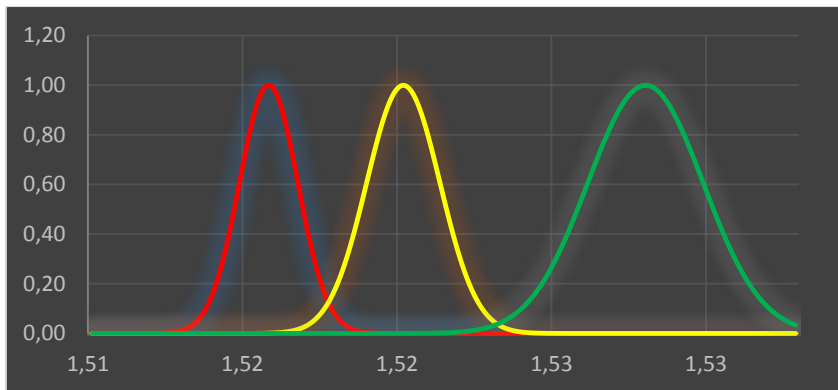**CCOD**

Bryuzgin Alexander(AS-36)
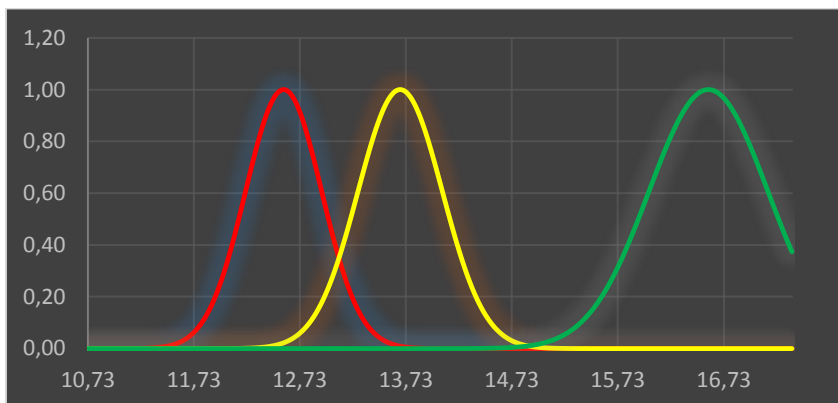
Lab #8(17.10.2016)

Classification by Fuzzy Takagi-Sugeno Formula(Glass database)

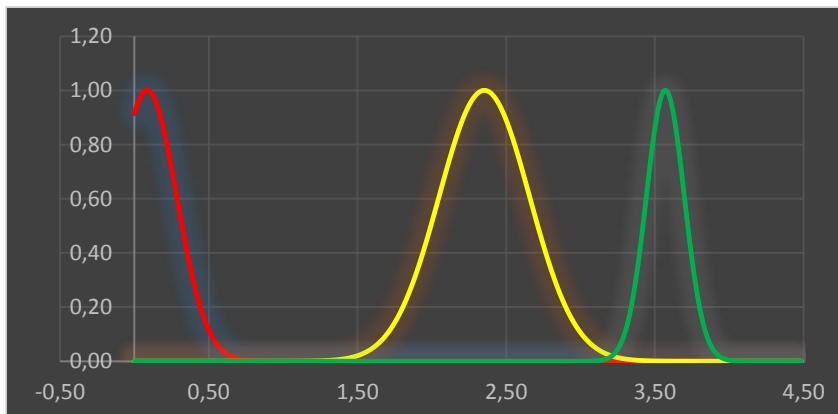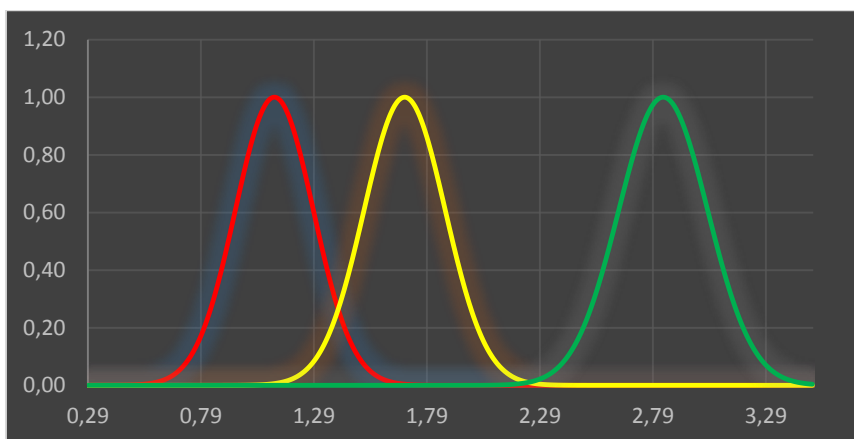Membership functions for each element of glass

X1

X2

X3

X4

X5

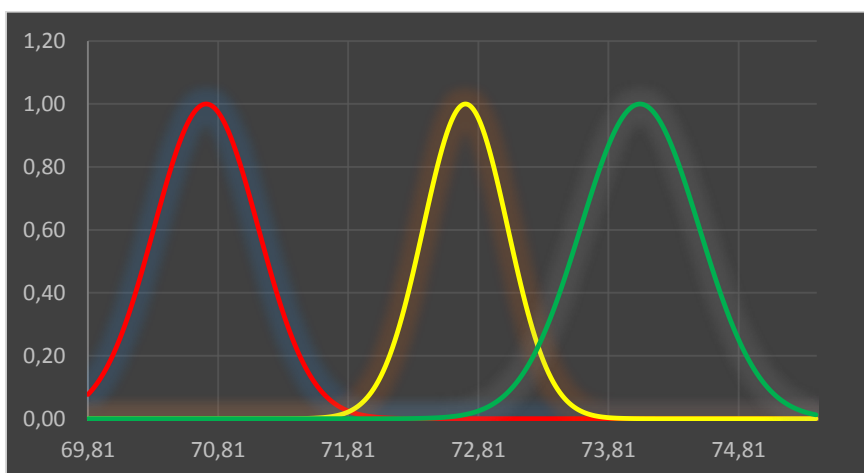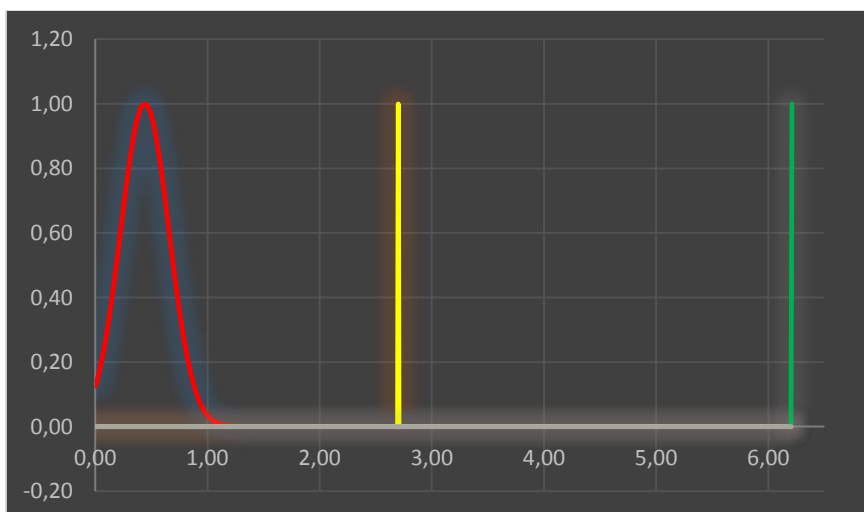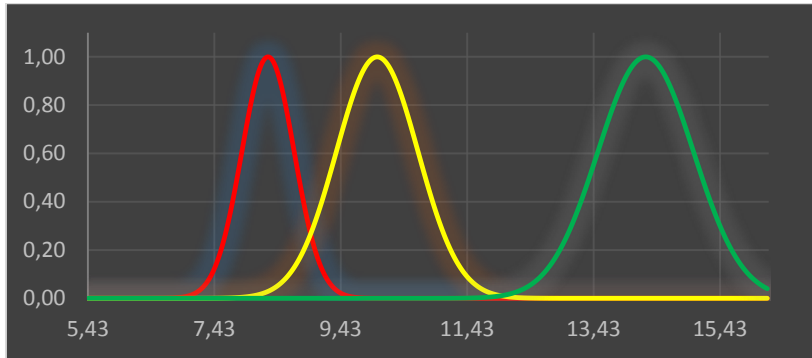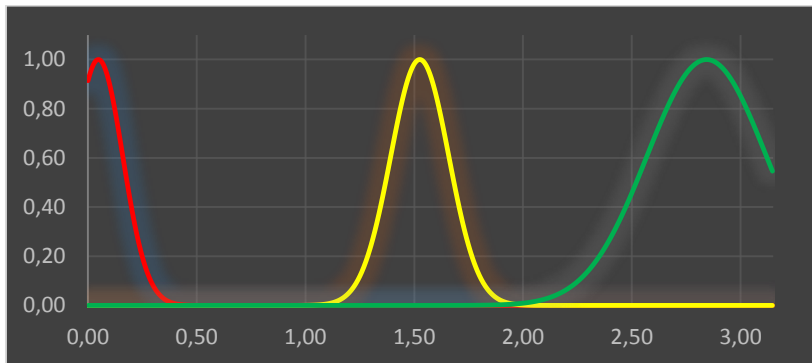X6

X7

X8

X9

Table of rules(according to this membership functions)

if x1	and x2	and x3	and x4	and x5	and x6	and x7	and x8	and x9	then
small	small	small	small	medium	small	medium	small	small	1
small	medium	large	medium	medium	small	small	small	small	2
small	medium	large	small	medium	small	small	small	small	3
medium	medium	small	medium	medium	small	small	small	small	4
small	small	small	medium	medium	small	medium	small	small	5
small	medium	small	medium	large	small	small	small	small	6
medium	large	small	medium	small	medium	medium	small	large	other

Validation table

No	Type 1	Type 2	Type 3	Type 4	Type 5	Type 6
#1	3	3	3	5	5	6
#2	3	1	3	5		6
#3	3	2				4
#4	3	2				
#5	3	2				
#6	3	1				
#7	3	3				
Success rate	0%	43,00%	100%	0%	100%	67%

Using validation data we've built this table. As we can see, not all data fits the rules. It may depend on 2 factors:

1. We've chosen not the right rules

2. Validation data is incorrect