

Statistical research

Red Wine

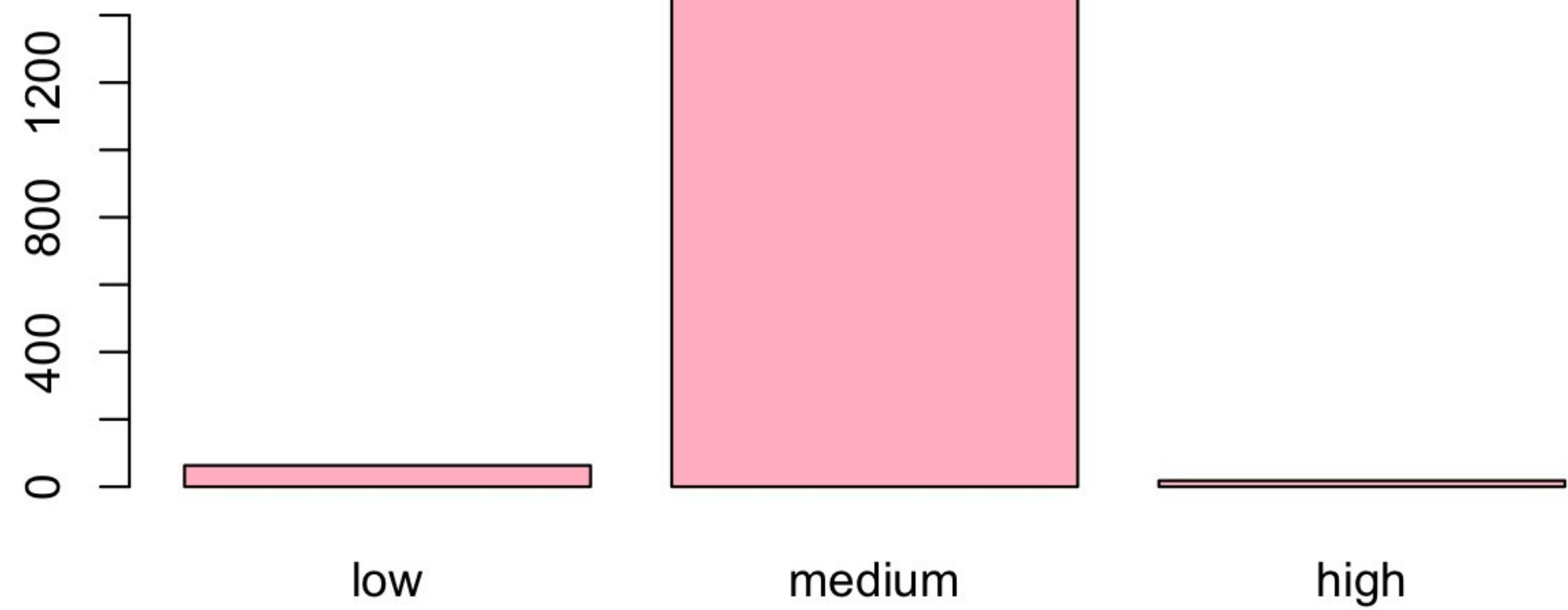
Year 2023/2024

Group 3
M. Sartirana
C. Alfieri
F. Aquilino
V. Galbiati

Liuc University

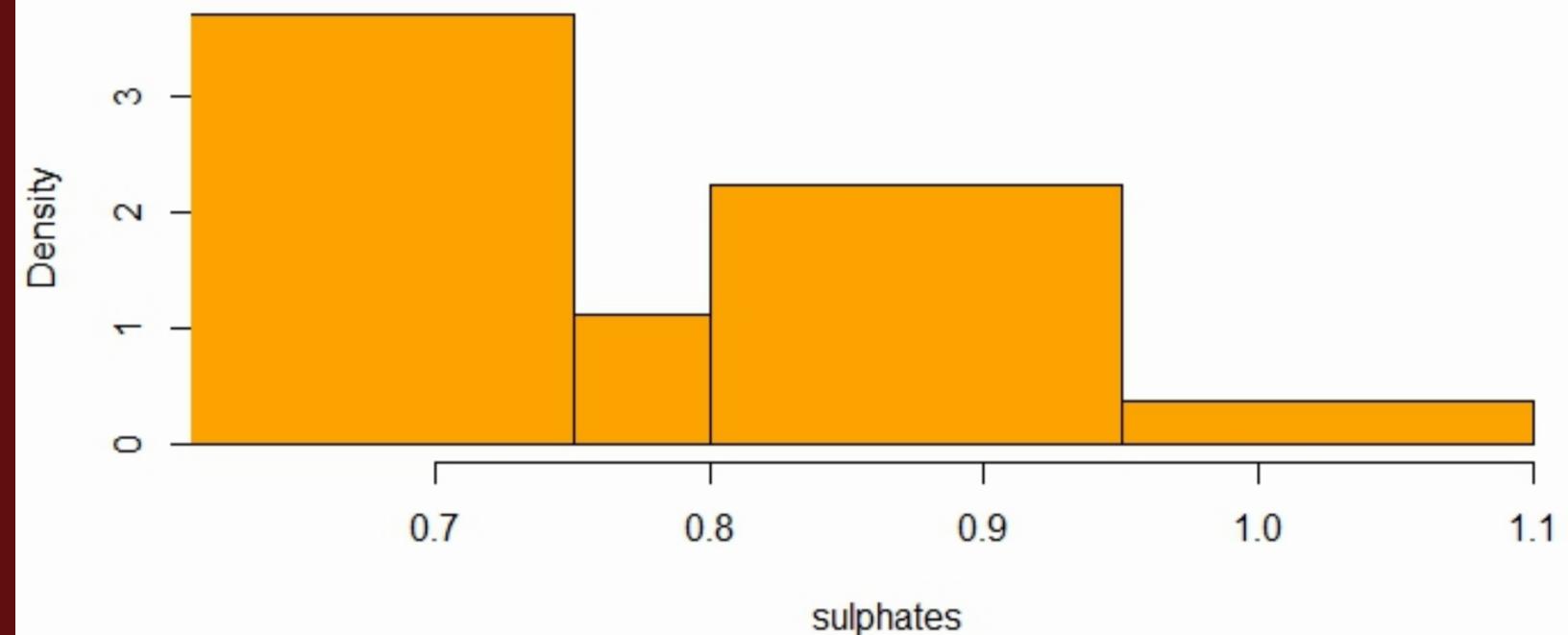
Our dataset

Sample quality distribution

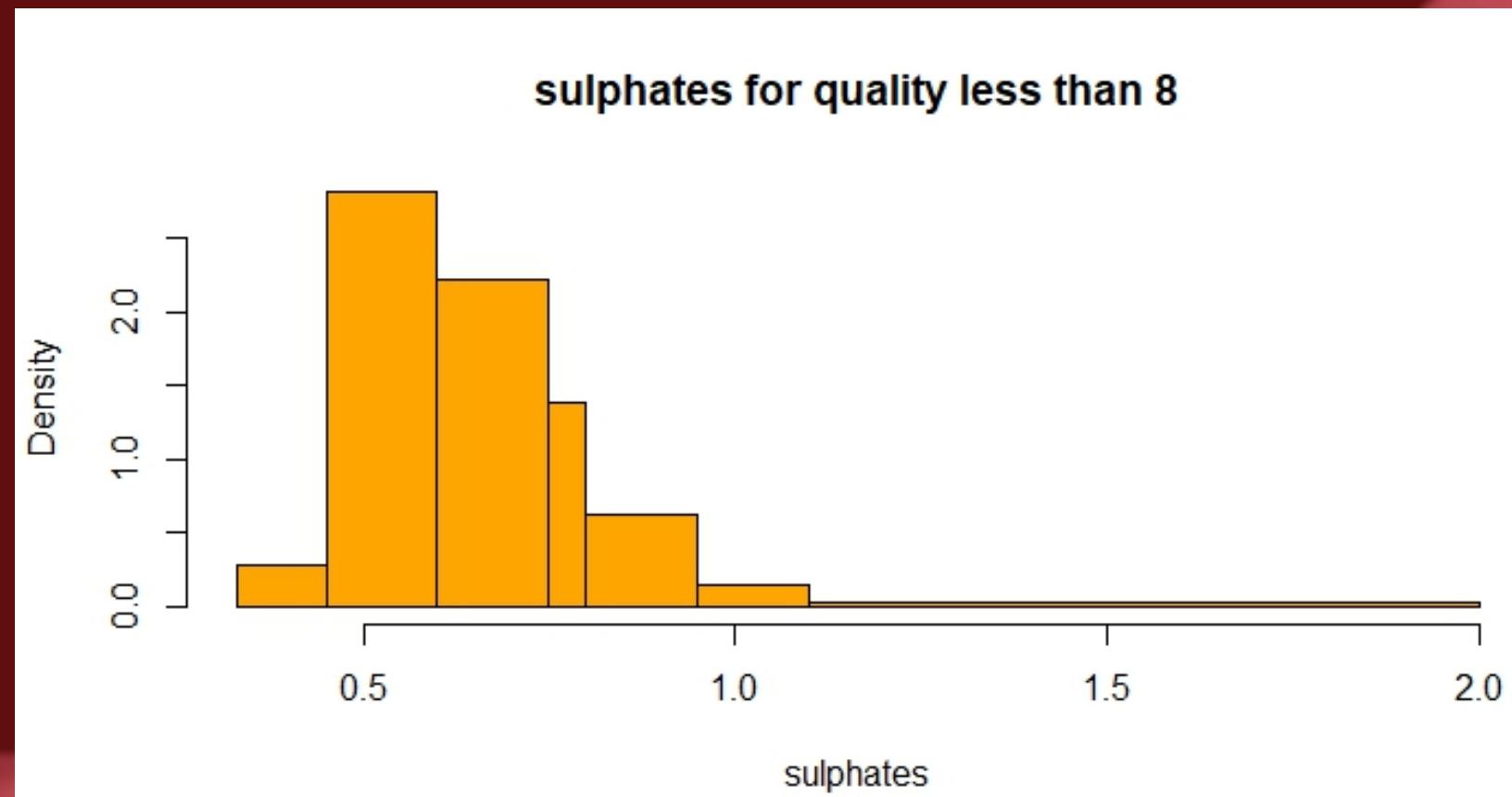


Sulphates Analysis

sulphates for quality 8

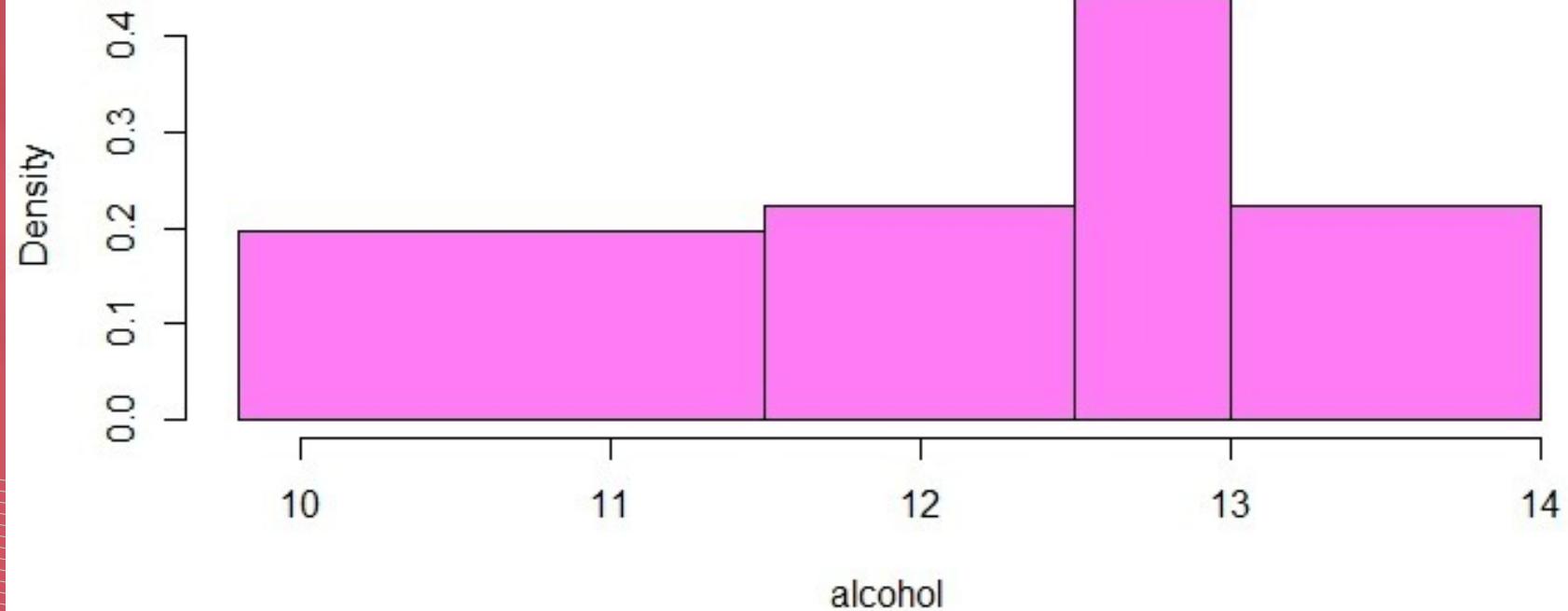


sulphates for quality less than 8

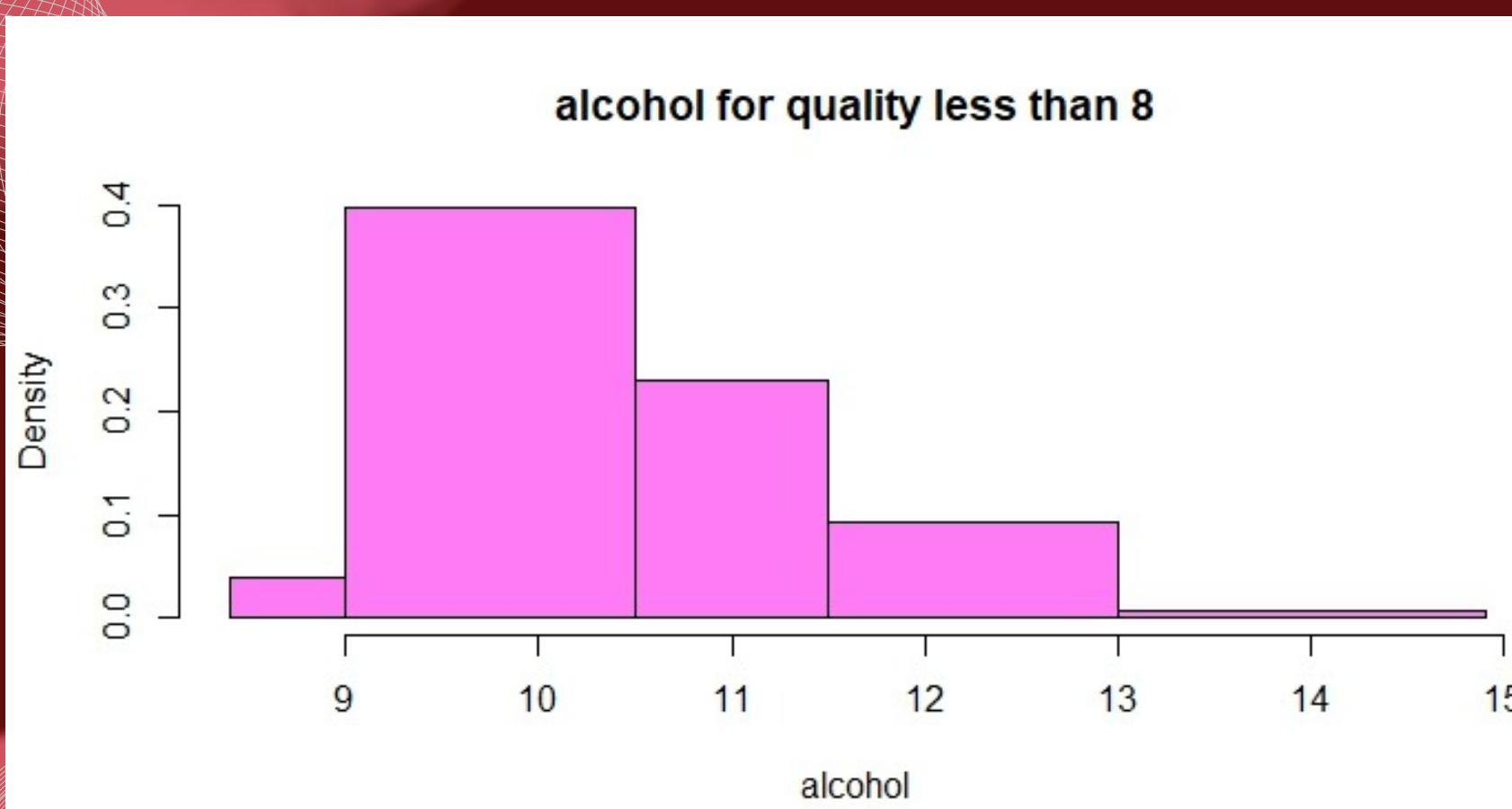


Alcohol Analysis

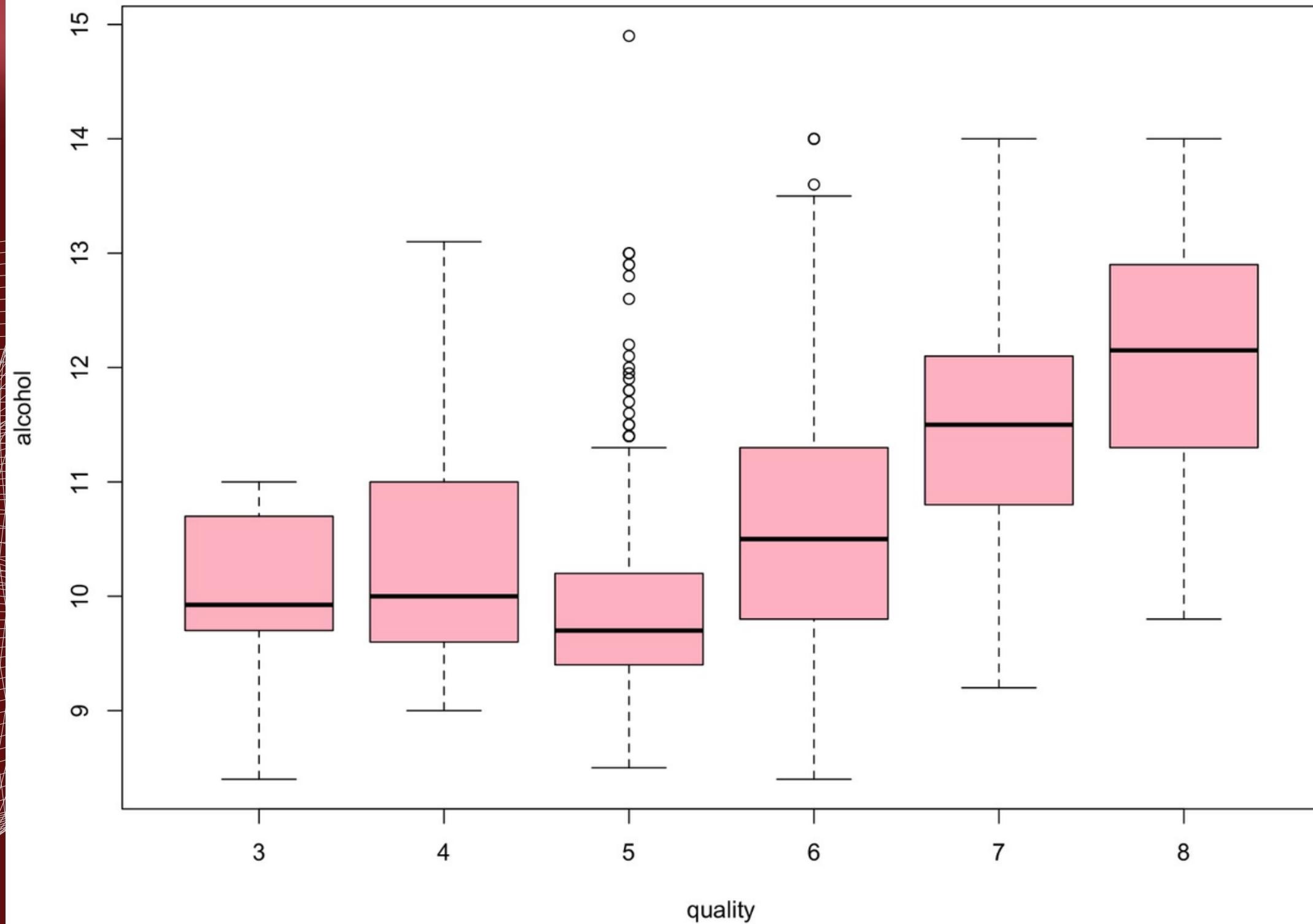
alcohol for quality 8



alcohol for quality less than 8



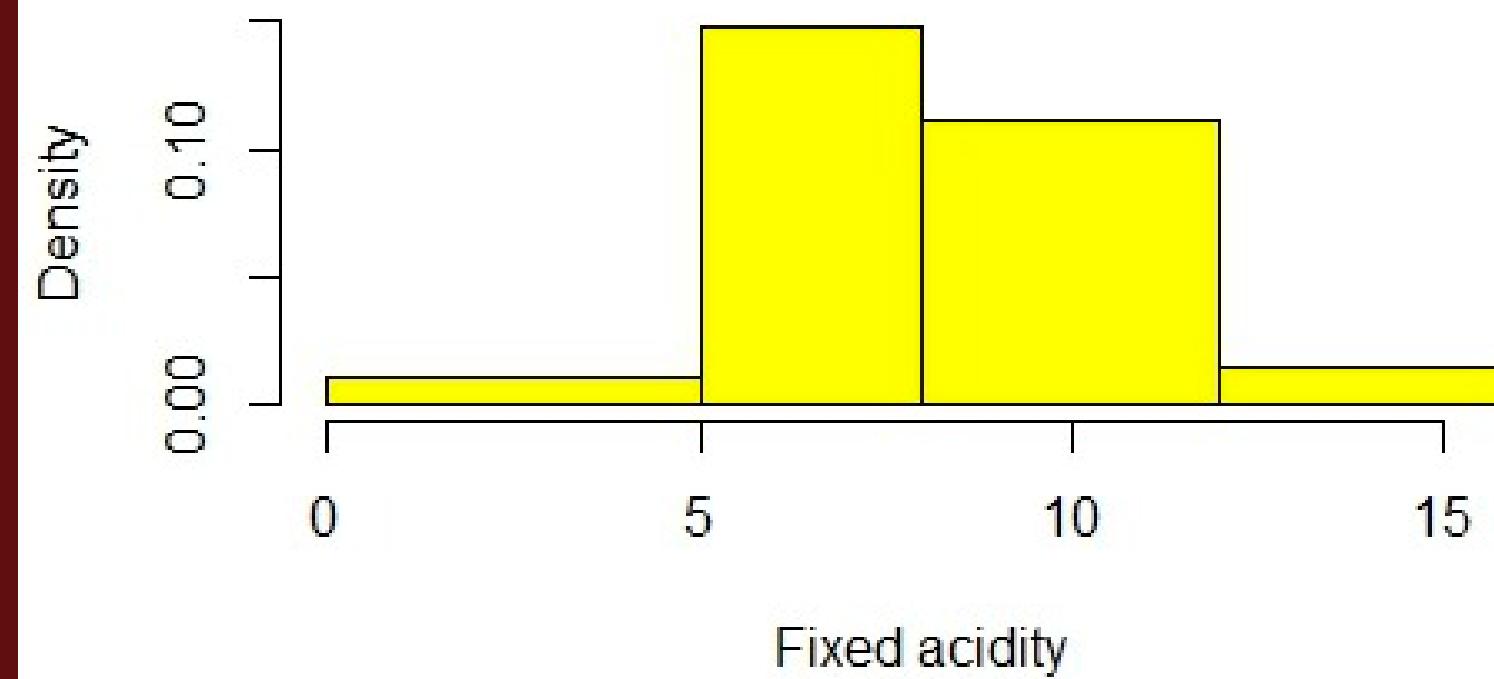
Quality VS Alcohol



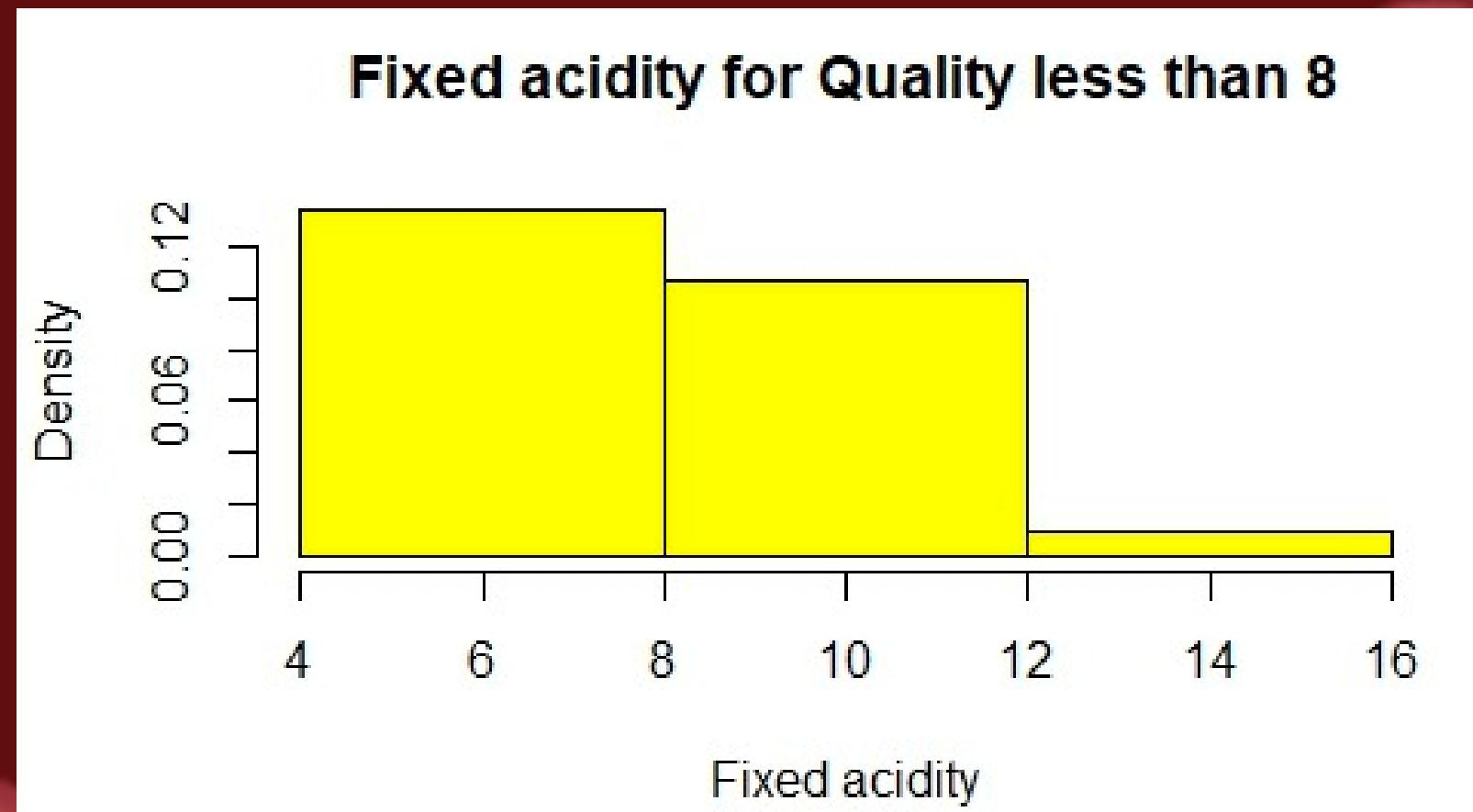
Quality and alcohol proportion

Fixed Acidity Analysis

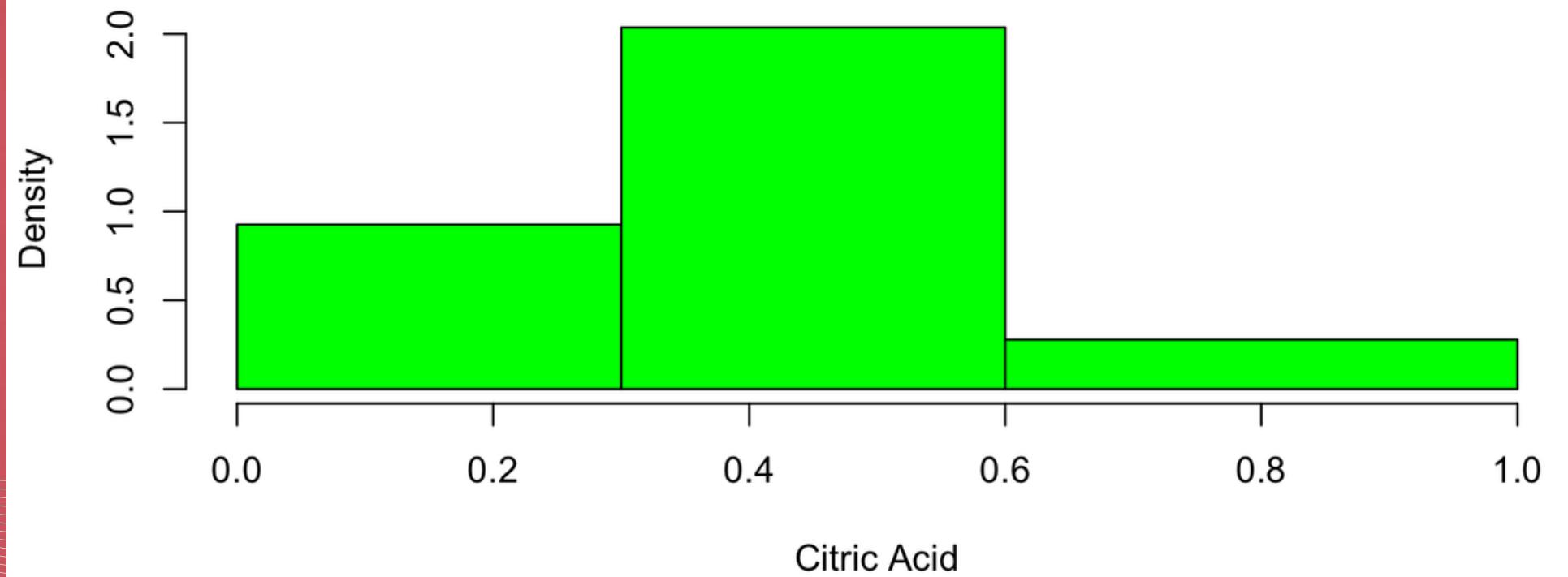
Fixed acidity for Quality 8



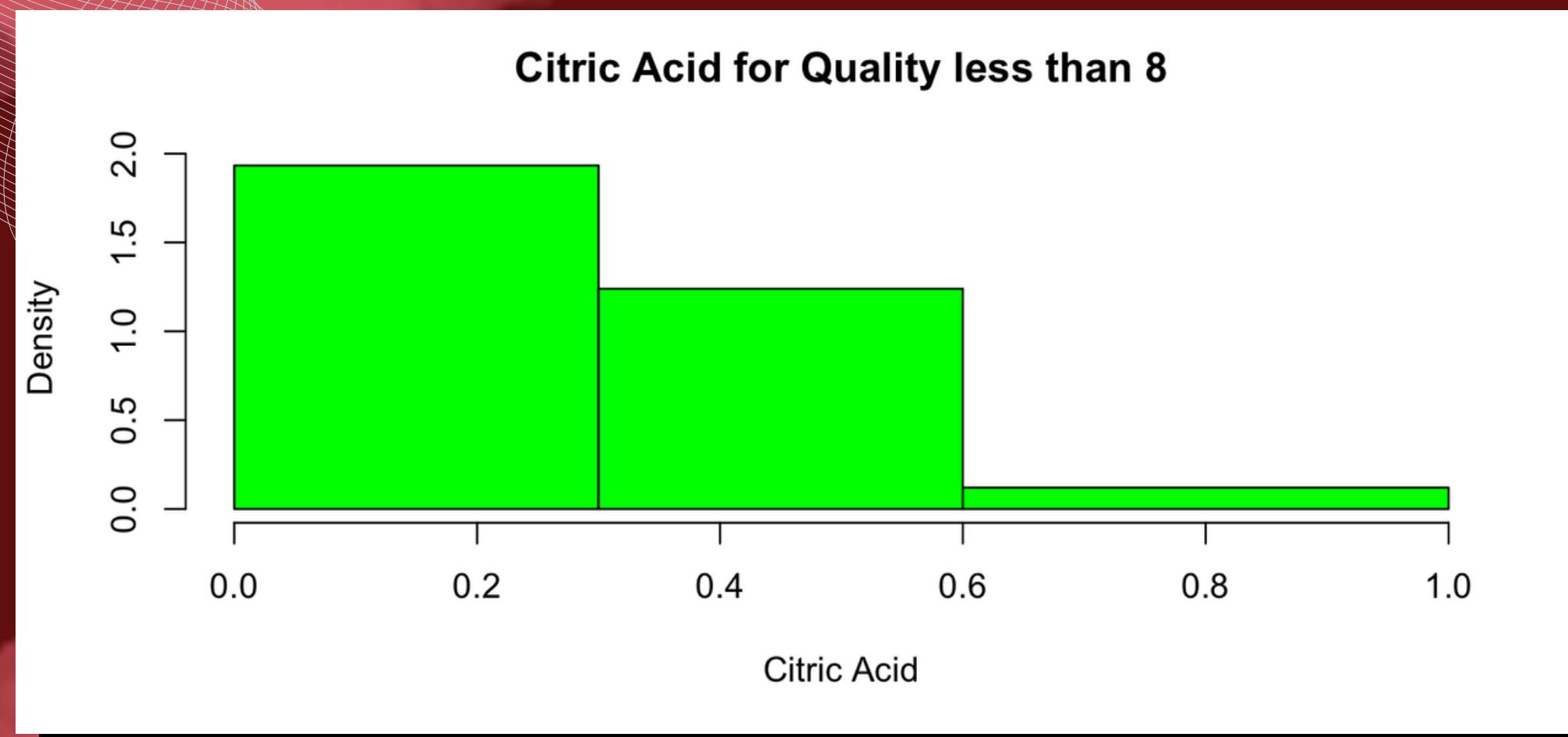
Fixed acidity for Quality less than 8



Citric Acid for Quality 8



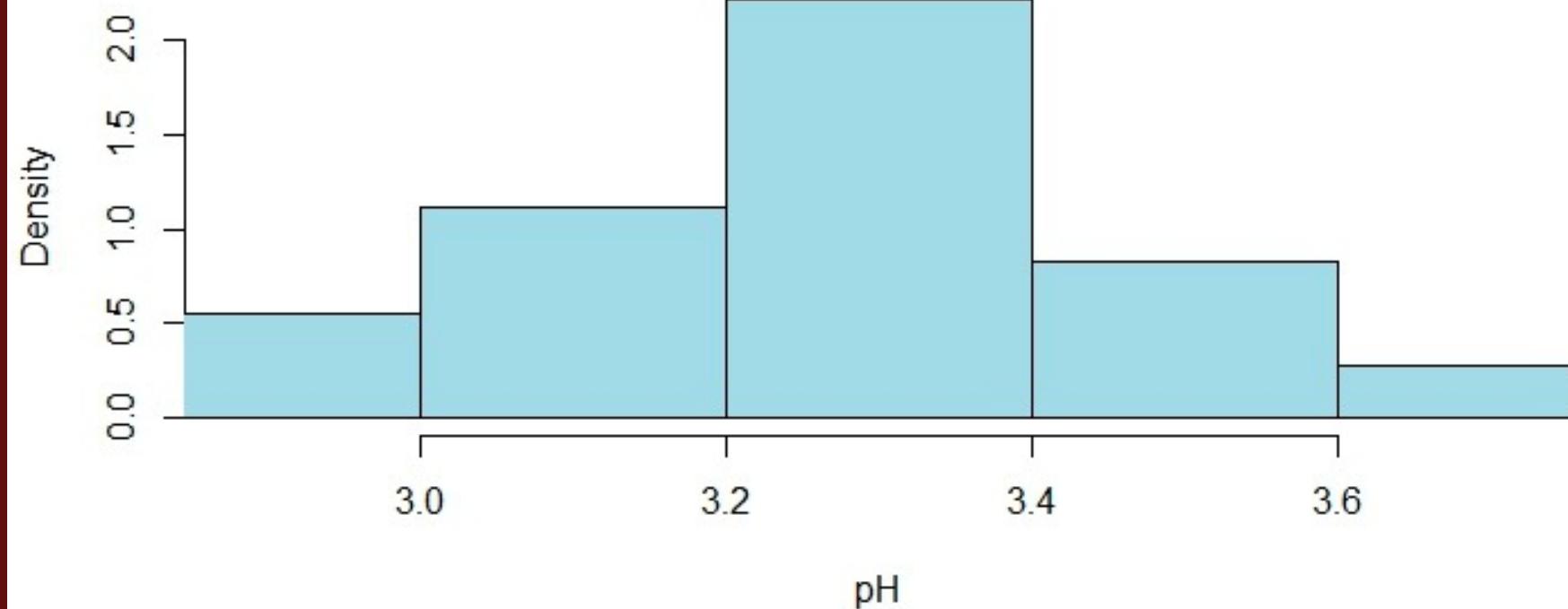
Citric Acid for Quality less than 8



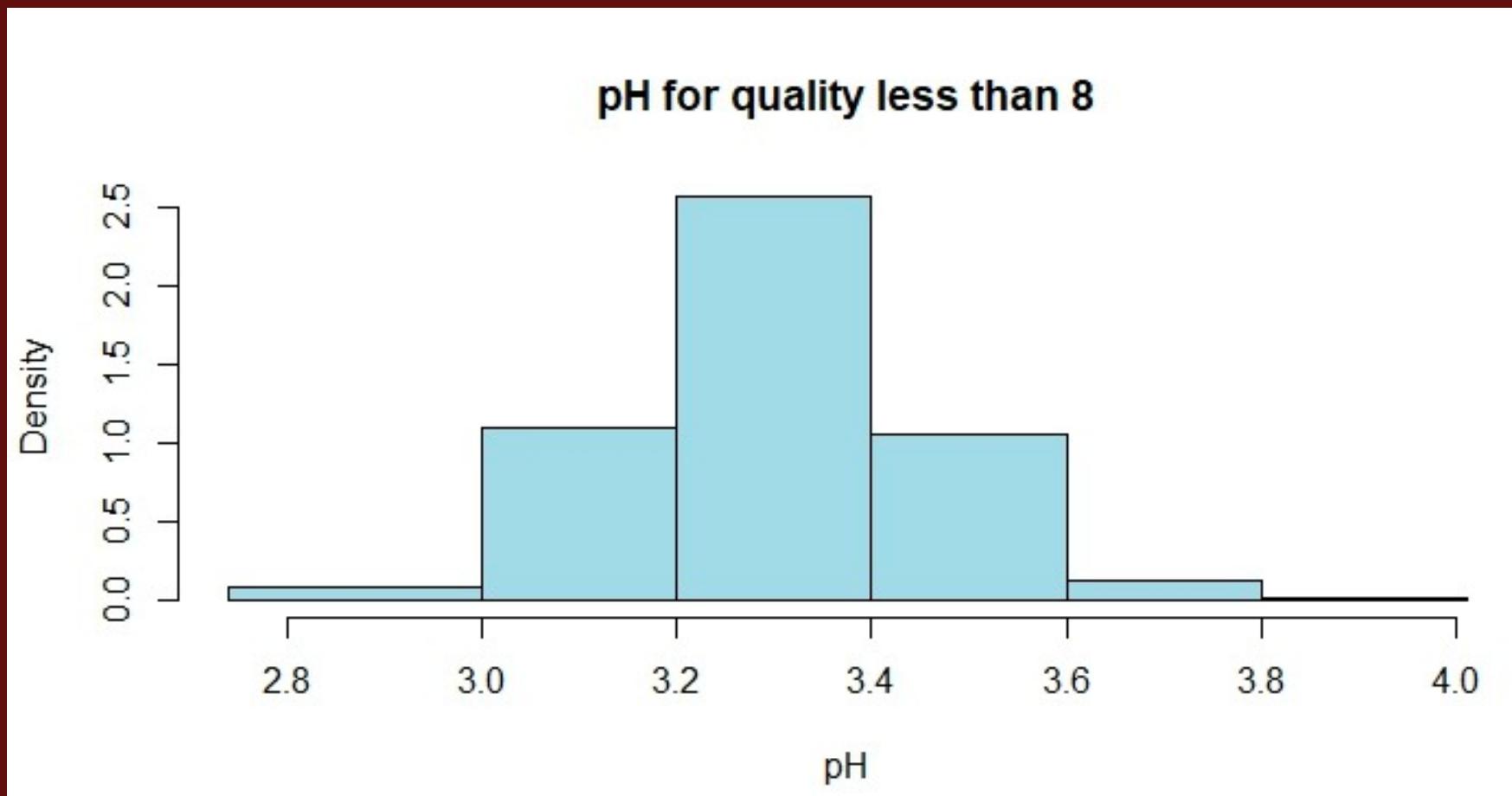
**Citric Acid
Analysis**

PH Analysis

pH for quality 8

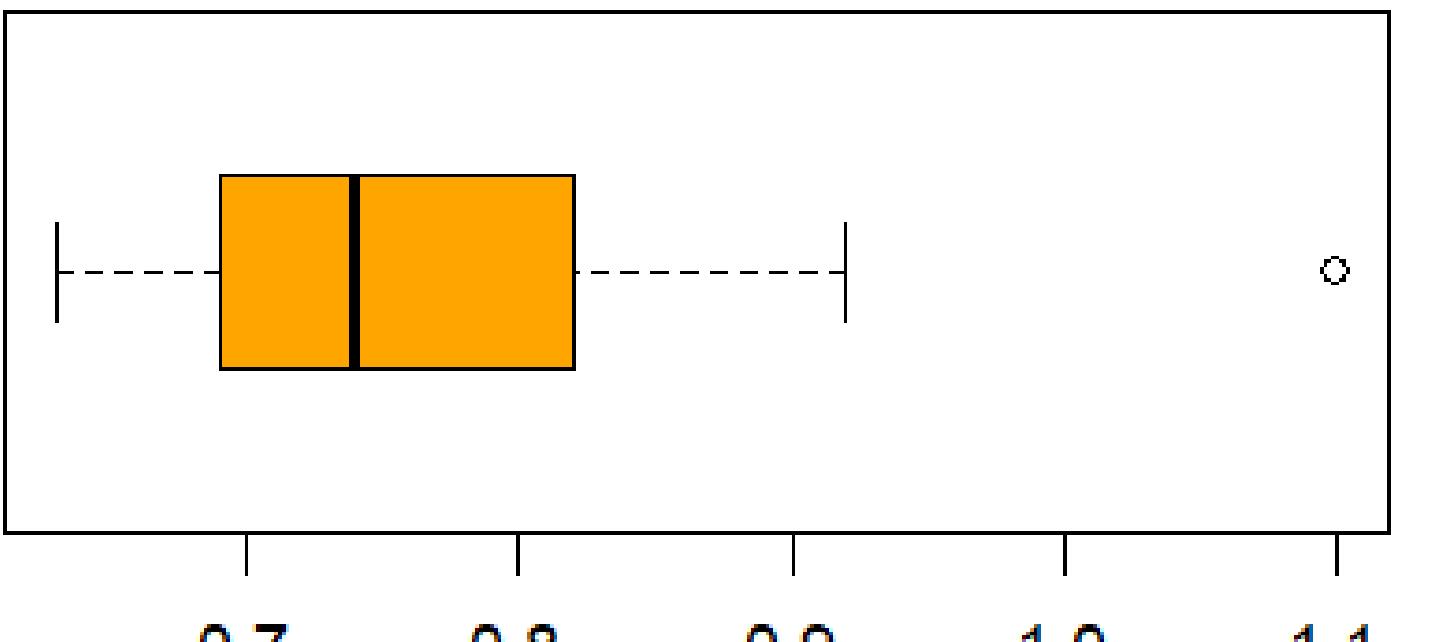


pH for quality less than 8

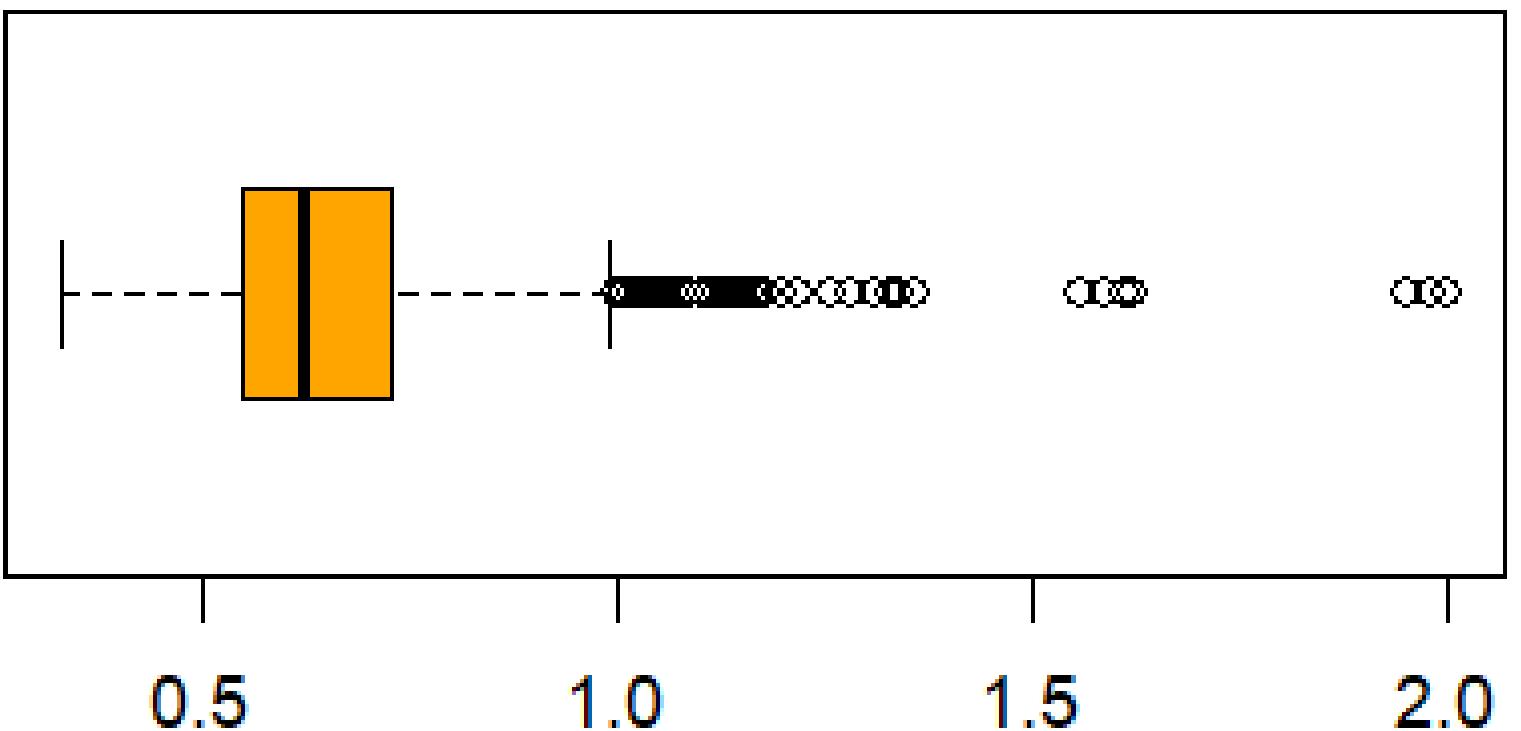


Real life characteristics

Quality = 8

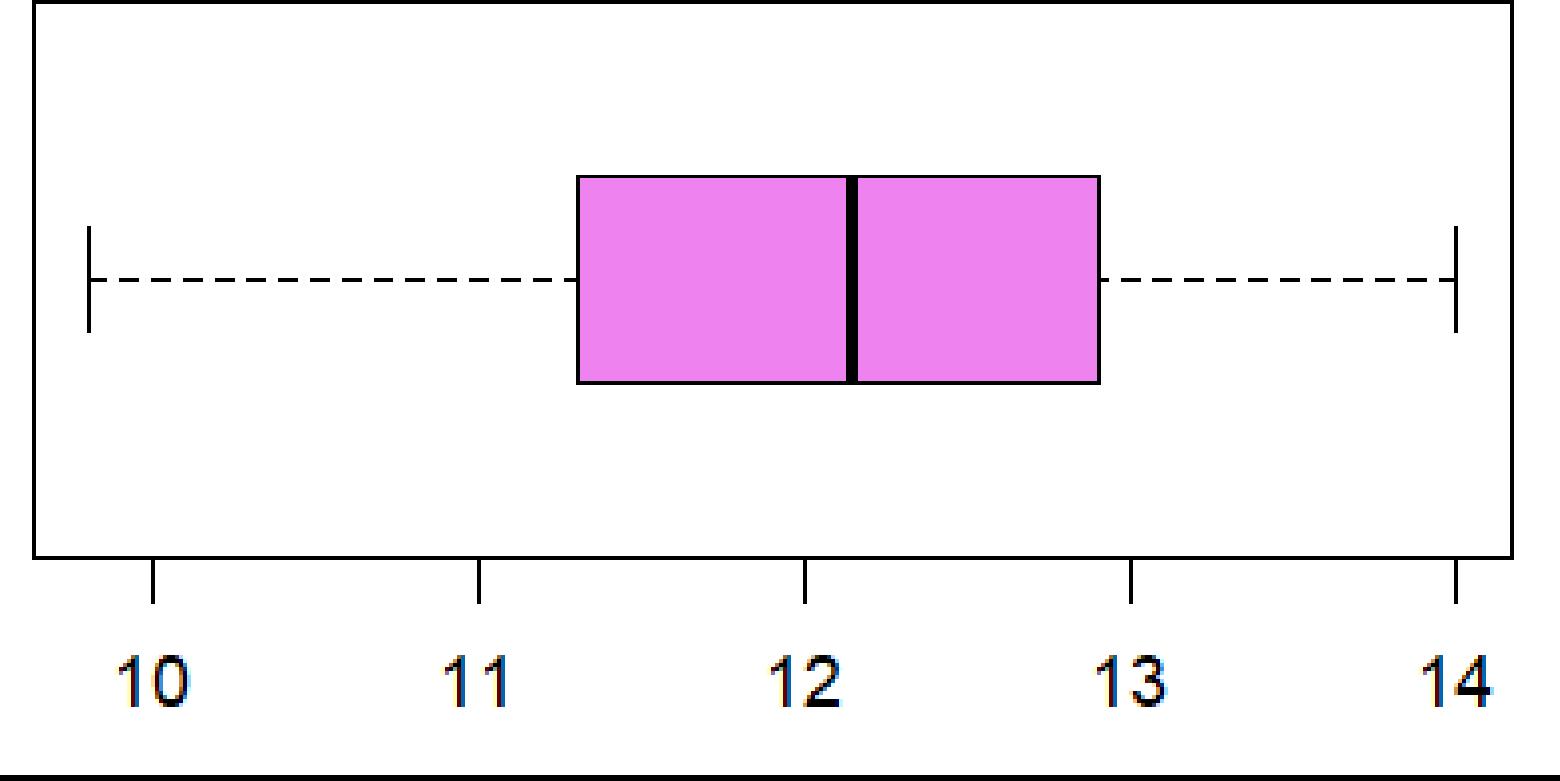


Quality less than 8



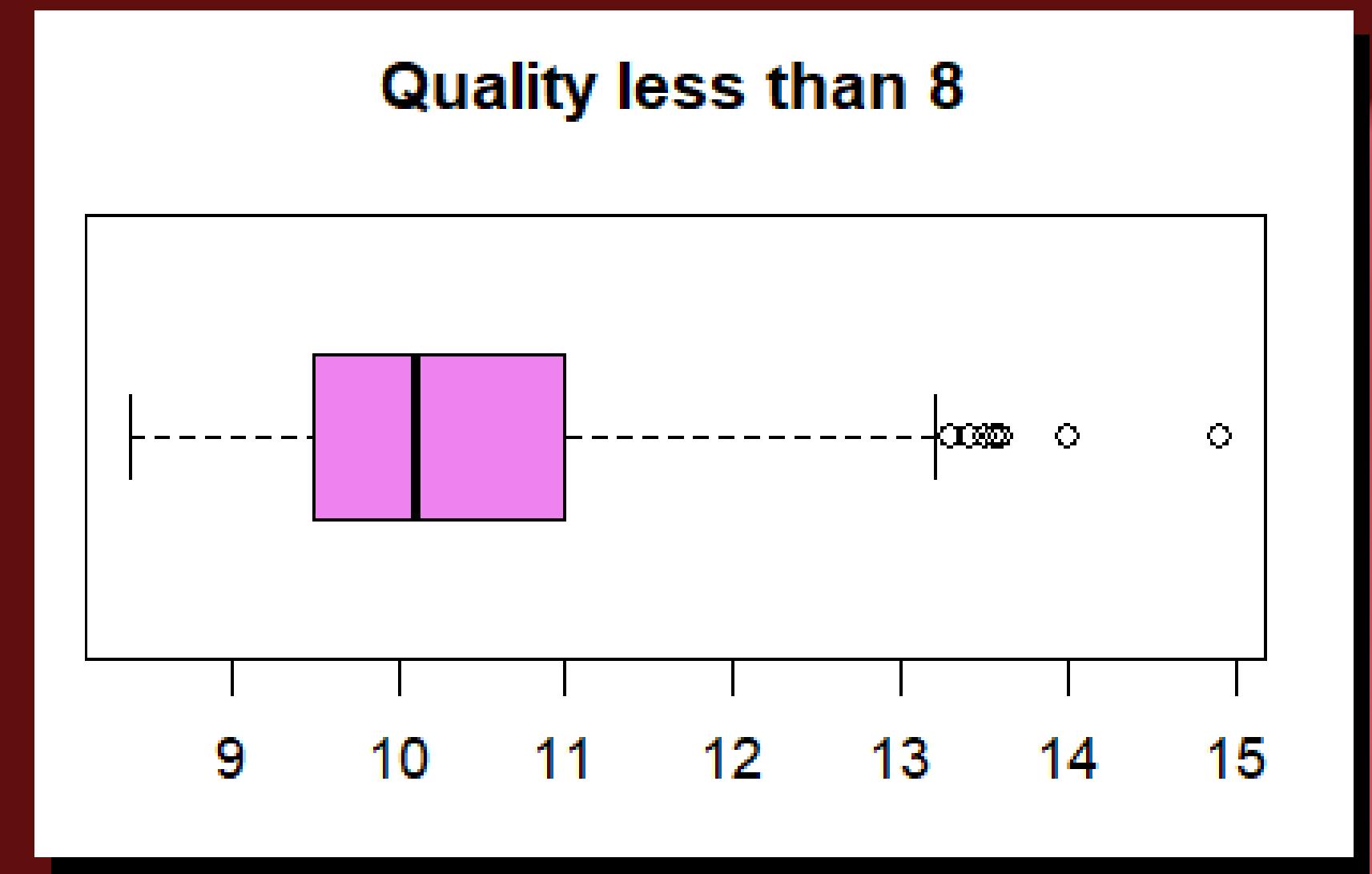
Sulphates: > 15 mg/L

Quality = 8

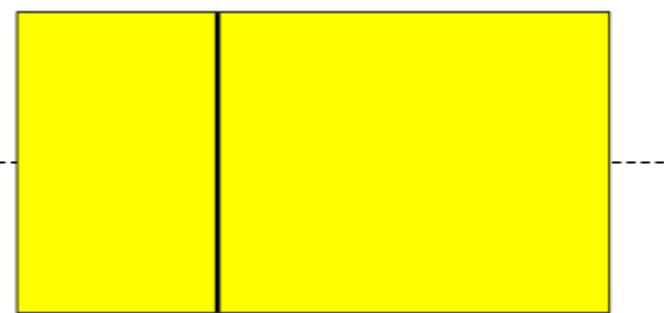


Alcohol: $11 \text{ mg/L} < x < 14 \text{ mg/L}$

Quality less than 8

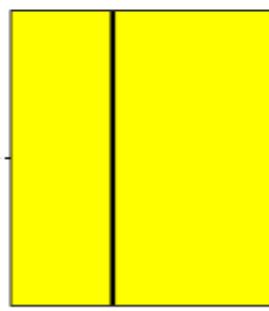


Quality = 8



6 8 10 12

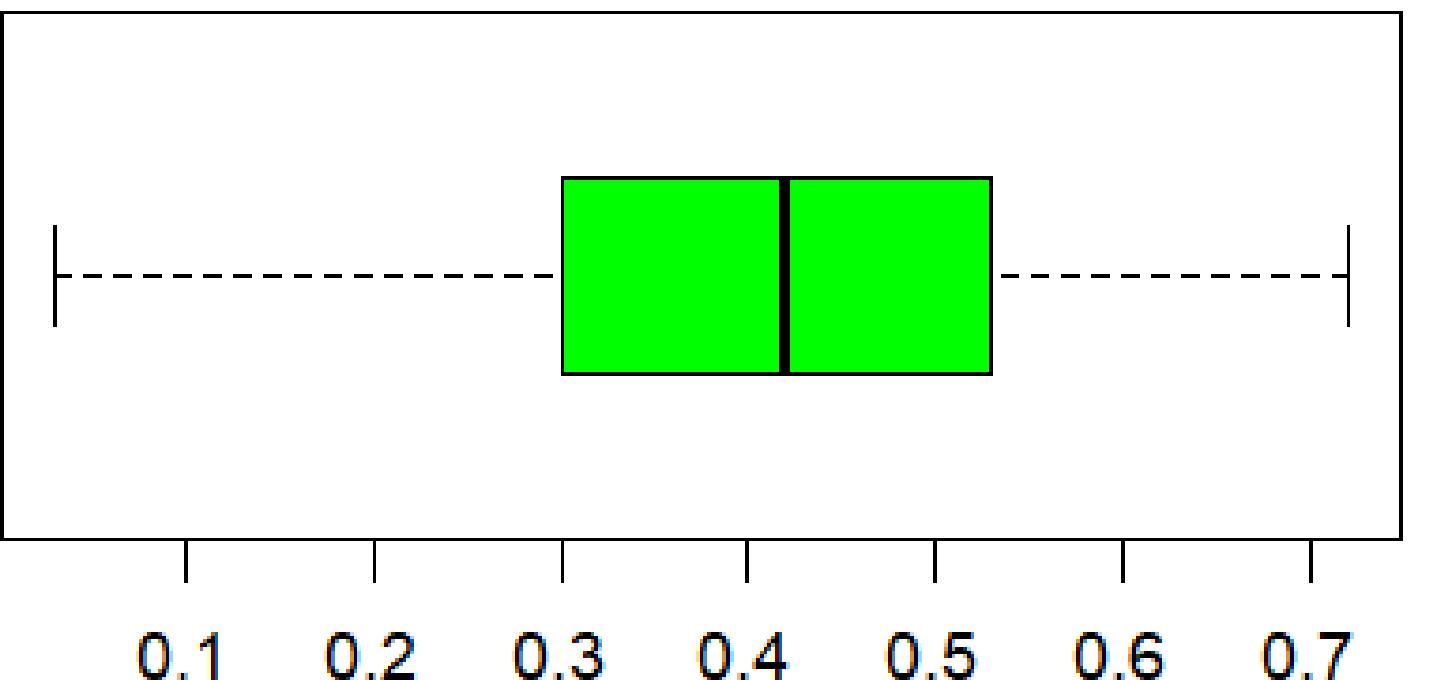
Quality less than 8



6 8 10 12 14 16

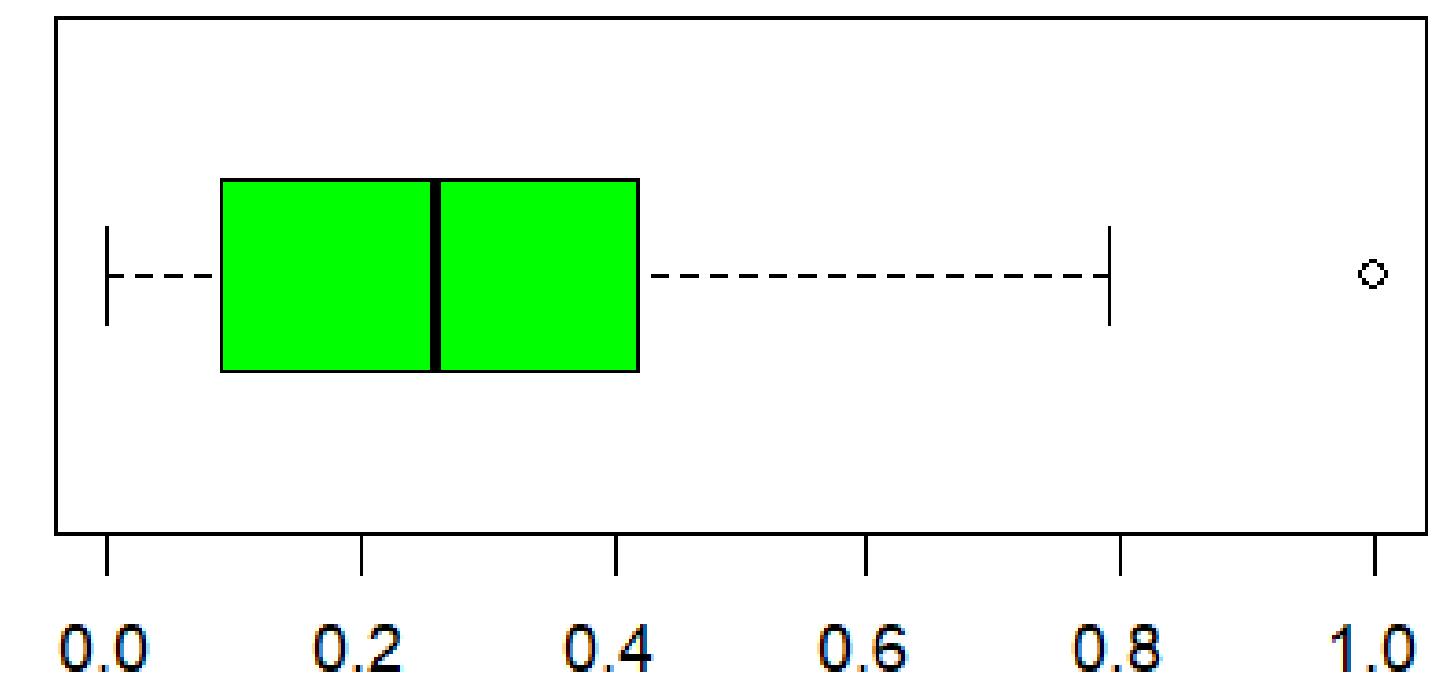
Fixed Acidity: $4.5 \text{ mg/L} < x < 9 \text{ mg/L}$

Quality = 8

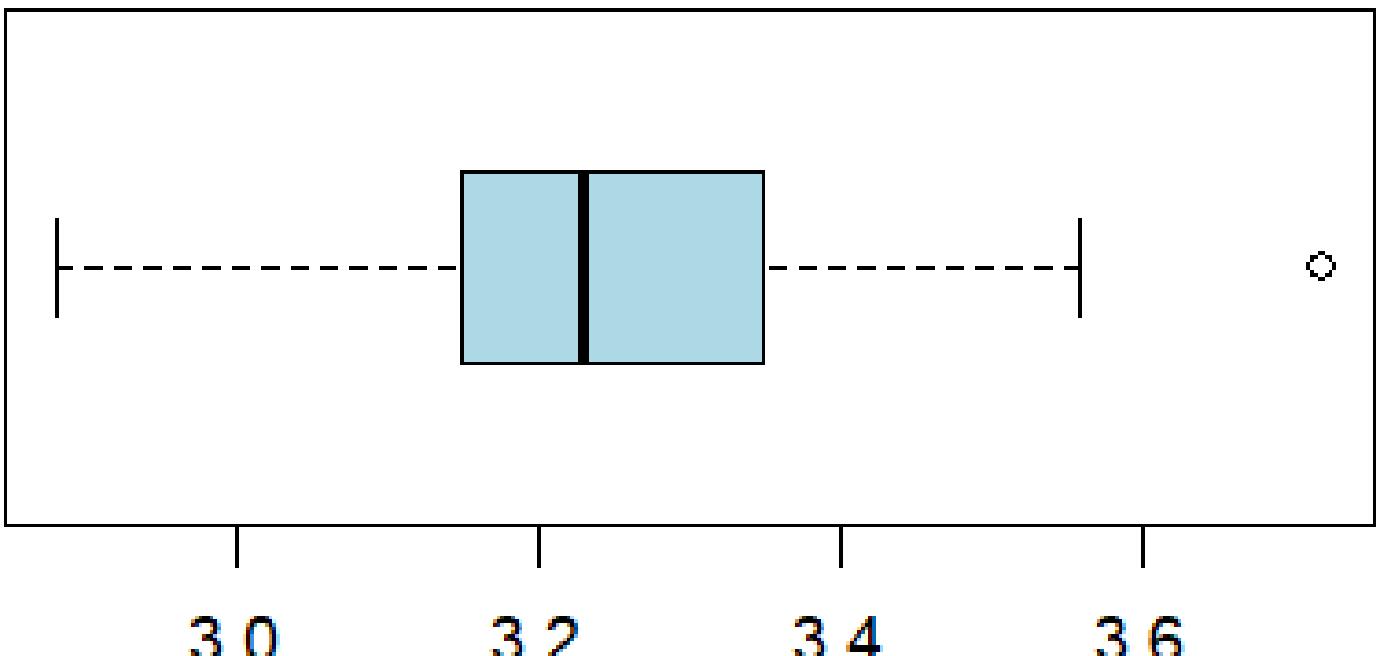


Citric Acid: > 15 mg/L

Quality less than 8

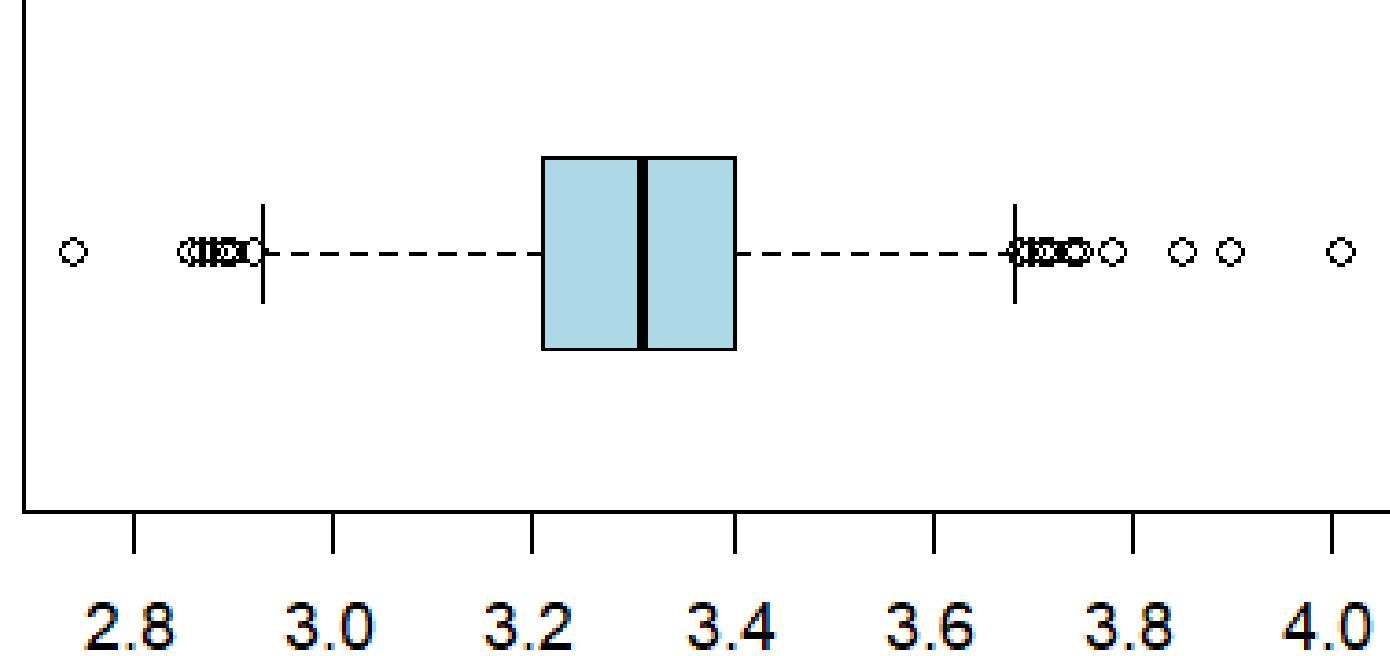


Quality = 8

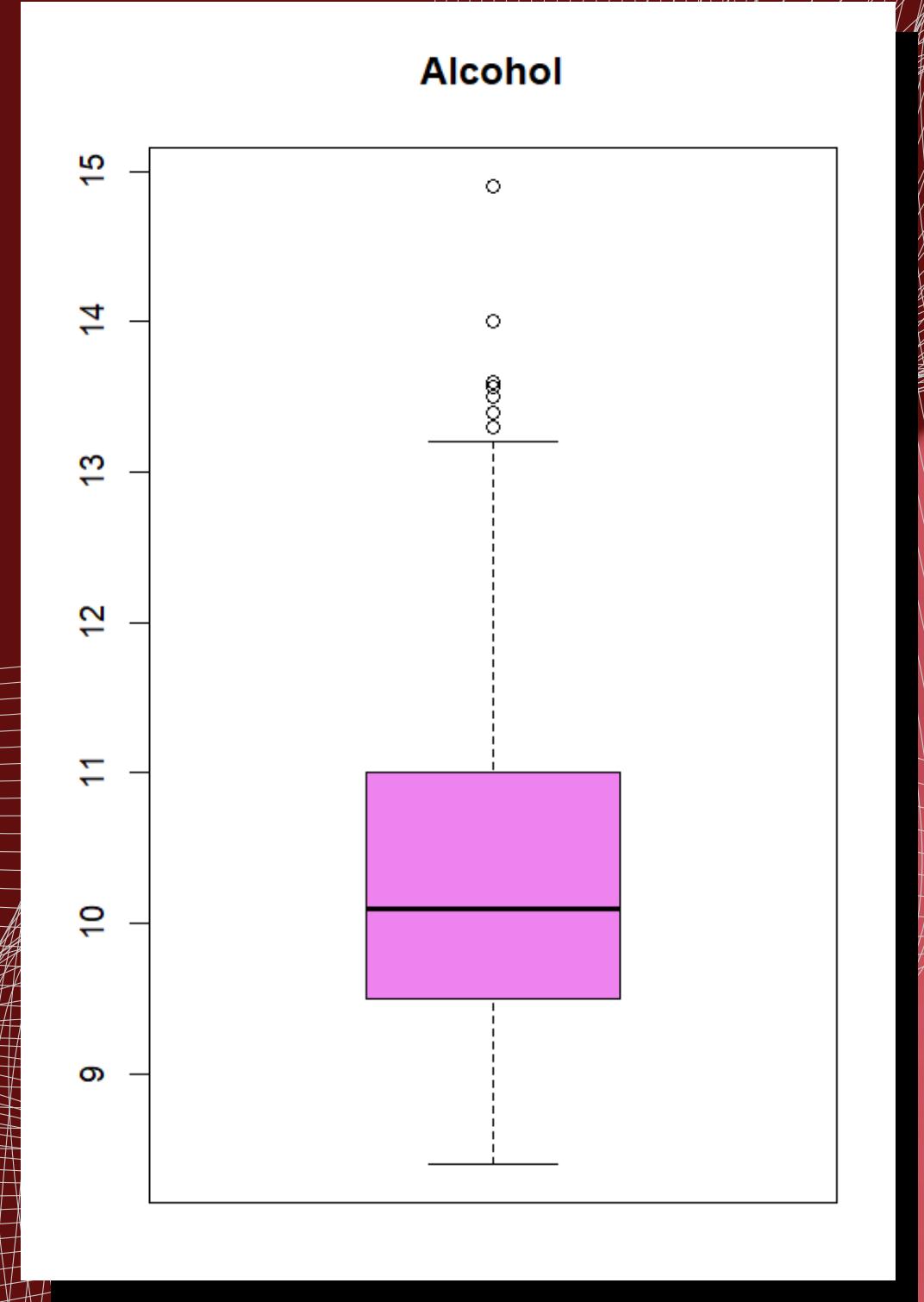
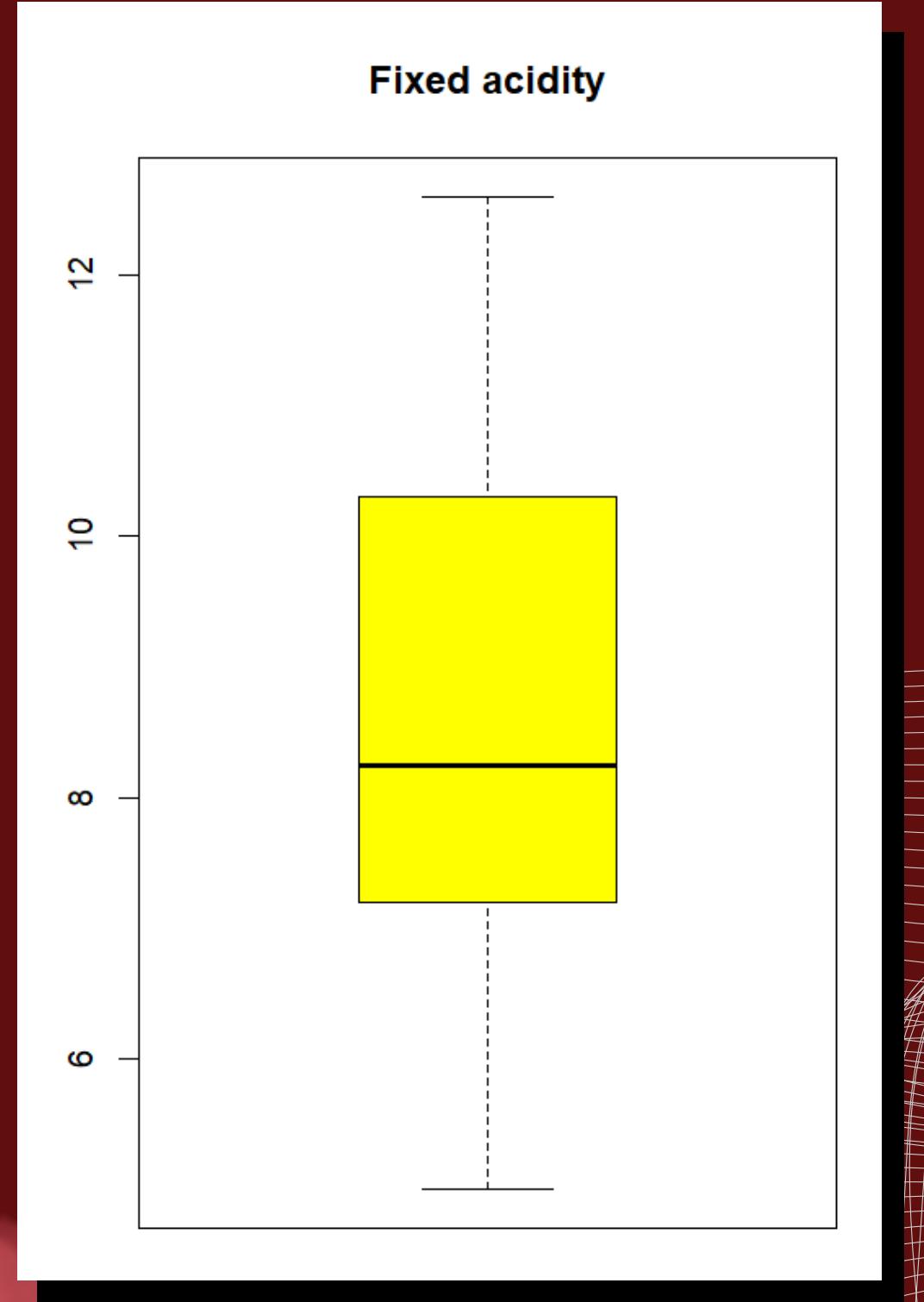
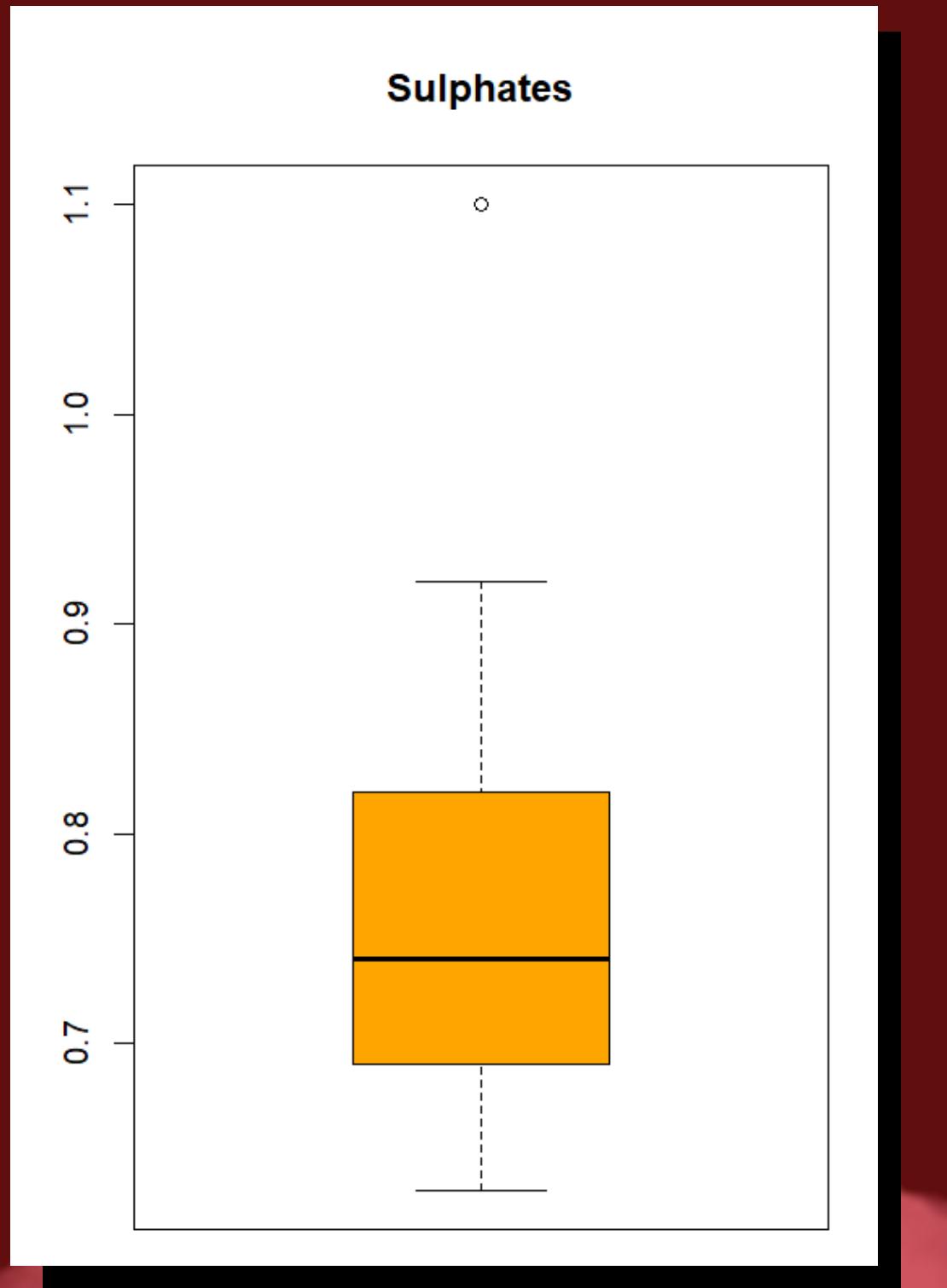


PH: $3.2 \text{ mg/L} < x < 3.6 \text{ mg/L}$

Quality less than 8

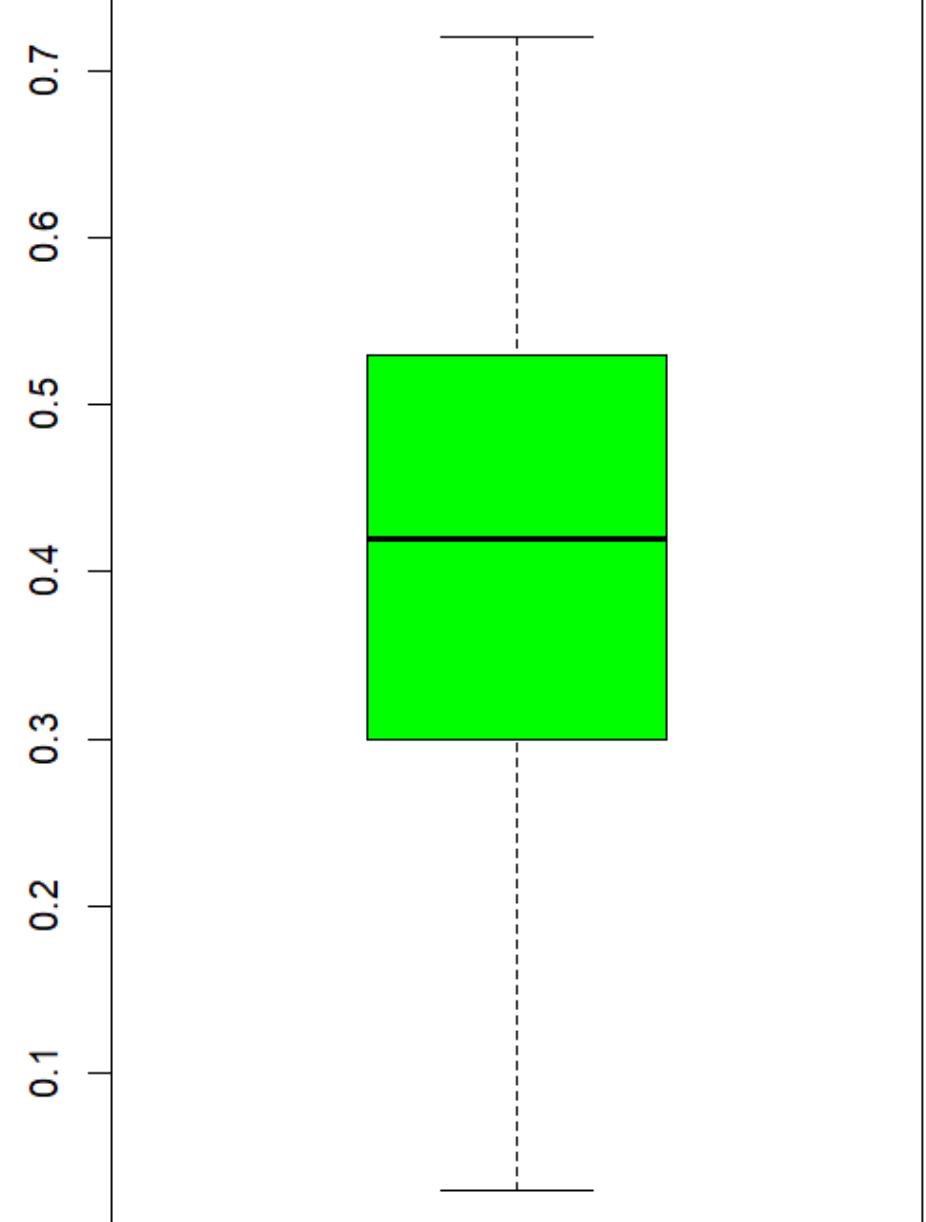


Skewness and Kurtosis

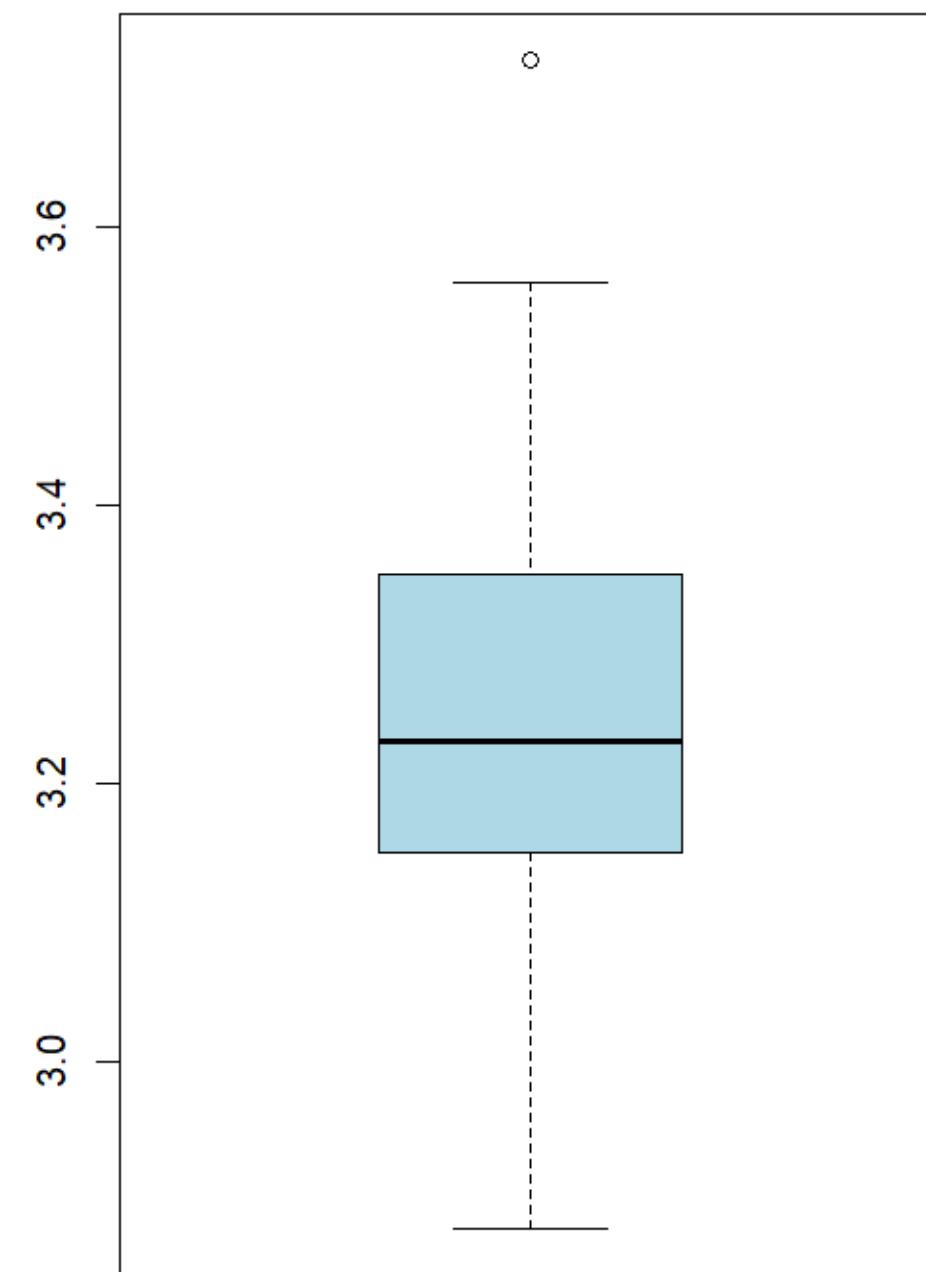


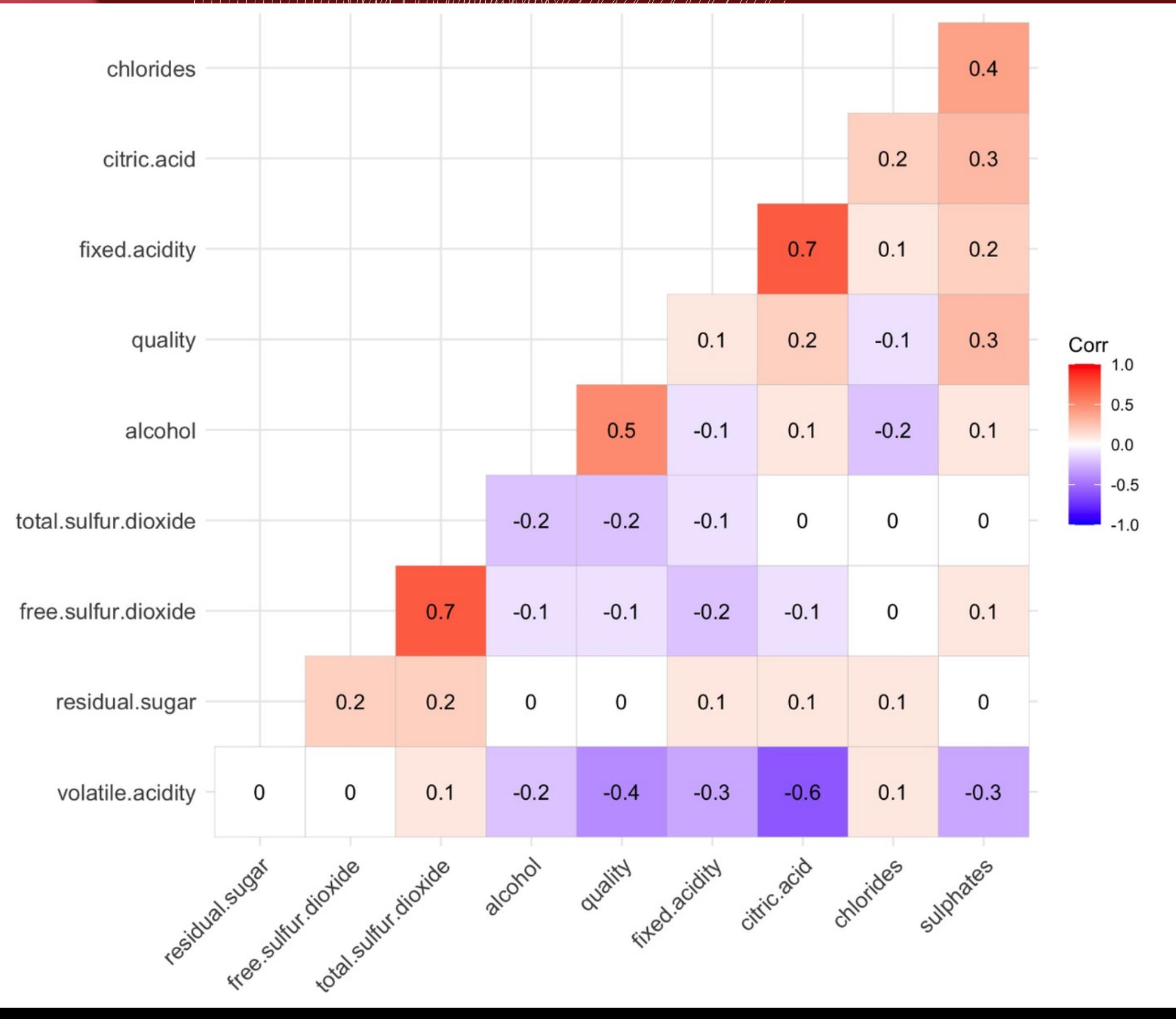
Skewness and Kurtosis

Citric acid

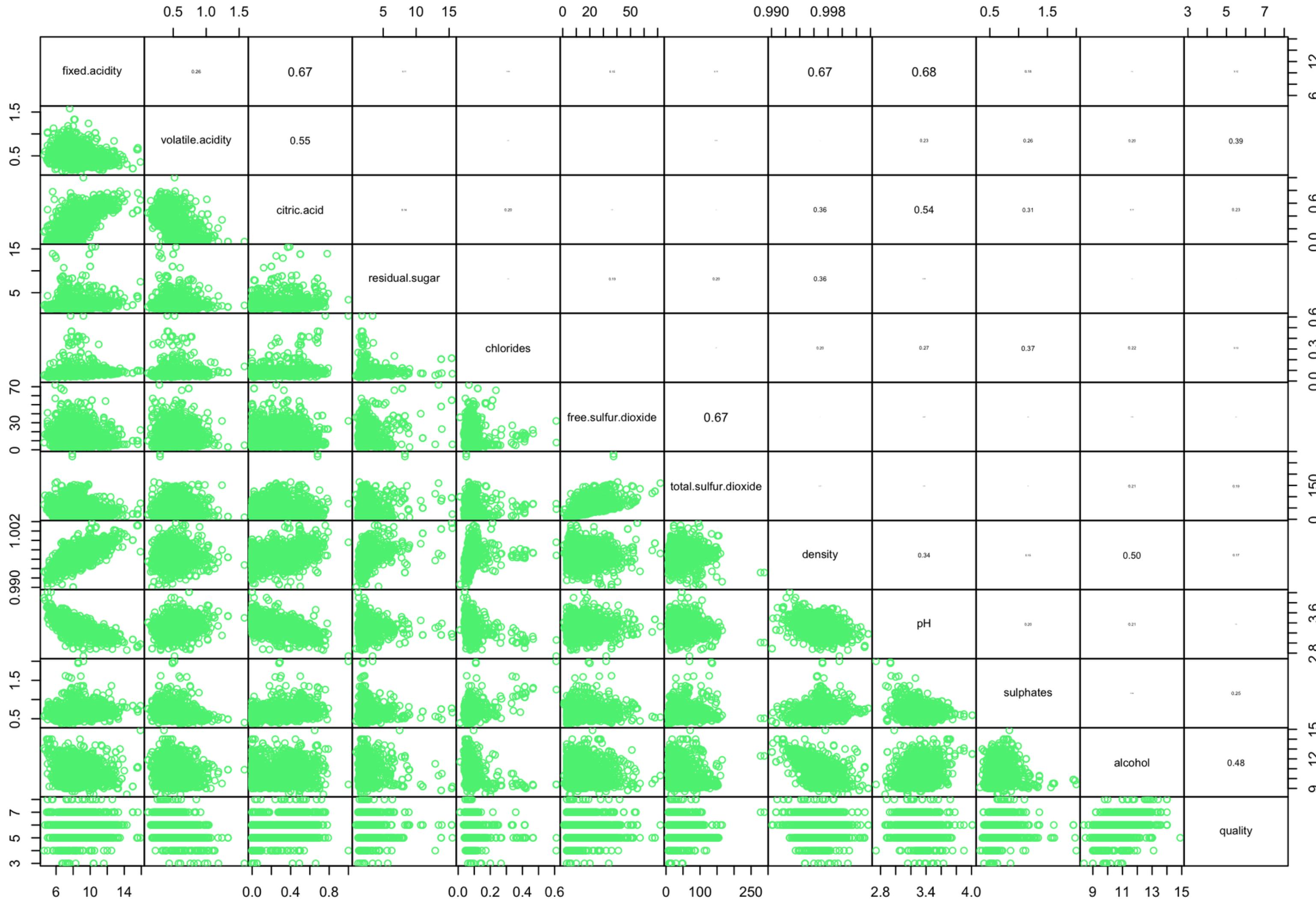


pH

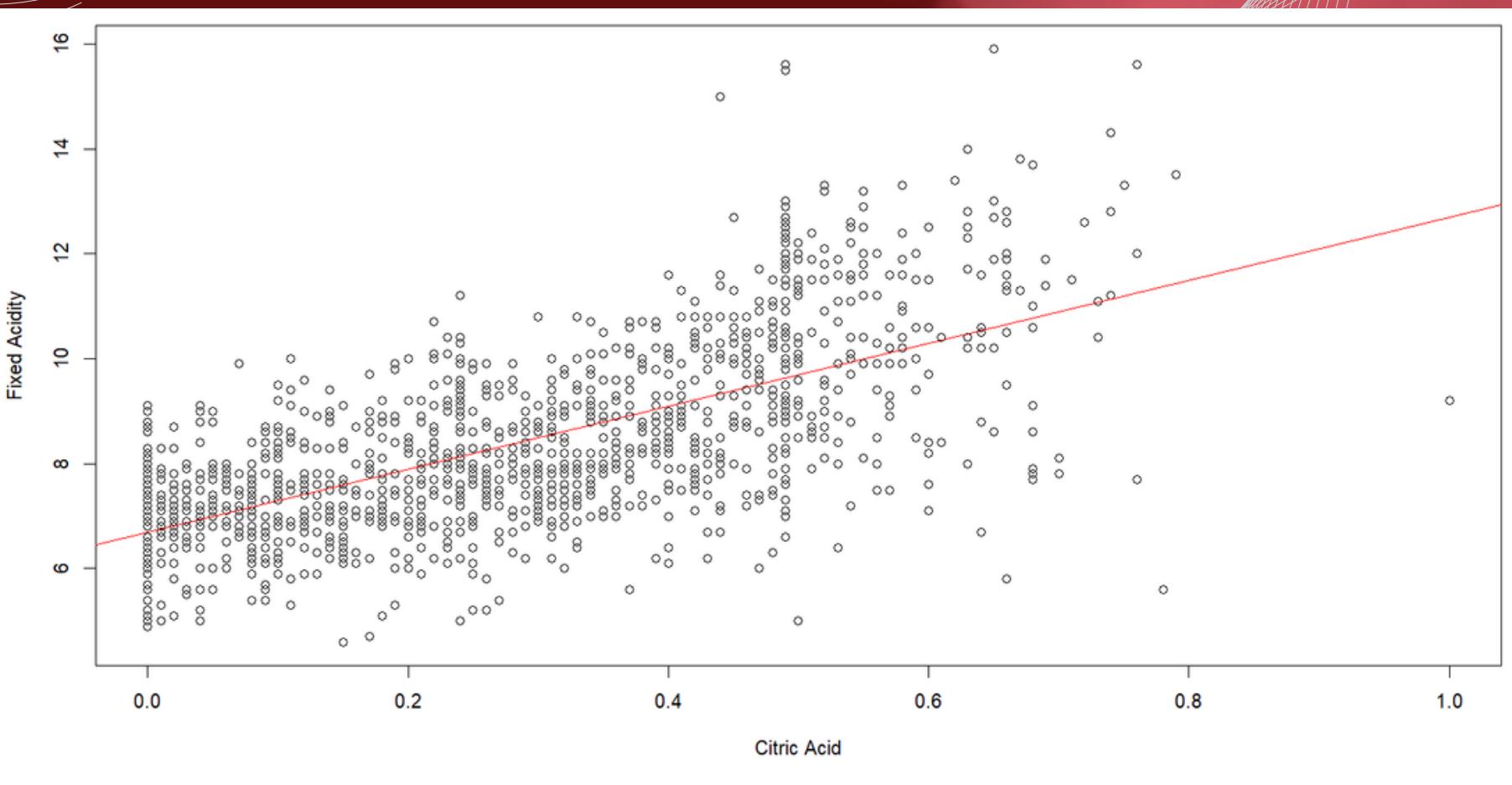
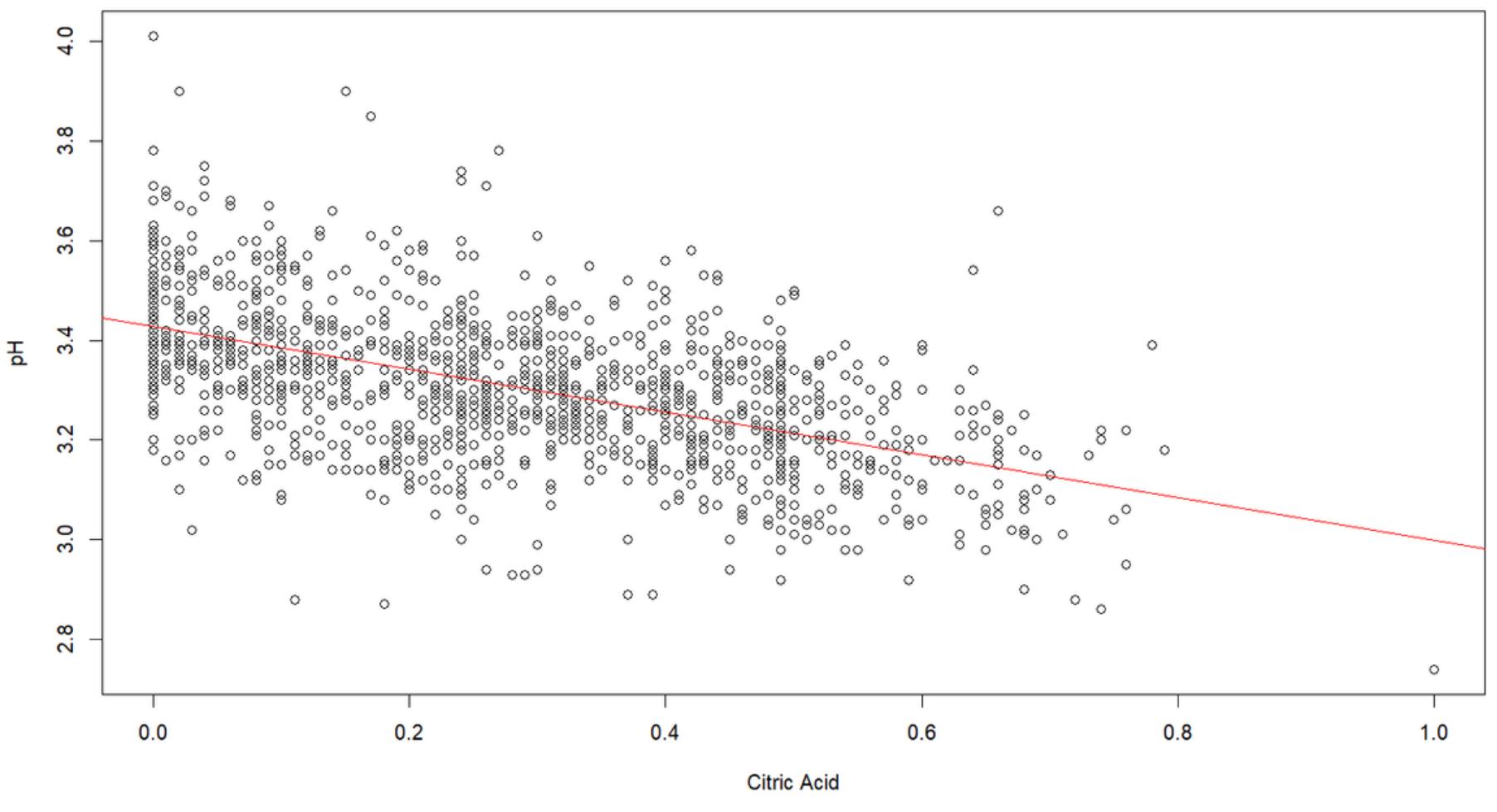




Correlation



Regression



Simple linear regression model

