# Table of content electronical appendix

The electronical appendix consist out of the raw figures, tables and codes used for the thesis.

## Python codes

This folder contains the codes used for the thesis. The numbering of the file names are the following, i.e.:

1. Codes used for the cleaning of the data.
2. Codes used for the pre-processing of the data for respectively the interpolations (area), the biplots and the cluster analysis.
3. Codes used for the interpolation. For each area an other code was used implementing the different optimal parameters. Nevertheless, the general outline is the same.
4. Codes used for the CIPW and cluster analyses.
5. Codes used for the conversion of the composition of the interpolated grid points to the CIPW norm.

## Figures

This folder contains the raw figures. Most of them were not implemented in the thesis.

1. For each area, biplots were made using all the data and after joining the P2O5, l.i. and oth. columns. The covariance biplot is implemented together with the form biplot highlighting the time of formation, QAPF-classification, samples containing zero values for certain columns and samples outside the interval for the total sum (99.75% and 100.50% for interval fine, 99.50% and 100.75% for interval).
2. Contour maps for the interpolated grid points using the hierarchical clustering- and K-means method.
3. The spatial distribution of the control points.
4. The CPV plot highlighting the number of principal components needed to obtain 95% of the variability of the data.
5. Graphs depicting the ASI, Fe-number and MALI. The remarkable and good classifications are also implemented for the three different parameters.
6. Contour maps of the interpolation for all the different oxides and areas.
7. Contour maps for the CIPW norm on the interpolated grid points.
8. The ternary diagram of the control points: the correct graph and the graph when albite belongs entirely to the alkali-feldspars (wrong).
9. Variogram models of the first 7 PC’s for each areas.

## Tables

1. Tables involving the classification of Frost. The two excel files depict the number of samples for each combination of the three parameters (Fe-number, MALI, ASI)
2. Number of samples belonging to a group created by the cluster analyses of the control points and the interpolated grid points using the ‘feature engineering’ method
3. The number of samples belonging to certain classes of the QAPF-classification.
4. Variance of the 5 areas using all the data.
5. Excel file used in the determination of the optimal variogram parameters.