

446 Table 1a. Raw Cp data for the Mt. Hamilton and Racalmuto melanophlogites and their heat-treated analogues.

Mt. Hamilton: M = 2936.77 g/mol									Mt. Hamilton heated: M = 2763.901 g/mol		
			Heating (linear spacing)						Cooling (log spacing)		
T(K)	Cp J/(mol·K)	σ_{Cp}	T(K)	Cp J/(mol·K)	σ_{Cp}	T(K)	Cp J/(mol·K)	σ_{Cp}	T(K)	Cp J/(mol·K)	σ_{Cp}
5.01387	8.22737	0.172687	5.01176	8.58332	0.163697	151.498	1505.07	6.84414	5.01654	4.11136	0.0566273
5.02062	8.17037	0.161016	5.01211	8.32286	0.167382	151.501	1505.42	7.10993	5.02263	4.10018	0.0541042
5.02174	8.00566	0.175572	5.013	8.1106	0.174451	151.501	1504.96	7.03252	5.02496	4.1492	0.057484
5.36914	9.97748	0.210127	9.97736	36.8012	1.05095	152.498	1512.31	7.58713	5.37538	4.93537	0.0663945
5.37772	9.99333	0.207553	10.0019	41.2367	1.02507	152.508	1513.62	7.41932	5.38123	4.8689	0.0660214
5.37933	9.76489	0.204482	10.0157	43.5272	1.0115	152.511	1514.91	7.69556	5.38495	4.85365	0.0639154
5.75108	12.0385	0.24308	14.9695	94.2175	2.38915	153.519	1522.35	7.21998	5.76755	5.77541	0.0756423
5.7901	12.1481	0.310053	14.9991	108.192	2.13718	153.521	1523.81	7.32307	5.77403	5.79864	0.0720818
5.79082	11.0677	0.632221	15.0028	102.963	2.23022	153.525	1522.79	7.38952	5.77769	5.82246	0.071859
6.16604	14.3114	0.294552	19.9867	171.55	3.26105	154.526	1532.41	7.63257	6.19022	6.96666	0.0808188
6.17244	14.3826	0.296166	20.031	181.919	2.90308	154.535	1533.91	7.65428	6.21499	6.88024	0.0824397
6.17504	14.3615	0.296808	20.0473	185.862	2.75228	154.537	1532.49	7.61818	6.22408	6.88221	0.137752
6.6154	17.6708	0.349469	25.0208	247.952	3.60757	155.541	1545.36	7.25774	6.62768	8.18922	0.0966675
6.61944	17.2753	0.345583	25.0762	257.843	3.23899	155.545	1545.58	7.43666	6.63014	8.19048	0.0936983
6.62014	17.3386	0.349771	25.0887	259.757	3.17496	155.545	1543.24	7.51189	6.63229	8.20952	0.0941176
7.10405	21.2649	0.416792	30.0577	315.63	4.08584	156.55	1550.53	7.114	7.10948	9.76578	0.109839
7.11094	20.9426	0.421117	30.1284	327.136	3.52537	156.554	1552.35	7.36332	7.11603	9.6882	0.111755
7.11119	20.9185	0.419346	30.1374	328.291	3.48702	156.557	1554.71	7.4272	7.11921	9.69064	0.110471
7.61195	25.2797	0.495566	35.0965	382.034	4.12954	157.559	1562.16	7.5135	7.62082	11.5652	0.122769
7.61893	25.2622	0.488002	35.1787	392.609	3.66622	157.568	1564.59	7.74909	7.62708	11.4815	0.125115
7.62076	24.9117	0.498762	35.1867	393.841	3.63757	157.569	1563.46	7.68881	7.63036	11.4838	0.1243
8.15895	30.4178	0.577145	40.1522	443.165	4.24895	158.603	1574.39	7.4986	8.1681	13.595	0.144841
8.16741	30.0302	0.580982	40.2426	453.677	3.85522	158.604	1574.99	7.28836	8.17454	13.6226	0.138967
8.16784	29.6021	0.589967	40.2501	454.501	3.90968	158.604	1578.26	8.34284	8.17807	13.6301	0.138934
8.74395	35.9234	0.681918	45.2033	498.865	4.26437	159.608	1581.51	7.37609	8.75334	16.1309	0.164789
8.75203	35.4952	0.684948	45.2987	508.157	4.04848	159.614	1585.13	7.176	8.76103	16.1556	0.15729

8.75246	35.4586	0.682693	45.3039	508.041	4.04208	159.616	1580.85	7.24491	8.76514	16.0522	0.163719
9.37136	42.5755	0.784351	50.2511	553.248	4.50708	160.621	1592.79	7.37501	9.38912	19.0605	0.177204
9.37957	42.1401	0.787058	50.3535	561.331	4.2769	160.627	1591.92	7.46652	9.39342	18.9572	0.180475
9.38006	41.6419	0.801507	50.3571	561.465	4.26895	160.628	1591.77	7.60344	9.3949	18.9673	0.181862
10.0405	50.2187	0.905675	55.3076	605.818	4.69064	161.624	1615.69	7.39614	10.0569	22.4249	0.206511
10.0515	49.7221	0.905642	55.413	613.01	4.50204	161.63	1616.37	7.4932	10.0634	22.3376	0.204073
10.0521	49.1973	0.920409	55.4143	613.874	4.55637	161.631	1616.69	7.47509	10.0663	22.3457	0.200615
10.7617	58.3698	1.05712	60.3626	657.846	4.89187	162.641	1625.11	7.48247	10.7773	26.2703	0.232963
10.7713	58.2635	1.03523	60.4678	664.574	4.79259	162.643	1619.96	7.40206	10.785	26.177	0.225168
10.7727	57.7245	1.0516	60.47	664.601	4.78781	162.647	1622.66	7.21211	10.7879	26.1931	0.224307
11.535	67.8155	1.2043	65.4142	710.004	4.93406	163.648	1627.93	7.32873	11.5514	30.7192	0.25608
11.5484	67.1955	1.19943	65.5178	715.931	4.83647	163.654	1630.88	7.54094	11.5698	30.5895	0.249667
11.5488	67.2897	1.20362	65.5183	715.908	4.86828	163.657	1632.37	7.51982	11.5712	30.6995	0.239513
12.3677	78.7396	1.36912	70.4595	755.858	5.70318	164.656	1636.77	7.55276	12.3886	35.8745	0.282978
12.3763	78.0389	1.3628	70.5763	763.726	4.97549	164.664	1634.18	7.65237	12.3944	35.7873	0.267797
12.3768	78.1214	1.36473	70.5766	764.227	4.9597	164.664	1639.07	7.61191	12.3972	35.7943	0.267799
13.2553	91.1936	1.51942	75.4891	808.579	5.80266	165.673	1640.11	7.41777	13.2778	41.7159	0.307631
13.264	89.9773	1.53831	75.5925	813.892	5.17386	165.674	1644.38	8.45658	13.2837	41.5422	0.294349
13.2644	90.6078	1.51535	75.5945	812.444	5.11327	165.675	1639.98	7.23795	13.2854	41.5635	0.298136
14.2049	104.092	1.69934	80.5576	857.948	5.71102	166.681	1649.4	7.82052	14.2295	48.0539	0.339992
14.2123	102.856	1.72337	80.6632	860.444	5.34624	166.682	1652.12	8.49298	14.2342	47.9418	0.315418
14.2132	103.497	1.6993	80.6649	860.002	5.45565	166.682	1648.73	7.57379	14.2358	47.9601	0.319538
15.2248	118.992	1.87733	85.6085	897.872	5.97895	167.69	1657.98	8.62247	15.2497	55.2507	0.381839
15.231	117.078	1.92543	85.7099	903.035	5.35153	167.691	1653.13	7.70321	15.2555	55.1838	0.351128
15.2324	117.786	1.89975	85.7113	905.069	5.4153	167.694	1656.13	7.51941	15.2568	55.1589	0.348383
16.317	135.114	2.09401	90.6576	941.258	5.59212	168.7	1660.14	7.70337	16.3486	63.3239	0.420298
16.3231	133.106	2.11475	90.7587	949.041	5.35795	168.724	1667.03	8.23885	16.3518	62.9771	0.388361
16.3256	134.331	2.05858	90.7624	946.554	5.34635	168.728	1665.87	7.4791	16.3522	63.1534	0.380888
17.4975	150.195	2.30578	95.7014	990.061	6.08524	169.727	1669.77	7.12507	17.5273	71.7852	0.411213
17.4989	152.15	2.25289	95.801	994.833	5.86909	169.736	1674.2	7.65009	17.5297	72.0267	0.457052
17.5003	150.874	2.27851	95.8028	994.09	5.62683	169.737	1671.3	7.37841	17.5311	71.7987	0.417523
18.7521	170.899	2.43123	100.748	1043.3	6.30344	170.741	1679.02	8.16273	18.7875	81.7759	0.501289
18.7598	169.142	2.46643	100.847	1050.43	5.75595	170.745	1675.66	7.42934	18.7889	81.5523	0.450925

18.7602	169.758	2.43756	100.85	1046.45	5.70613	170.745	1681.12	7.48991	18.7917	81.5553	0.468289
20.0877	188.44	2.65768	105.795	1090.57	6.25295	171.747	1686.89	8.26118	20.1195	92.0304	0.491892
20.0904	188.55	2.67375	105.891	1096.49	5.94926	171.752	1685.88	7.50768	20.1202	92.0266	0.494267
20.1017	190.407	2.55985	105.892	1095.27	5.89059	171.756	1682.39	7.55026	20.1406	92.2629	0.493998
21.5381	209.295	2.83943	110.843	1141.55	6.28601	172.766	1691.65	8.33939	21.572	103.416	0.548761
21.5398	209.879	2.81218	110.939	1144.04	5.9947	172.767	1691.49	7.25051	21.5741	103.489	0.557439
21.5546	212.047	2.68872	110.941	1146.67	5.96537	172.768	1693.22	7.57876	21.5945	104.109	0.606117
23.0882	232.218	3.00856	115.893	1195.04	6.33581	173.774	1701.17	8.67893	23.1278	116.189	0.617077
23.0914	232.516	2.97326	115.988	1203.25	6.03538	173.78	1699.63	7.5226	23.1294	116.26	0.623547
23.1048	235.132	2.83705	115.991	1199.1	5.90233	173.781	1699.77	7.50457	23.1539	116.872	0.610162
24.7533	255.975	3.19867	120.909	1243.43	6.20544	174.786	1705.48	8.4554	24.7841	130.13	0.69253
24.7561	256.421	3.11845	121.004	1241.05	5.79208	174.79	1704.75	7.70787	24.7869	130.266	0.715669
24.7717	260.06	3.51542	121.006	1244.65	6.04391	174.792	1705.39	7.38811	24.8175	130.651	0.952657
26.5419	280.873	3.23167	125.994	1280.18	7.11708	175.794	1717.51	8.57987	26.5733	145.211	0.798895
26.5579	281.637	3.23496	126.087	1287.4	5.93096	175.799	1711.54	7.66449	26.5773	145.193	0.773072
26.5677	277.783	3.10461	126.09	1288.82	5.90786	175.802	1714.77	7.7228	26.5995	147.967	0.923312
28.4616	306.254	3.34667	131.04	1329.28	6.4998	176.807	1724.7	8.52033	28.4963	161.078	0.93005
28.4673	306.728	3.31786	131.134	1322.16	6.31282	176.809	1720.53	7.76837	28.5103	161.208	0.955157
28.4887	310.127	3.182	131.14	1333.54	6.82002	176.811	1720.05	7.70175	28.5296	158.328	2.1875
30.5216	332.621	3.42822	136.089	1360.52	6.81229	177.814	1729.46	8.61746	30.5481	177.949	1.05934
30.5253	333.099	3.41545	136.184	1367	6.60022	177.815	1728.53	7.77833	30.5482	178.077	1.0435
30.5527	336.803	3.27813	136.187	1363.96	6.40498	177.825	1730.47	7.3443	30.5822	179.238	1.07659
32.7238	361.605	3.55505	141.098	1402.73	6.97027	178.821	1739.76	8.52355	32.7518	198.179	1.23981
32.7271	362.262	3.51509	141.189	1403.63	6.69727	178.826	1735.44	7.69176	32.7538	197.876	1.24007
32.7612	365.795	3.39867	141.191	1407.4	6.75627	178.827	1735.21	7.808	32.7944	199.158	1.25717
35.0866	391.17	3.62442	146.183	1442.65	8.36599	179.828	1742.06	8.7498	35.1143	219.298	1.43362
35.0896	391.671	3.62128	146.285	1448.4	6.78393	179.837	1741.16	7.77646	35.1151	219.652	1.47486
35.1324	395.599	3.49223	146.29	1446.91	6.62384	179.838	1743.33	7.88003	35.1632	220.923	1.47739
37.6305	421.954	3.72291	151.242	1481.18	8.34406	180.839	1751.95	8.67686	37.6542	242.153	1.65539
37.6336	422.14	3.72134	151.341	1481.25	6.83473	180.846	1747.46	7.69507	37.6558	242.295	1.64941
37.6812	426.657	3.69638	151.345	1484.4	6.95614	180.849	1748.15	7.76719	37.708	243.686	1.75058
40.3486	454.537	3.83776	156.248	1526.05	8.45172	181.848	1757.49	8.56407	40.3697	267.485	1.87884
40.3515	454.549	3.85694	156.346	1528.95	6.94586	181.858	1754.42	7.53998	40.3718	267.563	1.88917

40.401	459.178	3.8544	156.351	1529.22	7.06798	181.859	1753.42	7.57632	40.4282	269.115	2.03575
43.2591	485.906	3.91103	161.35	1572.53	8.43515	182.857	1763.96	8.78249	43.2796	292.037	2.10267
43.2617	486.167	3.93502	161.442	1583.24	6.75625	182.867	1761.55	7.82236	43.2819	292.105	2.11989
43.3129	490.942	3.96288	161.449	1586.71	6.99578	182.868	1764.07	7.69799	43.3377	293.779	2.31658
46.3852	519.591	4.08374	166.327	1680.98	12.4189	183.871	1771.48	8.8187	46.4007	319.776	2.4133
46.3866	519.946	4.0822	166.438	1627.19	8.1423	183.875	1768.41	7.83541	46.402	319.704	2.42706
46.4455	524.698	4.17709	166.439	1625.2	7.74135	183.879	1771.09	7.98571	46.4667	321.862	2.68102
49.7281	555.424	4.18985	171.417	1812.72	8.04875	184.878	1774.32	8.76365	49.7415	349.793	2.65043
49.7305	555.804	4.21224	171.541	1657.9	7.1948	184.884	1776.8	7.95528	49.7422	349.968	2.70904
49.7946	559.382	4.29893	171.543	1656.08	7.50193	184.889	1774.04	7.98042	49.8137	352.444	3.02879
53.3169	591.97	4.40777	176.455	1714.84	7.97431	185.887	1783.06	8.75201	53.3325	381.907	2.99139
53.3188	591.788	4.37905	176.552	1686.93	7.00843	185.893	1783.32	8.00725	53.334	381.861	2.98793
53.3814	595.126	4.46089	176.558	1687.29	7.22639	185.898	1786	7.93995	53.4091	384.849	3.38213
57.1642	631.593	4.60231	181.57	1726.09	8.19502	186.899	1788.53	8.84826	57.176	417.827	3.3211
57.1664	631.748	4.58481	181.665	1717.06	7.04053	186.907	1787.46	8.07078	57.1781	417.671	3.26072
57.2338	635.486	4.64756	181.67	1720.41	6.70834	186.909	1787.34	8.04813	57.2517	420.385	3.68247
61.2832	673.631	4.72883	186.629	1761.4	8.17901	187.91	1798.84	9.14945	61.2925	456.095	3.57715
61.2868	673.563	4.79251	186.716	1754.59	7.25345	187.917	1794.05	8.33374	61.295	455.998	3.61161
61.3665	676.521	4.87741	186.721	1754.07	7.30925	187.92	1794.99	8.03384	61.3732	457.716	3.89156
65.6953	717.285	4.84307	191.703	1798.28	8.71521	188.915	1807.5	8.81065	65.7046	496.928	3.69423
65.6964	718.144	4.8162	191.801	1797.85	7.6065	188.928	1804.72	8.20193	65.7072	497.055	3.75969
65.7813	721.556	5.06021	191.806	1795.74	7.39907	188.93	1806.27	8.11905	65.7931	499.628	4.06019
70.4385	762.979	4.95311	196.764	1843.33	8.49939	189.929	1817.07	8.94253	70.4279	540.128	4.14598
70.4386	764.129	4.9295	196.86	1838.02	7.85144	189.936	1813.33	8.16601	70.428	539.101	3.8755
70.5207	770.335	5.22148	196.867	1841.35	7.66099	189.941	1813.45	8.20838	70.5163	545.07	4.47464
75.4988	814.192	5.14693	201.82	1879.3	8.46197	190.938	1825.51	8.94216	75.5252	589.644	4.07772
75.4989	811.568	5.09565	201.92	1875.3	7.65227	190.946	1823.84	8.30265	75.5272	589.188	4.09994
75.5966	812.099	5.34983	201.923	1873.21	7.60665	190.949	1824.8	8.2557	75.6203	589.972	4.55609
80.9369	865.279	5.21876	206.817	1911.27	8.32078	191.956	1830.75	8.26063	80.9642	636.702	4.43551
80.9526	863.113	5.39594	206.915	1904.81	7.92188	191.965	1830.13	8.26702	80.9663	638.636	4.36727
81.0448	869.336	5.74011	206.916	1905.07	8.03705	192.239	1841.33	8.5305	81.0604	638.131	4.97448
86.7714	913.993	5.36485	211.945	1925.17	8.39169				86.7893	684.973	4.52755
86.7729	913.737	5.56918	212.038	1918.18	7.56594				86.7938	686.151	4.50726

86.869	917.281	5.94278	212.042	1920.28	7.43665
93.0064	970.574	5.51906	216.945	1928.71	8.4816
93.0079	966.833	5.52143	217.041	1929.26	7.9725
93.0838	968.133	5.61347	217.044	1932.83	7.75782
99.6962	1036.03	5.74175	222.073	1956.02	9.02035
99.6978	1037.42	5.73415	222.172	1958.56	8.3091
99.8005	1040.59	6.15239	222.177	1956.49	8.10474
106.87	1105.3	5.94491	227.066	1982.36	8.7304
106.874	1105.88	5.76372	227.16	1978.82	8.35534
106.979	1107.51	6.23598	227.163	1980.05	8.11629
114.573	1184.85	6.04988	232.193	1998.68	8.8941
114.576	1185.65	6.03276	232.29	2001.64	8.52373
114.682	1189.19	6.78462	232.293	2004.94	8.42816
122.815	1265.74	5.86269	237.251	2037.28	11.3401
122.818	1262.62	5.829	237.356	2039.42	8.91147
122.925	1263.14	6.63354	237.367	2038.51	8.93462
131.653	1334.64	6.20473	242.237	2067.07	11.0325
131.653	1334.5	6.25952	242.338	2070.64	8.95132
131.764	1338.6	6.75199	242.345	2072.55	9.16401
141.124	1418	6.67584	247.365	2107.98	11.4266
141.127	1415.5	6.60782	247.467	2109.14	9.64269
141.23	1416.54	7.12926	247.478	2108.96	9.52535
151.283	1494.37	6.57563	252.33	2132.47	11.0191
151.287	1494.58	6.53824	252.427	2139.34	9.4242
151.382	1495.91	7.36855	252.436	2136.35	9.1536
162.172	1610.88	6.88243	257.447	2159.07	11.4507
162.174	1609.82	6.65187	257.553	2162.84	9.55394
162.263	1610.17	7.7768	257.565	2166.74	9.54252
173.89	1694.72	6.91595	262.495	2205.68	12.3609
173.89	1694.03	6.57956	262.601	2201.82	10.3276
173.997	1700.91	7.2754	262.609	2203.28	10.2527
186.448	1788.97	6.98314	267.454	2235.5	12.1147
186.448	1788.83	7.0419	267.553	2239.73	10.8186

86.8915	688.615	4.96287
93.0319	737.499	4.67072
93.036	738.934	4.7156
93.1465	738.745	5.1409
99.7292	808.285	4.96769
99.7303	806.555	4.90912
99.8334	809.979	5.37735
106.899	874.831	4.93969
106.901	873.21	4.82692
107.008	876.416	5.48803
114.587	957.555	5.14731
114.59	955.875	5.26915
114.704	957.069	6.00477
122.833	1031.22	4.67481
122.834	1029.81	4.75658
122.944	1035.38	5.72408
131.666	1101.4	4.84401
131.667	1104.61	5.08153
131.779	1108.04	6.0903
141.14	1185.35	5.3314
141.141	1186.65	5.43756
141.252	1190.84	6.41535
151.294	1264.56	5.18561
151.296	1263.9	5.05425
151.404	1266.49	6.41477
162.199	1375.02	5.00853
162.201	1376.54	5.03378
162.305	1377.14	6.13552
173.881	1447.19	5.33677
173.881	1445.63	5.09723
173.98	1447.06	6.40851
186.465	1536.25	5.34384
186.467	1534.73	5.07405

186.507	1788.39	7.48398	267.564	2238.81	10.9487	186.556	1534.36	6.4792
199.853	1899.56	7.45963	272.572	2264.4	12.2395	199.858	1633.38	5.26889
199.853	1899.03	7.6128	272.682	2270.85	10.7825	199.861	1631.16	5.15549
199.896	1902.81	7.78147	272.69	2269.26	10.9876	199.94	1633.91	6.49478
214.199	1960.07	7.10274	277.618	2292.67	12.541	214.207	1720.56	5.43283
214.205	1961.09	7.03246	277.723	2295.98	11.0963	214.21	1720.23	5.58192
214.233	1963.01	7.87695	277.731	2296.17	11.1717	214.258	1723.23	5.92615
229.563	2023.47	8.66539	282.567	2316.32	12.7735	229.581	1795.03	5.31748
229.582	2026.93	7.90106	282.669	2320.52	11.5264	229.582	1795.67	5.42231
229.584	2026.98	7.74502	282.681	2319.36	11.6174	229.613	1795.58	6.95586
246.025	2127.41	9.38192	287.609	2341.01	12.9874	246.05	1897.56	7.2523
246.078	2127.64	8.60694	287.717	2342.23	12.2004	246.075	1892.21	5.99994
246.081	2123.26	8.94748	287.726	2342.71	11.9265	246.075	1891.76	5.97089
263.631	2221.73	12.1401	292.755	2374.5	13.5384	263.661	1976.16	7.6314
263.712	2217.32	9.65473	292.867	2379.33	13.0053	263.715	1979.35	6.48021
263.734	2220.06	9.51676	292.874	2374.87	12.6335	263.718	1980.43	7.22203
282.494	2326.16	12.2188	297.806	2398.18	13.4928	282.506	2081.03	7.44
282.627	2329.31	10.6645	297.908	2408.68	12.5277	282.625	2083.46	7.13812
282.647	2327.4	10.9615	297.917	2404.31	12.2181	282.628	2077.52	7.07044
302.717	2417.2	12.3597	302.747	2418.55	12.6813	302.747	2168.59	8.30363
302.918	2427.34	11.2881	302.843	2419.56	12.2894	302.892	2173.65	7.20518
302.933	2428.99	11.5235	302.852	2420.03	12.03	302.898	2170.61	7.1908

Racalmuto M = 2965.99 g/mol (Mass: 14.4147 mg)						Racalmuto heated M = 2763.901 g/mol (Mass: 13.28 mg)		
cooling (log spacing) Cp			cooling (linear spacing) Cp			cooling (log spacing: 5-240 K; linear spacing: 240-300 K)		
T(K)	J/(mol·K)	σ_{Cp}	T(K)	J/(mol·K)	σ_{Cp}	T(K)	Cp J/(mol·K)	σ_{Cp}
5.0051	7.82591	0.16045	5.02948	8.30493	0.161523	5.12849	3.76767	0.057401
5.01016	7.62819	0.161171	5.03038	8.31152	0.162037	5.12899	3.77463	0.0590588
5.0181	7.75195	0.144044	5.03465	8.53441	0.159699	5.13145	3.83035	0.0527543
5.3736	9.51764	0.176606	10.0584	49.0561	0.927399	5.53425	4.60664	0.129533
5.37825	9.52414	0.172954	10.0636	50.2693	0.907213	5.53469	4.94802	0.165389
5.38065	9.30947	0.177549	10.0801	53.6576	0.835013	5.54672	5.21335	0.124788
5.75141	11.4898	0.232646	15.0796	115.43	1.98507	6.01067	6.97903	0.164247
5.75691	11.7138	0.236773	15.0874	117.051	1.94876	6.01352	6.32784	0.155878
5.7688	11.3766	0.220319	15.1093	122.987	1.77796	6.01372	5.97978	0.115901
6.16622	13.8538	0.264075	20.0808	192.659	2.84592	6.5108	7.61788	0.109971
6.17037	13.8226	0.257916	20.0883	194.022	2.7867	6.51533	7.63346	0.113181
6.1729	13.8159	0.258736	20.1313	201.764	2.48291	6.51909	7.62442	0.107364
6.61402	17.1448	0.308532	25.1124	271.768	3.33824	7.05537	9.4989	0.142179
6.61627	16.7976	0.309521	25.1177	272.231	3.32196	7.05543	9.61053	0.138057
6.61653	16.8018	0.311984	25.1783	281.374	3.21311	7.05641	9.4424	0.13803
7.10782	20.8009	0.378469	30.1597	345.86	3.50217	7.56594	11.6509	0.160688
7.11279	20.4408	0.380277	30.1647	346.384	3.50635	7.57093	11.4728	0.164073
7.11302	20.4319	0.380277	30.2416	353.789	3.0338	7.57317	11.478	0.162377
7.61147	24.8117	0.458701	35.2073	417.756	3.53346	8.18466	14.3485	0.192966
7.61956	24.4248	0.458046	35.2122	417.981	3.51119	8.19089	14.2	0.194678
7.62097	24.3862	0.453938	35.3021	424.627	3.29791	8.19392	14.2093	0.196293
8.15907	29.5472	0.548859	40.2711	485.413	3.61676	8.85405	17.6061	0.23022
8.16681	29.1139	0.546557	40.2743	485.79	3.63101	8.86006	17.4146	0.232668
8.16756	29.0778	0.545117	40.3711	491.38	3.63044	8.86268	17.4343	0.233084
8.74393	35.0063	0.650582	45.317	544.399	3.74568	9.58091	21.4594	0.27533
8.75185	34.5186	0.649916	45.3198	544.767	3.76392	9.58628	21.2453	0.279633
8.75268	34.464	0.650321	45.4179	549.487	3.89026	9.58901	21.2476	0.274466

9.36987	41.1583	0.771254	50.3731	603.722	4.07066	10.3638	25.929	0.322824
9.37873	41.1641	0.758327	50.3753	603.549	4.02028	10.3689	25.7206	0.326712
9.38102	40.5842	0.768938	50.4735	607.86	4.33591	10.3776	25.6739	0.32691
10.0435	48.8206	0.897827	55.4163	659.779	4.35049	11.216	31.0929	0.380776
10.0525	48.2334	0.894278	55.4191	659.611	4.36251	11.2216	30.8645	0.38156
10.0529	47.5406	0.899952	55.5175	663.98	4.68408	11.2243	30.8813	0.383629
10.7646	56.821	1.05111	60.4767	715.814	4.51592	12.1312	37.3628	0.437288
10.7728	56.1389	1.04283	60.4795	715.292	4.53985	12.1375	37.1001	0.430841
10.7732	56.0791	1.04077	60.5728	719.294	4.96553	12.1403	36.8925	0.445662
11.5394	66.3988	1.21215	65.5251	771.3	4.89416	13.1249	44.4869	0.491717
11.5505	64.9379	1.21097	65.5268	771.865	4.97266	13.1303	43.9637	0.500684
11.5511	65.6876	1.20407	65.6147	773.914	5.3214	13.1328	43.9193	0.496138
12.3712	77.344	1.38482	70.5882	821.741	5.23071	14.1992	52.4117	0.554579
12.3781	75.8462	1.39349	70.5887	822.166	4.99016	14.2032	51.9622	0.555307
12.3792	76.6132	1.37818	70.6723	827.563	5.42738	14.205	51.8907	0.556322
13.26	89.4666	1.5726	75.621	874.072	5.45544	15.3606	61.3388	0.614389
13.2667	87.841	1.58104	75.6258	875.364	5.1714	15.3647	60.8888	0.613053
13.2675	88.6979	1.56842	75.747	872.312	5.48098	15.3661	60.8784	0.619636
14.2101	102.609	1.77937	80.7118	926.074	5.44393	16.6209	71.4805	0.696306
14.2162	100.905	1.78205	80.7138	925.87	5.12055	16.6212	70.9945	0.68427
14.2172	101.719	1.75979	80.7945	929.245	5.76135	16.6215	70.9593	0.693512
15.2344	117.989	1.99028	85.7623	966.521	5.3538	17.9805	82.0304	0.766211
15.2378	116.271	1.98701	85.7636	973.406	5.37811	17.9846	82.2733	0.751284
15.2397	117.098	1.96763	85.8411	973.086	5.68328	17.9904	83.0163	0.745519
16.3327	134.414	2.17468	90.8151	1014.09	5.37072	19.4456	94.5263	0.824338
16.3327	132.069	2.21746	90.8158	1010.82	5.6202	19.4496	94.6016	0.826612
16.3366	132.957	2.20321	90.8926	1015.41	5.60984	19.4591	95.2837	0.815521
17.5054	149.86	2.42662	95.8624	1061.98	5.7039	21.0417	108.496	0.886037
17.5102	150.787	2.41238	95.8636	1064.01	5.76626	21.0446	108.089	0.910686
17.5109	152.458	2.40849	95.9349	1063.1	6.1367	21.0618	109.322	0.833167
18.7662	172.298	2.5872	100.911	1119.7	5.49379	22.7561	123.289	0.97606
18.7707	170.027	2.6238	100.914	1117.96	5.6156	22.7573	123.304	0.997523
18.772	170.845	2.60751	100.982	1121.73	6.25436	22.7819	124.452	0.922337
20.0955	190.457	2.84563	105.956	1172.16	5.92511	24.6194	140.09	1.08344

20.0991	190.437	2.84358	105.958	1167.18	5.85793	24.6205	140.131	1.11531
20.1136	192.88	2.74149	106.038	1171.93	6.15489	24.6428	141.376	1.06036
21.5488	212.858	3.04932	111.018	1221.29	6.15553	26.6364	157.946	1.16587
21.5506	213.538	3.01664	111.021	1221.5	6.16748	26.6384	157.884	1.15425
21.569	215.741	2.85729	111.086	1222.25	6.43529	26.6572	158.784	1.24506
23.1	238.24	3.19001	116.079	1285.21	5.8171	28.8132	177.638	1.38264
23.1018	238.236	3.18387	116.08	1283.86	6.07171	28.8228	177.345	1.33196
23.1208	240.61	2.99603	116.14	1286.23	6.16518	28.8404	180.561	1.30932
24.7694	263.996	3.33295	121.124	1330.97	5.792	31.1663	197.74	1.44191
24.7703	263.966	3.3309	121.126	1329.82	5.70574	31.1678	197.872	1.58251
24.7899	268.414	3.99886	121.186	1334.18	6.07688	31.2047	199.195	1.43341
26.5564	291.624	3.42726	126.174	1372.74	5.89634	33.7175	221.358	1.64635
26.5584	292.425	3.40492	126.176	1373.31	5.85378	33.7176	221.406	1.65269
26.5799	296.716	3.48939	126.234	1376.14	6.22789	33.7618	223.09	1.69213
28.4739	319.53	3.49939	131.228	1418.44	6.23638	36.482	247.268	1.87414
28.478	319.885	3.49129	131.229	1422.17	5.98874	36.483	247.728	2.09377
28.5045	323.17	3.27977	131.286	1421.86	6.23397	36.5266	249.1	1.97552
30.5309	349.068	3.55374	136.278	1465.24	5.90426	39.4693	275.022	2.15434
30.5361	349.377	3.52526	136.28	1465.15	6.22211	39.4696	275.106	2.18501
30.5682	352.954	3.31009	136.338	1469.9	6.21649	39.5182	277.513	2.30632
32.7393	381.432	3.56217	141.339	1510.39	6.16157	42.7027	302.879	2.39112
32.7421	381.872	3.56023	141.343	1511.17	5.88803	42.7048	302.342	2.38688
32.7816	384.991	3.36774	141.393	1512.72	6.14139	42.7572	304.864	2.64539
35.1018	414.607	3.58758	146.398	1552.72	6.23775	46.2029	333.803	2.7228
35.1048	414.459	3.59973	146.398	1553.83	6.21512	46.2047	333.918	2.72079
35.1506	418.293	3.39565	146.462	1551.52	6.31642	46.2625	337.02	3.03297
37.6396	448.681	3.61167	151.463	1596.24	5.73313	49.9952	366.494	3.05504
37.6424	448.322	3.61969	151.464	1594.71	6.07949	50.0068	366.964	3.37083
37.6905	452.206	3.54162	151.507	1592.72	6.02103	50.0552	369.124	3.33648
40.36	485.118	3.69961	156.524	1643.43	6.15025	54.0982	401.759	3.46789
40.362	485.316	3.74013	156.525	1643.94	6.06462	54.099	401.339	3.72008
40.4155	488.483	3.65597	156.565	1646.11	6.54324	54.16	403.096	3.6733
43.271	519.064	3.76096	161.6	1707.93	6.22202	58.5441	440.701	3.82644
43.2735	518.741	3.79319	161.602	1707.75	6.17249	58.545	440.875	3.75274

43.3314	522.38	3.81031	161.64	1707.59	6.12874	58.612	443.013	4.10807
46.3929	555.569	3.89595	166.655	1739.51	5.87653	63.3579	481.568	4.15272
46.3952	555.67	3.9101	166.656	1742.12	6.00583	63.3604	481.601	4.09127
46.4602	559.295	4.07054	166.697	1741.85	8.36299	63.4388	484.665	4.64395
49.739	595.528	4.12073	171.726	1771.05	5.98455	68.5647	535.346	4.137
49.7421	594.786	4.02582	171.729	1771.21	5.89473	68.5678	531.955	4.67617
49.8079	598.023	4.17788	171.766	1771.99	7.90639	68.6505	538.655	5.04926
53.3288	633.82	4.20412	176.799	1805.16	5.8661	74.1952	579.549	4.95297
53.3295	634.425	4.20228	176.801	1808.1	6.06573	74.2002	577.325	4.77222
53.3963	637.703	4.52561	176.84	1809.58	8.70336	74.2757	588.428	4.9922
57.1788	678.322	4.40622	181.857	1839.87	6.58492	80.2874	645.711	5.08378
57.1813	677.69	4.41809	181.859	1840.42	5.93912	80.2881	641.282	4.95386
57.254	681.07	4.72711	181.896	1841.64	8.01299	80.3806	639.559	5.0575
61.2973	721.577	4.59195	186.911	1866.75	6.28861	86.841	707.478	5.16345
61.2999	721.735	4.65226	186.912	1867.33	5.8167	86.8424	708.175	5.19625
61.3811	724.135	4.90645	186.944	1875.49	7.91723	86.9396	705.96	5.4688
65.7094	770.157	4.94201	191.96	1897.41	6.38488	93.9721	764.459	5.58023
65.7101	769.453	4.85746	191.96	1901.21	6.38143	93.9761	765.126	5.43393
65.791	773.76	5.30524	191.993	1904.87	8.34912	94.0734	767.852	5.86048
70.4501	815.545	4.93598	197.011	1935.74	6.38645	101.698	846.315	5.55023
70.4537	818.118	4.85474	197.011	1935.21	6.28364	101.7	840.468	5.22662
70.5382	821.968	5.38753	197.039	1931.73	6.29647	101.801	844.27	5.97776
75.5175	870.938	5.32814	202.059	1972.02	6.24268	110.057	914.179	5.68353
75.5184	873.402	5.29887	202.062	1964.05	6.28971	110.058	912.754	5.86288
75.6046	871.363	5.70972	202.084	1971.22	8.07212	110.159	915.747	6.51303
80.9658	923.606	5.43113	207.093	1993.31	6.36665	119.105	1005.28	5.60201
80.968	923.443	5.54312	207.101	1995.41	8.44025	119.105	1002.49	5.50075
81.0594	926.914	6.0096	207.114	1992.16	6.96685	119.217	1005.58	6.45397
86.789	971.761	5.60292	212.133	2023.9	7.04477	128.892	1084.35	5.5259
86.7917	971.702	5.49712	212.135	2026.72	6.84315	128.898	1090.17	6.7814
86.8872	973.879	6.3371	212.153	2031.45	8.35017	128.998	1085.08	6.71292
93.0358	1026.66	5.62373	217.184	2065.01	6.79044	139.502	1171.25	5.76372
93.0391	1026.74	5.63371	217.186	2061.97	7.01899	139.503	1172.89	5.85765
93.1346	1030.17	6.34619	217.204	2065.71	8.17526	139.612	1195.06	7.22564

99.7245	1101.48	6.06007	222.227	2094.27	6.47467	150.968	1267.49	5.81166
99.7258	1103.15	6.04075	222.229	2093.91	6.59424	150.97	1268.64	5.71211
99.8275	1104.75	6.45221	222.237	2093.99	7.77898	151.065	1267.77	6.58571
106.899	1169.67	6.14811	227.268	2112.82	6.7167	163.395	1372.89	6.02959
106.901	1169.63	5.96571	227.272	2110.1	6.45703	163.398	1372.91	6.07458
107.002	1176.52	7.06364	227.273	2111.24	8.27069	163.483	1377.31	7.50256
114.588	1256.91	5.80714	232.31	2133.33	7.05805	176.876	1482.9	6.26492
114.589	1257.42	5.86233	232.313	2125.62	6.75777	176.878	1483.63	6.00369
114.693	1261.06	7.06376	232.314	2128.58	7.72853	176.96	1488.37	7.38773
122.831	1335.38	5.96188	237.352	2166.95	7.84395	191.387	1575.72	6.28331
122.831	1336.83	6.19961	237.362	2164.73	7.44169	191.389	1575.52	6.47443
122.938	1334.75	7.2289	237.367	2165.01	7.18671	191.455	1578.89	8.24304
131.663	1411.38	5.82853	242.407	2202.21	7.7171	207.083	1676.02	6.45279
131.666	1408.4	5.69745	242.416	2201.01	7.41337	207.083	1676.06	6.77207
131.774	1413.81	7.27957	242.419	2196.8	7.10473	207.115	1675.78	7.80815
141.134	1495.42	6.2282	247.44	2231.45	8.25106	224.073	1772.94	8.1981
141.137	1492.23	6.19569	247.459	2232.4	7.32496	224.081	1766.26	6.17469
141.244	1500.55	7.31292	247.46	2230.11	7.18219	224.084	1770.23	6.16601
151.287	1578.71	5.91631	252.475	2253.34	7.88312	242.151	1843.13	8.40378
151.287	1576.2	5.98008	252.494	2254.27	7.58255	242.413	1845.07	6.39113
151.393	1578.08	7.33249	252.5	2256.33	7.56125	242.419	1850.11	6.73924
162.187	1696.59	6.12285	257.513	2274.67	7.443	247.497	1873.48	6.52969
162.196	1695.35	6.43121	257.534	2279.56	7.70764	247.539	1871.5	6.70916
162.284	1695.62	7.85445	257.538	2275.27	7.51797	247.541	1873.69	6.57678
173.972	1786.49	6.35138	262.574	2316.2	7.85423	252.542	1886.51	6.75453
173.973	1786.69	6.16257	262.574	2317.21	7.80414	252.578	1888.62	6.98316
174.068	1788.99	7.39217	262.574	2314.72	7.96244	252.578	1885.93	7.32143
186.484	1865.56	5.88204	267.576	2354.82	8.2733	257.579	1902.31	7.00487
186.485	1868.21	6.38708	267.61	2354.48	8.16172	257.619	1905.35	6.60299
186.573	1871.46	7.82798	267.613	2356.07	8.49757	257.621	1899.6	6.91215
199.87	1950.88	6.26696	272.609	2383.12	8.20783	262.614	1934.76	10.0055
199.873	1952.11	6.31971	272.646	2381.57	8.52263	262.654	1934.03	7.67975
199.95	1955.74	7.99515	272.65	2383.06	8.97871	262.662	1933.76	7.50089
214.211	2043.92	6.64946	277.639	2412.76	8.93671	267.645	1972.39	10.2629

214.211	2044.93	6.85357	277.682	2416.25	8.75953	267.694	1965.15	7.45246
214.276	2044.48	7.9243	277.682	2415.03	8.94743	267.701	1961.79	7.50972
229.578	2120.56	6.47645	282.675	2450.33	9.5015	272.679	1991.35	9.82041
229.582	2119.24	6.75762	282.719	2444.89	9.44885	272.732	1993.02	7.96763
229.604	2121	6.62194	282.721	2444.98	9.54884	272.74	1991.93	7.742
246.054	2232.26	8.87293	287.722	2490.13	12.8042	277.714	2022.46	9.95361
246.068	2227.28	7.34435	287.764	2478.57	10.0105	277.774	2016.59	8.0986
246.068	2225.84	7.27451	287.766	2486.62	9.74632	277.779	2017.8	8.29447
263.641	2322.86	9.47642	292.767	2528.46	12.5319	282.738	2043.01	9.45197
263.7	2328.95	7.8015	292.813	2528.64	10.7784	282.82	2044.99	8.32889
263.702	2326.64	8.19548	292.82	2525.99	10.5711	282.82	2046.52	8.72359
282.499	2455.86	9.99777	297.801	2584.47	13.5549	287.776	2069.85	8.72245
282.603	2450.46	9.4094	297.851	2583.24	11.0851	287.859	2066.68	8.25614
282.603	2450.67	9.21221	297.857	2579.72	10.5051	287.864	2064.67	8.41718
302.735	2631.17	11.5138	302.723	2628.78	12.0057	292.817	2097.77	9.0917
302.861	2635.11	11.3304	302.885	2641.78	11.067	292.908	2093.86	9.24793
302.877	2634.39	10.9821	302.893	2636.48	11.0529	292.909	2092.71	9.05198
						297.849	2114.64	8.37977
						297.942	2115.95	8.11566
						297.946	2111.41	8.1283
						302.957	2123.6	8.06858
						302.957	2125.46	11.2221
						302.973	2121.37	7.92608