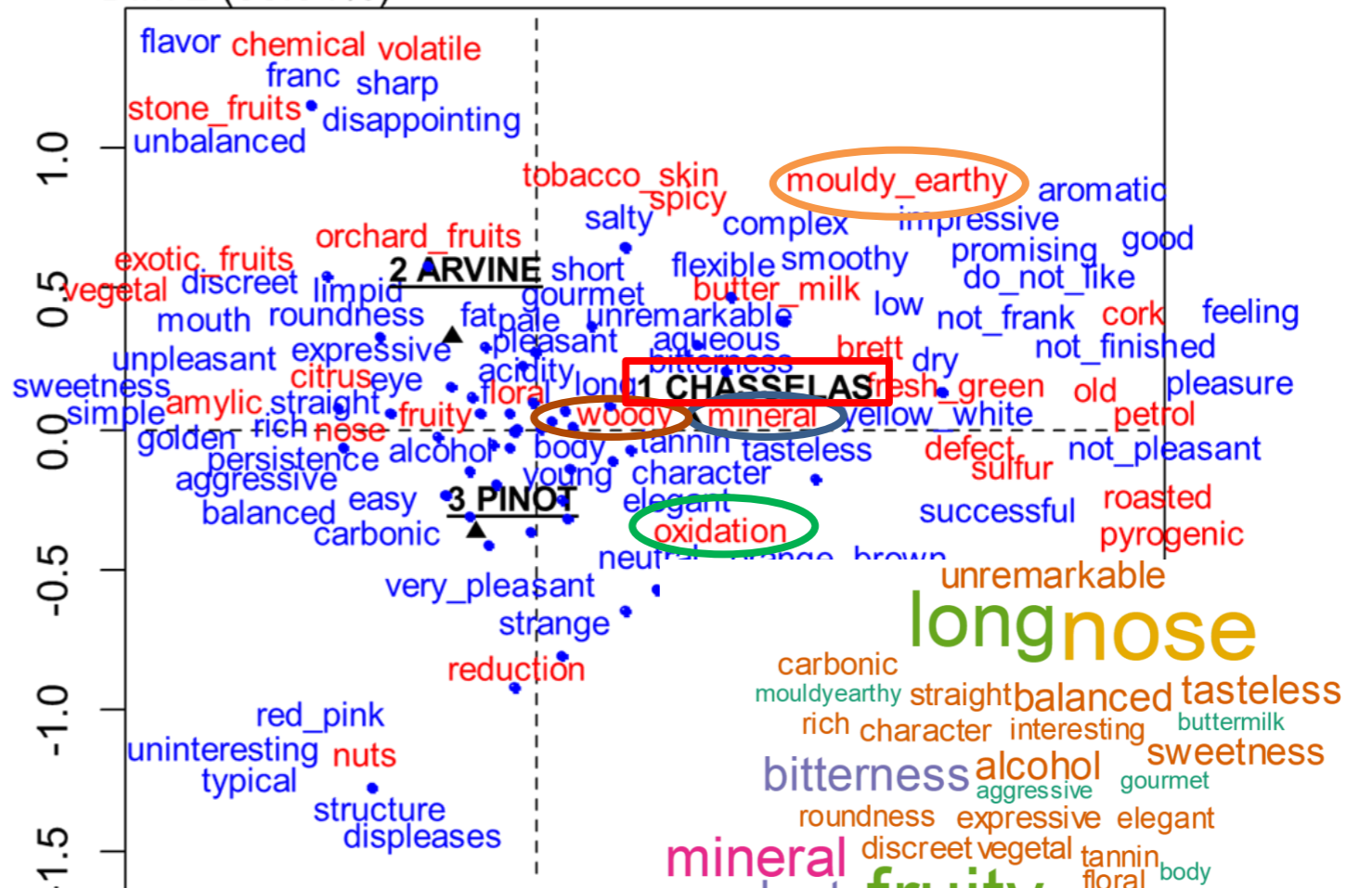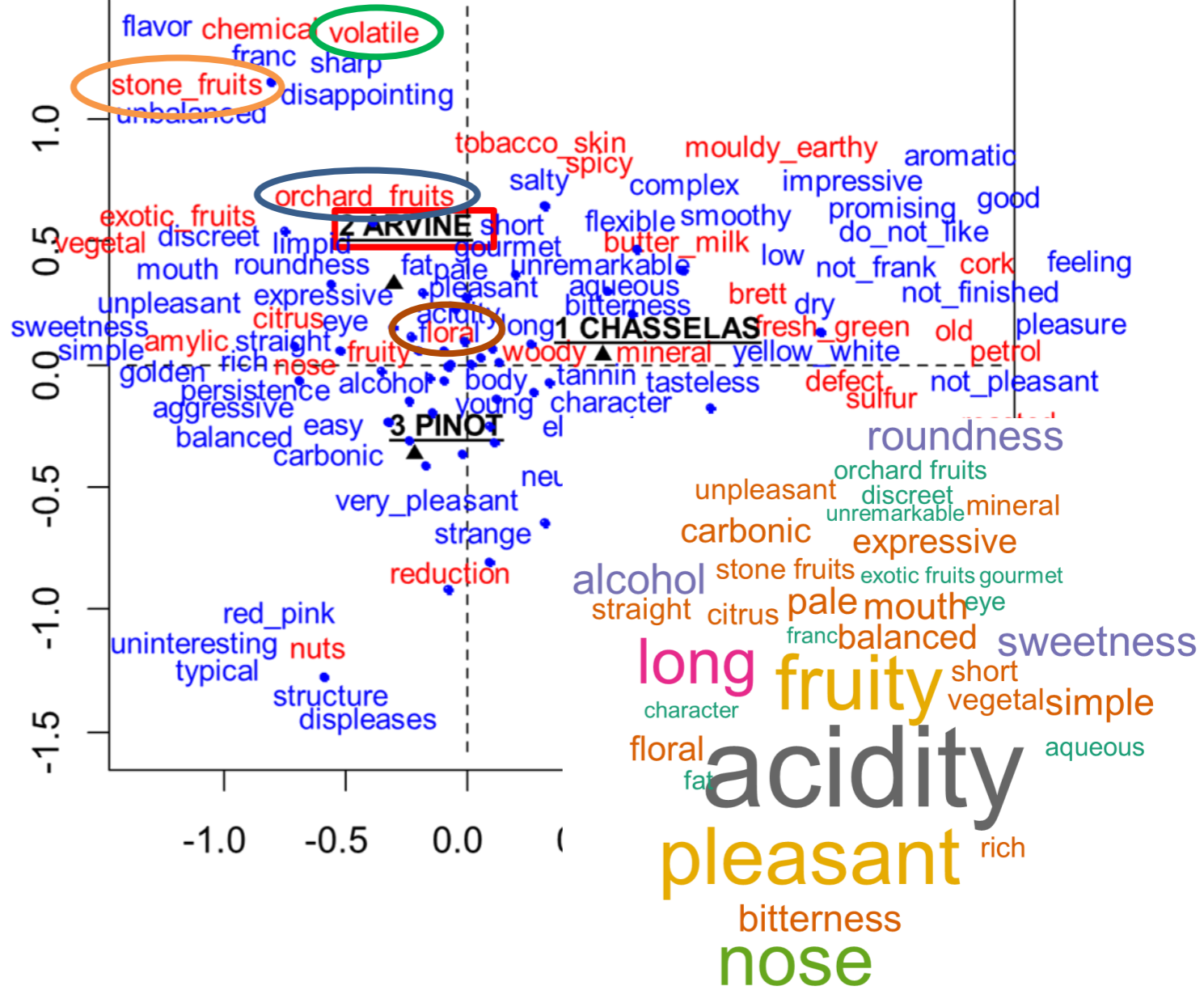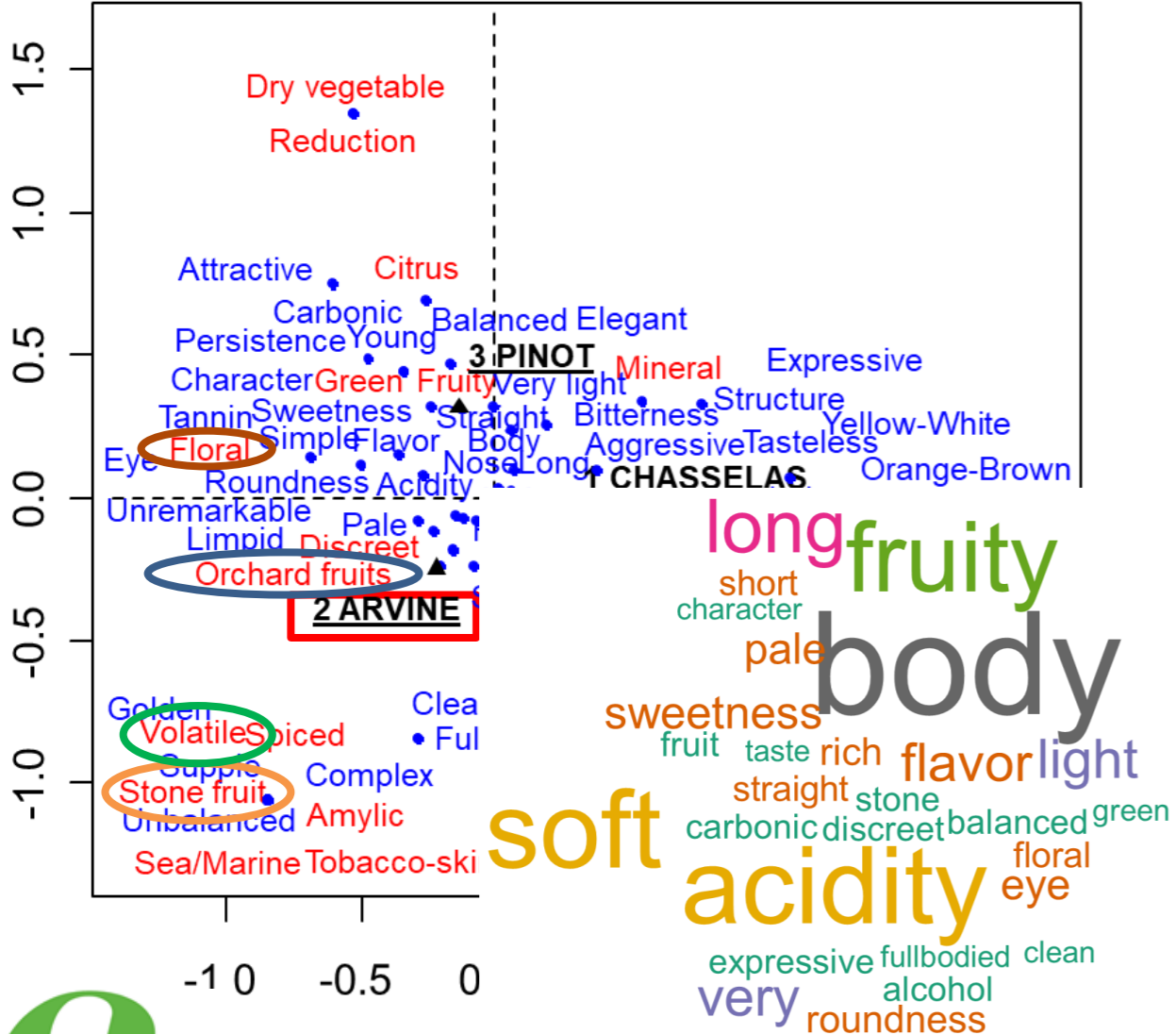
3. Results

2. Automatic   versus   Manual
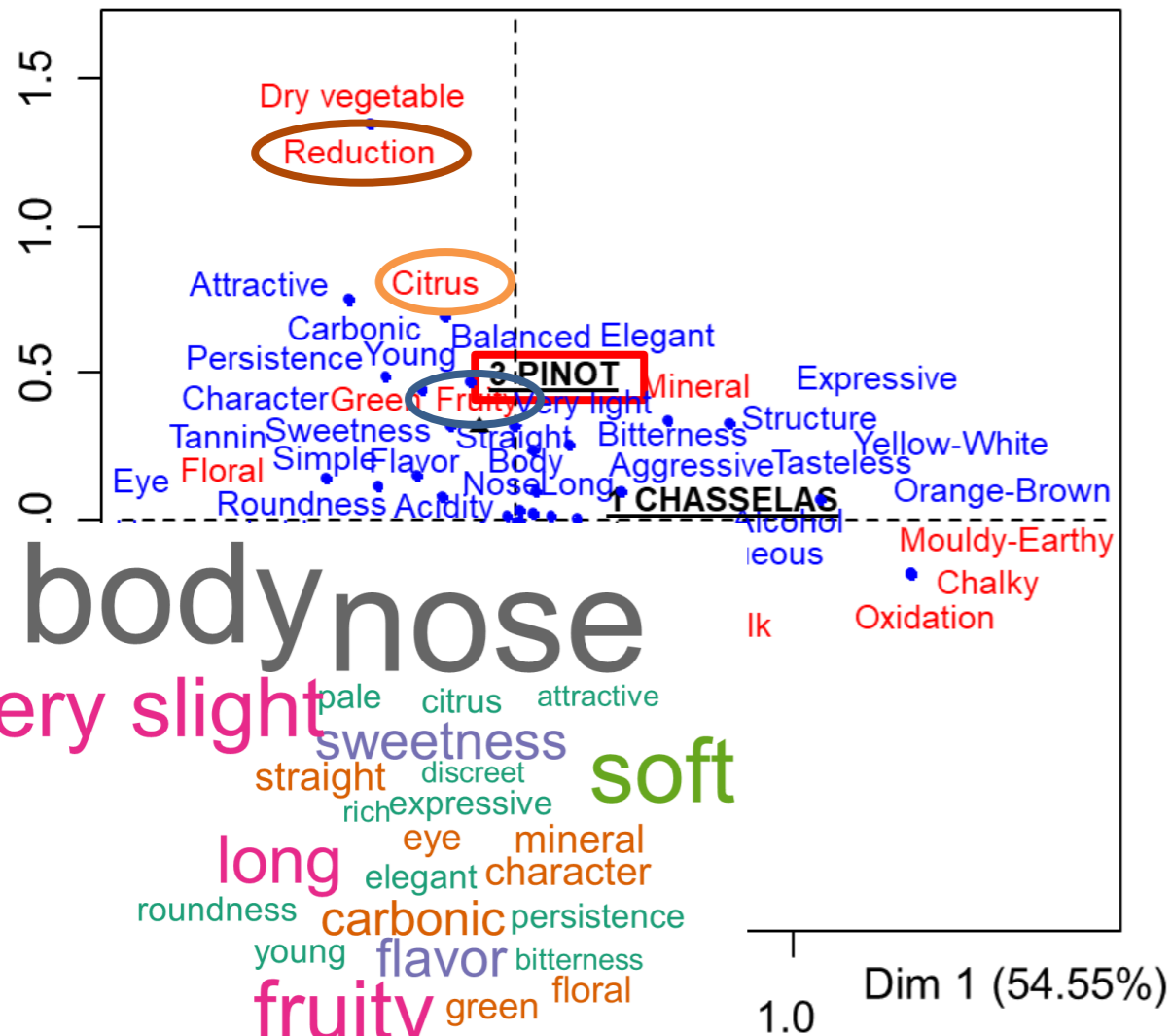
3. Results

2. Automatic versus Manual
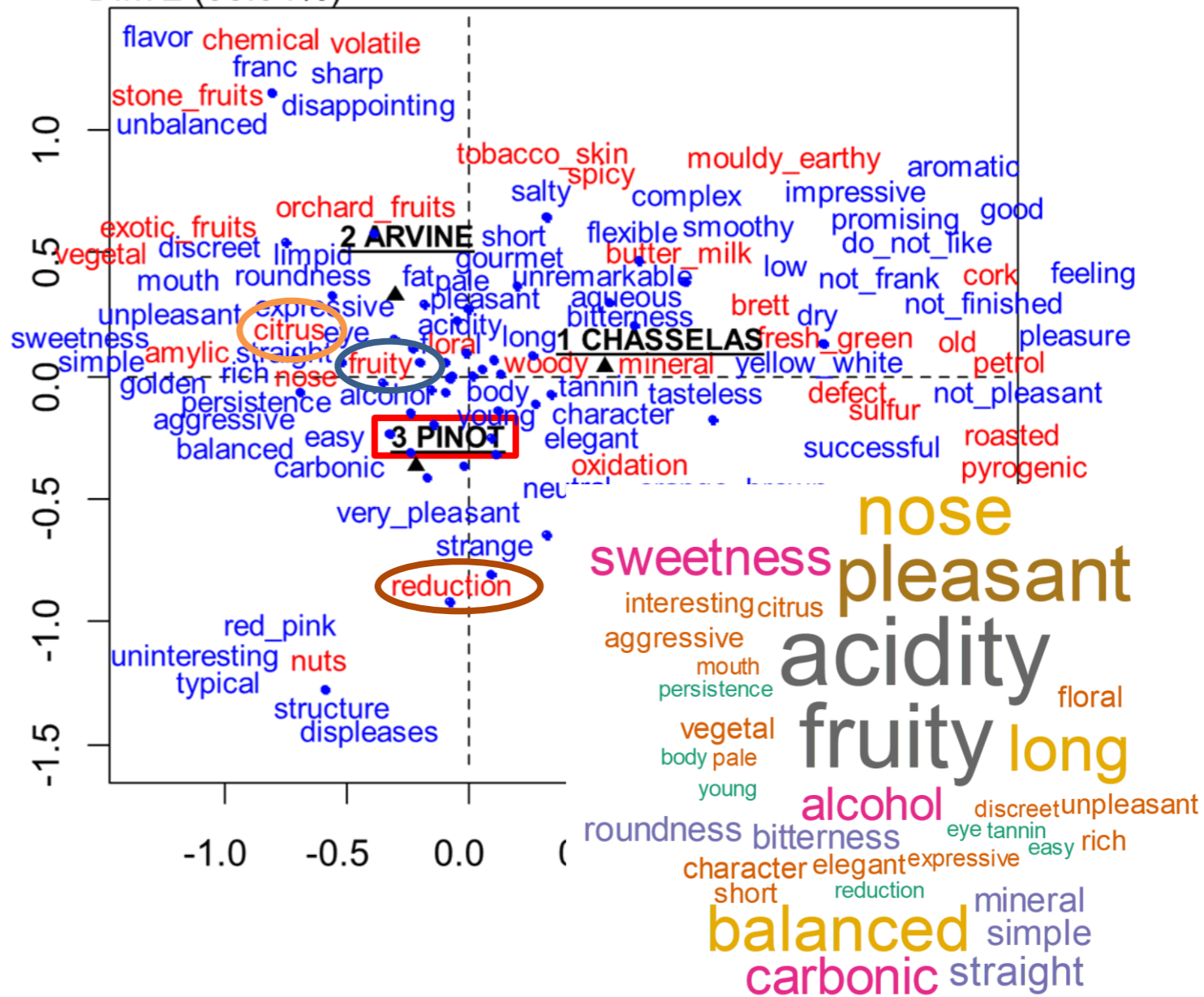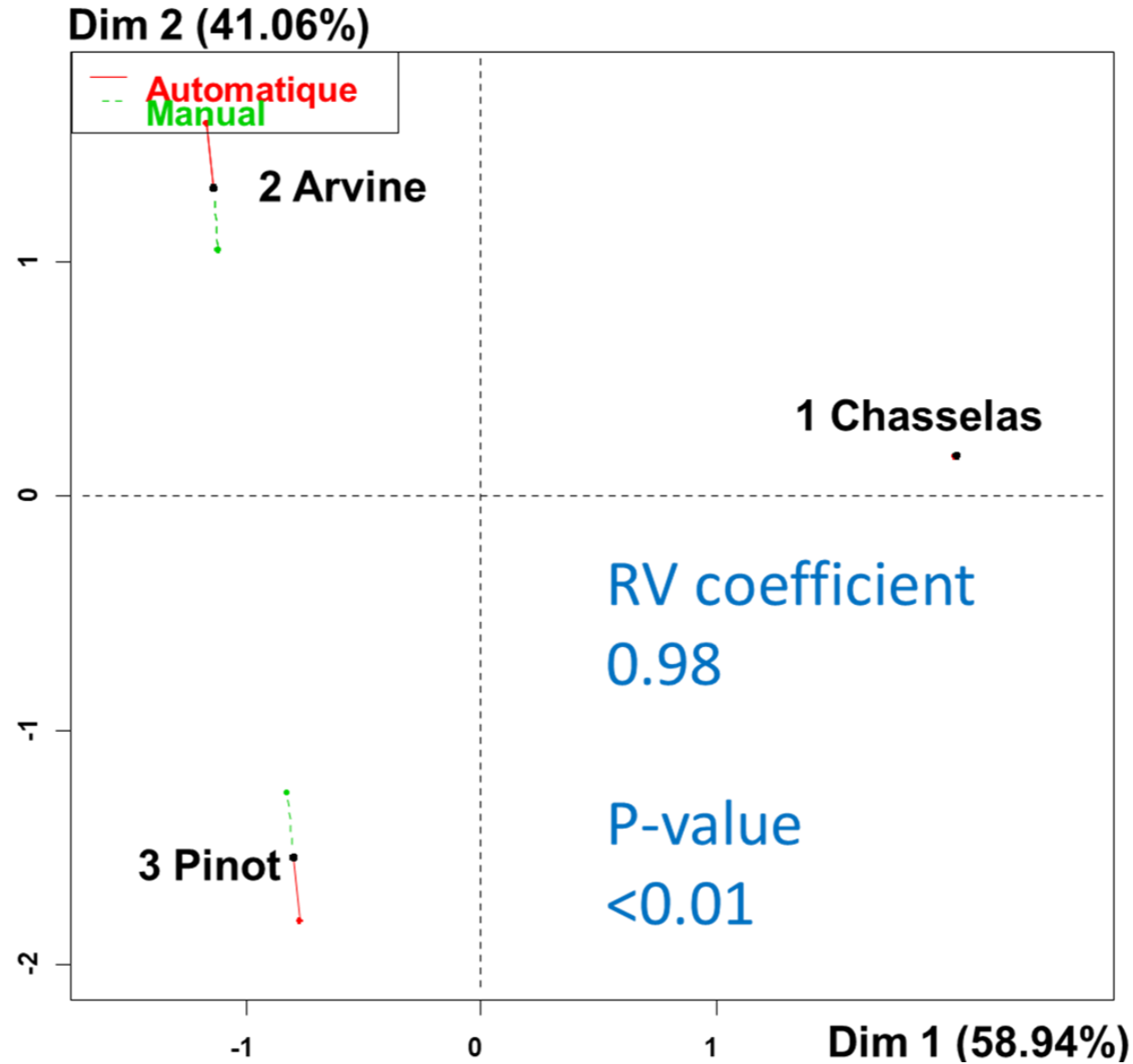
3. Results

2. Automatic versus manual processing – 3 swiss white wines

3. Results

3. Results
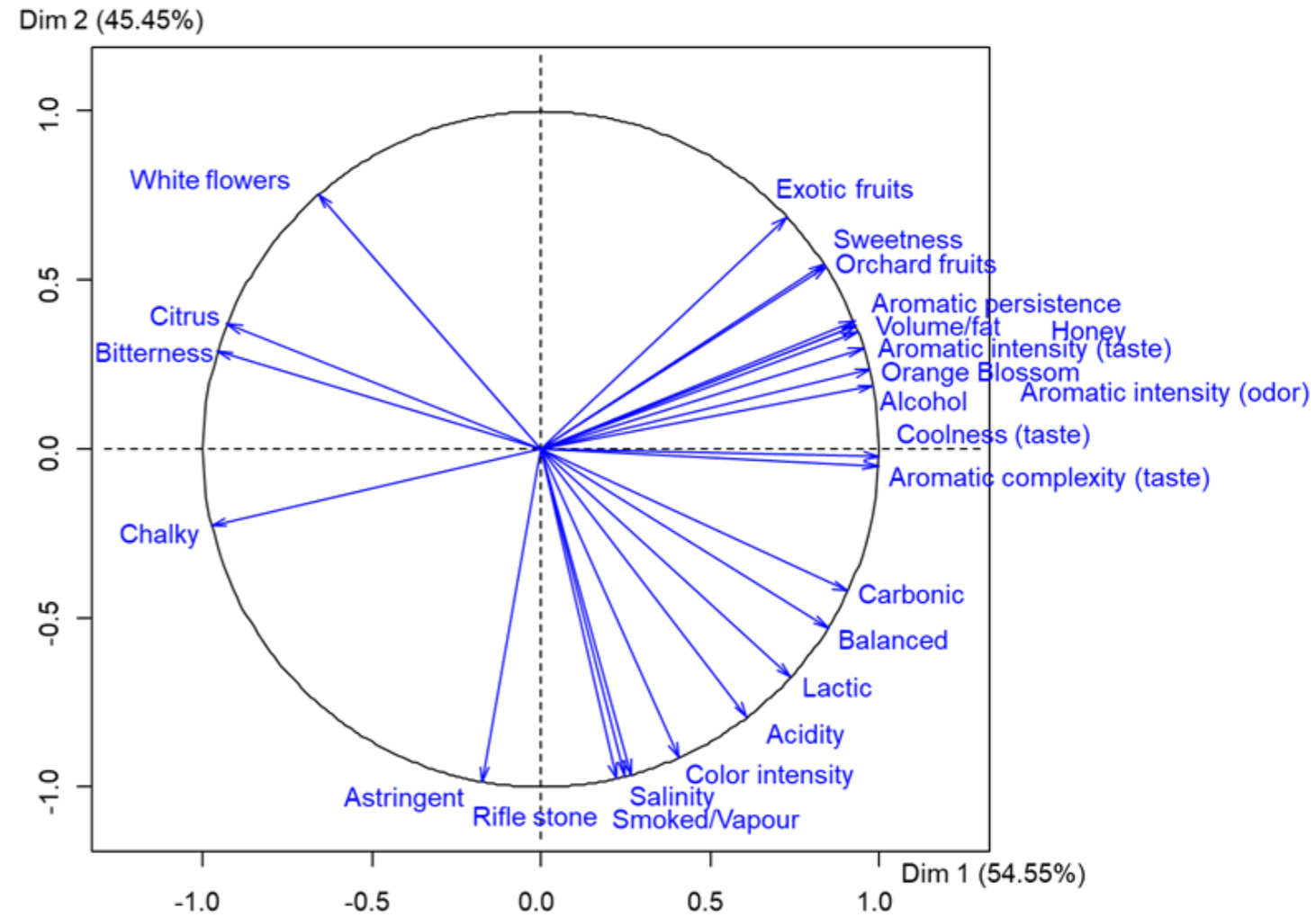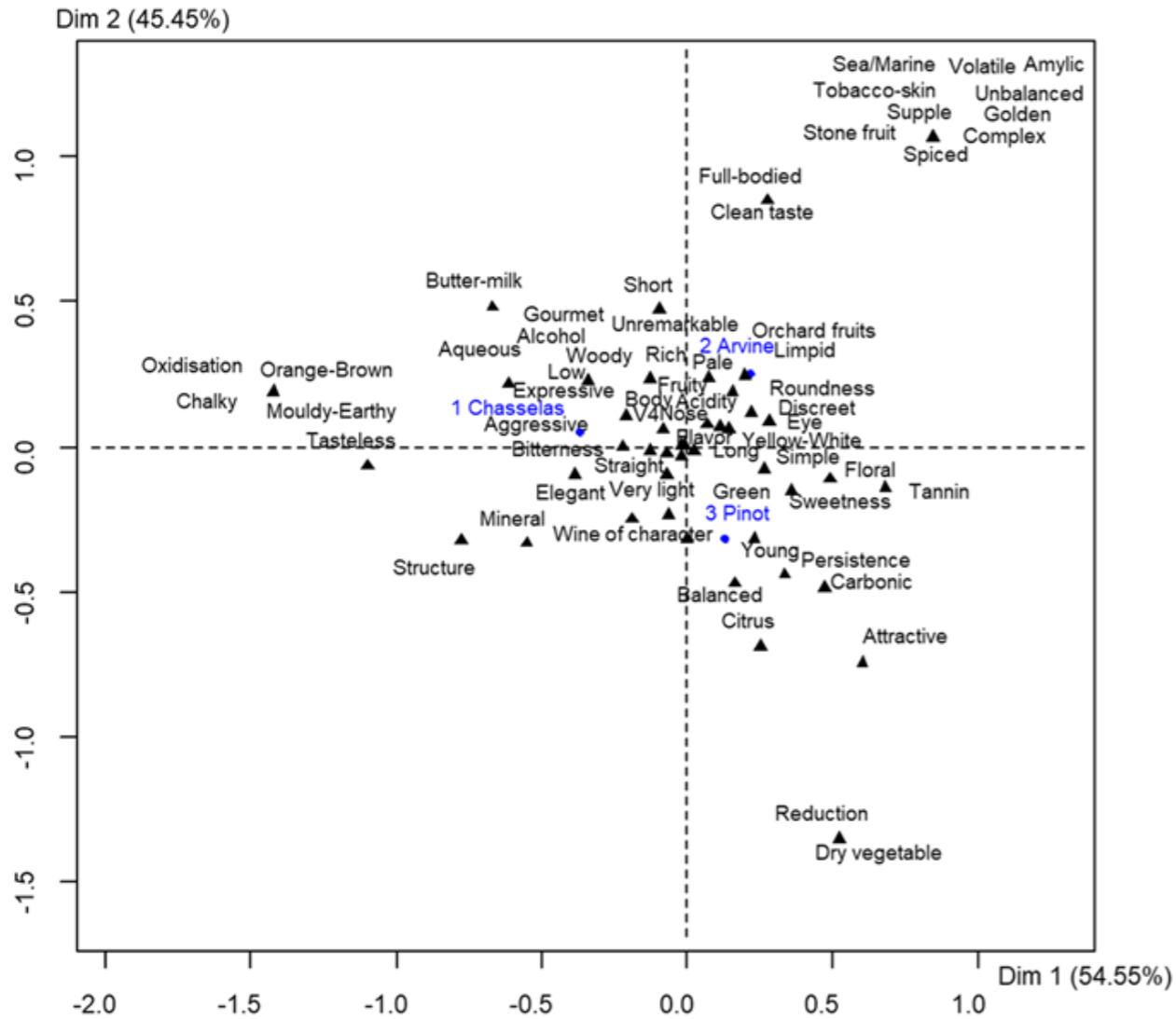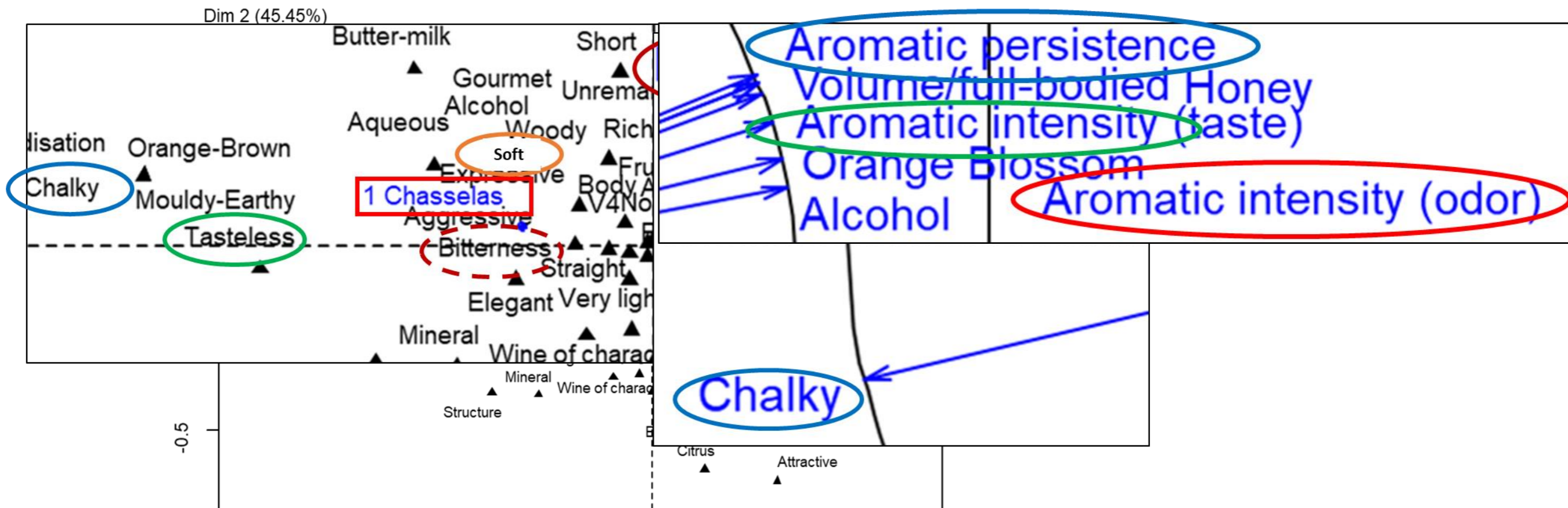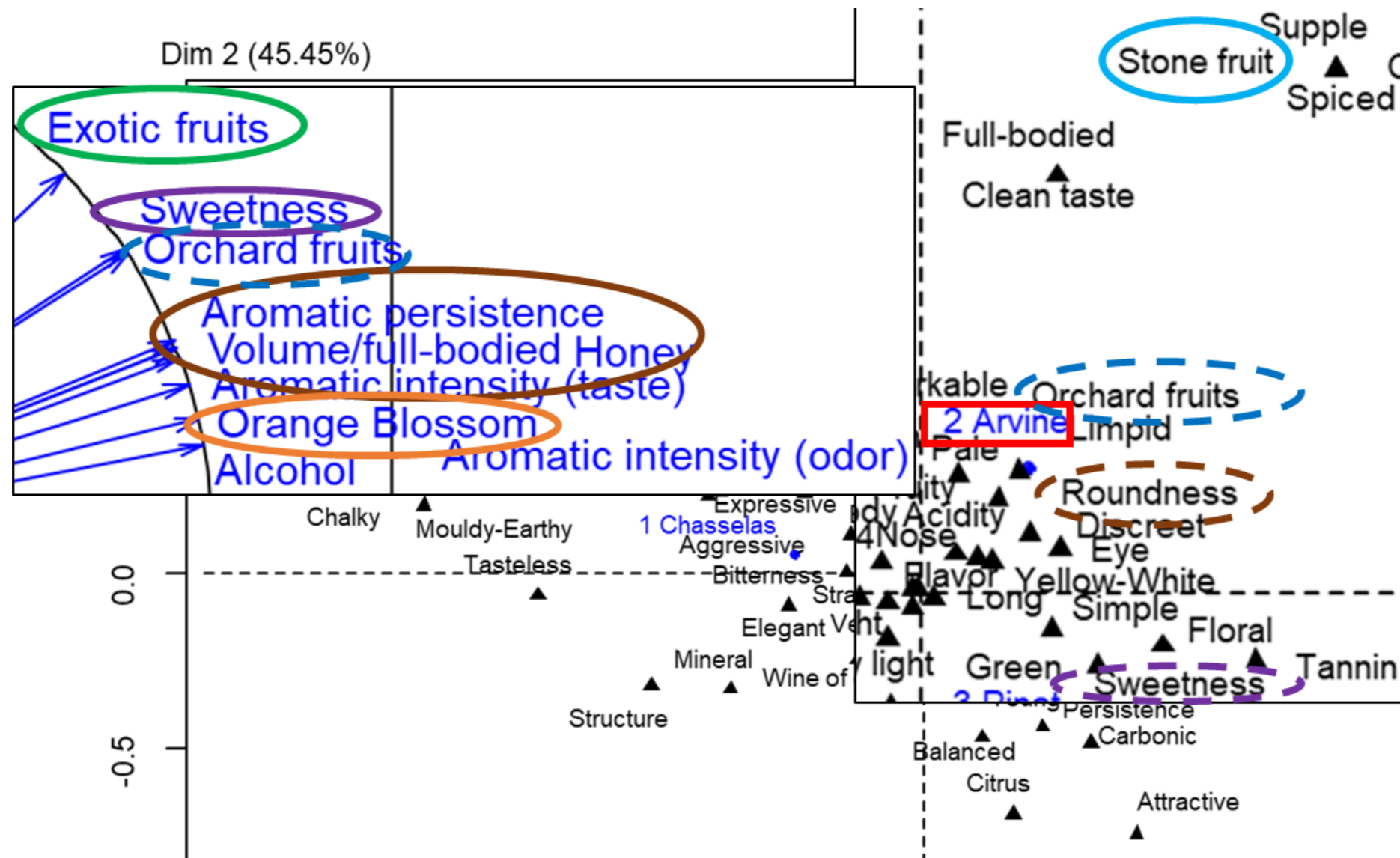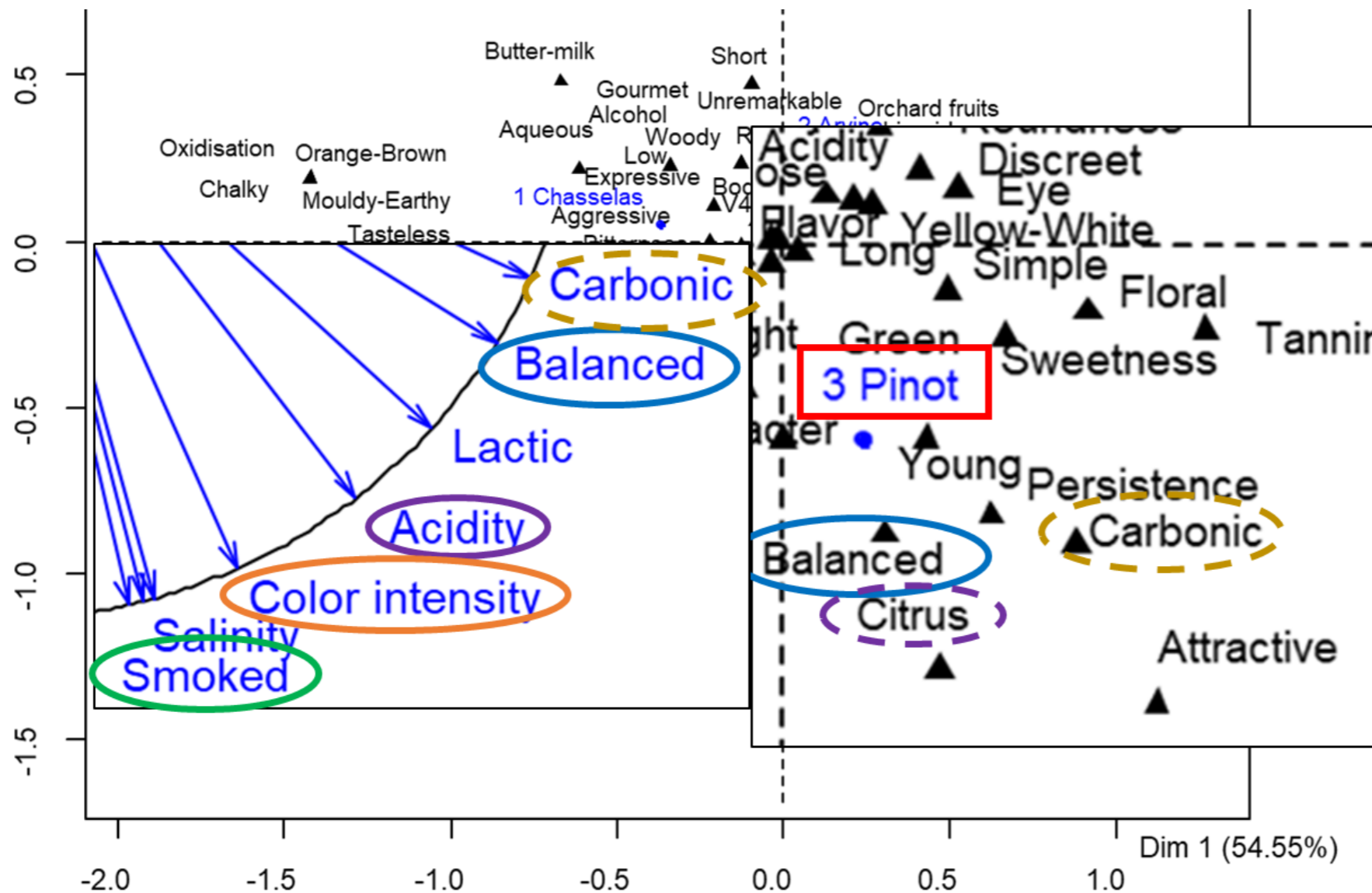
3. Results

3. Results

3. Results

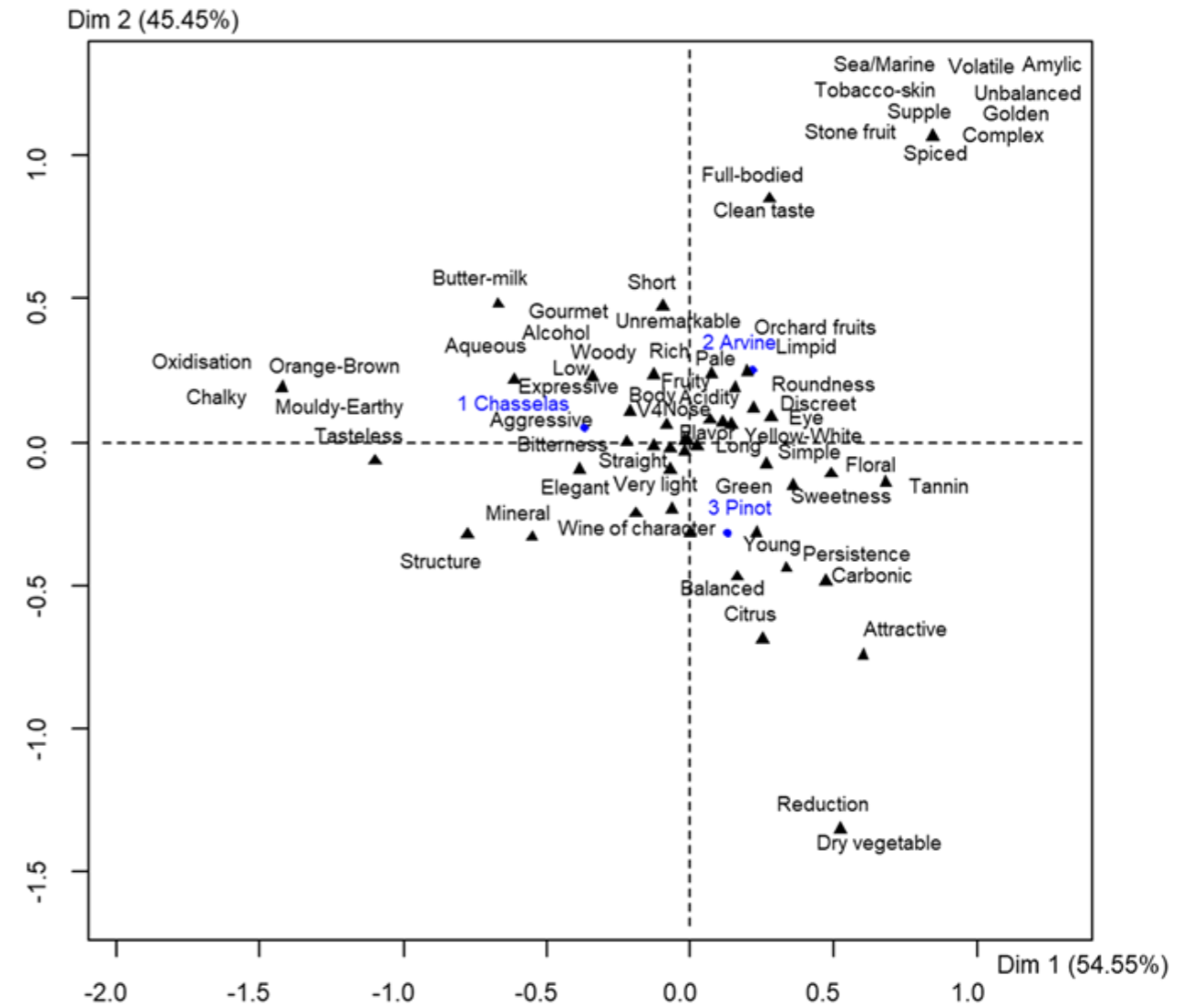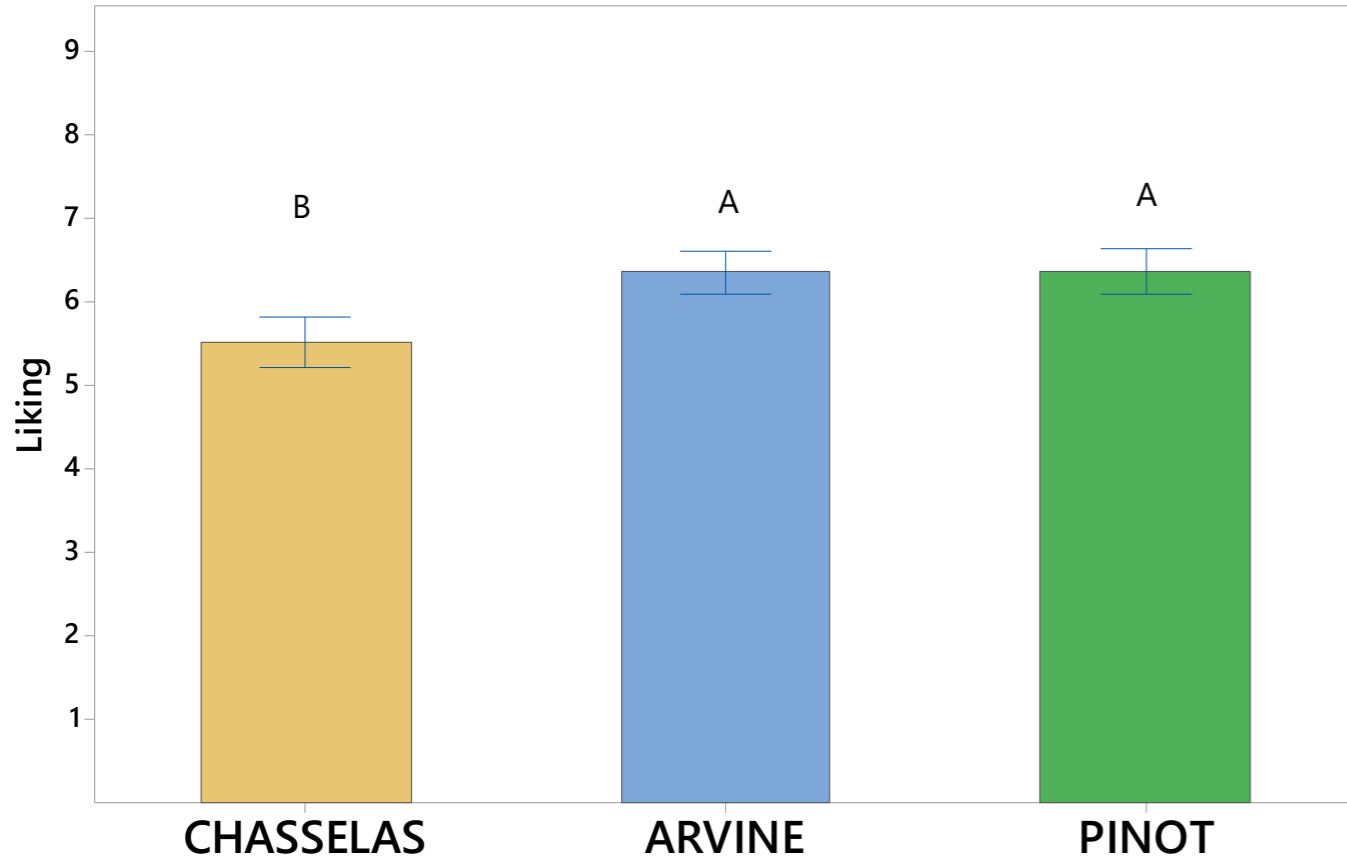## 4. Liking

4. Conclusion

- **Significant correlation between automatic versus manual processing**

- **Interpretable sensory description from open comments provided by consumers**

- **Score of global appreciation following the valence of comments**

5. Perspectives

- **With 9 wines ➤ limits of the web application (RV = 0.34)**

- **Qualitative analysis is powerful only for products different enough**

- **Future researches are needed**

6. Thanks

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A specialized team Natural Language - ARC

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