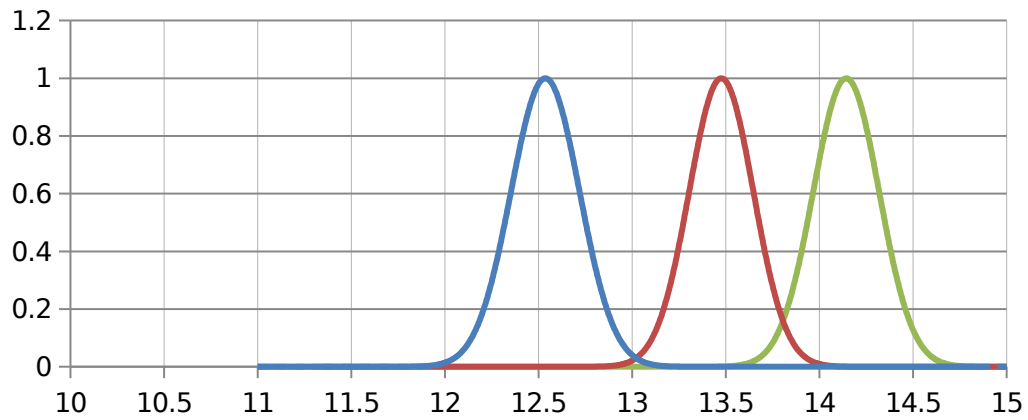
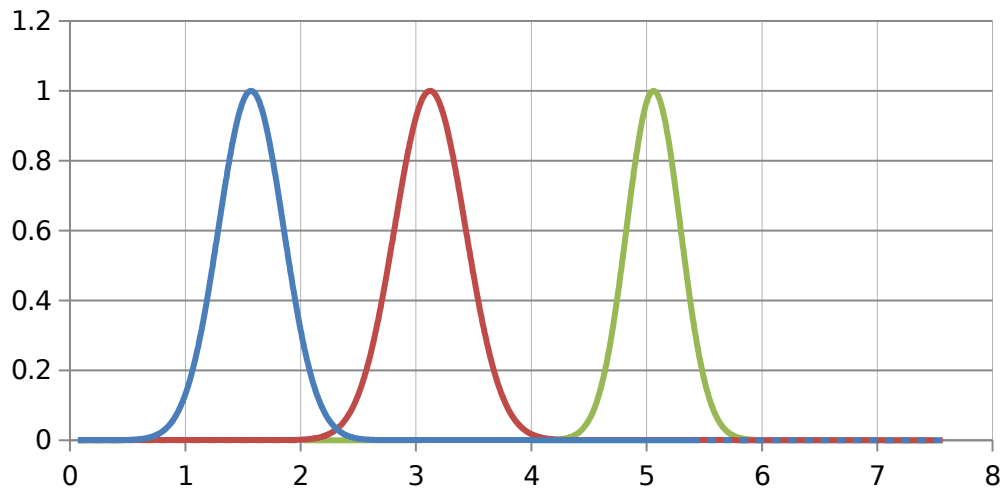
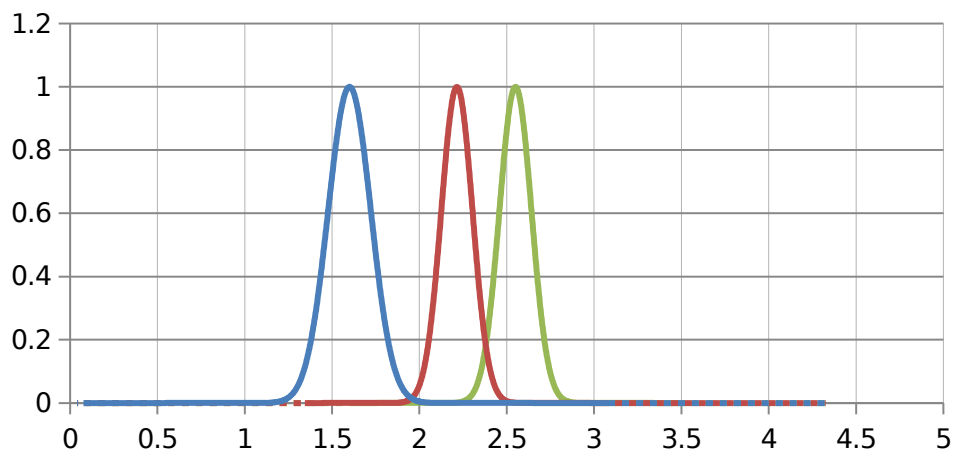
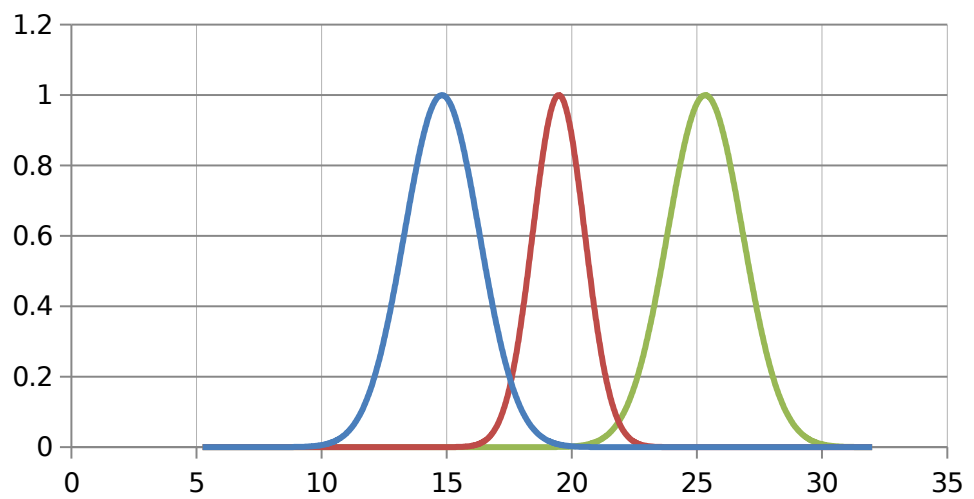


**Wine database**

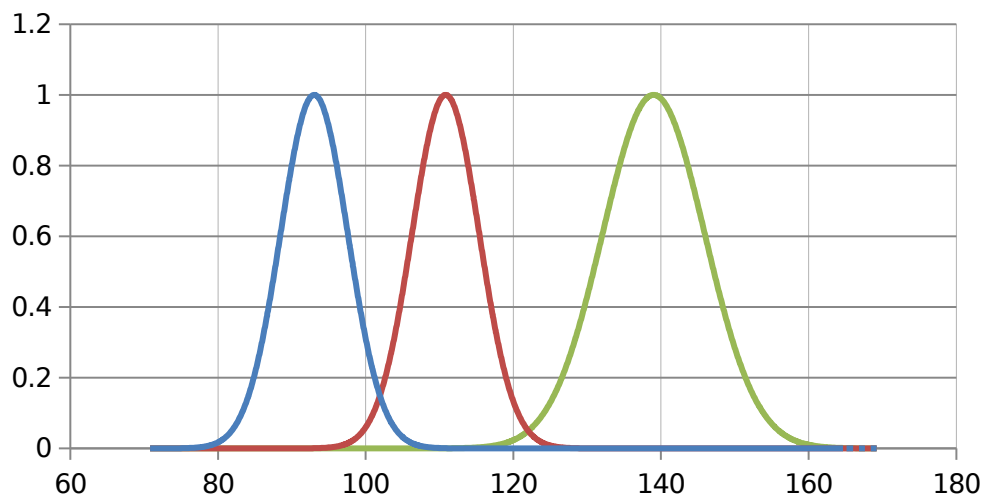
**Membership functions for different attributes** (**blue** – small, **red** – medium, **green** – large)

**1. Alcohol****2. Malic acid****3. Ash**

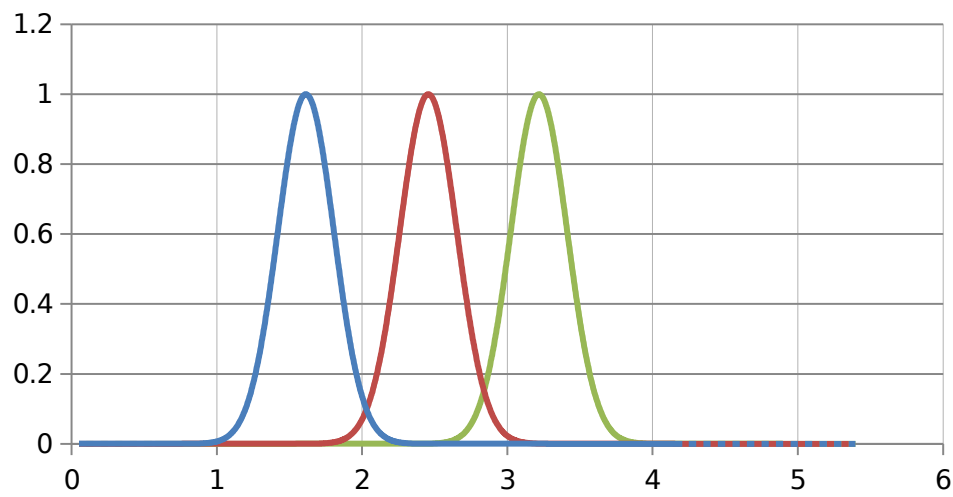
4. Alkalinity of ash



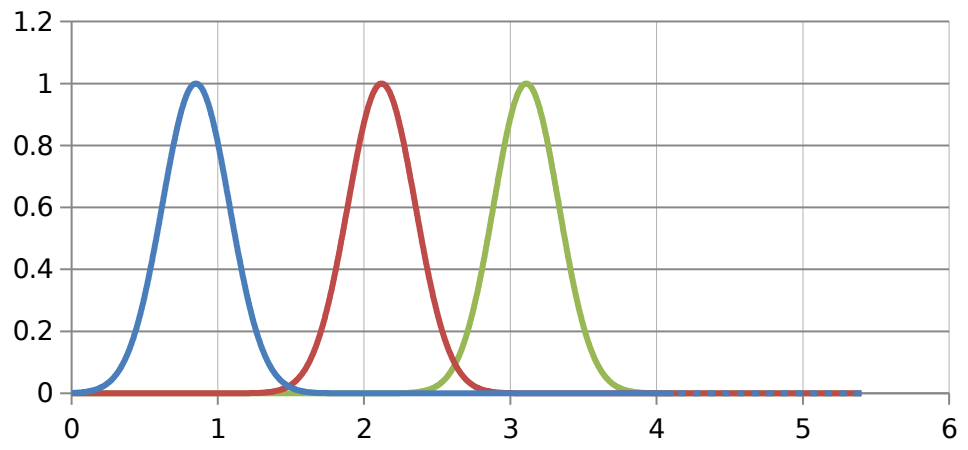
5. Magnesium



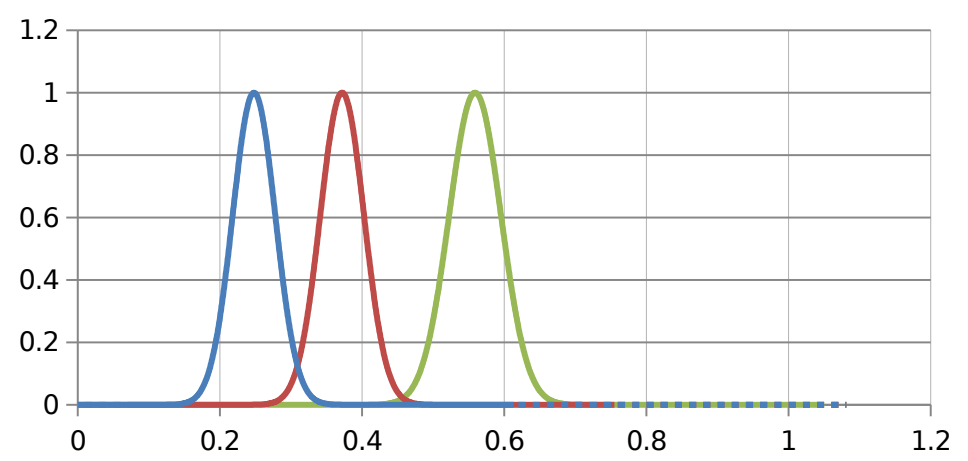
6. Total phenols



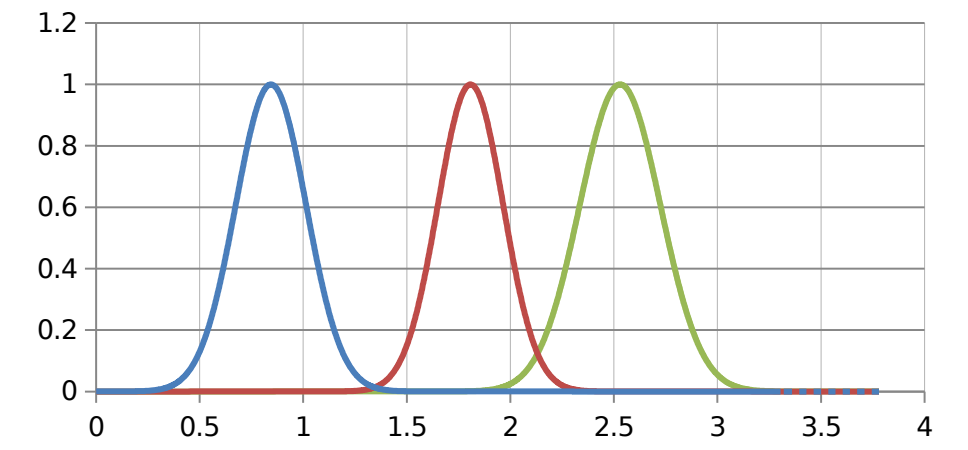
7. Flavonoids



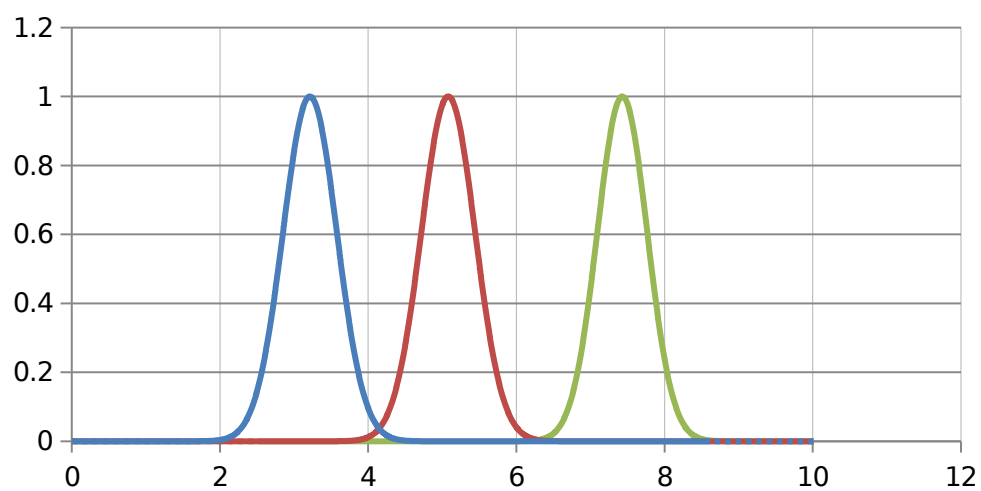
8. Nonflavonoid phenol



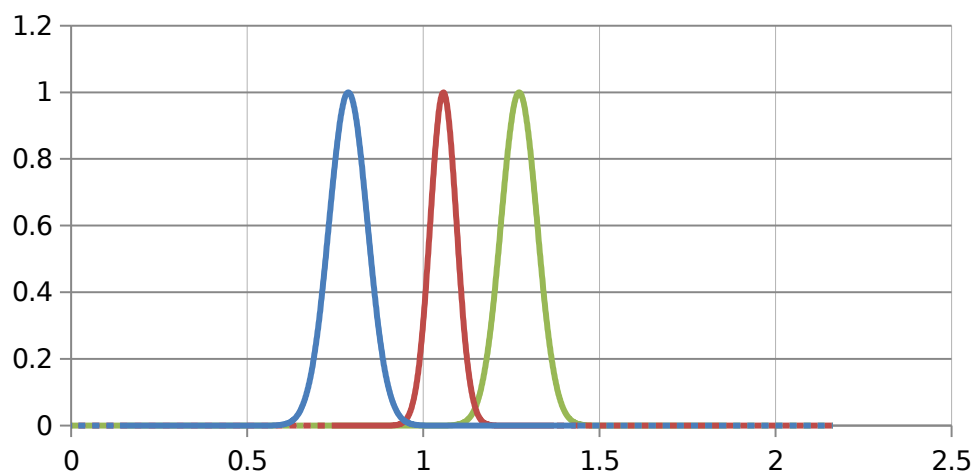
9. Proanthocyanins



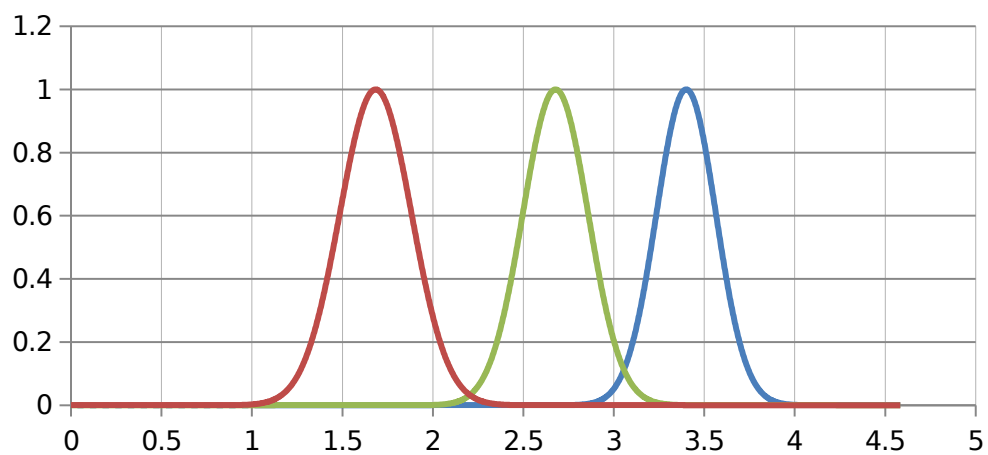
## 10. Color intensity



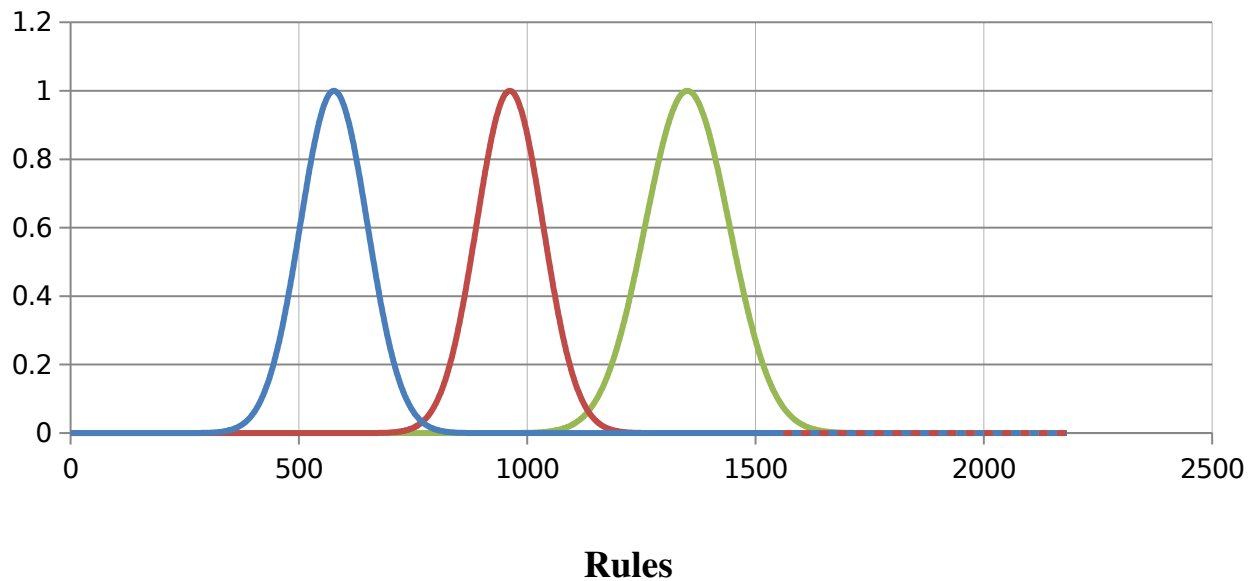
## 11. Hue



## 12. OD280/OD315 of diluted wines



### 13. Proline



**Class A:** if X1 – MEDIUM & X2 – SMALL & X3 – LARGE & X4 – MEDIUM & X5 – MEDIUM & X6 – MEDIUM & X7 – LARGE & X8 – SMALL & X9 – MEDIUM & X10 – MEDIUM & X11 – MEDIUM & X12 – MEDIUM & X13 – LARGE, THEN ClassA

**Class B:** if X1 – SMALL & X2 – SMALL & X3 – MEDIUM & X4 – MEDIUM & X5 – SMALL & X6 – MEDIUM & X7 – MEDIUM & X8 – MEDIUM & X9 – LARGE & X10 – SMALL & X11 – SMALL & X12 – MEDIUM & X13 – SMALL, THEN ClassB

**Class C:** if X1 – MEDIUM & X2 – MEDIUM & X3 – LARGE & X4 – LARGE & X5 – MEDIUM & X6 – MEDIUM & X7 – SMALL & X8 – LARGE & X9 – MEDIUM & X10 – LARGE & X11 – SMALL & X12 – SMALL & X13 – SMALL, THEN ClassC

**Other:** if X1 – LARGE & X2 – LARGE & X3 – SMALL & X4 – SMALL & X5 – LARGE & X6 – SMALL & X7 – SMALL & X8 – SMALL & X9 – SMALL & X10 – MEDIUM & X11 – LARGE & X12 – LARGE & X13 – MEDIUM, THEN Other

## Results:

|              | Class A              | Class B              | Class C              |                 |
|--------------|----------------------|----------------------|----------------------|-----------------|
|              | Rule-1               | Rule-2               | Rule-3               |                 |
|              | A or B or C or other | A or B or C or other | A or B or C or other |                 |
| 1            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 2            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 3            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 4            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 5            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 6            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 7            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 8            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 9            | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 10           | <i>A</i>             | <i>C</i>             | <i>C</i>             | <i>not good</i> |
| 11           | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 12           | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 13           | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 14           | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| 15           | <i>A</i>             | <i>B</i>             | <i>C</i>             | <i>good</i>     |
| success rate | 100%                 | 93.3%                | 100%                 | 93.3%           |