

archeospec

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Dataset

This report includes the signatures for 30 files. A completed listing can be found at the end of the document.

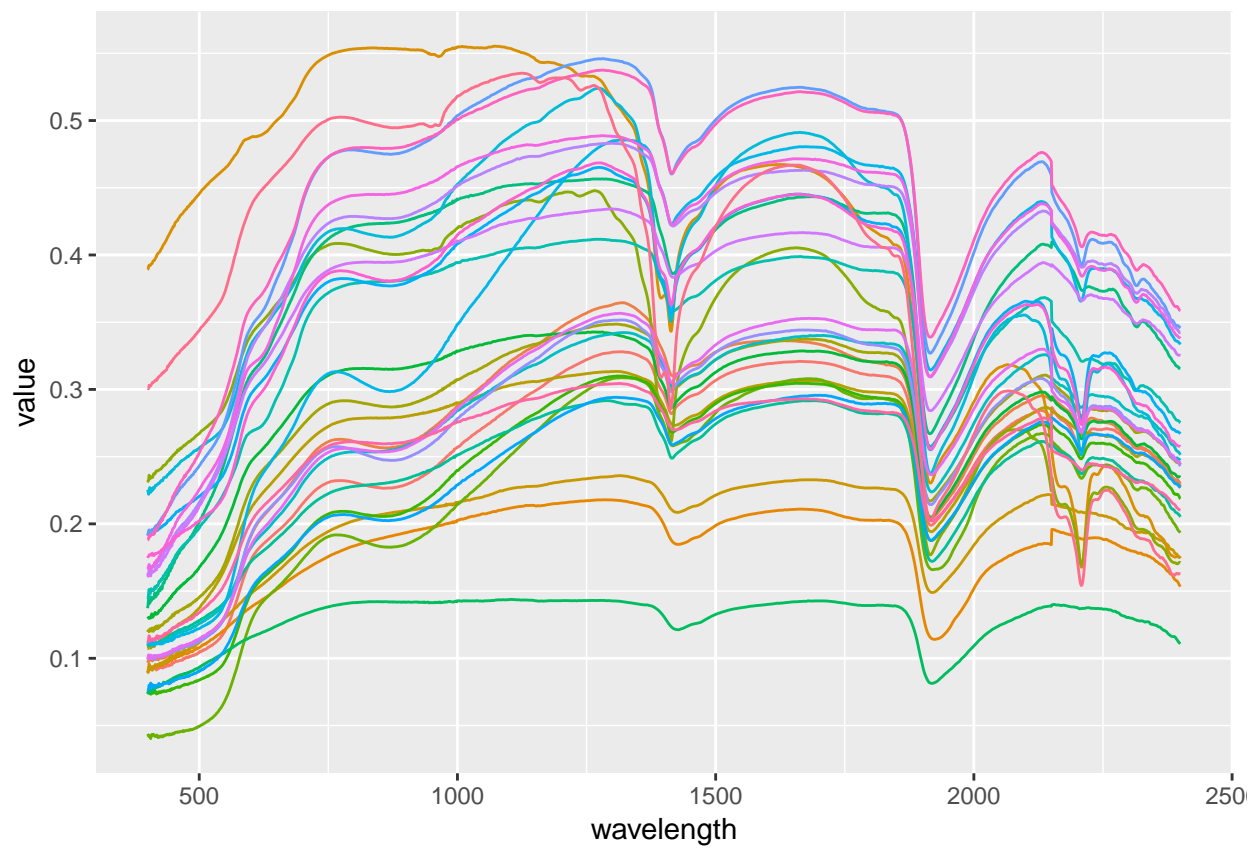
Parameters

The following parameters have been used:

- Unmixing Technique: Manually selected endmembers
- Clustering Technique: Endmembers selected as centroids
- Noise reduction has removed wavelengths ranges until 400
- Noise reduction has removed wavelengths ranges from 2400
- Signatures have been smoothed on ranges 1001,1831

Visualization

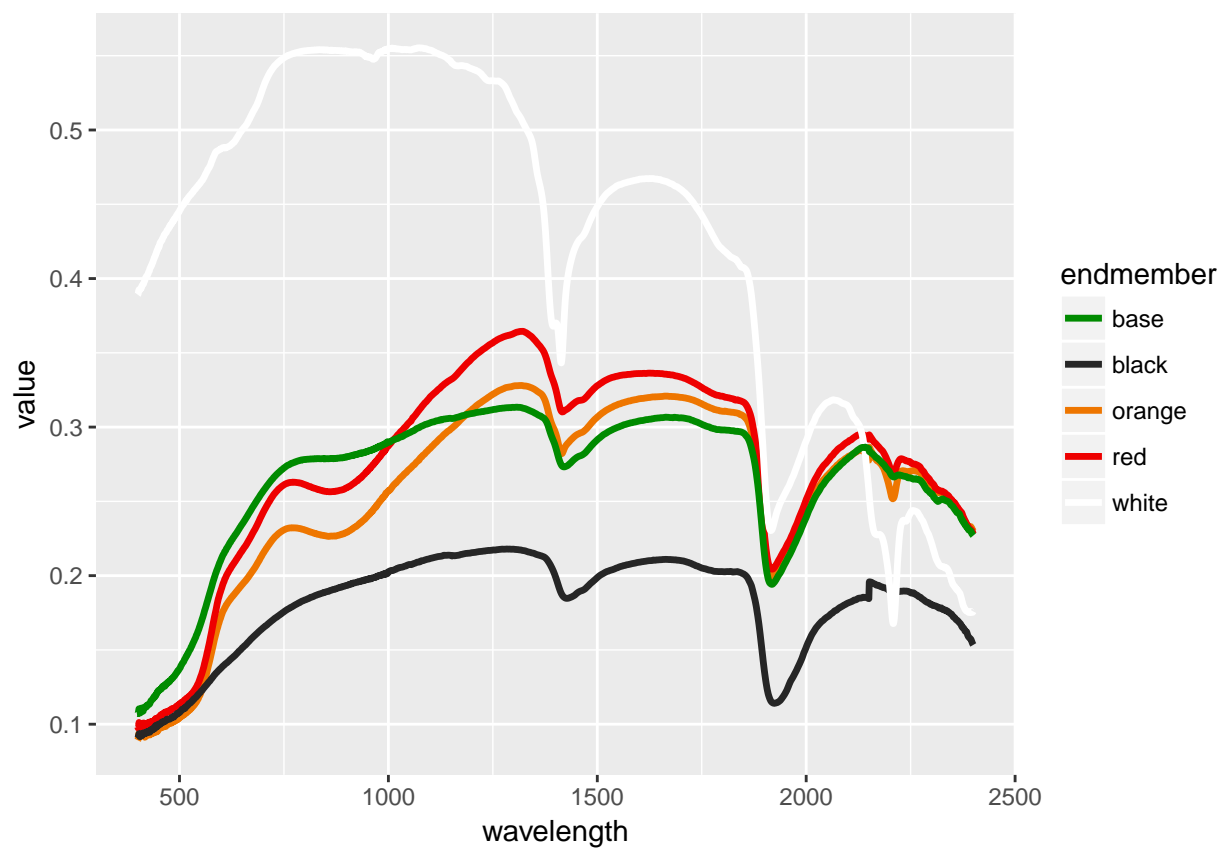
The following figure shows the representation of every signature in the dataset. Colors are assigned at random.



Unmixing (manual)

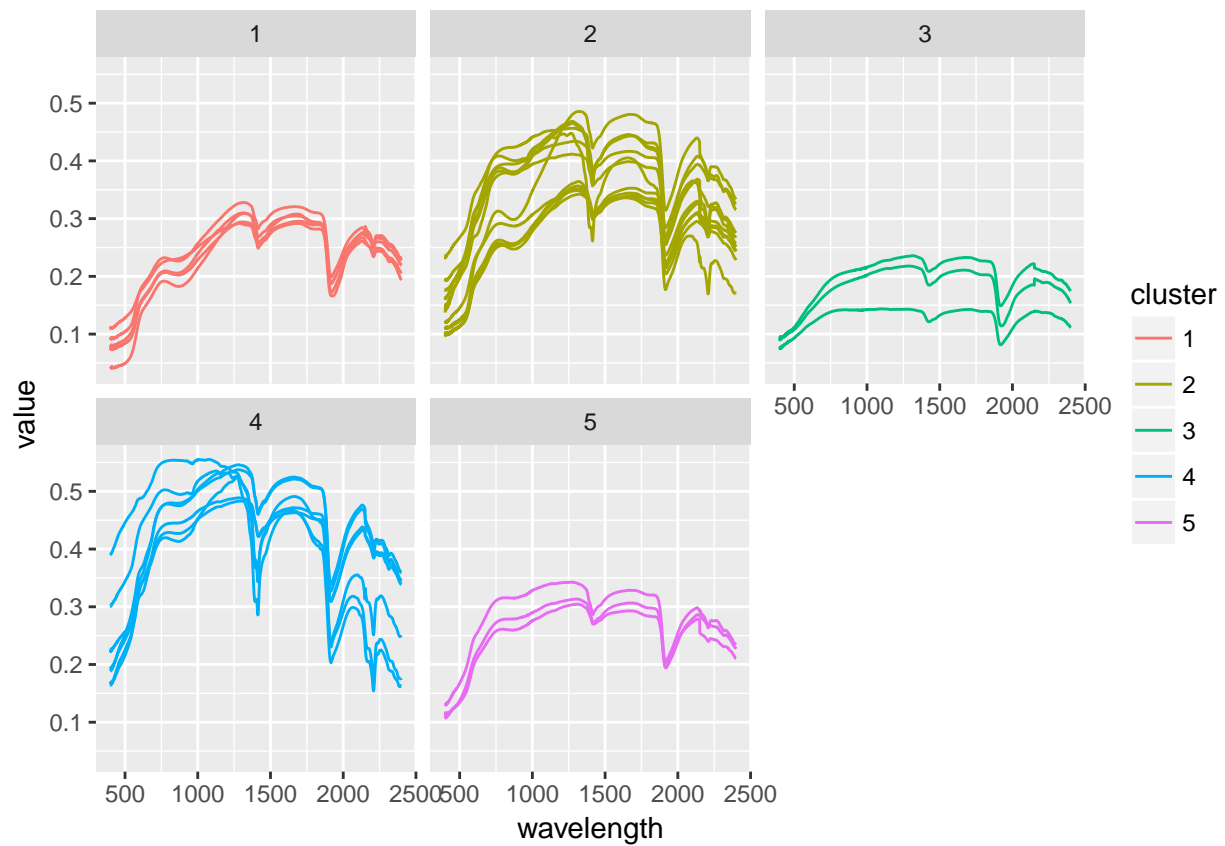
The following table and figure show the 5 endmembers selected manually from the available samples.

endmember	file
orange	signature0000.asd
red	signature0001.asd
black	signature0002.asd
white	signature0003.asd
base	signature0005.asd



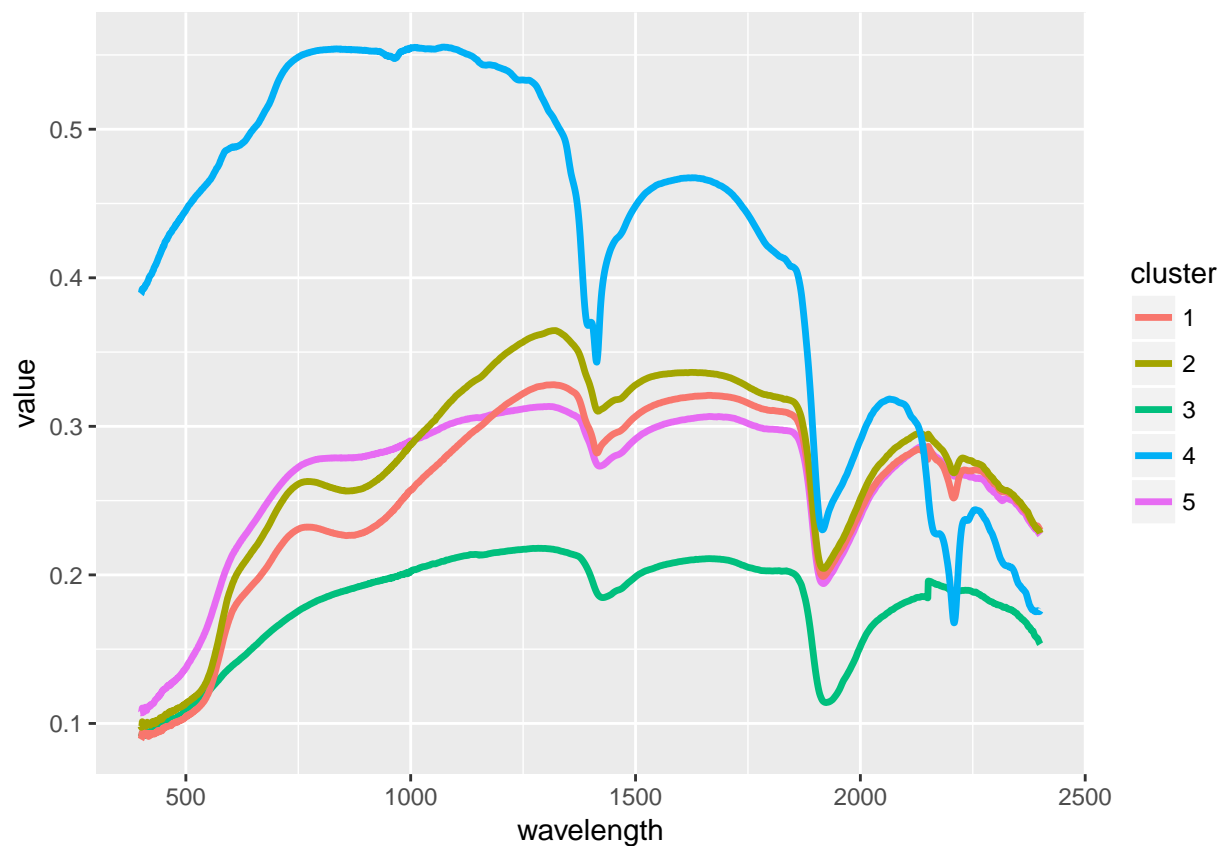
Clustering (manual)

The next figure shows the graphical representation of the dataset classified by the corresponding cluster assigned according to the specified centroids (corresponding with the endmembers).



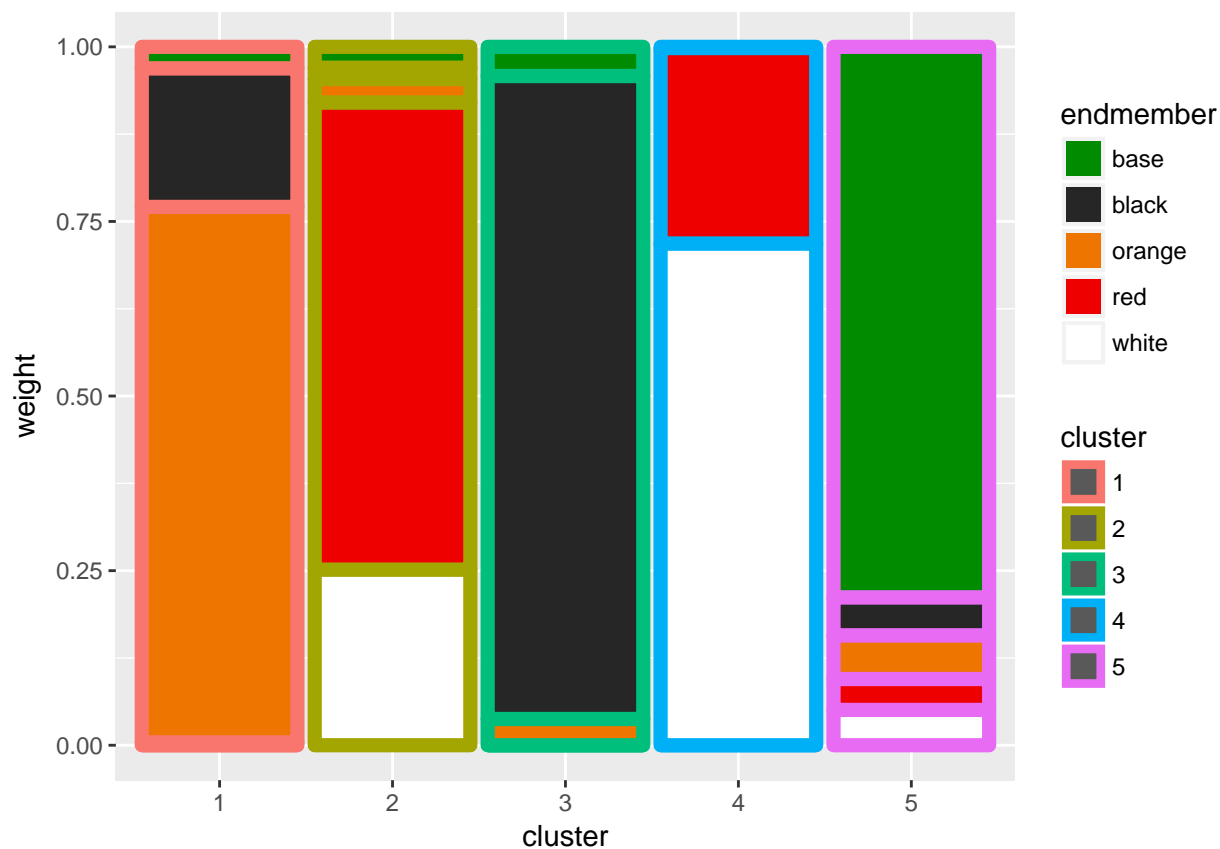
Endmember classification

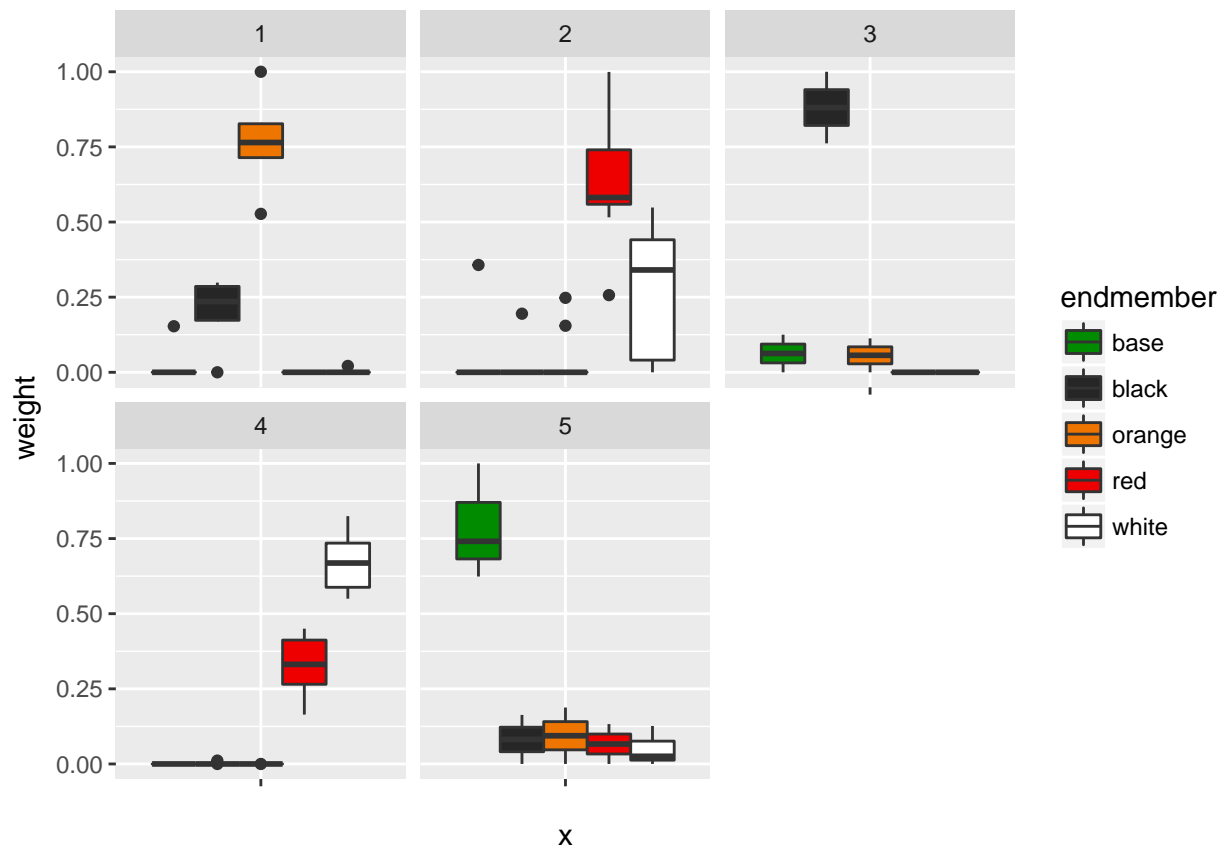
The next figure shows the correspondence between endmembers and clusters, note that kmeans can assign more than one ensemble to the same cluster, leaving some clusters unrepresented.



Endmember weights by cluster

The next two figures show the average mixture for each cluster among all endmembers. In the barplot Each column represents a single cluster and averages the weights of the contained signatures. The different colored segments of the bar represent the weight proportion for each endmember. The boxplot is analogous, with each box representing the distribution of weight for a particular endmember, separated in an individual plot for each cluster.

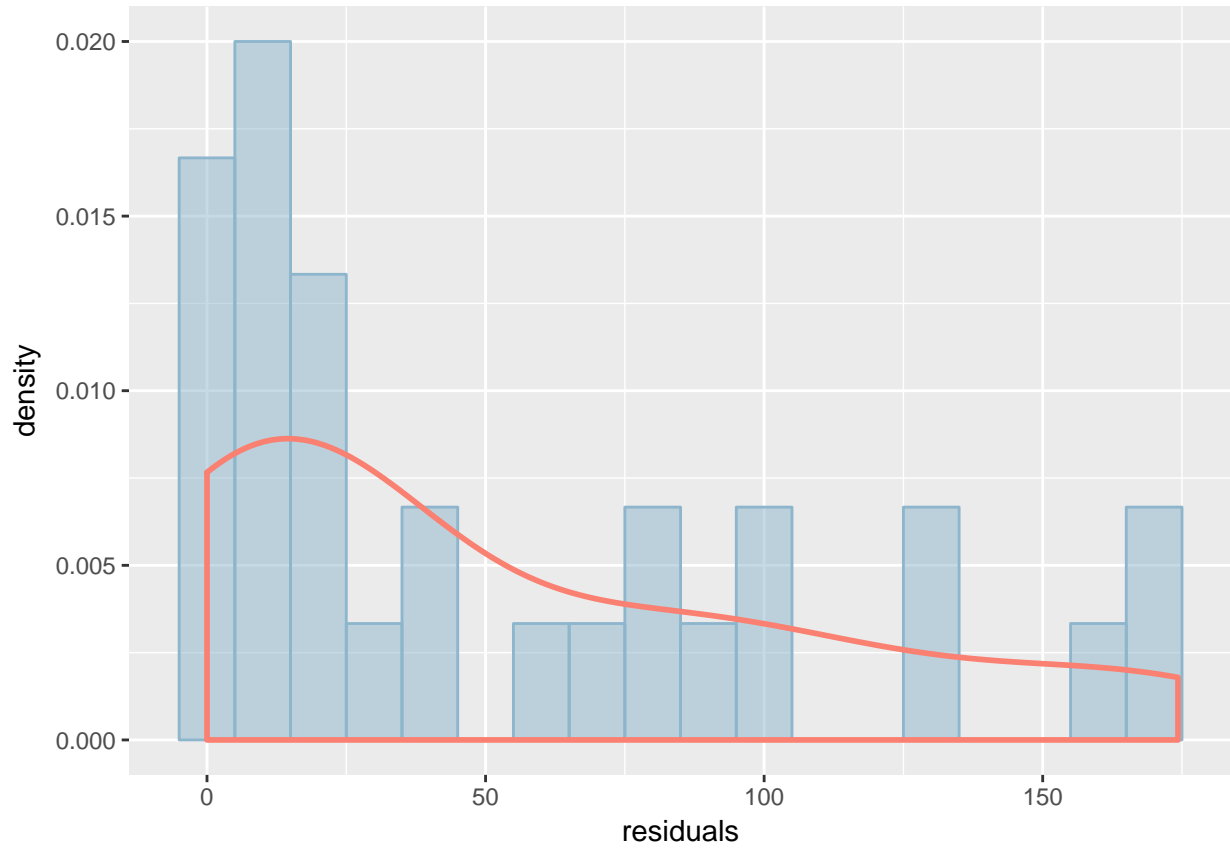




Residual values

The following table and figure show the distribution of the residual component from the the unmixing process. The distribution includes all endmembers and signatures in the dataset.

Min.	1st Qu.	Median	Mean	3rd Qu.	Max.
0	9.460479	25.97789	53.46398	87.6496	174.2822



Summary table

The following table contains the summary of the whole experiment, showing the assigned cluster, distribution of weights and residuals for each signature in the dataset.

file	orange	red	black	white	base	residual
signature0000.asd	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
signature0001.asd	0.0000000	1.0000000	0.0000000	0.0000000	0.0000000	0.0000000
signature0002.asd	0.0000000	0.0000000	1.0000000	0.0000000	0.0000000	0.0000000
signature0003.asd	0.0000000	0.0000000	0.0000000	1.0000000	0.0000000	0.0000000
signature0004.asd	0.1129771	0.0000000	0.7618198	0.0000000	0.1252031	7.543953
signature0005.asd	0.0000000	0.0000000	0.0000000	0.0000000	1.0000000	0.0000000
signature0006.asd	0.0000000	0.5698251	0.0000000	0.0729638	0.3572111	13.634438
signature0007.asd	0.0000000	0.2567945	0.1949521	0.5482534	0.0000000	28.495592
signature0008.asd	0.7142563	0.0000000	0.2857437	0.0000000	0.0000000	36.122443
signature0009.asd	0.8269623	0.0000000	0.1730377	0.0000000	0.0000000	14.003984
signature0010.asd	0.0000000	0.1327716	0.0000000	0.1263632	0.7408652	10.343502
signature0011.asd	0.0000000	0.0000000	1.0000000	0.0000000	0.0000000	103.947210
signature0012.asd	0.0000000	0.5157790	0.0000000	0.4842210	0.0000000	103.281860
signature0013.asd	0.5271794	0.0000000	0.2983591	0.0211808	0.1532807	6.584234
signature0014.asd	0.0000000	0.6594289	0.0000000	0.3405711	0.0000000	57.908381
signature0015.asd	0.2477590	0.7440742	0.0000000	0.0081668	0.0000000	23.460185
signature0016.asd	0.0000000	0.3948970	0.0000000	0.6051030	0.0000000	89.814197
signature0017.asd	0.0000000	0.7361792	0.0000000	0.2638208	0.0000000	163.826708
signature0018.asd	0.0000000	0.5572699	0.0000000	0.4427301	0.0000000	74.742679
signature0019.asd	0.7645998	0.0000000	0.2354002	0.0000000	0.0000000	20.550433
signature0020.asd	0.0000000	0.2678659	0.0000000	0.7321341	0.0000000	174.282199
signature0021.asd	0.1549969	0.8450031	0.0000000	0.0000000	0.0000000	15.011985
signature0022.asd	0.0000000	0.4501498	0.0000000	0.5498502	0.0000000	126.913597
signature0023.asd	0.0000000	0.5815140	0.0000000	0.4184860	0.0000000	81.155800
signature0024.asd	0.0000000	0.9994635	0.0000000	0.0005365	0.0000000	23.002063
signature0025.asd	0.0000000	0.4179121	0.0000000	0.5820879	0.0000000	134.732468
signature0026.asd	0.0000000	0.5608343	0.0000000	0.4391657	0.0000000	76.148403
signature0027.asd	0.0000000	0.2642897	0.0000000	0.7357103	0.0000000	172.213898
signature0028.asd	0.1877921	0.0000000	0.1630937	0.0255368	0.6235774	9.166138
signature0029.asd	0.0000000	0.1642410	0.0111573	0.8246017	0.0000000	37.033012

About archeospec

This report has been generated automatically using the archeospec package version 1.0.0.