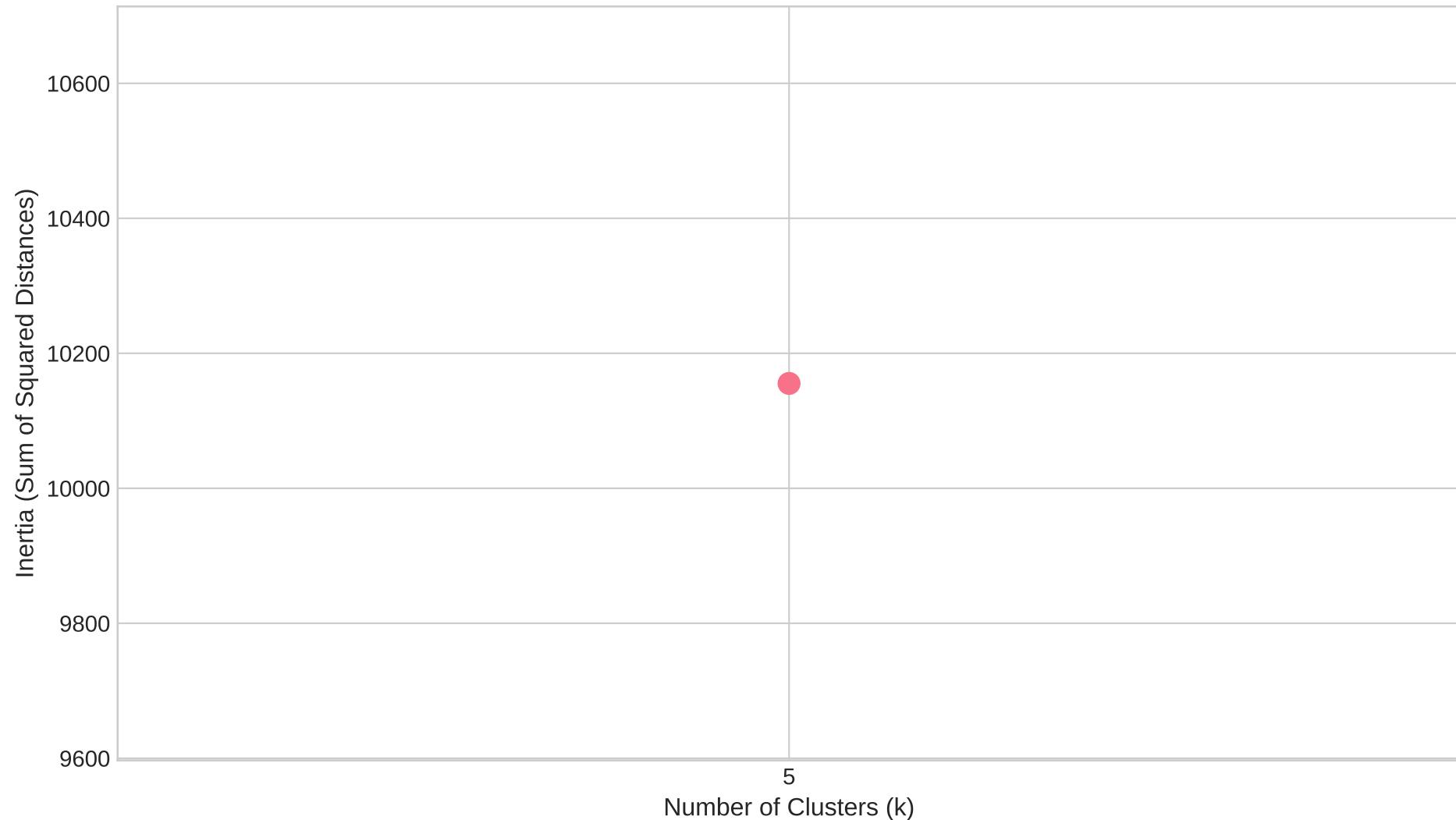
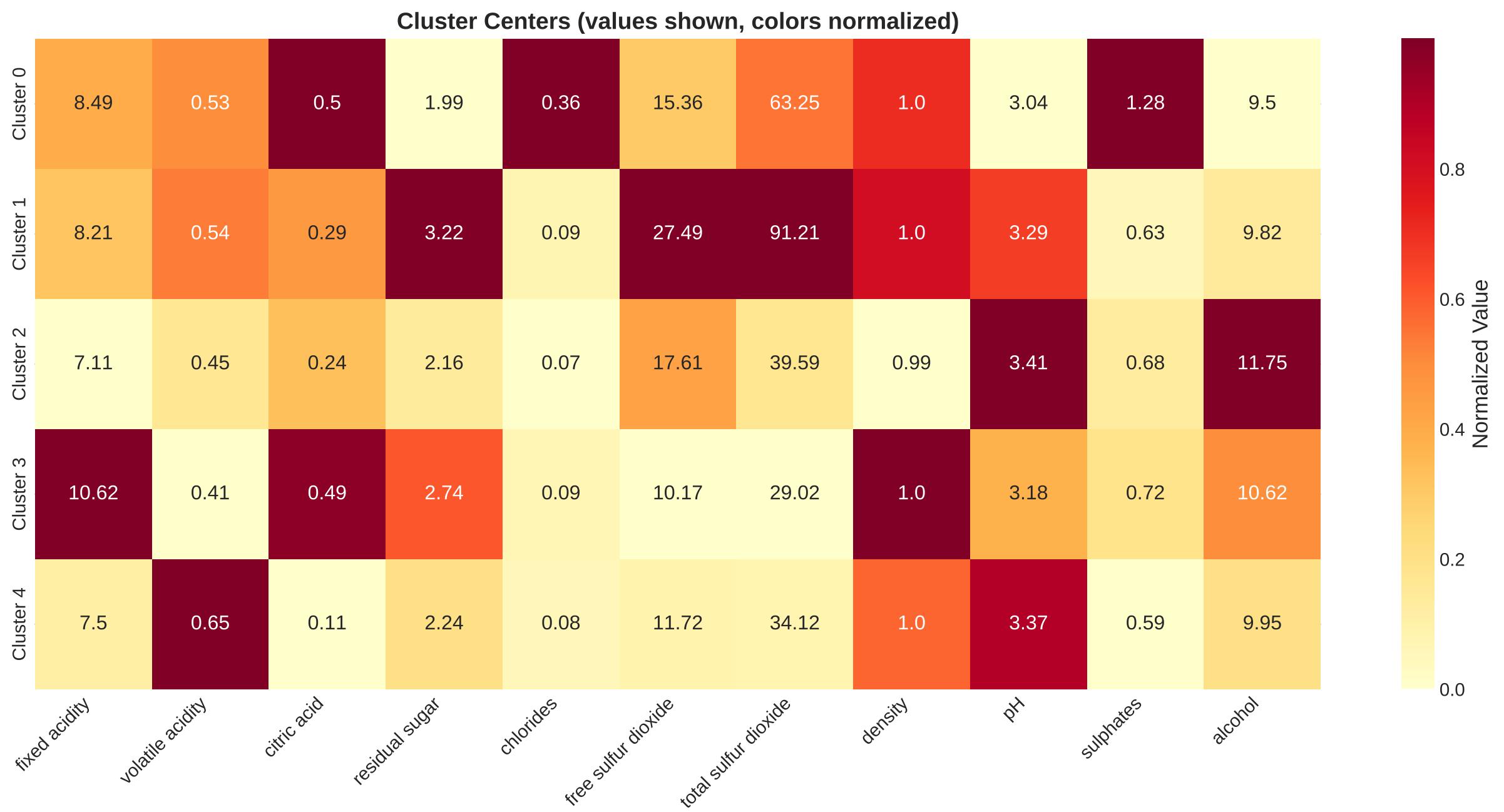
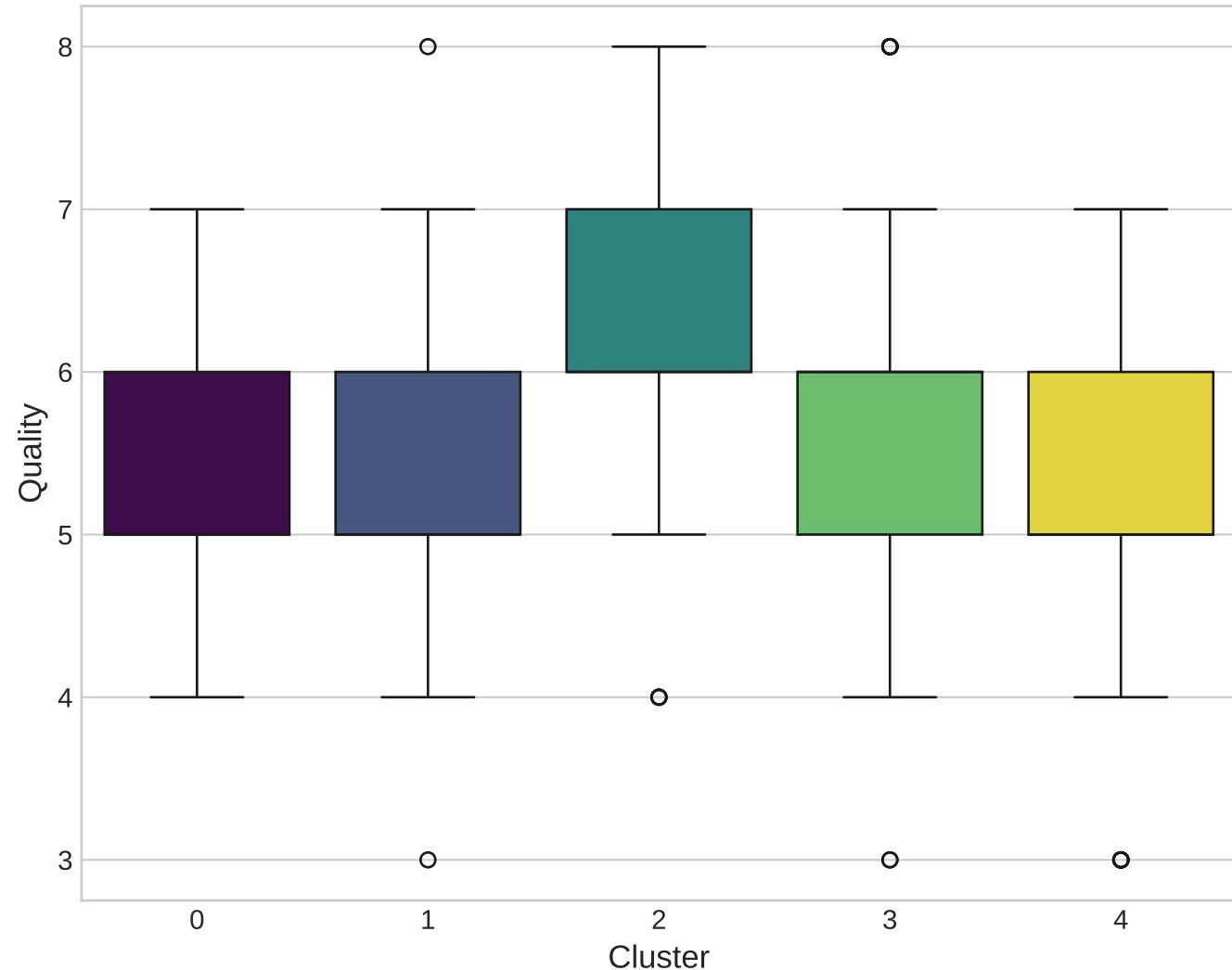


## K-means Elbow Curve

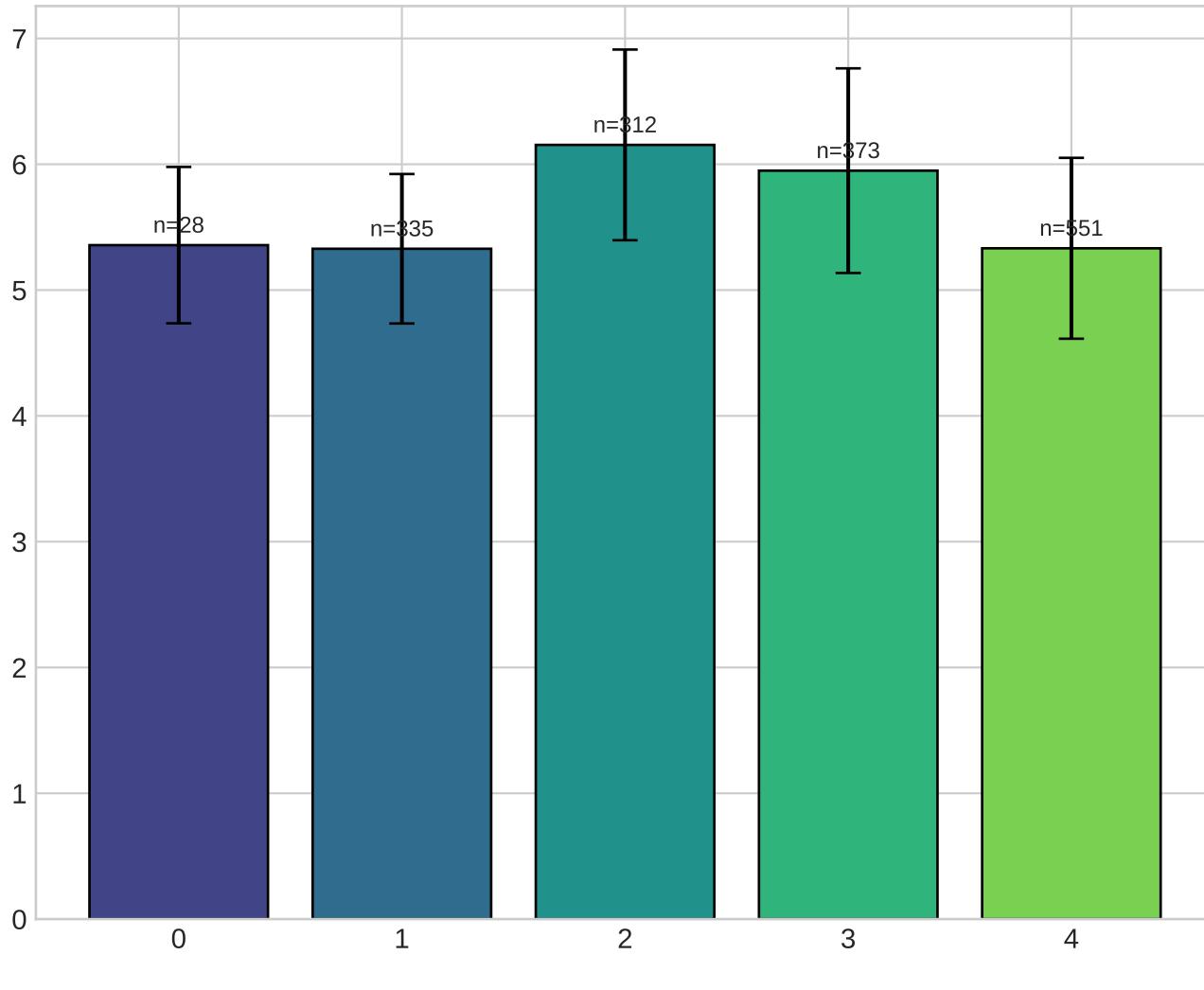




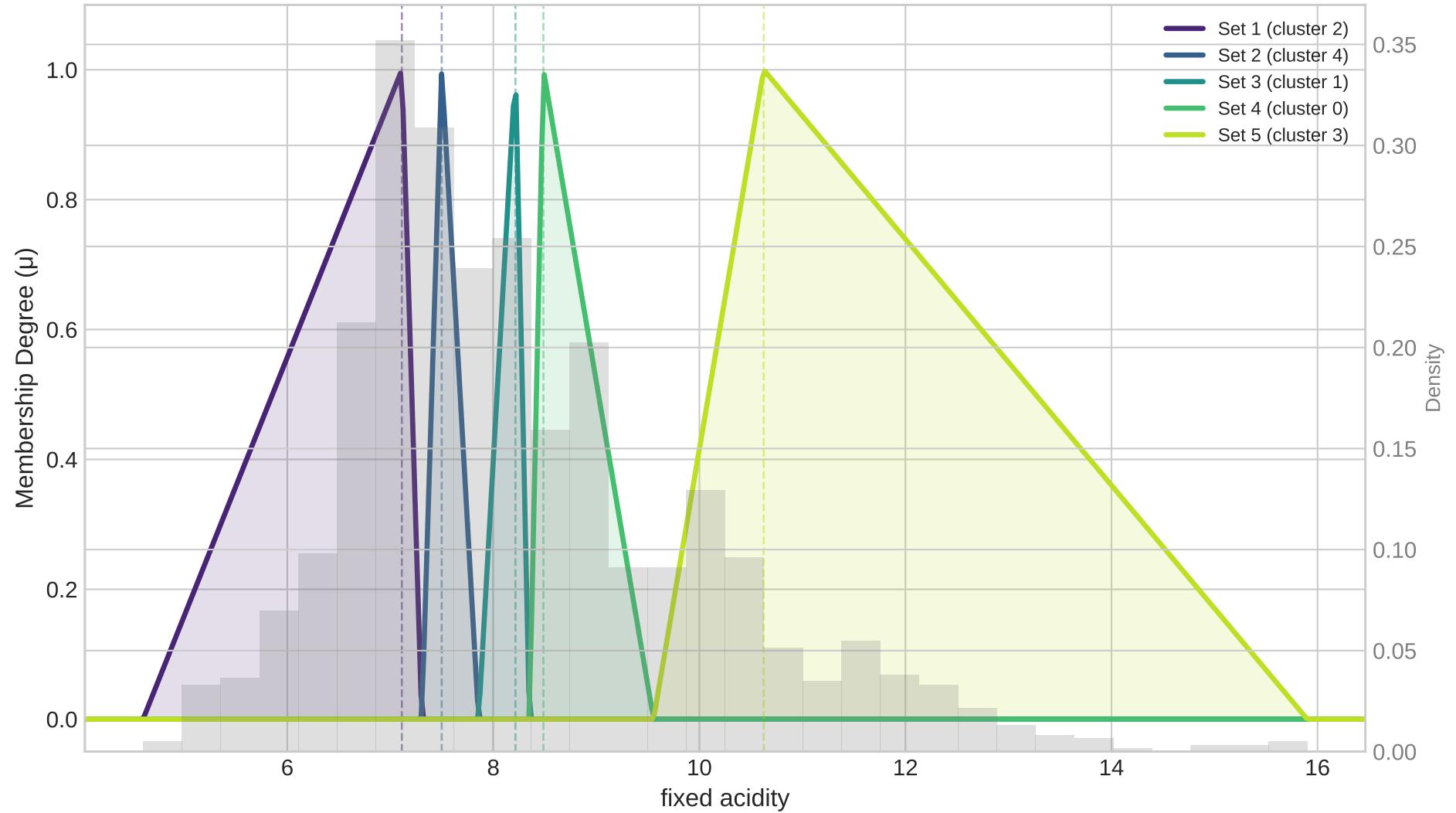
### Quality Distribution by Cluster



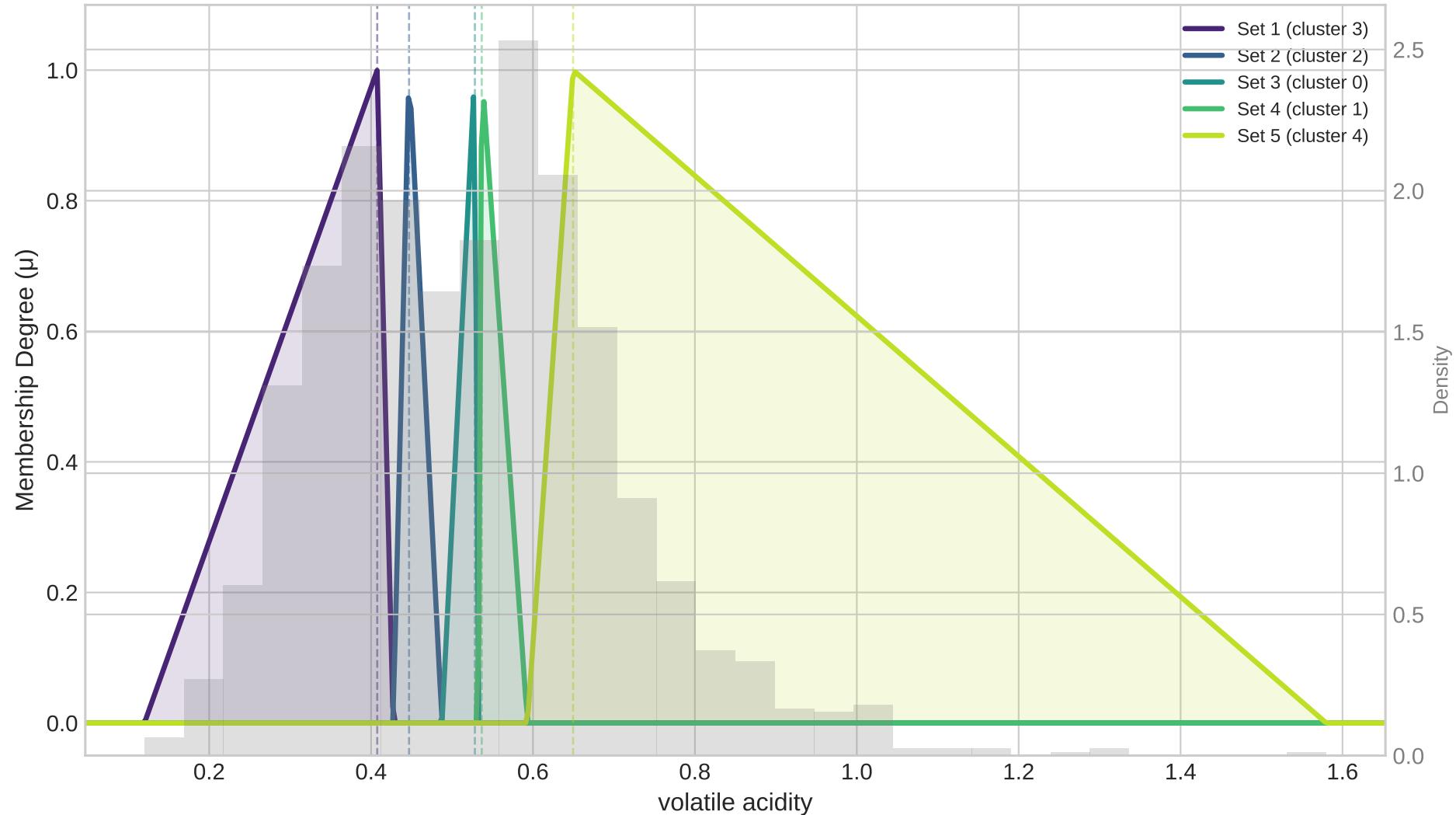
### Mean Quality by Cluster ( $\pm 1$ std)



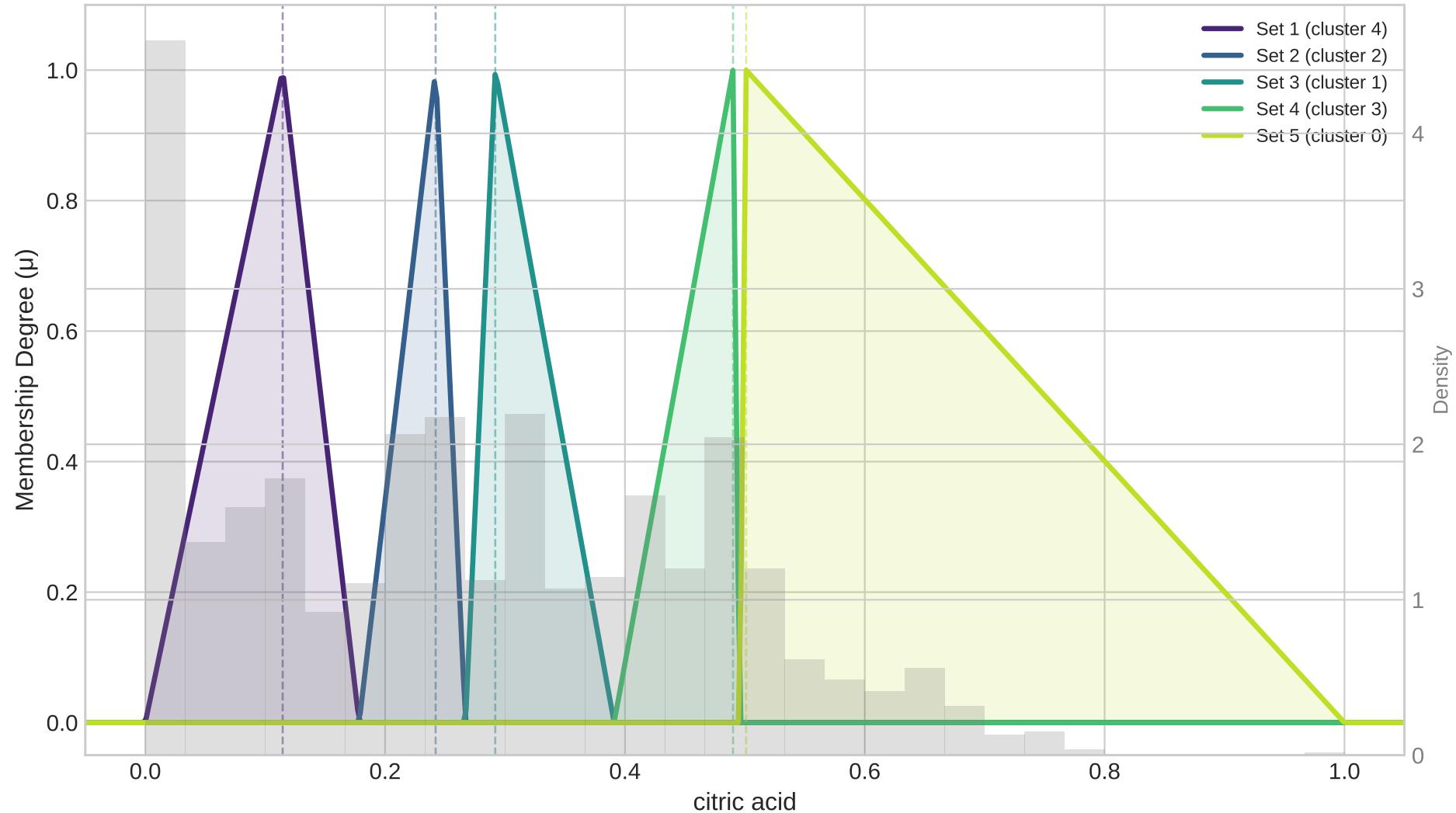
## Triangular Membership Functions: fixed acidity



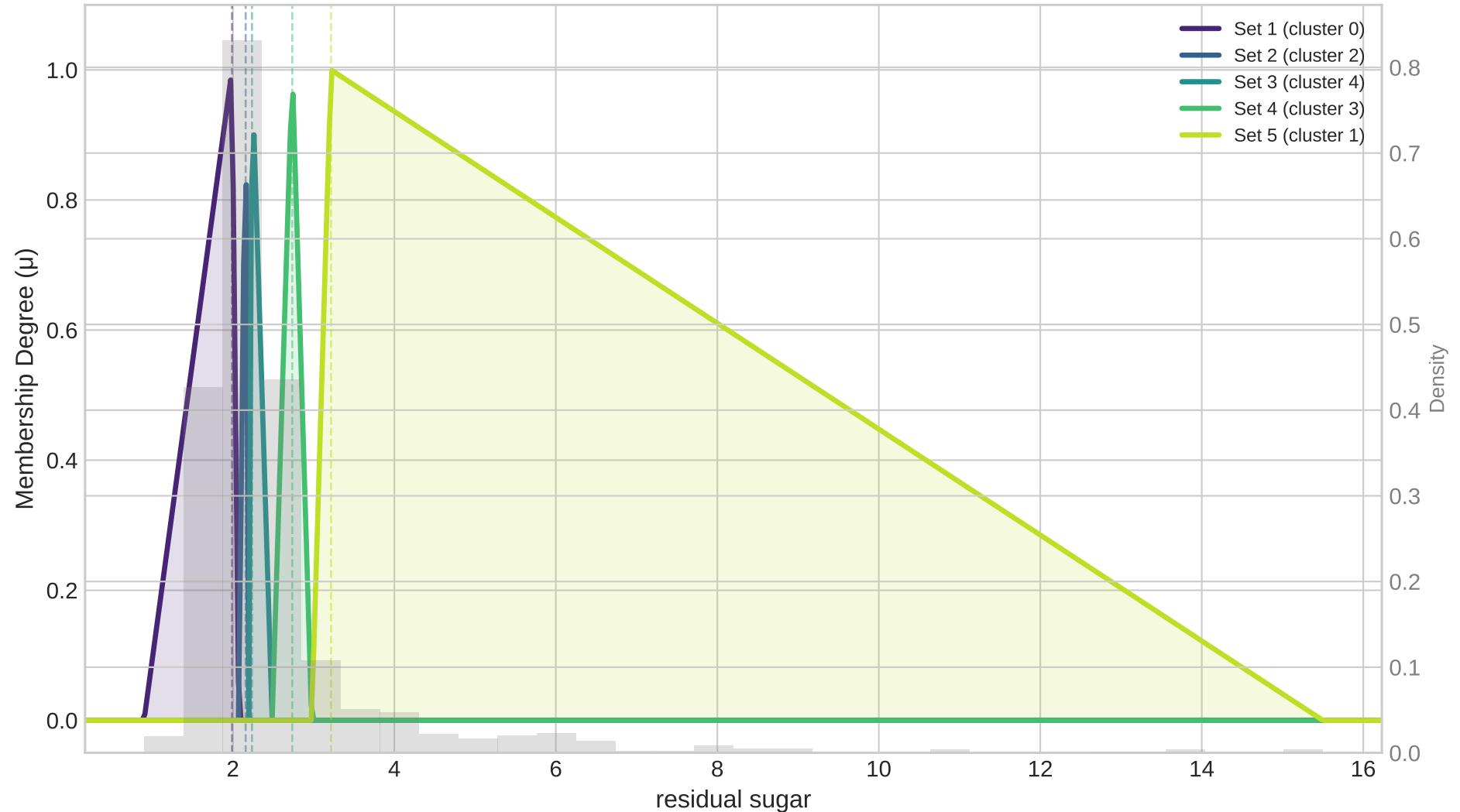
## Triangular Membership Functions: volatile acidity



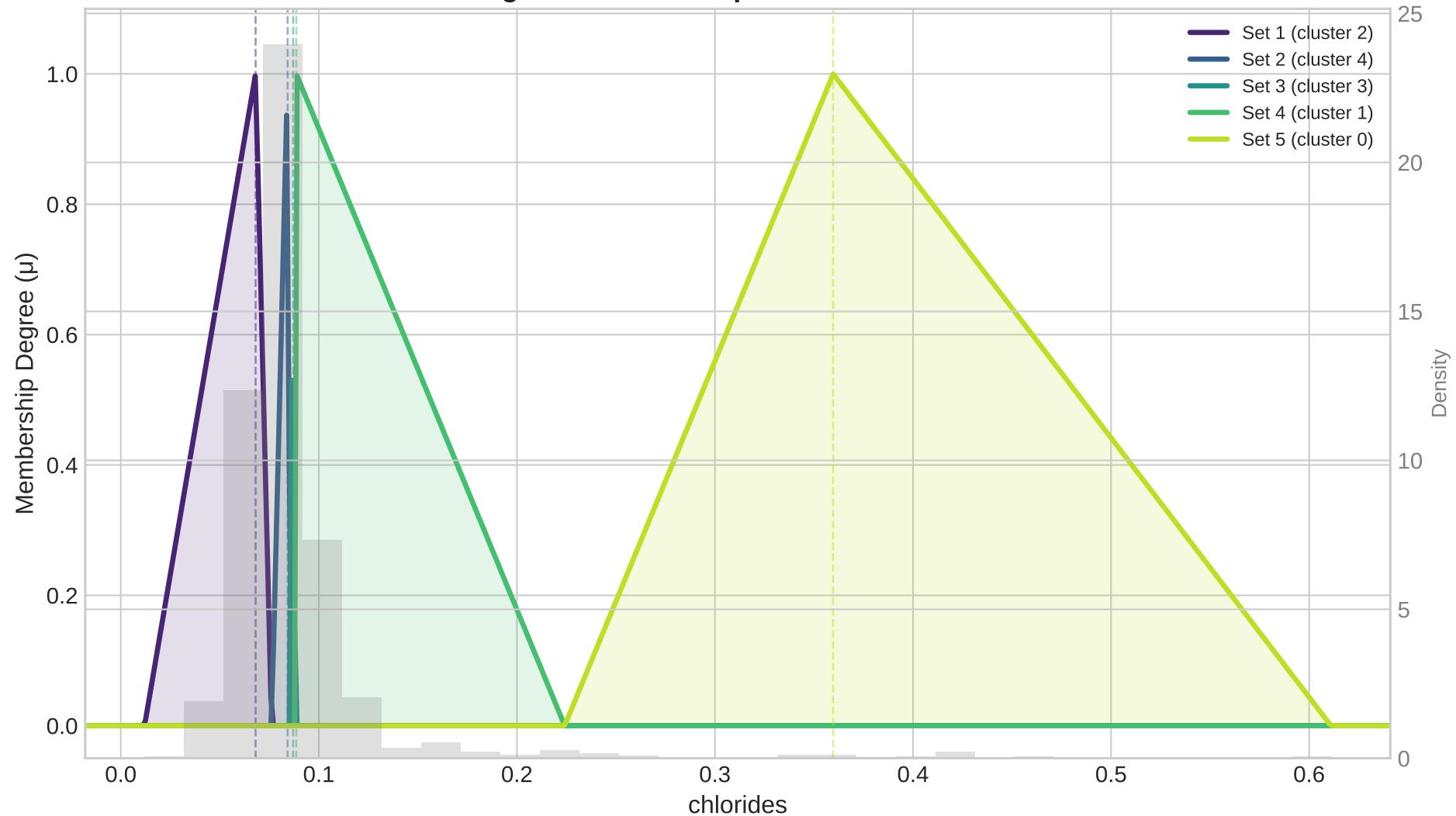
## Triangular Membership Functions: citric acid



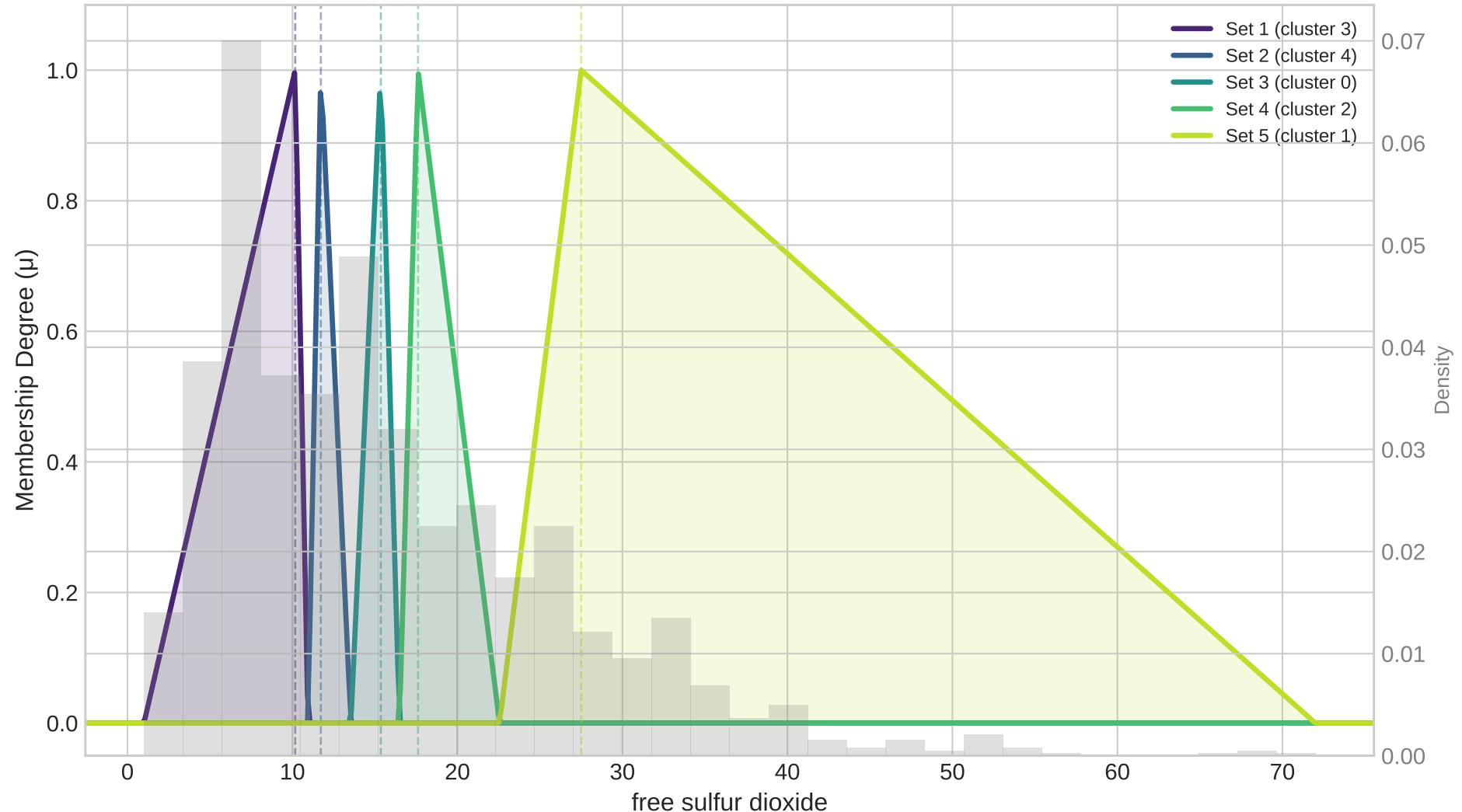
## Triangular Membership Functions: residual sugar



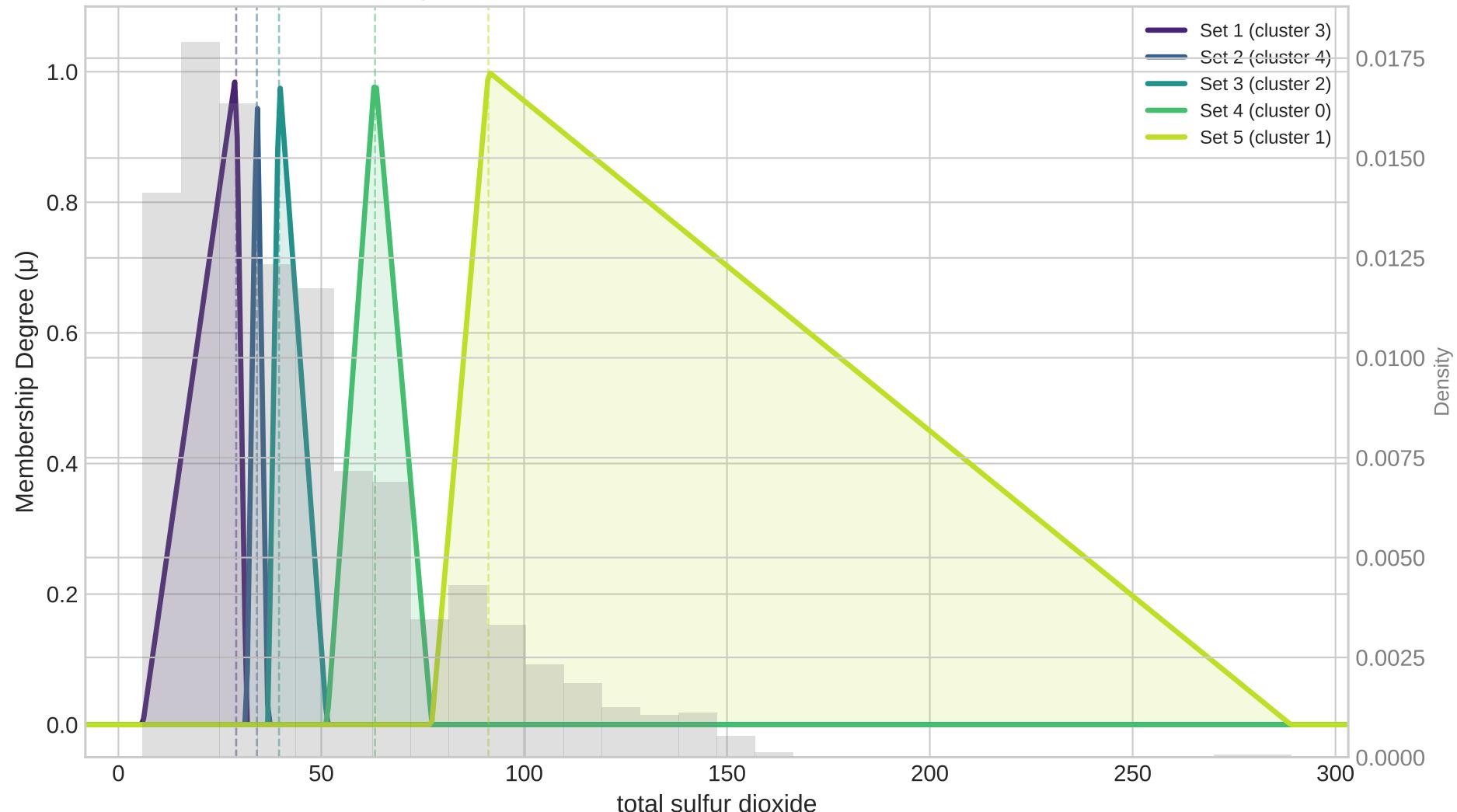
## Triangular Membership Functions: chlorides



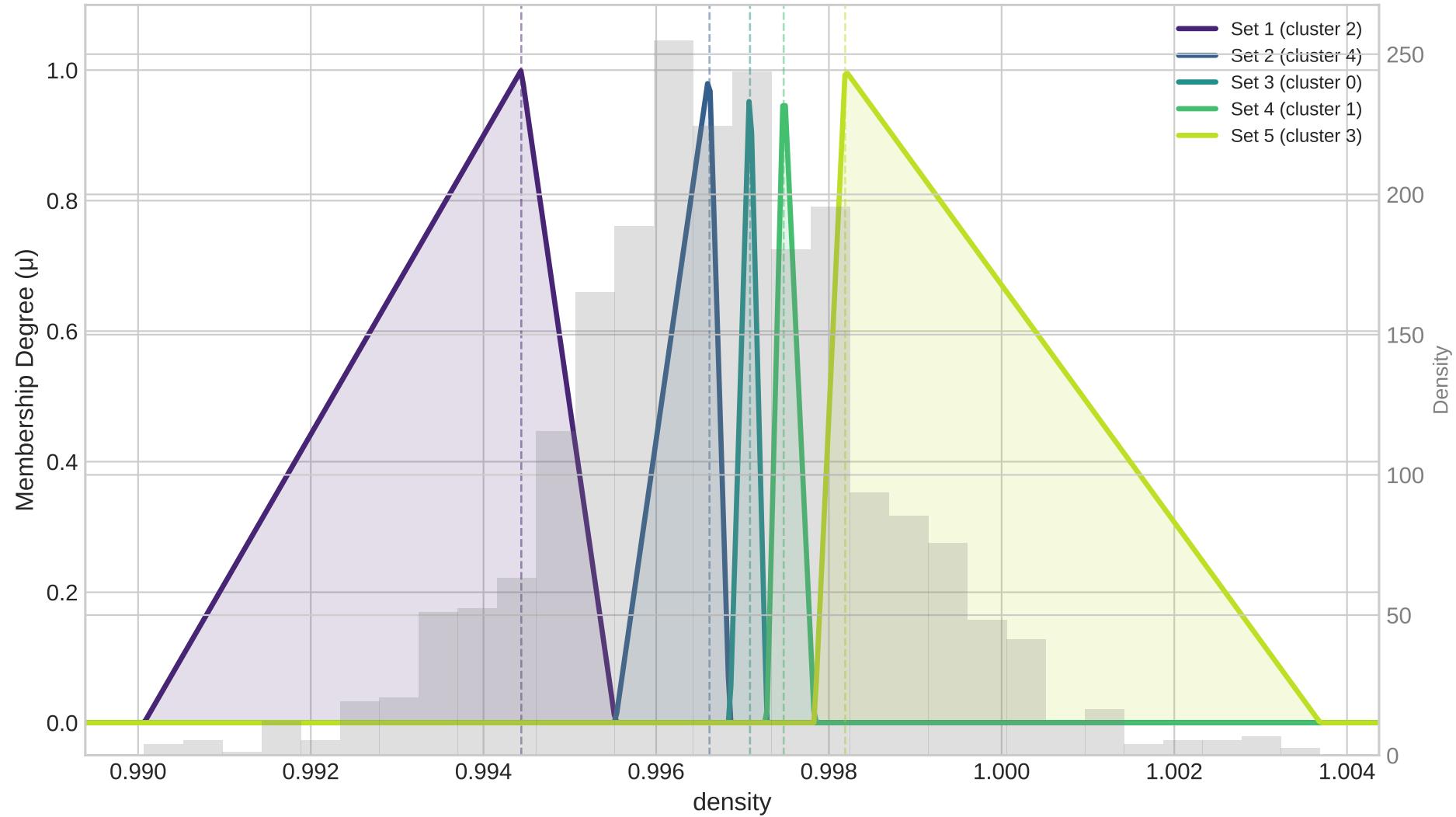
## Triangular Membership Functions: free sulfur dioxide



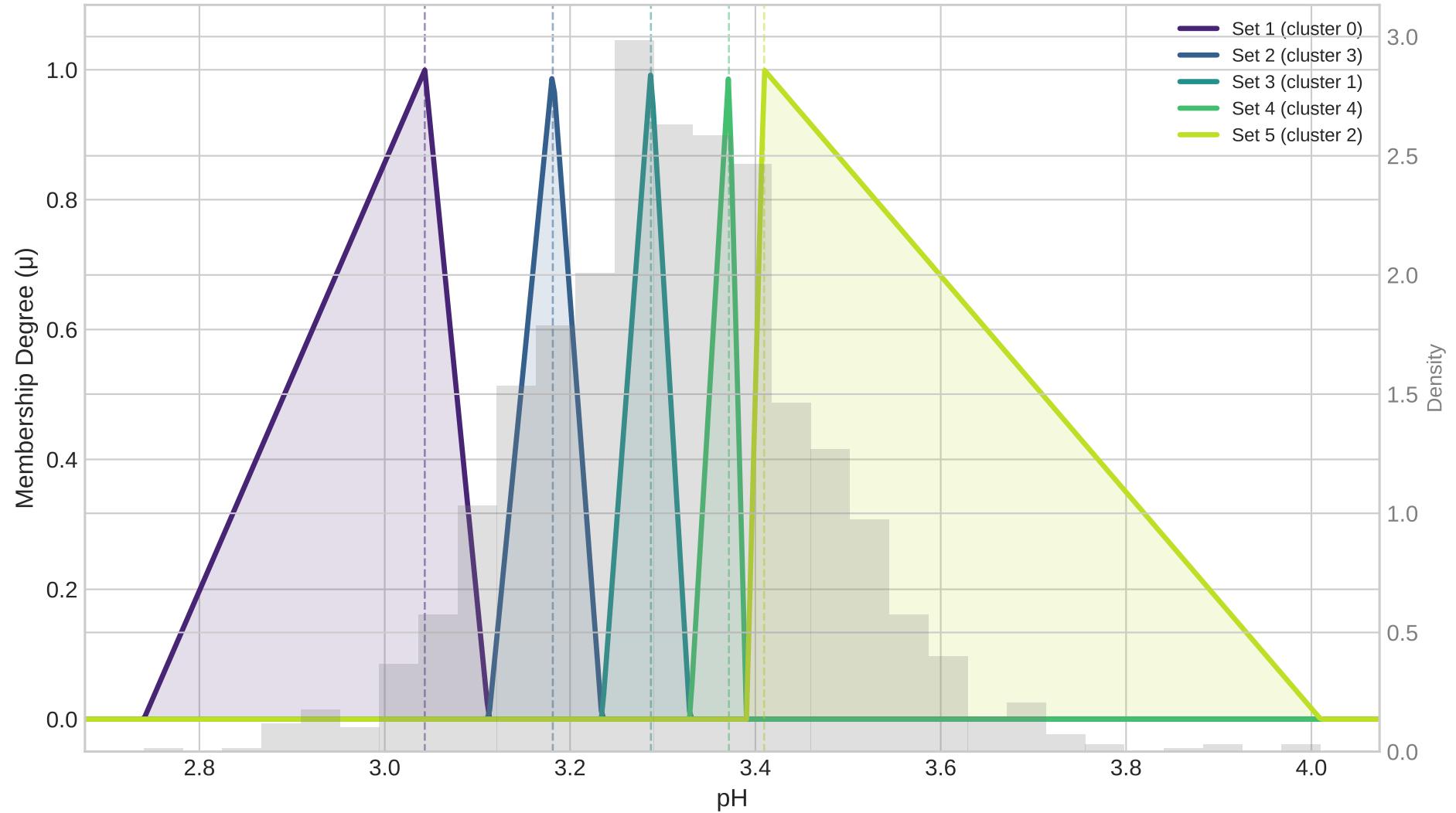
## Triangular Membership Functions: total sulfur dioxide



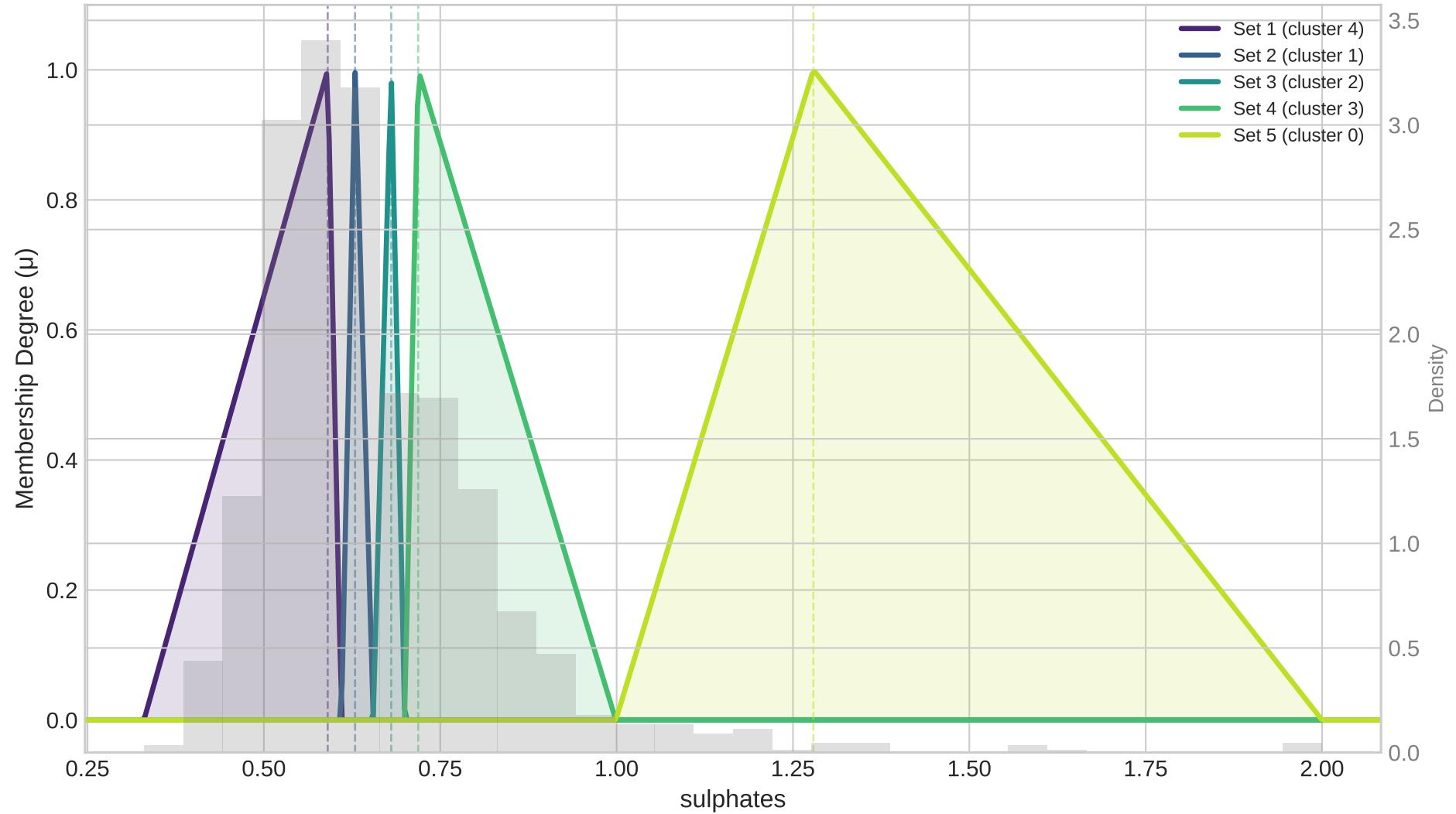
## Triangular Membership Functions: density



## Triangular Membership Functions: pH



## Triangular Membership Functions: sulphates



## Triangular Membership Functions: alcohol

