0.1 Plots of single attributes

0.1.1 quality

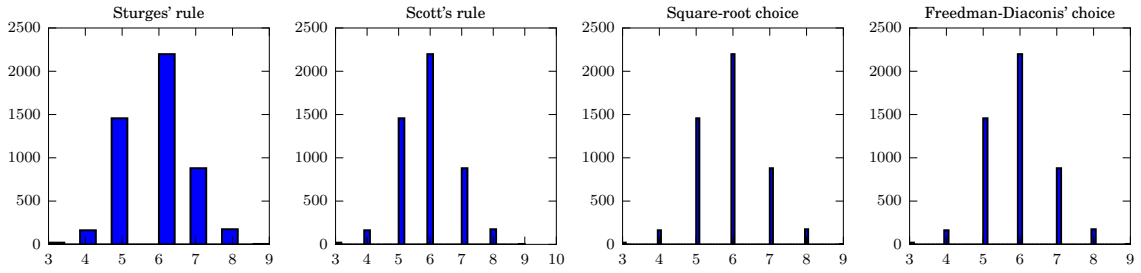

Figure 1: Histograms of attribute *quality* using different binning methods

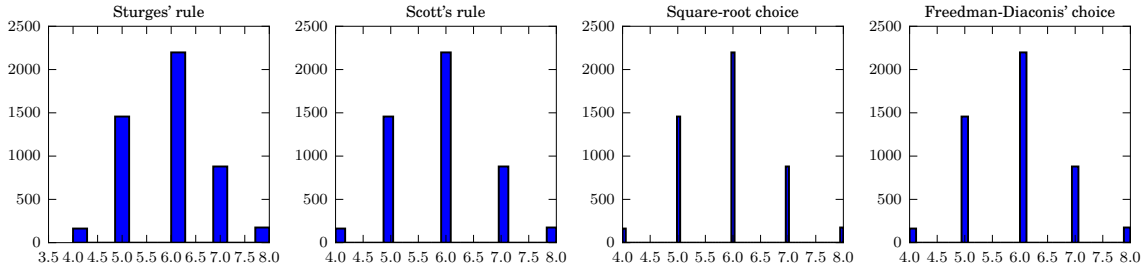

Figure 2: Histograms of attribute *quality* with outliers further than 3 standard deviations from the mean filtered

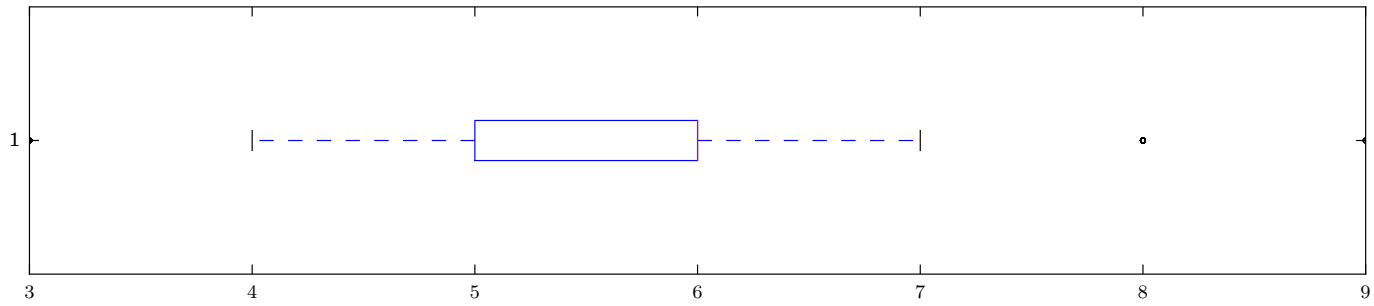

Figure 3: Boxplot of attribute *quality*

0.1.2 pH

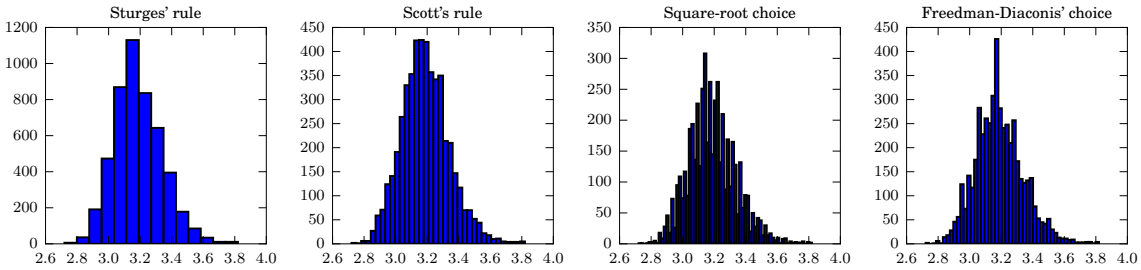

Figure 4: Histograms of attribute *pH* using different binning methods

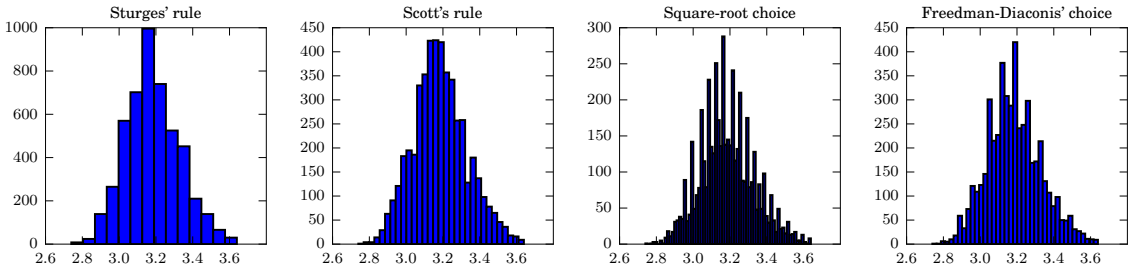

Figure 5: Histograms of attribute *pH* with outliers further than 3 standard deviations from the mean filtered

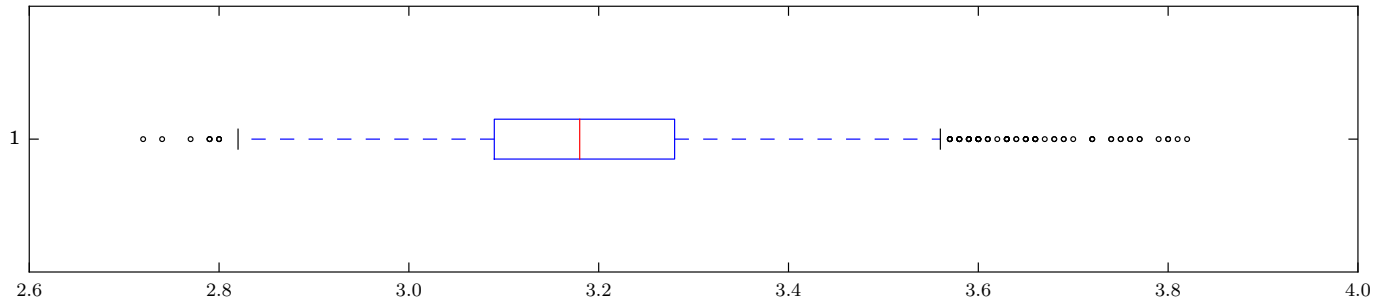

Figure 6: Boxplot of attribute *pH*

0.1.3 chlorides

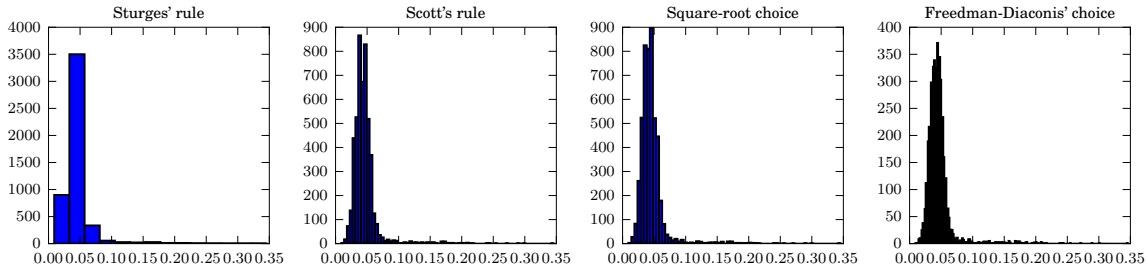

Figure 7: Histograms of attribute *chlorides* using different binning methods

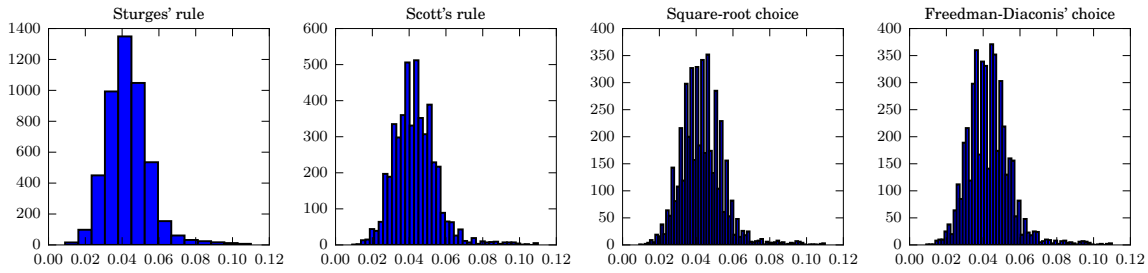

Figure 8: Histograms of attribute *chlorides* with outliers further than 3 standard deviations from the mean filtered

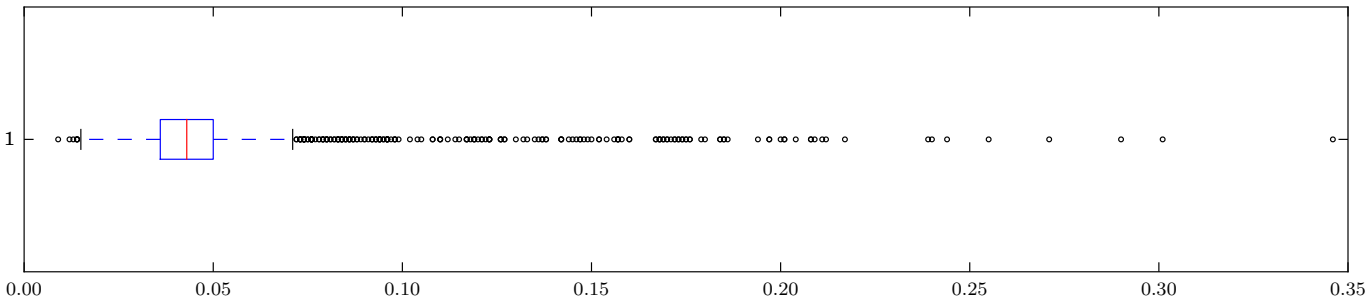

Figure 9: Boxplot of attribute *chlorides*

0.1.4 fixed acidity

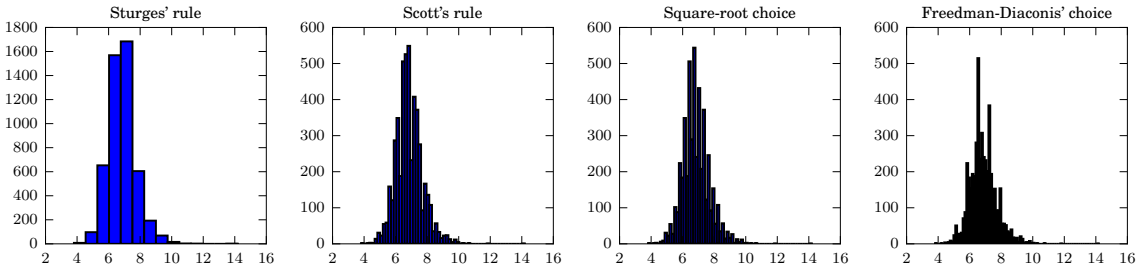

Figure 10: Histograms of attribute *fixed acidity* using different binning methods

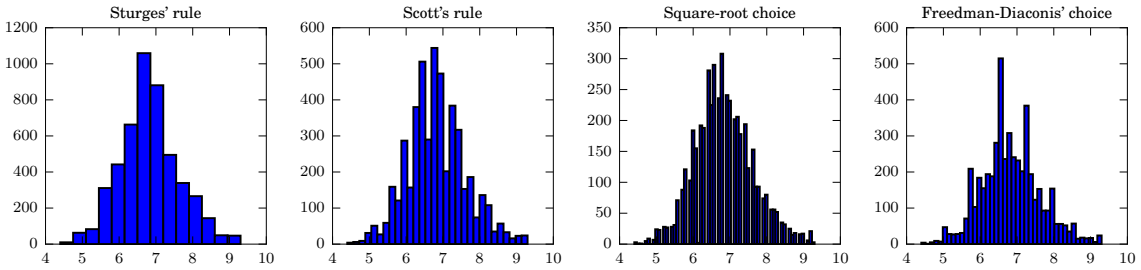

Figure 11: Histograms of attribute *fixed acidity* with outliers further than 3 standard deviations from the mean filtered

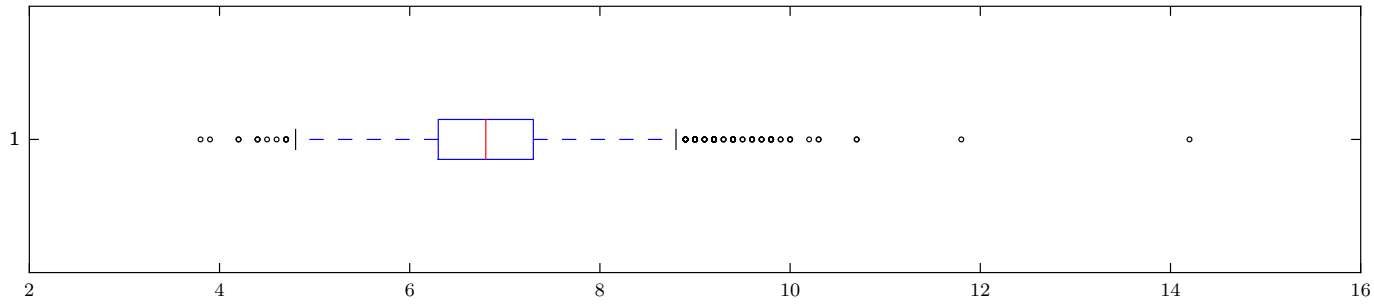

Figure 12: Boxplot of attribute *fixed acidity*

0.1.5 density

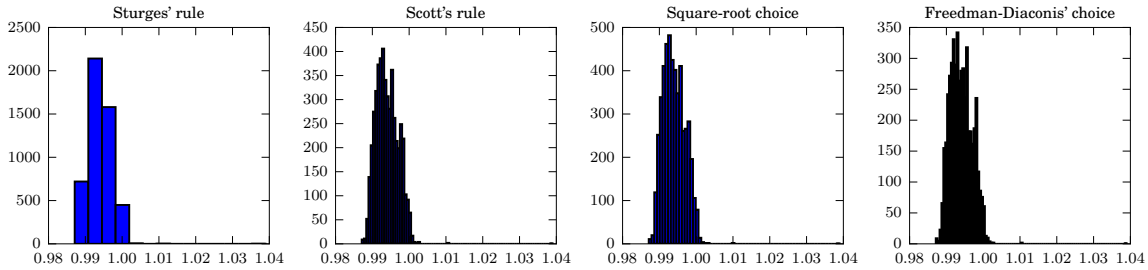

Figure 13: Histograms of attribute *density* using different binning methods

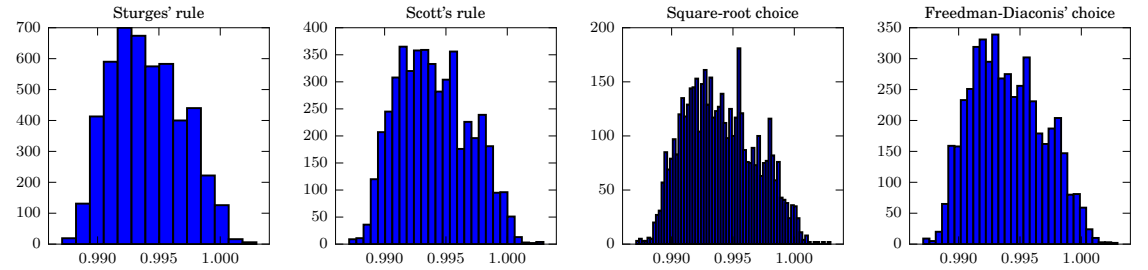

Figure 14: Histograms of attribute *density* with outliers further than 3 standard deviations from the mean filtered

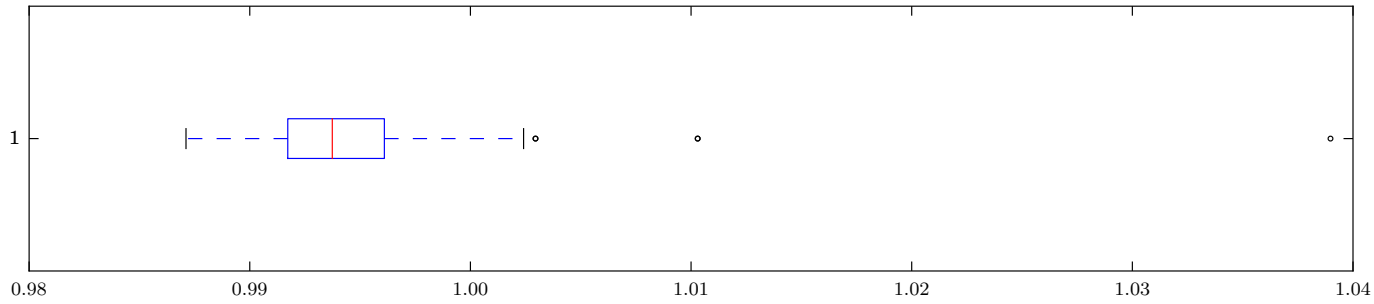

Figure 15: Boxplot of attribute *density*

0.1.6 residual sugar

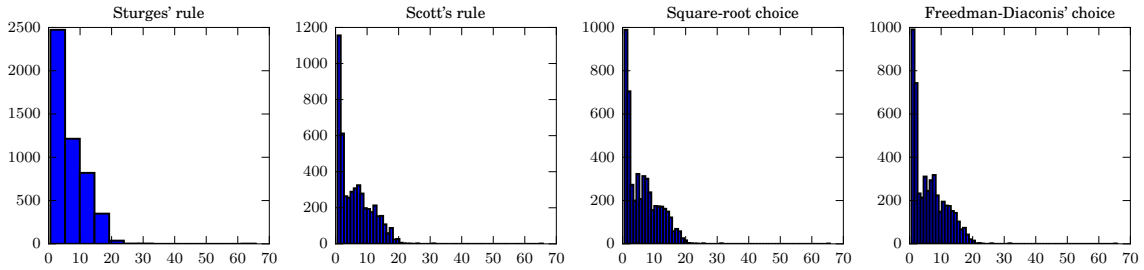

Figure 16: Histograms of attribute *residual sugar* using different binning methods

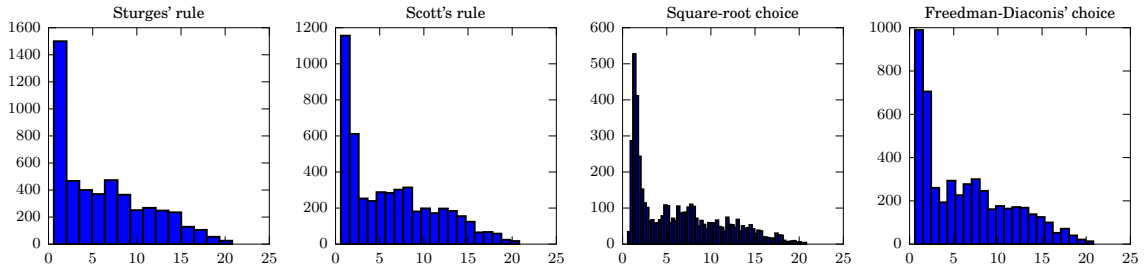

Figure 17: Histograms of attribute *residual sugar* with outliers further than 3 standard deviations from the mean filtered

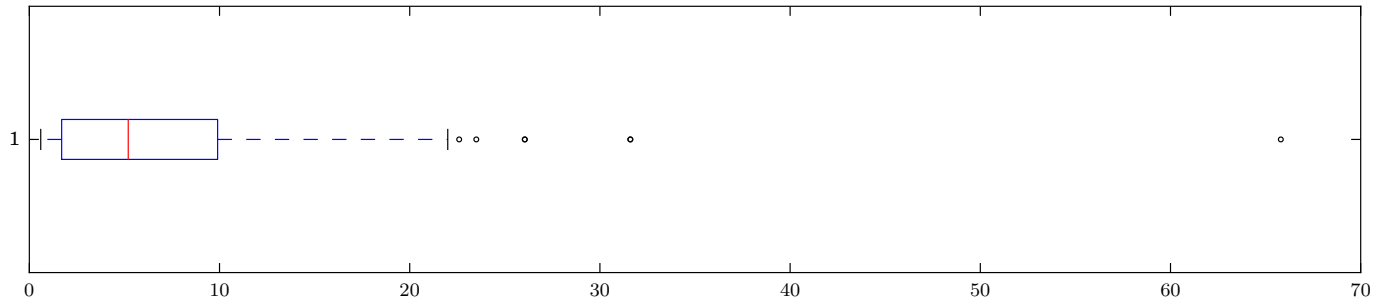

Figure 18: Boxplot of attribute *residual sugar*

0.1.7 total sulfur dioxide

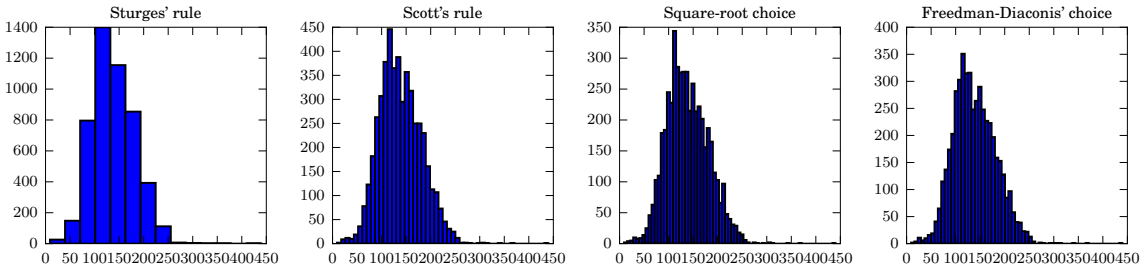

Figure 19: Histograms of attribute *total sulfur dioxide* using different binning methods

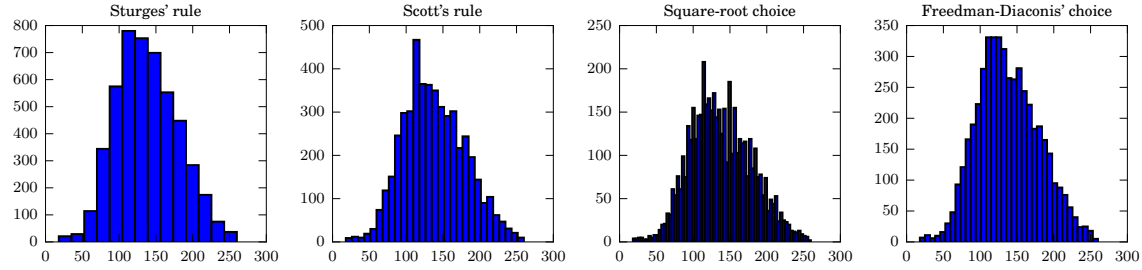

Figure 20: Histograms of attribute *total sulfur dioxide* with outliers further than 3 standard deviations from the mean filtered

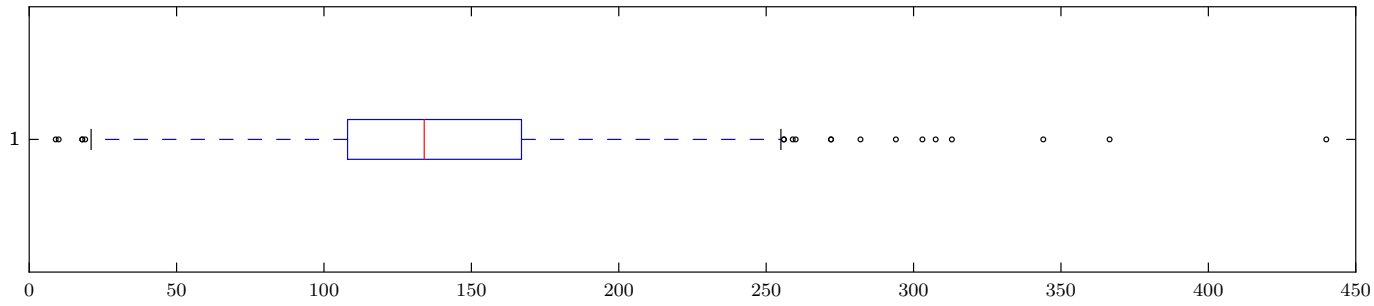

Figure 21: Boxplot of attribute *total sulfur dioxide*

0.1.8 citric acid

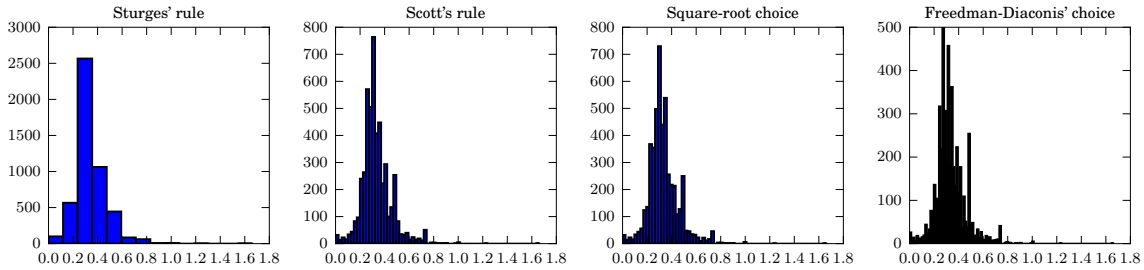

Figure 22: Histograms of attribute *citric acid* using different binning methods

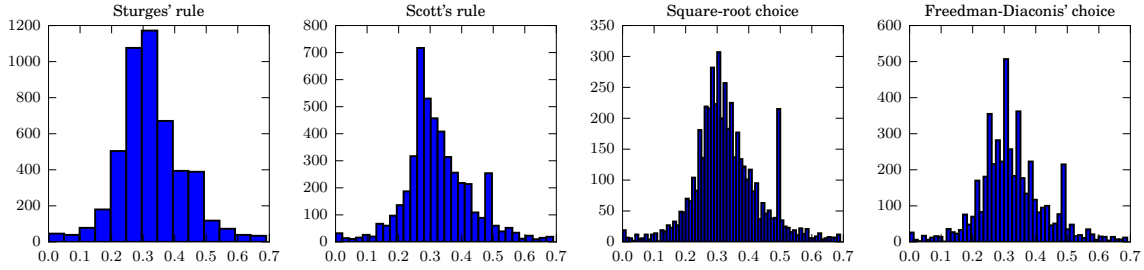

Figure 23: Histograms of attribute *citric acid* with outliers further than 3 standard deviations from the mean filtered

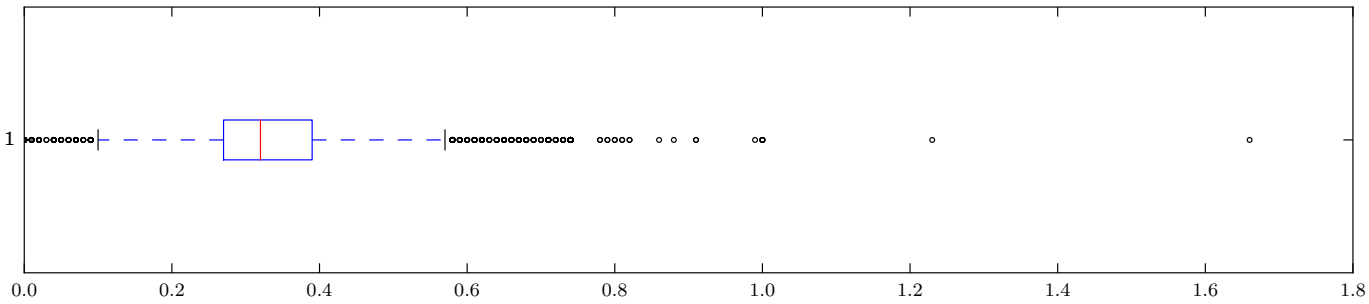

Figure 24: Boxplot of attribute *citric acid*

0.1.9 volatile acidity

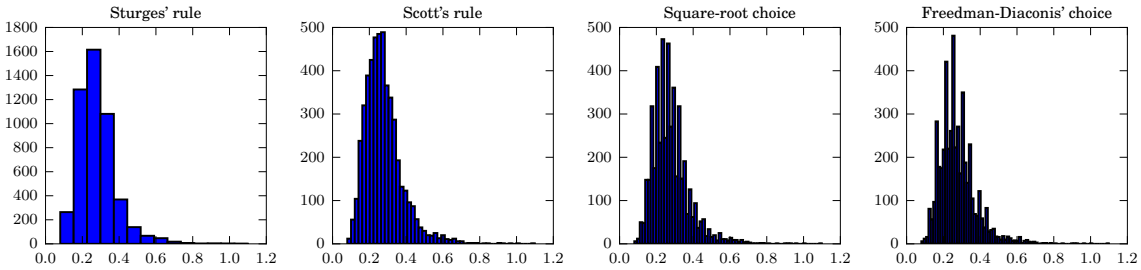

Figure 25: Histograms of attribute *volatile acidity* using different binning methods

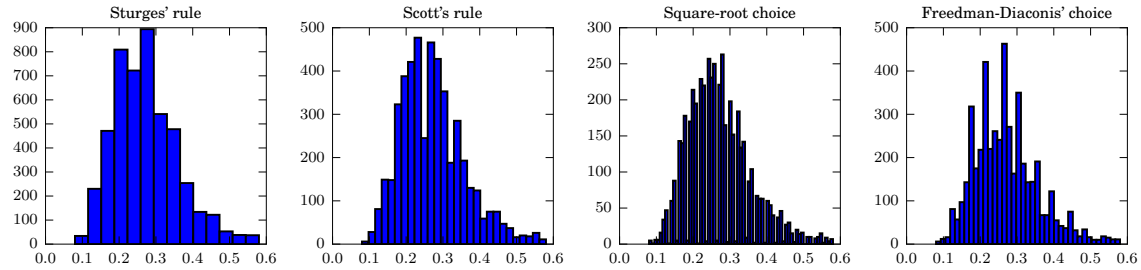

Figure 26: Histograms of attribute *volatile acidity* with outliers further than 3 standard deviations from the mean filtered

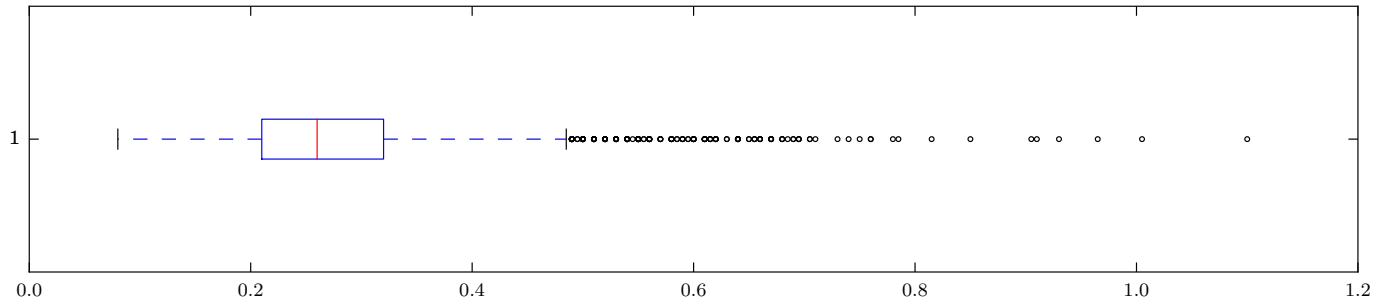

Figure 27: Boxplot of attribute *volatile acidity*

0.1.10 free sulfur dioxide

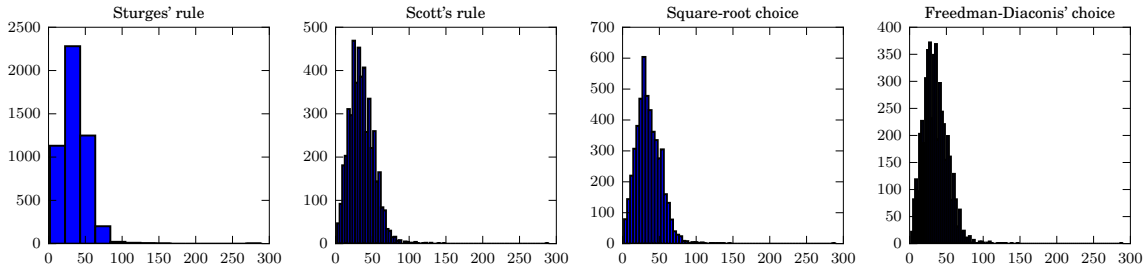

Figure 28: Histograms of attribute *free sulfur dioxide* using different binning methods

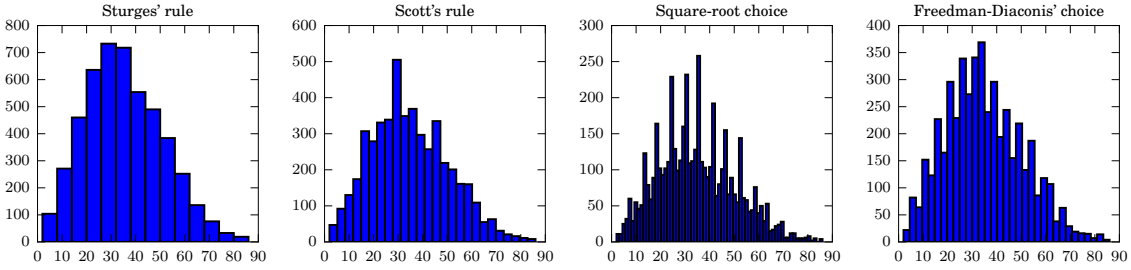

Figure 29: Histograms of attribute *free sulfur dioxide* with outliers further than 3 standard deviations from the mean filtered

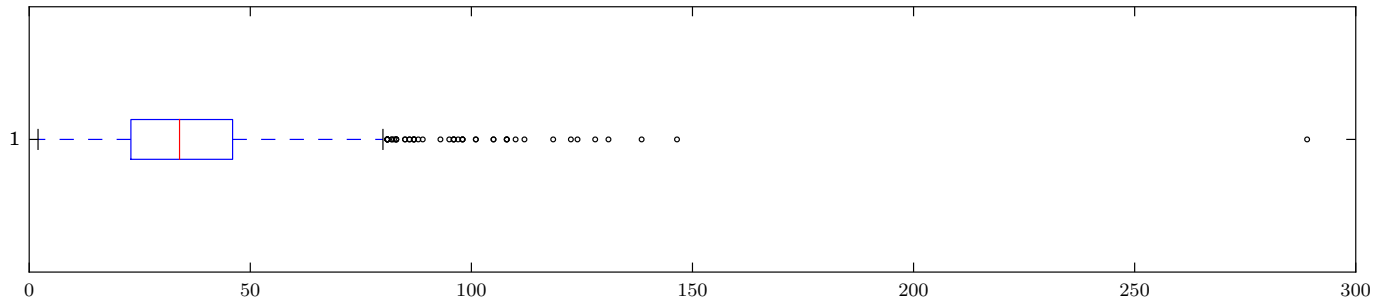

Figure 30: Boxplot of attribute *free sulfur dioxide*

0.1.11 sulphates

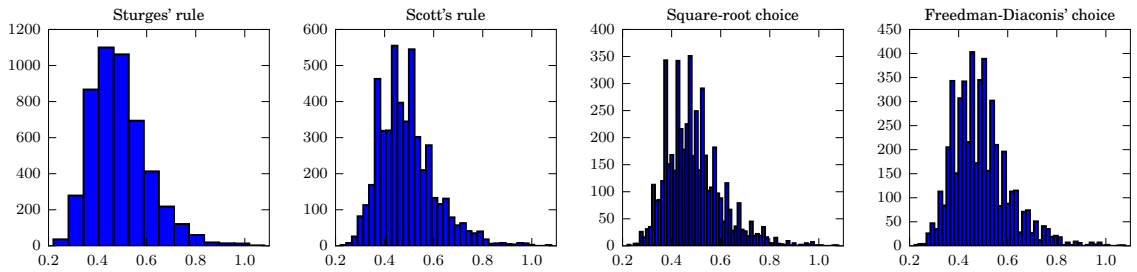

Figure 31: Histograms of attribute *sulphates* using different binning methods

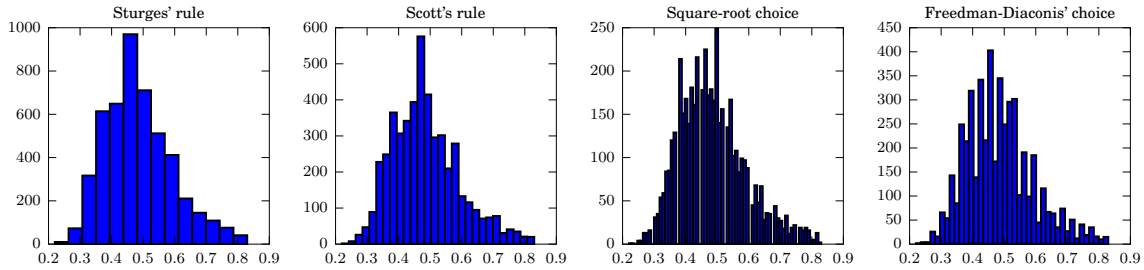

Figure 32: Histograms of attribute *sulphates* with outliers further than 3 standard deviations from the mean filtered

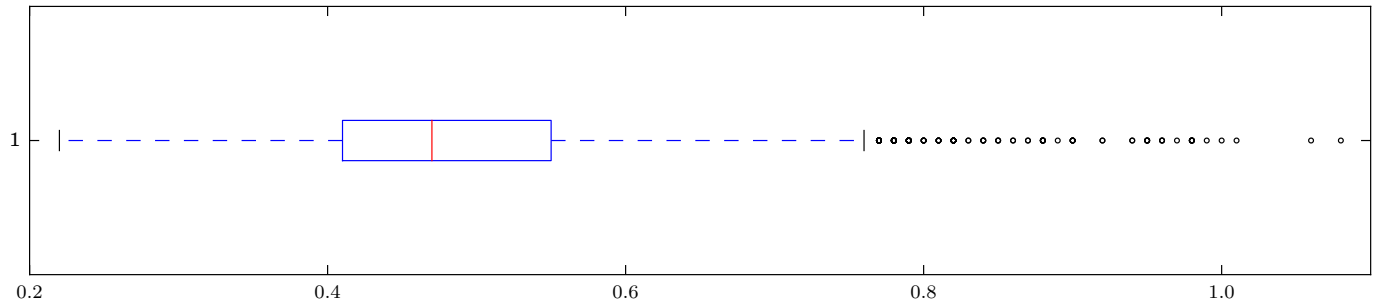

Figure 33: Boxplot of attribute *sulphates*

0.1.12 alcohol

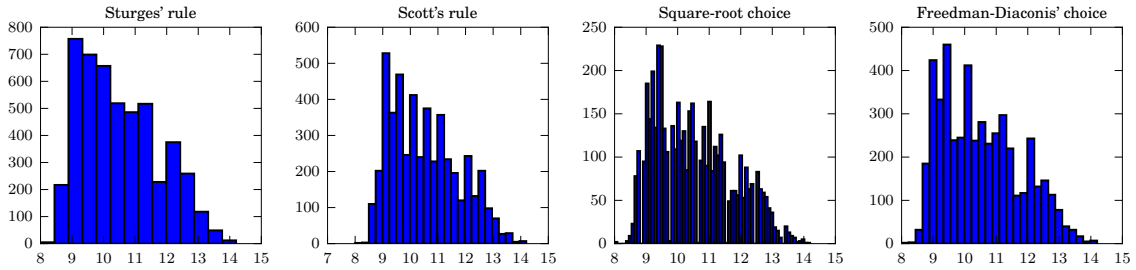

Figure 34: Histograms of attribute *alcohol* using different binning methods

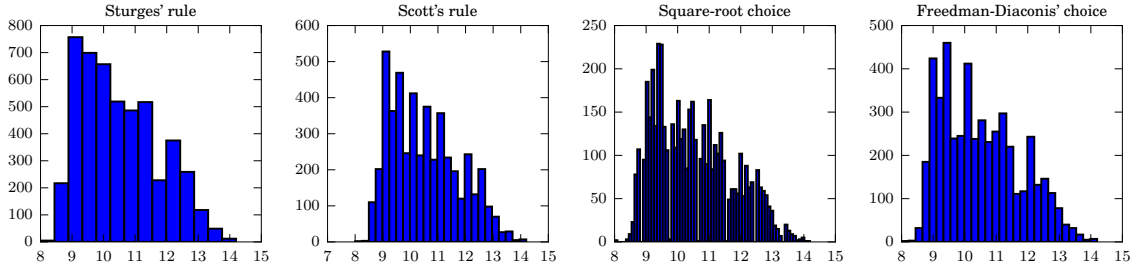

Figure 35: Histograms of attribute *alcohol* with outliers further than 3 standard deviations from the mean filtered

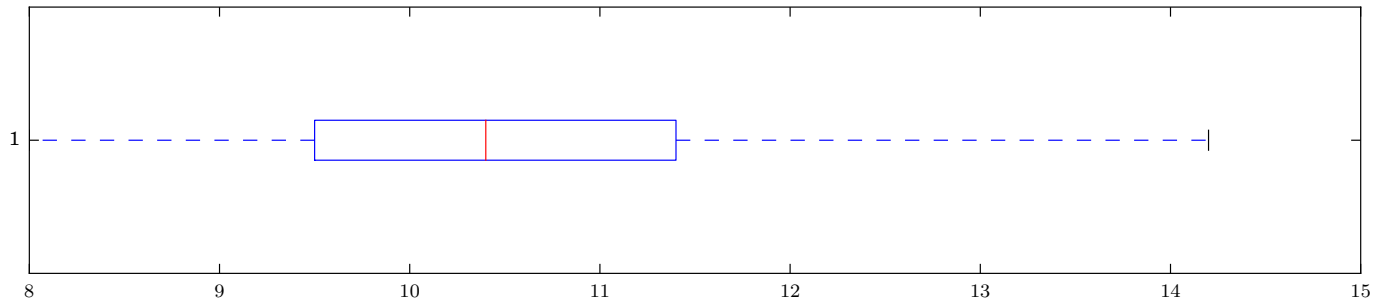

Figure 36: Boxplot of attribute *alcohol*

0.2 Correlation coefficients using different functions

0.2.1 Correlation coefficients using Pearson's correlation coefficient

	quality	pH	chlorides	fixed acidity	density	residual sugar	total sulfur dioxide	citric acid	volatile acidity	free sulfur dioxide
quality	**1.0000**	0.0994	-0.2099	-0.1137	-0.3071	-0.0976	-0.1747	-0.0092	-0.1947	0.0082
pH	0.0994	**1.0000**	-0.0904	-0.4259	-0.0936	-0.1941	0.0023	-0.1637	-0.0319	-0.0006
chlorides	-0.2099	-0.0904	**1.0000**	0.0231	0.2572	0.0887	0.1989	0.1144	0.0705	0.1014
fixed acidity	-0.1137	-0.4259	0.0231	**1.0000**	0.2653	0.0890	0.0911	0.2892	-0.0227	-0.0494
density	-0.3071	-0.0936	0.2572	0.2653	**1.0000**	**0.8390**	**0.5299**	0.1495	0.0271	0.2942
residual sugar	-0.0976	-0.1941	0.0887	0.0890	**0.8390**	**1.0000**	0.4014	0.0942	0.0643	0.2991
total sulfur dioxide	-0.1747	0.0023	0.1989	0.0911	**0.5299**	0.4014	**1.0000**	0.1211	0.0893	**0.6155**
citric acid	-0.0092	-0.1637	0.1144	0.2892	0.1495	0.0942	0.1211	**1.0000**	-0.1495	0.0941
volatile acidity	-0.1947	-0.0319	0.0705	-0.0227	0.0271	0.0643	0.0893	-0.1495	**1.0000**	-0.0970
free sulfur dioxide	0.0082	-0.0006	0.1014	-0.0494	0.2942	0.2991	**0.6155**	0.0941	-0.0970	**1.0000**
sulphates	0.0537	0.1560	0.0168	-0.0171	0.0745	-0.0267	0.1346	0.0623	-0.0357	0.0592
alcohol	0.4356	0.1214	-0.3602	-0.1209	**-0.7801**	-0.4506	-0.4489	-0.0757	0.0677	-0.2501

0.2.2 Correlation coefficients using Spearman's rho

	quality	pH	chlorides	fixed acidity	density	residual sugar	total sulfur dioxide	citric acid	volatile acidity	free sulfur dioxide
quality	**1.0000**	0.1094	-0.3145	-0.0845	-0.3484	-0.0821	-0.1967	0.0183	-0.1966	0.0237
pH	0.1094	**1.0000**	-0.0540	-0.4183	-0.1101	-0.1800	-0.0118	-0.1462	-0.0452	-0.0063
chlorides	-0.3145	-0.0540	**1.0000**	0.0947	**0.5083**	0.2278	0.3752	0.0327	-0.0049	0.1670
fixed acidity	-0.0845	-0.4183	0.0947	**1.0000**	0.2700	0.1067	0.1126	0.2979	-0.0429	-0.0245
density	-0.3484	-0.1101	**0.5083**	0.2700	**1.0000**	**0.7804**	**0.5638**	0.0914	0.0101	0.3278
residual sugar	-0.0821	-0.1800	0.2278	0.1067	**0.7804**	**1.0000**	0.4313	0.0246	0.1086	0.3461
total sulfur dioxide	-0.1967	-0.0118	0.3752	0.1126	**0.5638**	0.4313	**1.0000**	0.0932	0.1176	**0.6186**
citric acid	0.0183	-0.1462	0.0327	0.2979	0.0914	0.0246	0.0932	**1.0000**	-0.1504	0.0883
volatile acidity	-0.1966	-0.0452	-0.0049	-0.0429	0.0101	0.1086	0.1176	-0.1504	**1.0000**	-0.0812
free sulfur dioxide	0.0237	-0.0063	0.1670	-0.0245	0.3278	0.3461	**0.6186**	0.0883	-0.0812	**1.0000**
sulphates	0.0333	0.1402	0.0939	-0.0132	0.0951	-0.0038	0.1578	0.0798	-0.0169	0.0523
alcohol	0.4404	0.1489	**-0.5708**	-0.1068	**-0.8219**	-0.4453	-0.4766	-0.0292	0.0340	-0.2726

0.2.3 Correlation coefficients using Kendall's tau

	quality	pH	chlorides	fixed acidity	density	residual sugar	total sulfur dioxide	citric acid	volatile acidity	free sulfur dioxide
quality	**1.0000**	0.0844	-0.2449	-0.0655	-0.2666	-0.0631	-0.1512	0.0146	-0.1548	0.0172
pH	0.0844	**1.0000**	-0.0379	-0.2948	-0.0756	-0.1256	-0.0084	-0.1013	-0.0304	-0.0052
chlorides	-0.2449	-0.0379	**1.0000**	0.0654	0.3491	0.1553	0.2571	0.0223	-0.0035	0.1139
fixed acidity	-0.0655	-0.2948	0.0654	**1.0000**	0.1855	0.0749	0.0773	0.2086	-0.0296	-0.0169
density	-0.2666	-0.0756	0.3491	0.1855	**1.0000**	**0.5890**	0.3884	0.0615	0.0066	0.2173
residual sugar	-0.0631	-0.1256	0.1553	0.0749	**0.5890**	**1.0000**	0.2933	0.0153	0.0728	0.2367
total sulfur dioxide	-0.1512	-0.0084	0.2571	0.0773	0.3884	0.2933	**1.0000**	0.0622	0.0813	0.4447
citric acid	0.0146	-0.1013	0.0223	0.2086	0.0615	0.0153	0.0622	**1.0000**	-0.1040	0.0608
volatile acidity	-0.1548	-0.0304	-0.0035	-0.0296	0.0066	0.0728	0.0813	-0.1040	**1.0000**	-0.0548
free sulfur dioxide	0.0172	-0.0052	0.1139	-0.0169	0.2173	0.2367	0.4447	0.0608	-0.0548	**1.0000**
sulphates	0.0264	0.0958	0.0626	-0.0087	0.0642	-0.0025	0.1087	0.0545	-0.0116	0.0356
alcohol	0.3467	0.1026	-0.4040	-0.0732	**-0.6351**	-0.3056	-0.3258	-0.0200	0.0235	-0.1825