

Title: High-resolution metabolomic assessment of pesticide exposure in Central Valley, California

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Table of Contents

Supplemental Figure S1. Heatmap of pairwise correlations of pesticide counts. The heat map color-codes the pairwise *Pearson* correlations of organophosphates (OP), pyrethroids (PYR), and organochlorines (OC) counts. The shades of color (blue, white, and red) visualize correlation values from -1 to 1. Each square reports a *Pearson* correlation coefficient.....S3

Supplemental Figure S2. Identification of metabolic features associated with pesticide exposure. **(a)** Type 1 Manhattan plot for OP-associated features in the HILIC column (positive ion mode), VIP score vs. m/z. Red dots represent features positively associated with OP exposure and green dots represent features negatively associated with OP exposure; **b)** Type 1 Manhattan plot for OP-associated features in the C18 column (negative ion mode), VIP score vs. mass-to-charge; **c)** Type 1 Manhattan plot for PYR-associated features in the HILIC column (positive ion mode); **d)** Type 1 Manhattan plot for PYR-associated features in the C18 column (negative ion mode); **e)** Type 1 Manhattan plot for OC-associated features in the HILIC column (positive ion mode); **f)** Type 1 Manhattan plot for OC-associated features in the C18 column (negative ion mode).....S4

Supplemental Figure S3. Enriched pathways identified from the sensitivity analysis by additionally adjusting for education. The vertical axis represents the pathways associated with pesticides. Circle radius is proportional to the number of correlated metabolite features within each pathway (ratio). The horizontal axis also represents the ratio. The color represents the negative \log_{10} (*p-value*) of each pathway.....S5

Table S1. List of chemicals within OP, PYR, or OC groups.....S6

Table S2. Significant HILICpos features.....S8

Table S3. Significant C18neg features.....S19

Table S4. Annotated Metabolites within each enriched pathway based on mummichog.....S25

Table S5. Enriched pathways associated with pesticide exposures.....S27

Table S6. Enriched metabolic pathways associated with xMWAS cluster 1 (OP).....S28

Table S7. Enriched metabolic pathways associated with xMWAS cluster 2 (PYR, OC).....S29

Supplemental Table S8. Pathway enrichment analysis for features associated with all three pesticides in xMWAS.....S30

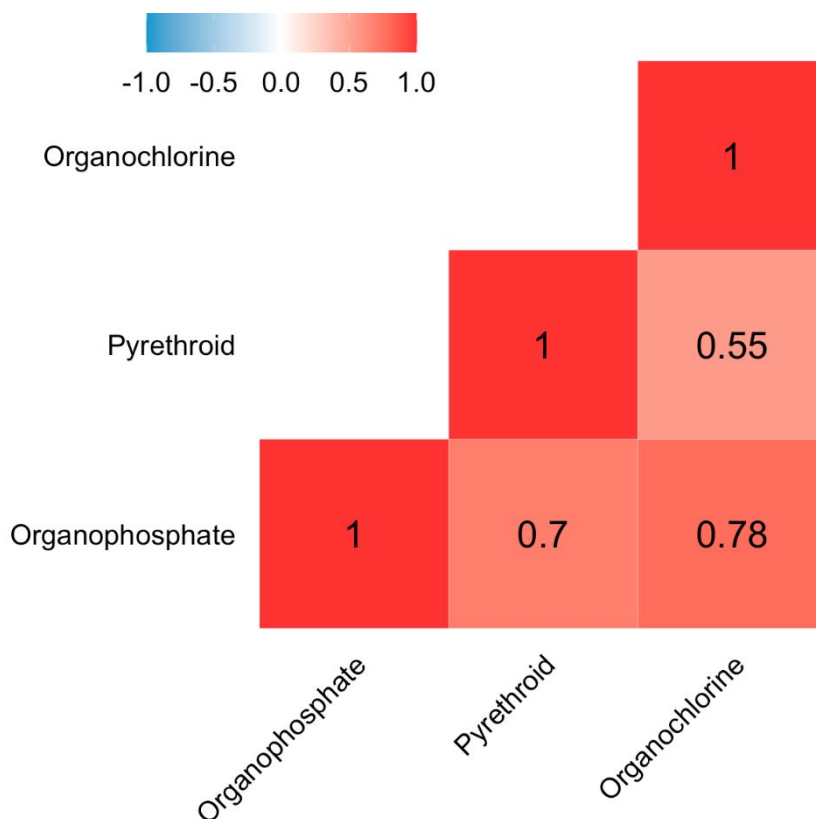


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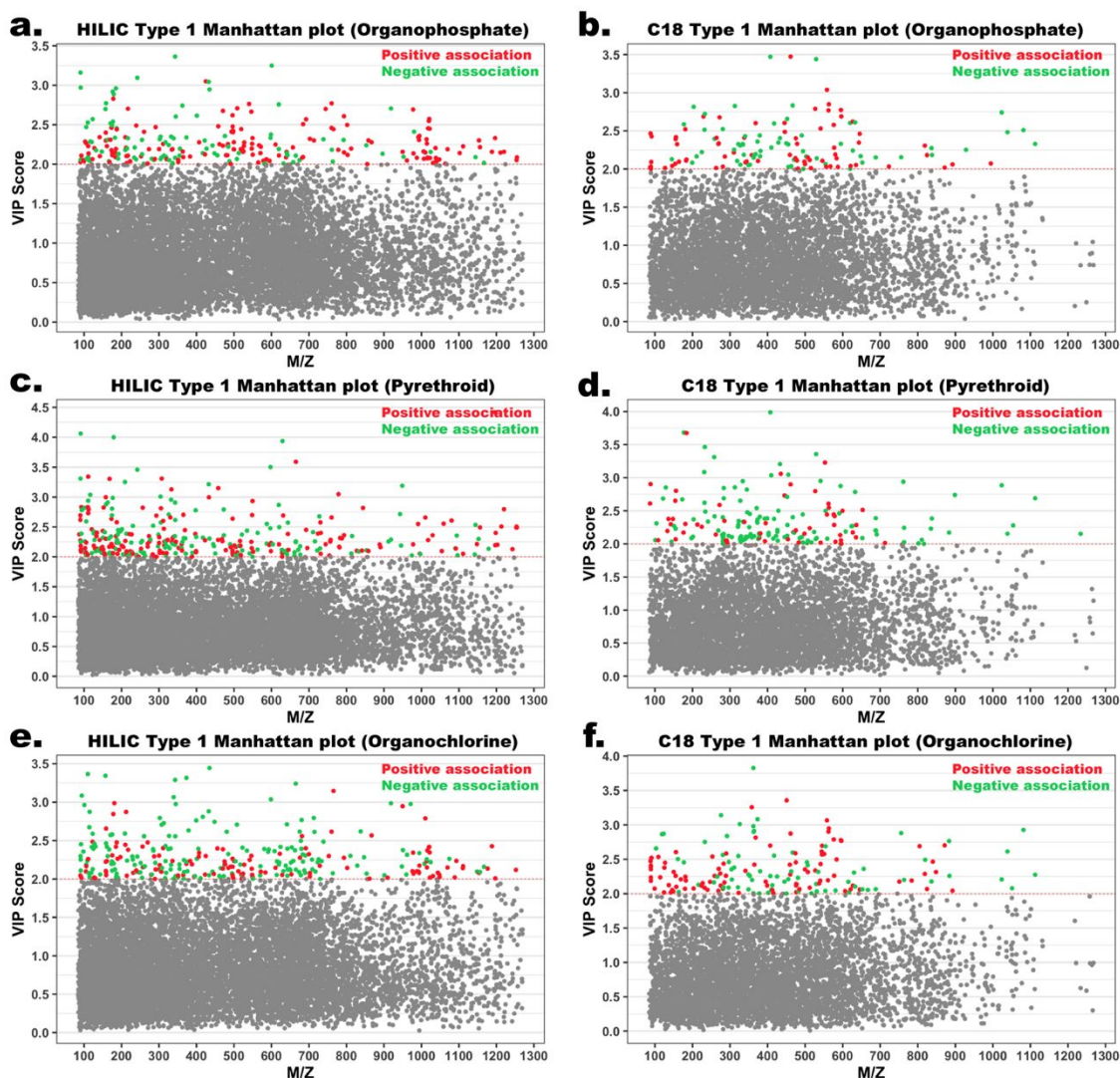


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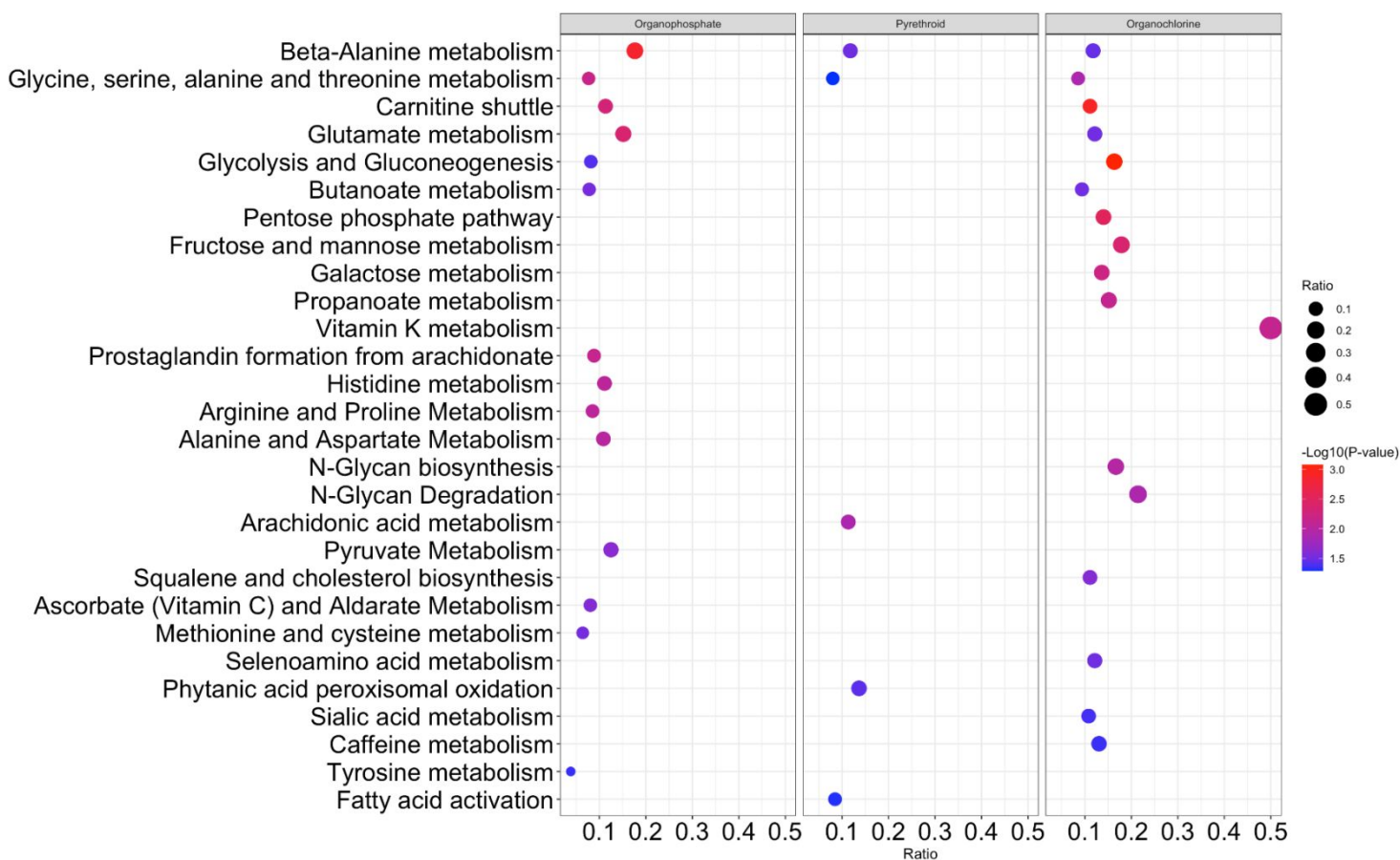


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Table S1. List of chemicals within OP, PYR, or OC groups

Pesticide group	Name	Chemcode
	Monocrotophos	52
	Bensulide	70
	Dicrotophos	72
	Trichlorfon	88
	Carbophenothion	110
	Ddvp	187
	S,S,S-Tributyl Phosphorotrithioate	190
	Dioxathion	192
	Diazinon	198
	Dimethoate	216
	Disulfoton	230
	Chlorpyrifos	253
	Ethion	268
	Merphos	293
	Azinphos-Methyl	314
	Phosmet	335
	Malathion	367
OPs	Oxydemeton-Methyl	382
	Methyl Parathion	394
	Naled	418
	Parathion	459
	Phorate	478
	Phosalone	479
	Mevinphos	480
	Phosphamidon	482
	Sulfotep	558
	Demeton	566
	Tepp	577
	Ethephon	1626
	Leptophos	1676
	Acephate	1685
	Methidathion	1689
	Methamidophos	1697
	Dialifor	1799
	Fenamiphos	1857
	Profenofos	2042
	Fenvalerate	1963
	Permethrin	2008
	Phenothrin	2093
PYRs	Resmethrin	2119
	Flucythrinate	2168
	Cypermethrin	2171
	Tau-Fluvalinate	2195
	Cyfluthrin	2223

	Fenpropathrin	2234
	Lambda-Cyhalothrin	2297
	Bifenthrin	2300
	Esfenvalerate	2321
	Tralomethrin	2329
	(S)-Cypermethrin	3866
	Chlordane	130
	Dieldrin	210
	Endosulfan	259
OCs	Dicofol	346
	Lindane	359
	Methoxychlor	384
	Dienochlor	468
	Toxaphene	594

Table S2. Significant HILICpos features

m/z	time (s)	vip_O P	coef_O P	pvalue_ OP	vip_PY R	coef_PY R	pvalue_P YR	vip_O C	coef_O C	pvalue_O C
87.0553	114.7	1.743	0.012	0.043	2.375	0.064	0.023	1.180	0.031	0.288
90.0392	98.6	1.870	0.014	0.033	2.694	0.090	0.005	1.745	0.057	0.082
90.0609	100.5	2.030	0.018	0.012	2.274	0.089	0.014	1.615	0.066	0.071
90.0709	98.5	1.911	0.015	0.025	2.619	0.091	0.007	2.045	0.075	0.027
90.507	280.4	3.161	-0.012	0.000	3.310	-0.057	0.000	2.298	-0.041	0.011
90.9712	84	0.210	0.001	0.923	2.249	-0.088	0.015	0.700	0.026	0.472
90.9821	97.8	1.305	-0.010	0.125	1.607	-0.055	0.083	2.253	-0.080	0.011
91.0059	269.7	2.057	-0.010	0.015	1.763	-0.039	0.059	1.440	-0.034	0.109
91.0275	289.3	2.970	-0.020	0.000	4.062	-0.118	0.000	2.110	-0.065	0.018
91.052	98.5	1.837	0.015	0.039	2.111	0.067	0.056	1.625	0.055	0.117
91.0947	22.5	1.476	0.007	0.132	2.182	0.052	0.023	0.960	0.022	0.350
91.98	72.4	0.970	-0.008	0.244	0.408	-0.008	0.818	2.452	-0.099	0.005
92.0592	98.6	1.720	0.014	0.058	2.088	0.068	0.052	1.577	0.052	0.144
93.024	287.8	1.178	-0.005	0.204	2.387	-0.050	0.011	1.045	-0.021	0.287
93.0448	134.6	2.109	0.013	0.011	2.833	0.073	0.004	2.018	0.056	0.026
94.0809	283	1.927	-0.015	0.024	2.783	-0.092	0.003	3.085	-0.108	0.001
95.0685	64.4	1.241	0.013	0.136	2.112	0.100	0.022	0.987	0.049	0.271
97.9914	291.2	0.379	-0.002	0.682	0.713	0.014	0.464	2.357	-0.049	0.009
98.0237	115.1	2.052	0.018	0.014	2.118	0.071	0.049	1.252	0.044	0.231
100.039	3	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
100.956	9	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
102.091	273.9	1.693	-0.008	0.041	2.820	-0.060	0.002	2.963	-0.067	0.001
102.091	3	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
102.528	274.5	1.546	-0.014	0.088	2.260	-0.096	0.018	1.576	-0.069	0.093
102.528	9	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
103.086	288.9	1.816	-0.012	0.033	2.098	-0.064	0.024	0.962	-0.031	0.282
103.086	6	2.286	0.015	0.007	2.146	0.063	0.022	1.515	0.047	0.088
104.052	20.9	2.286	0.015	0.007	2.146	0.063	0.022	1.515	0.047	0.088
104.052	9	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
105.069	75.9	1.186	0.009	0.269	2.053	0.075	0.049	1.259	0.044	0.255
105.069	9	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
105.758	139.6	1.643	0.014	0.057	0.299	0.010	0.784	2.099	0.087	0.021
105.758	3	2.266	0.023	0.007	2.240	0.100	0.016	2.171	0.102	0.014
105.993	110.7	2.266	0.023	0.007	2.240	0.100	0.016	2.171	0.102	0.014
105.993	8	2.471	-0.024	0.003	2.592	-0.111	0.006	2.185	-0.100	0.015
105.995	199	2.471	-0.024	0.003	2.592	-0.111	0.006	2.185	-0.100	0.015
105.995	7	1.048	0.011	0.208	2.070	0.092	0.025	0.491	0.022	0.596
106.023	86	1.048	0.011	0.208	2.070	0.092	0.025	0.491	0.022	0.596
106.023	2	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
106.045	290.5	1.655	-0.012	0.047	1.616	-0.050	0.084	2.187	-0.072	0.013
106.045	7	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
106.068	87.6	1.541	-0.009	0.095	2.024	-0.052	0.039	0.930	-0.026	0.315
106.068	4	2.039	0.016	0.022	1.538	0.051	0.133	1.670	0.062	0.073
107.070	23.1	1.933	0.009	0.022	0.522	0.011	0.599	2.166	0.050	0.014
107.070	3	2.069	-0.015	0.014	0.516	-0.017	0.582	1.498	-0.052	0.093
108.570	267.6	2.069	-0.015	0.014	0.516	-0.017	0.582	1.498	-0.052	0.093
108.570	8	1.898	-0.019	0.020	0.568	-0.024	0.543	2.239	-0.103	0.011
109.542	179.6	1.898	-0.019	0.020	0.568	-0.024	0.543	2.239	-0.103	0.011
109.542	8	1.165	0.012	0.154	2.036	0.091	0.027	0.742	0.031	0.457
110.060	210.9	1.165	0.012	0.154	2.036	0.091	0.027	0.742	0.031	0.457
110.060	1	2.529	-0.021	0.004	0.927	-0.035	0.340	3.366	-0.137	0.000
110.071	272.5	2.529	-0.021	0.004	0.927	-0.035	0.340	3.366	-0.137	0.000
110.071	3	1.973	0.008	0.017	2.833	0.049	0.004	1.950	0.037	0.032
111.060	135.4	1.973	0.008	0.017	2.833	0.049	0.004	1.950	0.037	0.032
111.060	8	2.089	-0.010	0.024	2.938	-0.070	0.002	1.513	-0.036	0.111
111.068	288.7	2.089	-0.010	0.024	2.938	-0.070	0.002	1.513	-0.036	0.111
111.068	3	2.229	0.017	0.006	3.341	0.112	0.000	2.261	0.081	0.010
111.074	136.3	2.229	0.017	0.006	3.341	0.112	0.000	2.261	0.081	0.010
111.074	6	1.925	0.012	0.021	2.730	0.070	0.006	1.849	0.052	0.045
112.112	133.7	1.925	0.012	0.021	2.730	0.070	0.006	1.849	0.052	0.045
112.112	1	2.135	0.028	0.014	2.792	0.167	0.003	1.332	0.083	0.144

112.895										
7	73	2.053	-0.005	0.028	0.584	-0.004	0.767	2.074	-0.025	0.038
114.110										
7	40.7	1.146	-0.010	0.166	1.387	-0.055	0.135	2.674	-0.112	0.002
114.893										
3	72.5	2.044	-0.006	0.027	0.540	-0.003	0.804	2.027	-0.026	0.042
114.980										
1	182.4	1.293	-0.013	0.116	1.091	-0.046	0.264	2.874	-0.132	0.001
116.524										
2	294.1	2.286	-0.013	0.006	3.039	-0.076	0.001	1.784	-0.047	0.046
119.714										
4	100	1.983	-0.017	0.018	1.515	-0.057	0.114	2.080	-0.084	0.020
120.523										
1	273.6	2.281	-0.009	0.018	1.529	-0.028	0.120	2.417	-0.045	0.013
120.527										
2	19.3	1.998	0.010	0.025	2.460	0.053	0.011	1.986	0.045	0.031
120.527										
3	266.9	1.478	-0.010	0.115	2.062	-0.067	0.033	1.279	-0.041	0.197
122.533										
8	109.7	2.064	0.012	0.015	1.683	0.041	0.103	1.313	0.031	0.221
122.538										
5	228.2	1.960	0.016	0.018	1.983	0.073	0.034	2.485	0.096	0.005
122.924										
5	71.1	2.571	-0.008	0.004	1.357	-0.015	0.261	2.589	-0.035	0.010
123.024										
7	250.3	1.911	-0.019	0.019	1.902	-0.081	0.041	2.127	-0.097	0.015
125.096										
1	267.5	1.143	-0.009	0.194	0.940	-0.033	0.334	2.393	-0.093	0.007
125.529										
5	294.9	1.460	-0.010	0.085	2.392	-0.069	0.011	1.715	-0.053	0.055
125.964										
2	294.8	0.678	-0.004	0.577	2.424	-0.092	0.012	1.151	-0.043	0.248
126.012										
5	293	1.851	0.008	0.024	2.187	0.043	0.019	1.061	0.022	0.241
127.030										
1	57.6	1.643	0.012	0.051	1.186	0.036	0.218	2.018	0.067	0.023
127.515										
2	57.2	2.204	0.009	0.015	1.428	0.016	0.369	1.970	0.032	0.075
127.982										
3	292.2	1.893	-0.010	0.025	2.284	-0.052	0.015	2.458	-0.059	0.006
129.535										
7	180.2	1.344	0.012	0.112	2.137	0.088	0.022	2.011	0.087	0.025
130.521										
7	161.5	0.934	-0.008	0.288	1.954	-0.073	0.037	2.423	-0.094	0.008
131.034										
4	133.5	1.737	-0.015	0.048	2.093	-0.076	0.040	0.938	-0.034	0.363
132.032										
1	269.8	2.175	-0.009	0.011	1.540	-0.029	0.097	1.935	-0.037	0.032
133.060										
3	131.5	1.731	0.011	0.044	2.347	0.062	0.026	1.219	0.032	0.254
134.058										
115.8	1.802	0.012	0.037	2.405	0.066	0.022	1.374	0.039	0.182	
134.064										
112.7	1.576	0.010	0.077	2.137	0.054	0.055	1.138	0.028	0.324	
136.055										
5	192.3	1.318	0.013	0.111	2.113	0.092	0.025	1.003	0.048	0.256
137.037										
5	293.8	1.452	-0.012	0.085	2.104	-0.080	0.023	0.341	-0.011	0.767
141.485										
1	183.8	2.342	0.019	0.005	2.283	0.083	0.015	1.565	0.060	0.082
142.069										
3	94.9	2.102	0.019	0.011	0.756	0.029	0.431	1.632	0.067	0.064
142.530										
5	250.7	1.548	-0.012	0.061	2.141	-0.067	0.027	0.897	-0.031	0.314
142.966										
9	296.3	0.938	-0.009	0.267	0.673	-0.027	0.498	2.059	-0.093	0.021
145.043										
8	286.1	0.616	-0.003	0.557	2.084	-0.048	0.031	0.615	-0.014	0.545

146.518											
6	190.6	1.166	0.006	0.169	2.120	0.050	0.027	1.304	0.034	0.142	
147.528											
4	150.3	2.160	-0.013	0.011	2.067	-0.053	0.034	1.497	-0.042	0.096	
149.023											
4	289.1	0.714	0.006	0.404	2.164	0.084	0.020	0.743	0.030	0.410	
150.058											
4	73.4	1.220	0.009	0.272	2.434	0.090	0.018	1.302	0.045	0.249	
150.414	60	1.306	-0.014	0.118	2.319	-0.108	0.012	1.699	-0.083	0.054	
151.061											
7	74.4	1.127	0.008	0.326	2.124	0.081	0.046	1.305	0.049	0.231	
152.054											
2	74.9	1.597	0.016	0.064	2.825	0.121	0.003	1.635	0.072	0.087	
154.122											
7	24.8	0.648	0.005	0.444	2.059	0.073	0.027	0.683	0.026	0.443	
155.042											
7	114.9	1.987	0.011	0.018	2.031	0.045	0.048	1.580	0.038	0.099	
155.143											
1	135.2	0.328	-0.003	0.761	2.413	-0.108	0.009	0.263	0.000	0.994	
157.085											
9	20.8	2.698	-0.026	0.001	1.573	-0.068	0.096	3.344	-0.152	0.000	
158.077											
1	134.5	2.299	0.015	0.005	2.996	0.082	0.002	2.105	0.063	0.019	
158.082	140.5	2.400	0.020	0.003	2.302	0.077	0.019	2.224	0.083	0.011	
158.843											
2	68.3	2.772	-0.025	0.002	2.879	-0.116	0.004	2.464	-0.107	0.008	
158.912											
4	28.4	1.197	0.008	0.181	0.518	-0.001	0.962	2.656	0.088	0.002	
159.084											
5	139.3	1.331	0.014	0.109	1.505	0.066	0.110	2.092	0.099	0.017	
159.112											
8	249.6	1.435	0.012	0.089	0.874	0.030	0.390	2.051	0.080	0.022	
161.038											
6	89.1	1.713	0.016	0.037	0.786	0.027	0.475	2.233	0.096	0.011	
161.100											
2	88.9	1.415	-0.013	0.125	0.294	-0.008	0.848	2.419	-0.110	0.009	
161.128											
4	114.9	2.228	0.020	0.006	1.545	0.058	0.105	1.515	0.061	0.088	
162.992											
6	200.6	2.308	-0.016	0.005	2.910	-0.086	0.002	2.297	-0.073	0.009	
165.982											
9	158.3	0.668	-0.006	0.448	2.306	-0.096	0.012	0.658	-0.028	0.471	
166.064											
5	261.2	2.036	-0.009	0.017	2.053	-0.039	0.033	1.720	-0.034	0.058	
167.056											
6	116.3	1.122	0.010	0.180	2.167	0.085	0.019	1.050	0.043	0.235	
167.106											
7	274.6	1.530	-0.013	0.092	1.725	-0.071	0.069	2.384	-0.100	0.010	
168.049	113.5	1.179	0.010	0.149	2.167	0.082	0.020	1.315	0.053	0.139	
168.09	70.4	2.027	0.014	0.014	3.306	0.098	0.000	1.569	0.047	0.092	
169.045											
9	260.8	1.282	-0.007	0.141	2.072	-0.052	0.027	1.585	-0.042	0.079	
170.495											
6	255.3	2.310	0.021	0.006	1.055	0.040	0.281	1.868	0.077	0.038	
170.854											
2	73.7	2.518	-0.008	0.003	1.247	-0.018	0.210	2.572	-0.040	0.005	
172.009	197.5	1.864	-0.019	0.024	2.341	-0.101	0.012	1.422	-0.066	0.110	
172.995											
7	295	1.990	-0.017	0.045	1.706	-0.061	0.139	2.197	-0.094	0.023	
173.128											
5	67.9	2.463	0.020	0.004	2.635	0.089	0.008	1.977	0.066	0.053	
173.153											
7	21.5	2.178	0.021	0.008	2.215	0.095	0.016	1.800	0.082	0.041	
174.131											
1	19.2	1.379	-0.005	0.190	2.695	-0.054	0.005	0.458	0.006	0.753	
174.144	116.8	1.786	-0.017	0.028	1.080	-0.041	0.268	2.227	-0.095	0.011	

174.500										
6	207	2.493	-0.023	0.003	2.805	-0.112	0.003	1.512	-0.064	0.093
174.938										
1	73.2	1.747	-0.006	0.083	1.067	-0.015	0.353	2.110	-0.033	0.039
174.994										
6	273.1	0.986	-0.007	0.294	2.006	-0.067	0.033	0.519	-0.016	0.626
175.034										
1	56.5	1.439	-0.012	0.103	1.061	-0.038	0.278	2.581	-0.100	0.004
175.057										
9	77.4	2.146	0.017	0.016	1.452	0.051	0.135	2.308	0.083	0.015
175.144										
132.9	2.114	0.018	0.009	1.489	0.050	0.137	1.216	0.044	0.188	
176.515										
7	212.7	2.919	-0.031	0.001	2.985	-0.143	0.002	1.678	-0.085	0.064
177.112										
2	22.4	1.091	0.011	0.237	2.064	0.099	0.032	0.924	0.044	0.349
177.127										
9	263.6	2.539	-0.019	0.002	1.842	-0.060	0.046	1.646	-0.057	0.064
178.050										
7	172.1	2.830	0.012	0.001	1.663	0.028	0.121	2.846	0.057	0.001
178.058										
7	139.3	1.530	0.007	0.065	2.163	0.041	0.019	1.001	0.019	0.287
179.106										
7	266.2	2.888	-0.030	0.001	4.001	-0.181	0.000	2.202	-0.106	0.013
180.950										
6	267.9	1.317	0.008	0.110	0.796	0.020	0.390	2.987	0.079	0.001
182.568										
7	158.6	2.335	-0.017	0.004	1.699	-0.055	0.066	2.124	-0.072	0.015
183.110										
6	121.7	2.146	0.021	0.009	0.834	0.037	0.368	1.670	0.078	0.058
183.578										
1	287.7	2.088	0.019	0.015	1.557	0.060	0.112	1.441	0.061	0.110
184.945										
9	139.6	2.194	0.015	0.009	2.346	0.072	0.011	2.420	0.078	0.006
184.989										
4	180.1	2.961	-0.020	0.000	2.132	-0.063	0.021	1.852	-0.057	0.039
185.398										
135.2	1.603	-0.012	0.076	1.882	-0.062	0.068	2.027	-0.075	0.029	
186.076										
1	257.1	1.269	0.012	0.126	2.239	0.091	0.016	0.430	0.018	0.637
186.933										
5	138.6	2.455	-0.020	0.003	1.709	-0.063	0.065	1.631	-0.064	0.064
186.943										
2	135.9	1.946	-0.015	0.021	2.255	-0.077	0.017	2.069	-0.075	0.021
187.133										
20.7	2.440	0.020	0.003	2.578	0.093	0.005	2.477	0.094	0.005	
187.990										
6	101.4	1.400	-0.005	0.142	2.282	-0.041	0.016	1.175	-0.019	0.263
189.097										
2	24.7	0.972	0.009	0.234	2.050	0.084	0.026	0.490	0.019	0.618
189.558										
7	173.8	1.972	0.008	0.025	1.894	0.032	0.066	2.264	0.043	0.016
190.016										
2	180.9	1.673	-0.014	0.082	2.376	-0.096	0.017	0.476	-0.017	0.680
190.504										
3	287.7	1.774	-0.014	0.044	1.544	-0.057	0.095	2.016	-0.077	0.026
190.901										
8	26.7	2.070	-0.018	0.017	2.447	-0.089	0.014	1.920	-0.078	0.033
192.043										
7	106.9	1.825	-0.007	0.035	2.233	-0.039	0.016	1.939	-0.035	0.032
192.159										
5	56.4	2.129	-0.025	0.009	0.918	-0.027	0.561	1.069	-0.039	0.408
194.022										
3	74.2	1.230	0.009	0.247	2.118	0.078	0.039	1.586	0.061	0.111
196.988										
4	22.7	0.833	0.008	0.318	0.475	0.019	0.628	2.285	0.099	0.010
197.128										
5	254.7	1.223	-0.010	0.159	2.428	-0.086	0.009	0.118	-0.004	0.908
200.952										
2	38.3	1.256	0.006	0.165	2.186	0.047	0.019	0.486	0.010	0.624

201.072											
2	79.4	1.798	-0.018	0.028	2.462	-0.106	0.008	1.903	-0.087	0.030	
204.029											
1	19.5	0.381	-0.001	0.876	2.041	-0.059	0.041	0.752	-0.017	0.551	
205.042											
5	68.4	1.508	0.012	0.104	2.163	0.081	0.020	1.093	0.030	0.404	
209.036											
4	198.3	1.986	-0.023	0.026	3.253	-0.173	0.001	2.592	-0.143	0.005	
210.015											
1	146.8	2.179	-0.016	0.009	1.191	-0.037	0.204	1.585	-0.052	0.078	
210.078											
3	82.8	2.341	0.026	0.004	2.267	0.110	0.015	2.445	0.127	0.005	
212.128											
23.3	23.3	2.210	0.007	0.009	1.090	0.016	0.255	2.872	0.044	0.001	
212.979											
2	239	1.300	-0.008	0.146	2.387	-0.069	0.011	0.917	-0.027	0.320	
213.159											
7	275.8	1.524	0.016	0.078	2.090	0.101	0.025	1.894	0.096	0.035	
213.184											
9	20.2	2.104	0.018	0.010	1.613	0.057	0.091	1.955	0.074	0.028	
214.003											
9	291.9	1.157	0.008	0.165	2.033	0.057	0.031	1.347	0.041	0.127	
214.120											
3	34.4	2.015	0.020	0.019	1.941	0.085	0.039	2.042	0.094	0.024	
215.023											
4	252.1	2.200	-0.017	0.010	1.935	-0.065	0.042	2.240	-0.081	0.012	
217.075											
3	221.2	2.329	-0.020	0.008	2.015	-0.080	0.031	1.665	-0.069	0.065	
217.154											
6	89.6	2.702	0.022	0.002	1.586	0.057	0.110	1.761	0.068	0.056	
217.179											
8	20.1	2.109	0.022	0.011	1.276	0.057	0.167	0.605	0.028	0.498	
217.485											
4	111.9	1.594	0.011	0.050	1.491	0.040	0.132	2.381	0.072	0.007	
221.024											
6	85.7	1.324	0.011	0.114	2.380	0.087	0.010	0.489	0.018	0.600	
223.096											
4	278.5	2.037	0.019	0.018	2.091	0.086	0.029	1.033	0.046	0.251	
224.185											
5	25.4	0.909	-0.011	0.271	2.048	-0.113	0.026	0.269	0.001	0.989	
226.105											
2	67.7	0.932	-0.008	0.274	2.238	-0.090	0.015	1.170	-0.049	0.189	
227.113											
6	110.4	1.288	0.012	0.121	2.375	0.095	0.012	0.853	0.034	0.374	
227.634											
3	41.3	1.587	0.014	0.055	2.081	0.080	0.024	1.202	0.048	0.182	
228.117											
110.1	110.1	1.141	-0.012	0.171	2.064	-0.093	0.025	1.096	-0.052	0.217	
228.812											
5	73.9	1.766	-0.007	0.048	0.699	-0.011	0.516	2.294	-0.041	0.012	
229.944											
8	292.5	0.832	-0.002	0.378	0.780	-0.011	0.400	2.253	-0.032	0.013	
230.003											
1	131.6	1.905	0.011	0.022	2.051	0.051	0.026	1.888	0.049	0.036	
230.121											
5	103.7	1.314	-0.011	0.127	2.517	-0.096	0.008	1.751	-0.070	0.055	
231.032											
1	101.4	1.733	0.015	0.040	0.517	-0.001	0.981	2.080	0.083	0.019	
233.899											
9	76.8	2.083	-0.022	0.011	1.583	-0.072	0.087	1.389	-0.067	0.116	
235.205											
5	264.6	2.212	-0.020	0.013	1.784	-0.073	0.070	2.183	-0.097	0.016	
238.923											
3	146	2.062	-0.021	0.012	1.614	-0.073	0.082	2.092	-0.101	0.017	
239.200											
4	20.8	2.489	0.022	0.003	0.895	0.034	0.349	2.112	0.088	0.017	
240.105											
8	44.4	0.940	-0.008	0.283	2.032	-0.077	0.027	0.287	-0.002	0.966	

240.122											
6	30.1	0.750	-0.007	0.359	2.012	-0.083	0.035	0.135	0.003	0.941	
241.999											
6	178.9	3.096	-0.032	0.000	3.459	-0.163	0.000	2.292	-0.113	0.011	
246.085	137.8	1.863	0.013	0.022	2.003	0.062	0.031	1.798	0.059	0.042	
248.058											
5	60.3	1.128	0.010	0.222	1.390	0.057	0.138	2.085	0.087	0.024	
250.237											
2	25	1.480	-0.016	0.077	0.170	-0.001	0.973	2.086	-0.104	0.018	
251.046											
6	22.5	1.707	-0.012	0.047	2.096	-0.064	0.031	2.210	-0.073	0.015	
251.932											
8	91.1	1.425	-0.013	0.127	2.239	-0.096	0.019	1.888	-0.083	0.044	
252.131	44	1.963	0.017	0.019	2.137	0.079	0.025	1.907	0.077	0.030	
252.143											
9	22.6	2.100	0.018	0.016	1.496	0.054	0.140	1.707	0.069	0.060	
254.644											
9	41.7	2.308	-0.023	0.007	1.715	-0.074	0.081	1.373	-0.066	0.123	
254.819											
4	75.9	2.125	-0.012	0.009	1.257	-0.031	0.175	1.818	-0.048	0.039	
254.999											
3	97.3	1.022	-0.009	0.252	1.222	-0.046	0.219	2.015	-0.083	0.027	
255.044											
9	70.2	1.057	-0.007	0.210	2.266	-0.066	0.014	0.238	-0.006	0.820	
255.977											
8	100.3	1.097	-0.003	0.339	2.073	-0.037	0.037	1.094	-0.016	0.366	
256.147	44	1.559	0.016	0.080	1.750	0.081	0.067	2.423	0.118	0.008	
256.234											
9	260.2	0.945	-0.008	0.250	0.800	-0.028	0.397	2.154	-0.080	0.015	
256.642											
7	42.4	0.930	0.008	0.284	2.822	0.110	0.003	1.214	0.052	0.173	
258.980											
7	140.1	1.262	0.011	0.151	1.029	0.041	0.290	2.157	0.093	0.016	
259.107	161.9	2.006	-0.019	0.014	1.531	-0.065	0.097	1.788	-0.080	0.042	
260.113											
6	162.2	2.411	0.018	0.003	1.678	0.045	0.131	2.556	0.086	0.004	
260.185											
3	54	1.847	-0.015	0.034	2.069	-0.079	0.027	2.557	-0.102	0.004	
262.122	103.8	1.201	-0.014	0.144	2.024	-0.104	0.030	0.665	-0.034	0.481	
262.128											
1	24	1.400	-0.014	0.110	0.313	0.013	0.748	2.165	-0.100	0.016	
269.993											
5	97.9	2.010	0.013	0.018	1.873	0.048	0.085	2.477	0.078	0.005	
270.069											
2	116.3	1.717	0.018	0.046	2.169	0.101	0.021	1.517	0.075	0.091	
270.154											
3	30.8	0.508	0.005	0.570	2.220	0.096	0.018	0.894	0.041	0.320	
273.166											
9	267.4	2.190	0.012	0.007	2.347	0.058	0.011	1.539	0.040	0.081	
275.058											
6	102	1.554	0.014	0.063	2.260	0.089	0.018	1.611	0.066	0.079	
277.102											
8	103.5	0.565	-0.004	0.540	2.290	-0.083	0.014	0.143	-0.002	0.943	
279.216											
2	47.3	1.822	0.017	0.032	0.171	0.004	0.918	2.056	0.091	0.022	
281.008											
1	54.8	2.069	-0.015	0.013	1.576	-0.048	0.099	2.058	-0.067	0.023	
283.174											
7	265.8	0.740	0.005	0.371	2.041	0.060	0.030	0.806	0.026	0.365	
284.134											
7	145.1	1.140	-0.011	0.171	1.486	-0.060	0.117	2.388	-0.105	0.006	
284.206											
5	41.4	1.255	-0.010	0.200	2.520	-0.100	0.006	1.342	-0.053	0.159	
284.960											
8	262.3	1.597	-0.013	0.071	0.608	-0.022	0.520	2.368	-0.092	0.008	
285.966											
3	90.6	2.054	-0.016	0.014	1.172	-0.040	0.212	1.342	-0.049	0.132	

287.069										
4	100	1.600	0.019	0.052	1.534	0.077	0.102	2.294	0.124	0.009
288.166										
1	140.3	1.143	0.007	0.223	2.004	0.053	0.059	1.231	0.035	0.224
288.954										
9	18.4	2.065	0.018	0.014	0.750	0.023	0.526	2.001	0.082	0.024
290.145										
3	140.6	1.836	-0.017	0.027	1.525	-0.064	0.099	2.211	-0.097	0.013
291.101										
30.7	2.470	0.021	0.004	0.683	0.025	0.476	2.123	0.085	0.018	
293.033										
7	86.2	1.635	0.006	0.131	2.690	0.053	0.004	1.053	0.018	0.344
293.217										
8	130.9	1.525	0.010	0.118	2.001	0.048	0.126	1.325	0.036	0.254
297.242										
279.9	1.475	-0.010	0.116	2.176	-0.070	0.026	0.220	0.002	0.962	
298.222										
1	41.9	1.256	-0.008	0.191	2.372	-0.077	0.010	1.428	-0.046	0.133
300.179										
6	24.3	2.191	0.023	0.011	2.232	0.106	0.017	2.305	0.114	0.011
300.684										
151.2	1.672	0.016	0.062	2.329	0.104	0.013	2.123	0.097	0.022	
302.019										
1	35.4	1.562	0.013	0.056	2.067	0.073	0.025	2.180	0.081	0.014
302.159										
3	25.7	2.317	-0.021	0.007	1.335	-0.054	0.162	1.397	-0.060	0.123
302.180										
7	136.8	1.073	0.008	0.192	2.102	0.064	0.029	1.180	0.039	0.182
302.304										
9	46.1	1.849	-0.018	0.024	1.075	-0.044	0.255	2.795	-0.122	0.001
303.184										
8	135.5	1.234	0.009	0.188	2.081	0.059	0.075	1.064	0.035	0.299
304.211										
4	56.1	2.348	-0.027	0.005	3.008	-0.155	0.001	2.103	-0.114	0.017
304.247										
8	26	2.065	-0.010	0.013	0.550	-0.011	0.581	1.020	-0.024	0.250
304.837										
5	30.9	0.965	-0.008	0.244	2.573	-0.097	0.005	0.391	-0.015	0.680
305.156										
5	111.4	1.299	0.012	0.137	2.812	0.115	0.003	1.321	0.055	0.158
306.242										
4	20.2	1.431	0.005	0.085	0.969	0.013	0.300	2.093	0.031	0.019
306.828										
4	72	2.085	-0.012	0.012	0.797	-0.018	0.440	2.705	-0.069	0.002
307.110										
9	20.2	1.366	0.010	0.111	3.310	0.103	0.000	0.686	0.023	0.450
307.910										
4	213.4	0.537	-0.004	0.535	0.213	-0.002	0.935	2.144	-0.069	0.016
309.938										
8	75.7	1.513	0.014	0.076	2.068	0.086	0.031	1.118	0.042	0.300
311.145										
130.3	2.257	0.015	0.005	2.601	0.073	0.007	2.402	0.075	0.006	
312.910										
3	96.6	1.565	-0.016	0.058	0.971	-0.043	0.299	2.727	-0.127	0.002
313.035										
3	99.4	1.868	0.013	0.048	2.471	0.075	0.016	1.949	0.061	0.053
313.309										
6	248.3	2.110	-0.022	0.011	1.176	-0.055	0.204	1.583	-0.078	0.072
314.081										
7	89.6	1.498	0.014	0.080	2.196	0.093	0.020	0.883	0.035	0.391
314.774										
7	76.5	0.988	0.009	0.245	2.255	0.090	0.015	1.223	0.052	0.169
316.247										
9	50.2	1.677	-0.013	0.056	2.153	-0.075	0.020	2.011	-0.072	0.026
317.251										
1	50.7	1.916	-0.015	0.026	2.225	-0.081	0.017	2.233	-0.084	0.013
317.268										
3	45.1	2.278	-0.023	0.007	1.278	-0.057	0.172	2.430	-0.114	0.007
318.241										
6	41	0.775	-0.005	0.391	2.017	-0.060	0.029	0.378	0.000	0.994

318.271											
6	43.6	2.093	-0.024	0.015	2.269	-0.116	0.016	1.309	-0.068	0.161	
319.164											
2	56.6	1.745	-0.017	0.040	0.430	-0.018	0.654	2.080	-0.093	0.022	
320.154											
8	66.2	2.064	0.017	0.013	2.064	0.071	0.032	1.600	0.056	0.091	
323.174											
7	114.3	1.672	0.015	0.043	2.284	0.088	0.013	1.652	0.067	0.062	
323.930											
6	293.7	1.131	-0.008	0.254	2.167	-0.072	0.025	0.969	-0.032	0.324	
325.159											
5	276.6	0.890	-0.008	0.357	0.542	0.013	0.761	2.389	-0.114	0.009	
325.966											
2	72.2	2.242	-0.018	0.016	2.707	-0.103	0.006	1.043	-0.038	0.316	
326.885											
6	77.7	2.053	-0.012	0.013	1.325	-0.032	0.171	2.560	-0.067	0.004	
328.062											
2	85.3	1.122	-0.011	0.192	2.144	-0.093	0.024	0.609	-0.028	0.507	
330.187											
9	134.3	1.367	0.009	0.097	2.659	0.072	0.005	0.908	0.025	0.342	
330.749											
74.8	1.860	-0.015	0.033	0.625	-0.022	0.521	2.397	-0.092	0.007		
331.091											
5	109.9	0.277	0.000	0.989	0.727	0.015	0.453	2.123	-0.045	0.025	
332.242											
8	51.7	2.349	-0.025	0.005	2.956	-0.140	0.001	2.184	-0.108	0.014	
333.126											
9	137.6	1.965	0.012	0.016	3.128	0.084	0.001	1.635	0.046	0.067	
334.130											
7	134.3	2.184	0.020	0.007	2.245	0.089	0.015	1.733	0.073	0.049	
335.983											
3	118.4	2.191	0.016	0.007	2.309	0.075	0.012	2.235	0.077	0.011	
336.128											
19.9	2.015	-0.021	0.016	2.216	-0.099	0.018	1.518	-0.073	0.085		
336.309											
8	28.6	2.008	-0.019	0.017	1.900	-0.078	0.043	1.593	-0.068	0.080	
338.889											
82.1	1.191	-0.009	0.180	1.176	-0.040	0.221	2.004	-0.074	0.026		
339.051											
2	90.6	2.328	-0.022	0.004	1.464	-0.060	0.120	3.067	-0.136	0.000	
339.162											
5	63.7	1.272	0.012	0.133	2.335	0.099	0.011	0.953	0.035	0.375	
342.263											
4	49.4	1.711	-0.014	0.051	2.346	-0.092	0.011	1.863	-0.075	0.041	
342.948											
83.4	3.364	-0.030	0.000	2.908	-0.115	0.002	3.290	-0.136	0.000		
343.045											
7	102.2	0.611	-0.001	0.903	2.204	-0.074	0.035	0.694	0.025	0.478	
343.266											
8	49.7	2.081	-0.018	0.015	2.617	-0.100	0.005	1.972	-0.079	0.028	
343.311											
3	43.3	1.542	-0.014	0.073	1.671	-0.066	0.075	2.556	-0.107	0.004	
344.242											
8	32.7	1.037	-0.010	0.225	1.235	-0.050	0.194	2.036	-0.089	0.022	
344.279											
48.7	1.607	-0.013	0.070	2.060	-0.077	0.027	1.754	-0.067	0.055		
344.728											
7	74.1	2.603	-0.011	0.002	1.940	-0.037	0.038	2.975	-0.059	0.001	
345.206											
1	122.3	1.316	0.011	0.124	2.253	0.082	0.017	0.356	0.013	0.713	
350.809											
1	72.3	1.807	-0.007	0.032	1.373	-0.021	0.171	2.022	-0.034	0.028	
350.919											
4	51.1	1.447	0.012	0.096	1.706	0.064	0.073	2.046	0.082	0.023	
351.217											
1	115.2	2.028	0.019	0.013	1.908	0.076	0.041	1.792	0.077	0.041	
351.236											
5	123.6	2.053	0.020	0.013	0.586	0.024	0.543	0.830	0.035	0.377	
352.200											
6	116.6	0.830	0.006	0.326	2.149	0.069	0.021	0.335	-0.010	0.744	
354.377											
6	62.5	1.580	-0.013	0.079	1.951	-0.074	0.042	2.189	-0.088	0.016	

354.757										
4	72.2	2.110	-0.009	0.011	1.193	-0.022	0.224	2.132	-0.041	0.021
355.897	98.6	2.197	-0.021	0.008	1.158	-0.048	0.230	1.194	-0.054	0.181
360.237										
7	25	0.646	0.006	0.462	2.209	0.094	0.022	1.247	0.057	0.173
360.274										
1	43.6	1.378	-0.012	0.107	2.150	-0.088	0.020	1.127	-0.047	0.216
361.205										
8	65.9	1.857	0.015	0.024	2.105	0.076	0.022	1.325	0.046	0.172
362.216										
6	31	2.743	-0.023	0.001	2.249	-0.083	0.014	1.797	-0.070	0.042
363.171										
3	35.7	2.161	0.022	0.008	0.706	0.028	0.498	1.852	0.088	0.035
364.915										
1	101.4	2.089	0.018	0.011	1.802	0.067	0.059	2.051	0.082	0.021
365.151										
9	114.9	0.798	0.006	0.331	2.703	0.080	0.004	0.248	0.008	0.783
366.138										
7	23.1	1.456	-0.012	0.090	2.312	-0.090	0.012	1.447	-0.058	0.112
366.184										
8	128.2	1.304	-0.008	0.146	0.712	-0.019	0.493	2.004	-0.062	0.028
366.783										
5	71.5	1.589	-0.007	0.087	0.635	-0.002	0.908	2.247	-0.048	0.018
366.889										
9	79	1.761	-0.013	0.055	1.847	-0.062	0.054	2.090	-0.071	0.027
369.351	287.3	1.356	0.011	0.123	2.446	0.090	0.008	1.003	0.037	0.289
370.294										
8	47.7	1.765	-0.015	0.039	2.309	-0.088	0.013	1.922	-0.076	0.032
371.298	48.2	1.478	-0.013	0.083	2.053	-0.078	0.027	1.612	-0.064	0.072
372.925										
3	25.8	1.201	0.009	0.174	1.143	0.041	0.219	2.199	0.080	0.016
372.988										
9	90.2	2.338	-0.023	0.005	1.434	-0.061	0.135	3.316	-0.149	0.000
373.313										
7	48	1.816	-0.017	0.042	1.505	-0.063	0.115	2.224	-0.099	0.014
375.763										
4	46.3	0.906	-0.008	0.337	1.515	-0.065	0.113	2.102	-0.096	0.019
378.898										
8	71.8	1.900	-0.013	0.026	1.653	-0.049	0.095	2.632	-0.087	0.003
382.918										
6	84.7	2.097	0.018	0.010	1.770	0.066	0.056	0.799	0.028	0.416
383.039										
7	103	1.541	0.011	0.071	0.410	0.013	0.676	2.235	0.079	0.011
387.346	43.6	1.322	-0.012	0.121	2.183	-0.092	0.018	1.230	-0.054	0.177
387.919										
2	73.5	1.478	0.009	0.101	1.264	0.030	0.290	2.192	0.068	0.016
388.088										
4	92.4	1.567	0.012	0.069	2.004	0.068	0.030	1.011	0.034	0.281
389.250										
4	244.4	1.894	-0.014	0.046	2.068	-0.075	0.032	1.918	-0.073	0.040
393.883										
2	76.3	1.807	0.008	0.083	1.364	0.019	0.419	2.031	0.044	0.056
395.951	73.1	1.383	-0.013	0.101	1.882	-0.076	0.042	2.036	-0.087	0.021
396.895										
8	87.8	1.018	0.006	0.247	2.383	0.068	0.010	1.160	0.034	0.201
397.776										
1	46.7	1.203	-0.012	0.228	2.778	-0.144	0.003	0.979	-0.048	0.334
398.761										
1	203.7	1.000	0.006	0.308	2.079	0.064	0.028	0.266	0.006	0.853
398.909										
7	82.1	1.435	0.014	0.084	2.094	0.088	0.025	0.690	0.031	0.442
399.250										
1	150.4	1.929	-0.019	0.021	2.334	-0.103	0.012	2.761	-0.128	0.002
401.008										
6	61.7	2.615	-0.024	0.003	0.484	-0.017	0.670	2.263	-0.098	0.013
405.025	296.9	1.121	-0.011	0.217	0.487	-0.022	0.625	2.393	-0.118	0.008

405.966											
1	104.5	1.698	0.009	0.074	1.565	0.028	0.252	2.291	0.062	0.013	
406.971											
7	102.6	2.278	0.023	0.005	1.148	0.049	0.232	2.340	0.109	0.007	
410.855											
7	87.2	1.303	-0.009	0.111	0.474	-0.003	0.904	2.009	-0.062	0.023	
416.710											
5	72.4	2.140	-0.009	0.011	1.098	-0.018	0.302	2.809	-0.054	0.002	
416.956											
6	109	1.229	-0.009	0.279	2.321	-0.091	0.019	1.188	-0.044	0.259	
421.956											
7	97.6	2.300	-0.017	0.007	0.581	0.018	0.554	1.640	-0.056	0.069	
422.936											
3	72.7	2.123	0.010	0.017	2.278	0.046	0.019	2.058	0.041	0.039	
424.869											
1	76.9	3.051	0.023	0.000	1.758	0.058	0.059	2.299	0.081	0.009	
426.739											
4	72.1	2.198	-0.017	0.010	0.375	-0.013	0.686	1.894	-0.070	0.035	
432.801											
9	50.6	3.045	-0.032	0.000	3.214	-0.145	0.000	2.881	-0.138	0.001	
433.330											
4	44.5	1.492	0.012	0.081	2.995	0.107	0.001	1.625	0.060	0.075	
433.804											
6	45.9	1.737	-0.006	0.100	1.882	-0.035	0.054	2.050	-0.039	0.035	
434.770											
9	71.7	2.948	-0.024	0.000	2.305	-0.082	0.012	3.446	-0.129	0.000	
442.868											
8	31.1	2.237	-0.020	0.007	1.756	-0.067	0.064	2.095	-0.086	0.018	
444.832											
6	79.5	1.292	-0.011	0.149	2.211	-0.088	0.019	0.900	-0.035	0.354	
446.370											
5	43.4	1.696	0.015	0.038	1.324	0.051	0.155	2.065	0.084	0.019	
446.817											
2	44.2	1.231	-0.011	0.144	2.179	-0.090	0.018	1.450	-0.063	0.102	
447.989											
9	103.1	2.136	-0.021	0.012	1.285	-0.056	0.168	2.745	-0.127	0.002	
449.910											
6	103.9	1.366	-0.014	0.098	2.056	-0.092	0.026	1.322	-0.062	0.137	
455.817											
9	56.1	2.113	-0.011	0.018	1.307	-0.032	0.170	1.266	-0.032	0.165	
455.836											
74	1.969	0.015	0.022	1.674	0.047	0.139	2.397	0.083	0.009		
457.823											
4	54.1	0.893	0.009	0.302	2.284	0.106	0.013	1.548	0.075	0.083	
458.186											
3	109	2.481	0.020	0.003	3.150	0.112	0.001	1.807	0.069	0.040	
460.889											
8	64.1	1.574	-0.011	0.076	1.962	-0.060	0.043	2.040	-0.068	0.022	
461.272											
43.8	2.254	0.024	0.005	1.310	0.059	0.163	1.665	0.079	0.063		
462.642											
8	75	1.641	-0.007	0.066	0.559	-0.008	0.646	2.029	-0.039	0.030	
464.639											
8	74.8	1.934	-0.008	0.028	0.729	-0.011	0.508	2.141	-0.039	0.022	
468.308											
1	59.7	1.850	0.013	0.030	2.297	0.073	0.016	1.897	0.063	0.040	
469.311											
6	60.3	1.791	0.013	0.037	2.262	0.072	0.018	1.793	0.059	0.055	
470.335											
1	47	2.234	0.011	0.011	1.958	0.042	0.039	2.136	0.046	0.024	
470.498											
3	57.5	2.676	0.012	0.002	1.658	0.023	0.212	2.387	0.044	0.019	
472.674											
9	83.4	1.967	-0.014	0.016	2.791	-0.088	0.002	2.036	-0.066	0.024	
472.915											
7	83.9	1.148	-0.009	0.176	2.361	-0.083	0.012	0.466	-0.016	0.642	
474.669											
1	72.1	1.620	-0.008	0.065	0.825	-0.017	0.437	2.185	-0.053	0.017	

474.939											
1	98	1.377	0.010	0.098	1.616	0.049	0.085	2.227	0.073	0.011	
475.887											
1	72.8	2.358	-0.022	0.005	1.265	-0.053	0.176	1.969	-0.087	0.028	
476.306											
4	53.2	1.691	0.017	0.038	1.730	0.074	0.060	2.193	0.099	0.013	
478.33	59.6	1.757	0.008	0.081	2.111	0.047	0.032	1.390	0.025	0.257	
478.930											
3	87.6	2.114	0.020	0.010	1.787	0.071	0.067	1.724	0.073	0.059	
480.704											
2	72.3	1.532	-0.013	0.062	0.977	-0.034	0.303	2.615	-0.099	0.003	
482.323											
8	58.5	2.114	0.011	0.015	1.653	0.032	0.144	1.765	0.037	0.098	
483.325											
7	58.4	2.232	0.012	0.008	1.878	0.041	0.067	1.887	0.042	0.062	
483.849											
5	48.8	2.255	0.008	0.010	1.668	0.026	0.104	1.589	0.024	0.138	
484.787	73.7	2.222	-0.020	0.013	0.963	-0.036	0.368	2.325	-0.104	0.010	
484.867											
8	44.4	1.837	0.019	0.043	0.679	0.031	0.494	2.145	0.108	0.019	
487.919											
3	30	2.036	-0.019	0.013	1.424	-0.056	0.132	1.904	-0.081	0.030	
489.937											
4	85.4	0.538	-0.005	0.522	2.210	-0.088	0.016	0.328	0.008	0.821	
491.292											
3	64.9	2.004	0.018	0.014	2.160	0.081	0.022	2.161	0.088	0.014	
493.394											
1	56.6	2.411	0.008	0.003	1.518	0.020	0.106	1.907	0.027	0.035	
494.836											
6	81.1	0.758	-0.007	0.358	0.724	-0.019	0.621	2.072	-0.091	0.018	
496.134											
4	58.1	2.620	0.011	0.002	2.106	0.035	0.041	2.264	0.041	0.018	
496.330											
8	58.2	1.958	0.008	0.016	2.638	0.044	0.004	1.342	0.024	0.130	
496.339											
8	58.1	2.422	0.009	0.007	2.064	0.030	0.061	2.049	0.030	0.058	
496.543	58.6	2.478	0.009	0.004	2.062	0.030	0.056	2.160	0.034	0.030	
497.343	58.1	2.406	0.009	0.008	2.032	0.029	0.068	2.021	0.030	0.065	
498.345											
9	58.1	2.420	0.009	0.007	2.054	0.030	0.061	2.012	0.030	0.063	
499.347											
2	58.1	2.190	0.007	0.013	1.935	0.028	0.065	1.837	0.026	0.083	
499.842											
6	69.4	2.279	0.016	0.005	1.718	0.051	0.069	1.966	0.061	0.031	
500.351											
3	52.7	2.186	0.007	0.024	1.387	0.020	0.192	1.683	0.020	0.188	
500.856											
1	80	1.529	0.014	0.087	0.608	0.021	0.597	2.232	0.100	0.012	
501.268											
1	133.4	1.228	0.007	0.144	2.190	0.054	0.027	1.068	0.029	0.238	
503.965											
6	103.1	1.781	-0.012	0.030	2.026	-0.059	0.031	2.231	-0.069	0.011	
505.308											
7	64.1	1.332	0.013	0.107	2.165	0.090	0.020	0.403	0.017	0.670	
507.890											
2	93.6	2.066	-0.018	0.012	1.304	-0.049	0.168	2.707	-0.110	0.002	
508.861											
8	58.9	2.708	0.019	0.001	2.077	0.063	0.028	1.851	0.059	0.042	
511.797											
6	76.9	1.906	0.007	0.060	1.217	0.014	0.459	2.102	0.038	0.048	
512.360											
4	56.5	1.303	-0.004	0.493	2.037	-0.056	0.068	1.289	-0.025	0.419	
513.021											
8	46.4	2.140	-0.025	0.008	2.186	-0.111	0.018	1.286	-0.068	0.147	
516.024											
1	43.7	1.711	-0.017	0.042	2.179	-0.092	0.022	1.658	-0.075	0.065	

516.084										
9	85	0.405	0.002	0.804	2.266	0.080	0.022	1.054	0.035	0.323
516.856										
5	43.6	1.890	-0.021	0.023	1.462	-0.073	0.116	2.187	-0.114	0.014
517.377										
3	48.6	1.424	0.013	0.084	2.186	0.088	0.017	1.014	0.043	0.253
518.321										
9	67.9	2.190	0.006	0.013	2.028	0.025	0.041	1.797	0.021	0.087
519.323										
1	68.4	2.444	0.007	0.006	1.693	0.020	0.129	2.059	0.025	0.050
521.135										
6	49.7	0.645	-0.006	0.450	2.371	-0.100	0.011	1.033	-0.046	0.246
521.343										
2	57.6	1.604	0.013	0.057	1.240	0.044	0.181	2.006	0.075	0.024
522.134										
2	56.7	0.527	-0.005	0.553	2.106	-0.088	0.022	0.257	-0.009	0.812
522.345										
7	58.6	2.183	0.026	0.008	1.508	0.079	0.102	2.028	0.111	0.022
522.599										
73.5	73.5	1.699	-0.008	0.053	0.958	-0.021	0.316	2.052	-0.047	0.026
522.688										
7	73.4	1.398	-0.007	0.105	1.002	-0.019	0.362	2.408	-0.057	0.006
524.371										
4	57.1	2.156	0.009	0.019	1.659	0.024	0.194	2.070	0.035	0.055
525.374										
7	57.1	2.164	0.009	0.018	1.671	0.024	0.188	2.006	0.034	0.070
526.375										
5	56.4	2.230	0.009	0.014	1.759	0.026	0.160	1.997	0.033	0.077
527.378										
7	56.4	2.276	0.009	0.010	1.850	0.029	0.099	2.185	0.037	0.035
534.625										
7	72.9	1.730	-0.013	0.037	0.955	-0.026	0.400	2.369	-0.083	0.007
534.713										
7	65	0.243	-0.002	0.779	2.438	-0.076	0.009	0.984	-0.033	0.264
540.304										
8	65.6	2.763	0.025	0.001	1.907	0.075	0.040	1.880	0.078	0.033
541.704										
4	42.1	1.999	-0.020	0.014	2.058	-0.090	0.027	1.500	-0.065	0.110
541.942										
9	100.1	1.726	0.008	0.057	1.740	0.031	0.113	2.249	0.048	0.014
546.352										
1	62.3	2.665	0.012	0.002	2.251	0.044	0.024	2.302	0.045	0.022
547.355										
7	62.6	2.198	0.014	0.009	2.146	0.058	0.027	2.133	0.060	0.022
548.365										
6	60.1	2.259	0.012	0.006	2.700	0.062	0.003	2.055	0.046	0.030
549.378										
6	53.1	2.330	0.013	0.005	2.933	0.070	0.001	2.029	0.049	0.026
549.401										
8	104	1.504	-0.015	0.072	2.001	-0.090	0.030	1.323	-0.063	0.136
549.885										
9	45.6	2.120	0.009	0.040	1.090	0.013	0.552	1.709	0.030	0.189
550.601										
3	76.7	1.311	-0.011	0.122	0.610	-0.021	0.530	2.003	-0.076	0.025
551.020										
8	131.9	1.585	0.012	0.059	2.086	0.072	0.023	1.730	0.062	0.051
562.633										
77.7	77.7	1.469	-0.005	0.144	2.122	-0.039	0.024	0.887	-0.012	0.494
563.063										
5	48.1	1.364	-0.014	0.103	2.401	-0.108	0.010	1.667	-0.080	0.058
564.892										
5	45.9	2.021	0.007	0.048	1.205	0.015	0.382	1.580	0.020	0.244
567.004										
1	87.3	2.239	0.014	0.008	1.206	0.026	0.309	1.689	0.049	0.059
569.649										
4	41.6	1.428	-0.013	0.086	0.996	-0.040	0.297	2.048	-0.089	0.021
570.352										
56.6	56.6	2.140	0.013	0.011	1.468	0.039	0.141	1.981	0.056	0.033
570.456										
4	46.5	1.917	-0.013	0.073	1.711	-0.057	0.102	2.166	-0.075	0.033

571.3567	56.9	2.221	0.015	0.007	1.591	0.044	0.103	2.096	0.064	0.020
578.2754	73	2.042	0.006	0.025	1.988	0.026	0.063	1.574	0.018	0.198
580.5575	74.4	2.006	-0.010	0.020	1.390	-0.032	0.142	2.390	-0.057	0.008
583.7724	74.1	1.584	0.006	0.083	1.426	0.023	0.215	2.084	0.041	0.024
584.5239	42.6	2.003	-0.020	0.017	0.879	-0.038	0.357	1.415	-0.065	0.116
586.4203	44.8	2.063	0.010	0.035	1.520	0.030	0.186	1.680	0.032	0.153
587.4609	44	0.893	-0.006	0.363	2.221	-0.071	0.017	1.016	-0.031	0.307
587.6627	41.6	1.090	-0.011	0.204	2.552	-0.116	0.007	0.285	-0.001	0.990
591.0016	84.7	0.283	0.002	0.796	0.294	-0.012	0.756	2.354	-0.100	0.009
592.8131	32.5	1.430	-0.013	0.096	0.392	-0.012	0.755	2.385	-0.104	0.008
594.2502	68.9	1.071	0.009	0.208	2.199	0.078	0.018	0.528	0.018	0.596
594.9123	52.2	2.042	0.010	0.035	1.231	0.024	0.280	1.753	0.038	0.097
596.939	83.6	0.609	-0.003	0.656	2.479	-0.094	0.008	0.920	-0.030	0.406
597.3673	95.1	2.333	-0.019	0.004	3.503	-0.127	0.000	1.764	-0.067	0.046
598.529	75.4	1.208	0.011	0.161	2.094	0.084	0.023	1.577	0.065	0.082
598.6206	64	2.376	-0.023	0.004	1.094	-0.028	0.481	3.036	-0.136	0.001
598.8092	73.6	0.876	0.006	0.381	2.231	0.086	0.015	1.165	0.044	0.218
600.6154	72.3	3.250	-0.025	0.000	1.614	-0.053	0.082	1.612	-0.056	0.068
603.5342	43.1	1.349	-0.010	0.222	2.209	-0.081	0.037	1.440	-0.050	0.206
608.3173	63.9	0.877	-0.008	0.284	0.342	0.002	0.969	2.362	-0.103	0.007
610.9309	64.1	2.249	0.010	0.017	1.444	0.025	0.215	2.146	0.043	0.034
613.8315	41.7	1.397	-0.014	0.106	1.677	-0.073	0.091	2.053	-0.101	0.020
614.5339	44.7	1.743	-0.016	0.034	1.226	-0.050	0.185	2.230	-0.096	0.011
619.4893	42.5	2.756	-0.024	0.001	1.863	-0.070	0.043	2.188	-0.088	0.013
619.5918	41.1	2.192	-0.024	0.007	2.868	-0.138	0.002	1.333	-0.064	0.155
620.0922	41.6	2.112	0.025	0.011	2.209	0.116	0.017	1.680	0.090	0.067
620.9342	73.6	1.599	-0.015	0.063	2.497	-0.105	0.009	2.215	-0.099	0.014
622.4013	102.5	1.102	0.007	0.177	0.563	0.013	0.586	2.329	0.065	0.008
623.855	35	1.769	-0.016	0.035	1.451	-0.058	0.122	2.418	-0.102	0.006
627.6893	42.3	1.621	-0.017	0.048	2.064	-0.092	0.026	1.244	-0.059	0.163
627.7146	74.4	0.756	-0.005	0.496	2.117	-0.075	0.032	0.716	-0.024	0.503
628.5764	73.9	1.607	0.014	0.074	2.003	0.082	0.034	2.054	0.086	0.026
629.3495	100.8	1.843	-0.020	0.024	3.938	-0.183	0.000	1.456	-0.067	0.125
630.0993	41.8	1.461	0.018	0.089	2.071	0.112	0.029	1.020	0.058	0.261
631.3604	99.4	1.557	0.012	0.057	2.692	0.092	0.004	1.164	0.043	0.188

631.838	43.4	1.785	-0.018	0.033	1.436	-0.060	0.143	2.102	-0.097	0.018
632.186										
5	44.9	2.010	-0.022	0.013	1.839	-0.087	0.047	1.242	-0.060	0.174
633.727										
4	61.9	1.831	-0.018	0.040	2.093	-0.095	0.026	1.883	-0.089	0.039
637.879	101.8	1.207	-0.010	0.140	0.326	-0.004	0.916	2.173	-0.084	0.014
638.946										
5	63.8	2.086	0.012	0.017	1.309	0.025	0.321	1.461	0.035	0.181
640.441										
5	45.8	2.156	0.008	0.017	1.196	0.019	0.235	1.927	0.031	0.051
641.278										
6	41.3	2.140	-0.014	0.023	2.041	-0.059	0.041	2.711	-0.086	0.003
642.384										
1	103.5	1.291	-0.010	0.124	2.107	-0.071	0.026	2.043	-0.075	0.021
642.599										
9	58.7	2.113	-0.014	0.010	1.291	-0.032	0.211	2.394	-0.070	0.007
643.527										
2	41.7	1.993	-0.020	0.014	1.977	-0.086	0.034	2.122	-0.098	0.016
643.873										
1	55.3	1.527	-0.016	0.066	2.571	-0.118	0.005	1.253	-0.060	0.161
643.923										
1	104.6	1.630	0.013	0.052	2.382	0.081	0.010	1.233	0.039	0.223
645.034										
7	85.8	0.729	-0.007	0.433	2.117	0.086	0.033	0.687	-0.030	0.466
648.655										
2	45.1	1.474	-0.015	0.074	1.092	-0.045	0.280	2.126	-0.102	0.016
650.63	69.9	1.483	-0.011	0.071	1.411	-0.044	0.157	2.115	-0.075	0.016
651.883										
1	102.9	0.888	-0.009	0.287	1.683	-0.072	0.073	2.213	-0.100	0.013
653.208	40.9	1.442	0.011	0.110	1.453	0.050	0.146	2.061	0.077	0.027
654.168										
8	46.2	1.595	-0.014	0.059	1.357	-0.055	0.143	2.413	-0.102	0.006
657.072										
7	74.7	2.213	0.018	0.024	1.110	0.036	0.366	0.491	0.004	0.912
658.056										
3	43.7	2.025	-0.020	0.014	1.577	-0.065	0.111	2.235	-0.103	0.012
661.239										
9	127	1.089	-0.011	0.184	2.022	-0.090	0.028	0.400	-0.012	0.769
661.620										
4	41	1.420	-0.016	0.084	2.077	-0.101	0.024	0.900	-0.044	0.335
662.745										
3	60.6	1.560	-0.016	0.066	1.683	-0.072	0.082	2.374	-0.112	0.007
664.710										
1	43.6	2.109	-0.020	0.012	2.245	-0.092	0.016	3.241	-0.142	0.000
664.925										
6	86.5	1.302	-0.012	0.162	2.260	-0.096	0.018	1.257	-0.056	0.175
665.005										
7	85	1.349	0.012	0.151	3.590	0.145	0.000	0.457	0.010	0.794
665.177										
1	57.1	0.696	-0.006	0.439	1.981	-0.084	0.033	2.120	-0.092	0.020
671.671										
7	41	1.336	-0.015	0.110	2.119	-0.102	0.023	1.748	-0.088	0.050
673.792										
5	40.9	1.601	-0.017	0.052	0.624	-0.013	0.771	2.089	-0.103	0.018
674.772	95.2	2.051	-0.019	0.014	0.964	-0.039	0.300	1.376	-0.059	0.121
675.219										
6	41.1	1.942	-0.019	0.018	1.617	-0.068	0.085	2.617	-0.117	0.003
675.873										
8	93.3	1.641	0.007	0.052	0.944	0.018	0.348	2.276	0.049	0.010
676.505										
5	75	0.626	-0.004	0.656	2.178	-0.099	0.024	0.544	-0.020	0.658
676.859										
8	100.9	0.608	-0.004	0.506	2.036	-0.058	0.032	0.176	-0.003	0.920
678.270										
4	41.5	1.368	-0.013	0.113	1.700	-0.073	0.073	2.050	-0.093	0.022
678.333										
5	290.1	1.691	-0.017	0.040	1.634	-0.071	0.088	2.497	-0.119	0.004

679.805										
5	42	1.488	-0.007	0.111	1.039	-0.021	0.361	2.393	-0.059	0.009
680.302										
6	49.2	1.639	-0.016	0.046	1.960	-0.084	0.034	2.768	-0.126	0.002
681.133										
7	42.4	1.585	0.015	0.094	1.838	0.083	0.060	2.558	0.121	0.006
681.969	45.2	2.082	0.008	0.029	1.207	0.015	0.408	1.772	0.030	0.107
683.301	40.7	1.817	-0.019	0.025	1.776	-0.079	0.061	2.320	-0.112	0.008
683.881										
3	45.2	1.699	-0.009	0.045	0.928	-0.017	0.417	2.226	-0.052	0.014
683.972										
4	46.6	2.090	0.008	0.030	1.386	0.022	0.236	1.495	0.022	0.250
684.275										
6	40.7	2.508	0.023	0.004	1.309	0.051	0.200	0.778	0.032	0.429
687.637										
3	40.8	1.557	-0.008	0.056	1.064	-0.024	0.251	2.112	-0.050	0.017
689.862										
2	103.1	1.442	-0.008	0.083	1.997	-0.049	0.034	2.079	-0.054	0.021
690.312										
1	40.7	1.113	-0.012	0.178	1.739	-0.080	0.063	2.306	-0.114	0.008
691.391	103.6	1.553	0.017	0.069	1.729	0.084	0.067	2.400	0.122	0.008
692.195										
1	73.8	2.569	0.011	0.002	2.451	0.044	0.010	2.000	0.037	0.031
695.479	43.7	1.704	0.013	0.062	2.148	0.074	0.024	0.960	0.022	0.507
699.897										
1	95.5	1.635	0.017	0.055	1.555	0.070	0.102	2.324	0.110	0.010
702.151										
1	41.2	1.444	0.014	0.109	1.442	0.063	0.156	2.035	0.097	0.028
702.217										
3	58.2	2.322	0.013	0.006	1.486	0.037	0.116	2.077	0.054	0.023
708.167										
2	66.8	1.580	-0.013	0.054	1.739	-0.061	0.062	2.253	-0.084	0.010
709.158										
8	41.8	1.650	-0.007	0.120	0.771	-0.004	0.857	2.125	-0.051	0.029
710.848										
2	101.2	0.477	-0.003	0.574	2.414	-0.063	0.010	0.387	-0.011	0.662
712.581										
2	68.4	1.909	-0.019	0.023	1.402	-0.057	0.165	2.795	-0.130	0.002
712.993										
2	45.2	2.302	0.009	0.013	1.301	0.019	0.275	1.793	0.028	0.117
714.444										
3	74.4	1.035	-0.009	0.269	0.284	0.011	0.782	2.613	-0.112	0.004
715.827	38.2	1.778	-0.017	0.034	2.259	-0.096	0.015	1.410	-0.063	0.112
717.159										
1	40.4	1.435	-0.015	0.086	1.627	-0.072	0.086	2.097	-0.100	0.017
721.901										
3	41.1	1.276	-0.013	0.120	2.105	-0.093	0.022	1.421	-0.066	0.107
722.998	41.2	1.719	-0.015	0.056	1.031	-0.026	0.514	2.218	-0.095	0.016
723.856	102.3	1.433	0.009	0.107	2.389	0.068	0.010	1.014	0.030	0.262
725.528	46.7	1.862	-0.019	0.026	1.860	-0.086	0.045	2.256	-0.110	0.011
727.572										
2	53.6	1.330	-0.012	0.113	2.677	-0.110	0.004	1.083	-0.046	0.237
728.892										
3	87.7	1.198	0.012	0.153	1.914	0.086	0.038	2.171	0.101	0.014
729.588	54.4	1.009	-0.007	0.306	2.142	-0.073	0.028	0.869	-0.030	0.379
729.913										
5	39	0.662	-0.005	0.422	0.296	0.002	0.955	2.001	-0.073	0.023
730.535										
4	52.3	1.433	0.010	0.102	2.575	0.087	0.005	1.801	0.063	0.046
731.302										
9	40.7	1.528	0.014	0.062	2.051	0.081	0.026	1.932	0.081	0.028
731.539										
1	50.9	1.384	0.010	0.120	2.401	0.085	0.010	1.649	0.060	0.071
733.336										
2	100.9	1.575	-0.011	0.056	0.817	-0.025	0.380	2.233	-0.073	0.011
738.458										
1	75.6	2.316	-0.015	0.006	1.630	-0.047	0.080	2.486	-0.076	0.005

744.390											
4	66.6	2.700	0.020	0.001	2.210	0.073	0.017	1.618	0.057	0.066	
753.012											
8	51	1.657	0.014	0.079	1.659	0.063	0.098	2.299	0.095	0.013	
754.534											
1	50.9	0.899	0.008	0.279	2.021	0.077	0.030	0.629	0.025	0.480	
756.552	52.2	1.801	0.012	0.039	2.254	0.066	0.015	1.566	0.047	0.089	
757.553											
5	50.1	1.728	0.011	0.052	2.285	0.067	0.014	1.691	0.051	0.068	
760.181											
8	71.3	2.460	0.023	0.003	2.658	0.109	0.004	2.616	0.114	0.003	
760.362											
8	61.7	2.771	0.027	0.001	0.543	0.023	0.588	1.976	0.093	0.027	
760.949											
3	93.1	2.182	-0.009	0.014	1.775	-0.033	0.060	1.994	-0.038	0.029	
763.591											
2	50.4	2.033	-0.016	0.014	1.425	-0.046	0.146	2.074	-0.076	0.018	
765.381											
9	101.6	2.443	0.022	0.003	0.455	0.017	0.635	3.146	0.128	0.000	
777.984											
1	63.7	2.181	0.016	0.008	1.704	0.056	0.067	1.889	0.065	0.033	
778.536											
1	49.5	1.706	0.014	0.036	3.048	0.105	0.001	1.100	0.040	0.213	
780.549											
4	57	1.460	0.011	0.079	2.169	0.071	0.020	0.860	0.030	0.338	
781.553											
1	52.9	1.408	0.011	0.091	2.157	0.072	0.021	0.774	0.027	0.393	
782.971											
8	50.1	1.958	0.016	0.020	2.315	0.081	0.013	1.229	0.046	0.167	
787.872											
8	97.7	1.128	0.008	0.188	2.309	0.074	0.012	0.686	0.019	0.535	
792.423											
3	77.9	2.307	-0.023	0.006	1.514	-0.069	0.101	1.120	-0.053	0.206	
793.371											
8	103.4	2.608	0.024	0.001	1.866	0.074	0.043	2.275	0.096	0.009	
793.509											
1	62.9	2.149	0.020	0.013	2.362	0.098	0.013	1.648	0.072	0.071	
801.877											
9	95.4	2.497	0.020	0.003	0.540	0.012	0.709	2.145	0.079	0.015	
803.027											
9	87.2	2.118	0.015	0.009	1.725	0.053	0.062	1.504	0.049	0.089	
810.439											
3	75.3	1.701	-0.008	0.057	1.321	-0.028	0.206	2.301	-0.055	0.012	
812.390											
7	75.2	2.198	0.023	0.008	0.944	0.044	0.312	1.719	0.085	0.051	
812.827											
4	98.7	1.909	-0.014	0.020	2.056	-0.063	0.027	0.820	-0.024	0.405	
814.890											
9	99.2	1.529	-0.013	0.069	2.348	-0.087	0.015	1.749	-0.070	0.052	
827.366											
4	103.6	0.661	0.006	0.471	2.100	0.086	0.022	0.838	0.035	0.364	
828.899											
5	106.1	1.082	-0.008	0.251	0.688	-0.024	0.491	2.173	-0.085	0.016	
832.863											
2	96	0.856	-0.007	0.416	2.089	-0.084	0.033	1.255	-0.054	0.177	
837.876											
1	97.4	0.545	-0.003	0.661	0.313	0.009	0.778	2.619	-0.092	0.004	
841.366											
8	105.8	1.281	0.012	0.135	2.103	0.086	0.023	0.355	0.014	0.715	
843.901	106.1	1.107	0.011	0.181	2.819	0.118	0.002	0.299	0.009	0.828	
846.827											
8	30.7	1.583	-0.015	0.067	1.823	-0.079	0.056	2.282	-0.105	0.011	
852.968											
4	89.9	2.240	-0.022	0.006	1.447	-0.059	0.138	1.187	-0.054	0.181	
853.579											
7	71.3	1.942	-0.019	0.017	2.108	-0.089	0.024	2.069	-0.094	0.018	

855.341											
4	103.1	2.002	0.016	0.017	0.538	0.018	0.592	1.999	0.075	0.024	
858.605											
5	67.1	2.302	0.019	0.005	2.097	0.075	0.025	0.780	0.028	0.409	
861.383											
6	85.6	0.935	0.007	0.348	0.633	0.024	0.501	2.004	0.078	0.029	
866.824											
9	81.7	2.278	0.025	0.005	0.934	0.042	0.340	2.567	0.130	0.003	
888.454											
9	74.4	1.596	0.017	0.052	2.207	0.100	0.017	0.561	-0.003	0.953	
890.541	76.8	1.111	0.009	0.272	2.160	0.086	0.026	0.738	0.010	0.800	
896.487	74.1	2.131	-0.017	0.020	0.648	-0.021	0.559	1.989	-0.075	0.034	
900.850											
3	96.1	0.970	-0.009	0.261	0.377	-0.013	0.729	2.049	-0.087	0.021	
909.601											
2	62.9	1.468	0.010	0.091	0.737	0.021	0.452	2.016	0.064	0.023	
912.120											
6	62.8	1.788	-0.013	0.032	2.257	-0.072	0.015	1.857	-0.062	0.037	
918.750											
2	90.1	2.706	-0.026	0.001	2.289	-0.096	0.014	2.985	-0.133	0.001	
942.865											
3	96.8	1.304	-0.011	0.137	2.715	-0.107	0.003	0.635	-0.025	0.499	
945.650											
1	54.5	1.301	-0.015	0.112	2.189	-0.110	0.019	1.096	-0.059	0.217	
947.823											
1	101.4	1.595	-0.009	0.055	1.845	-0.045	0.053	2.163	-0.057	0.015	
948.804	100.9	1.630	-0.010	0.067	3.190	-0.085	0.001	1.007	-0.028	0.274	
949.864	102.1	2.157	0.011	0.008	0.694	0.011	0.583	2.948	0.070	0.001	
950.627											
1	50.9	1.441	-0.013	0.081	1.687	-0.065	0.068	2.377	-0.097	0.007	
952.320											
1	77.7	2.093	-0.010	0.030	1.497	-0.033	0.139	1.435	-0.030	0.177	
959.767											
9	100.5	1.784	-0.016	0.053	1.953	-0.077	0.064	2.058	-0.094	0.026	
961.329											
6	77	2.047	0.018	0.015	1.533	0.056	0.119	1.675	0.067	0.062	
961.810											
8	102.6	1.122	-0.006	0.288	0.351	0.006	0.837	2.315	-0.070	0.015	
971.296											
6	100.9	1.953	-0.017	0.029	0.489	-0.014	0.705	2.976	-0.123	0.001	
974.375											
2	77.4	0.747	-0.002	0.509	2.024	-0.034	0.053	0.297	-0.002	0.930	
975.812											
7	99.6	1.410	0.008	0.100	1.316	0.033	0.174	2.103	0.058	0.018	
977.652											
9	59.7	2.693	0.010	0.002	2.210	0.035	0.030	2.342	0.038	0.020	
978.656											
3	59.8	2.136	0.010	0.015	1.809	0.033	0.103	2.070	0.041	0.043	
980.366											
6	76.9	2.412	-0.014	0.004	1.895	-0.043	0.079	1.521	-0.041	0.097	
987.637											
2	60.4	2.080	0.017	0.013	1.602	0.058	0.092	2.101	0.080	0.020	
991.111											
1	88.2	0.507	0.003	0.587	2.551	0.081	0.006	1.266	0.042	0.167	
991.668											
3	60.2	2.343	0.008	0.011	1.842	0.026	0.098	2.098	0.031	0.049	
992.671											
8	59.8	2.343	0.008	0.011	1.841	0.026	0.096	2.091	0.031	0.050	
993.674											
9	59.9	2.308	0.008	0.013	1.815	0.025	0.103	2.078	0.030	0.052	
994.343											
5	75.2	1.390	-0.013	0.112	1.026	-0.042	0.306	2.337	-0.109	0.008	
994.677											
7	60.2	2.359	0.008	0.009	1.785	0.025	0.102	2.173	0.032	0.036	
995.681	60	1.906	0.011	0.038	2.053	0.052	0.040	1.506	0.031	0.224	
996.834											
4	103.2	1.113	-0.008	0.223	2.045	-0.069	0.031	1.475	-0.053	0.105	

1005.68										
44	59.5	2.162	0.007	0.024	1.253	0.012	0.403	1.933	0.025	0.095
1006.68										
78	59.6	2.068	0.007	0.041	1.293	0.013	0.415	1.946	0.026	0.108
1007.84										
52	97.3	1.490	-0.010	0.147	1.677	-0.053	0.098	2.198	-0.074	0.023
1010.28	77	2.149	0.018	0.016	2.657	0.099	0.007	2.790	0.112	0.002
1013.65										
23	61.8	2.316	0.010	0.010	1.899	0.036	0.055	2.232	0.043	0.023
1014.15										
27	63.3	1.301	-0.010	0.136	0.570	0.020	0.543	2.257	-0.080	0.013
1014.65										
6	61.8	2.261	0.011	0.012	1.745	0.036	0.089	2.151	0.047	0.027
1015.66										
9	60	2.073	0.011	0.018	1.499	0.035	0.115	2.372	0.059	0.009
1016.67										
22	60	2.083	0.011	0.017	1.521	0.036	0.110	2.370	0.058	0.009
1017.85										
29	102.8	2.455	0.018	0.003	2.281	0.073	0.013	1.312	0.044	0.143
1019.70										
02	59.3	2.549	0.008	0.005	1.755	0.020	0.160	2.414	0.033	0.023
1020.70										
38	59.7	2.574	0.008	0.005	1.801	0.022	0.141	2.419	0.034	0.022
1021.70										
68	59.2	2.449	0.008	0.009	1.737	0.020	0.173	2.346	0.031	0.031
1022.70										
97	59.6	2.078	0.008	0.030	1.448	0.018	0.317	2.019	0.035	0.062
1024.48										
57	79.7	2.155	-0.012	0.009	1.231	-0.030	0.199	2.219	-0.059	0.012
1029.62										
53	64.8	1.648	0.011	0.077	2.361	0.075	0.016	1.166	0.029	0.366
1030.63										
09	65	2.016	0.017	0.017	1.885	0.067	0.059	2.038	0.079	0.027
1037.65										
36	61.1	2.205	0.013	0.011	1.604	0.040	0.115	1.820	0.047	0.066
1038.51										
27	79.5	2.031	0.022	0.015	1.248	0.057	0.194	1.319	0.064	0.146
1038.65										
7	61.5	2.079	0.015	0.015	1.318	0.039	0.196	1.737	0.056	0.068
1040.67										
27	59.6	2.038	0.009	0.027	1.200	0.023	0.270	1.909	0.040	0.055
1043.70										
03	59.5	1.779	0.008	0.047	0.695	0.012	0.544	2.081	0.046	0.024
1047.73										
15	58.7	2.061	0.008	0.025	1.260	0.014	0.407	2.057	0.033	0.054
1048.73										
54	59.1	1.981	0.007	0.035	1.300	0.014	0.405	2.026	0.033	0.059
1054.3	69.4	0.338	0.001	0.858	2.095	0.081	0.023	1.210	0.049	0.171
1059.30										
68	103.3	1.235	0.010	0.157	2.555	0.094	0.007	1.654	0.064	0.072
1063.66										
99	58.9	2.008	0.011	0.024	1.316	0.032	0.177	1.738	0.042	0.077
1069.71										
21	59	2.190	0.011	0.021	1.459	0.029	0.206	2.150	0.047	0.042
1074.30										
6	48.6	1.200	-0.007	0.258	1.254	-0.036	0.238	2.263	-0.071	0.019
1080.41										
77	79.4	1.799	0.012	0.032	2.608	0.076	0.005	0.867	0.024	0.382
1088.79										
33	102.3	0.946	0.007	0.265	0.309	0.006	0.845	2.020	0.070	0.024
1090.44										
6	79.5	1.689	-0.017	0.039	2.143	-0.093	0.021	1.484	-0.068	0.097
1091.69										
98	58.8	1.700	0.009	0.069	2.140	0.056	0.021	0.874	0.004	0.880
1093.29										
99	103.5	1.443	0.013	0.095	1.574	0.066	0.090	2.236	0.098	0.013

1094.28											
82	78	1.802	-0.010	0.039	2.357	-0.060	0.013	1.445	-0.038	0.118	
1096.28											
41	76.6	1.199	-0.006	0.215	2.025	-0.052	0.040	0.869	-0.022	0.391	
1102.23											
1	75.6	2.142	0.019	0.009	0.465	0.004	0.910	1.336	0.055	0.133	
1110.26											
31	75.5	1.548	0.016	0.059	0.752	0.031	0.447	2.142	0.100	0.015	
1111.12											
1	102.3	2.226	0.024	0.006	2.051	0.097	0.027	2.167	0.108	0.014	
1142.21											
81	76.9	1.868	-0.010	0.045	2.039	-0.050	0.044	0.969	-0.021	0.402	
1144.21											
53	76.9	2.089	-0.011	0.023	2.535	-0.062	0.010	0.789	-0.009	0.699	
1148.16											
54	75.9	1.176	0.009	0.218	2.214	0.085	0.023	0.440	0.014	0.709	
1148.32											
56	47.1	0.958	-0.007	0.320	0.599	-0.017	0.613	2.097	-0.073	0.027	
1152.24											
75	76.6	1.565	-0.010	0.086	2.299	-0.067	0.018	0.959	-0.027	0.346	
1153.43											
69	102.2	2.301	0.018	0.008	1.996	0.072	0.033	2.079	0.077	0.024	
1156.11											
35	102.7	1.713	-0.017	0.037	0.726	-0.031	0.442	2.091	-0.095	0.018	
1156.24											
25	76.5	2.216	0.022	0.007	2.493	0.103	0.010	1.648	0.073	0.072	
1166.82											
64	97.3	2.016	-0.020	0.014	1.331	-0.057	0.150	2.160	-0.097	0.014	
1176.78											
01	42.7	1.320	0.010	0.113	0.927	0.031	0.334	2.135	0.078	0.015	
1179.27											
61	101.2	0.126	0.000	0.963	2.135	-0.051	0.021	0.255	0.006	0.799	
1188.15											
34	76.8	2.157	0.020	0.010	1.401	0.053	0.164	2.428	0.104	0.006	
1196.33											
77	79.1	2.331	0.026	0.004	4.418	0.211	0.000	0.716	0.033	0.460	
1196.77											
44	47.5	1.938	0.016	0.020	2.196	0.079	0.017	1.536	0.059	0.082	
1196.89											
13	59.2	0.836	0.006	0.478	0.705	0.019	0.650	2.008	0.094	0.024	
1198.18											
27	76.9	1.904	0.017	0.026	2.400	0.099	0.010	1.343	0.056	0.152	
1202.74											
15	100.5	1.918	0.018	0.022	2.203	0.092	0.018	1.783	0.079	0.045	
1210.83											
24	42.2	2.147	0.020	0.009	1.130	0.044	0.255	1.939	0.084	0.030	
1213.27											
3	101.9	0.918	0.005	0.301	2.506	0.058	0.007	1.188	0.029	0.189	
1220.23											
53	76.4	2.157	0.020	0.008	2.796	0.110	0.002	1.791	0.074	0.042	
1242.74											
84	101.3	0.210	0.001	0.908	2.130	0.093	0.021	0.768	-0.029	0.470	
1251.88											
58	57.7	1.825	0.010	0.030	1.798	0.044	0.066	2.118	0.057	0.017	
1252.89											
03	57.8	1.757	0.012	0.039	2.491	0.077	0.007	1.532	0.048	0.102	
1253.9											
57.3	57.3	2.052	0.012	0.015	2.505	0.064	0.009	1.877	0.051	0.038	
1254.90											
32	57.8	2.086	0.013	0.013	2.491	0.064	0.009	1.870	0.052	0.039	

Table S3. Significant C18neg features

mz	time (s)	vip_O P	coef_O P	pvalue_ OP	vip_PY R	coef_PY R	pvalue_P YR	vip_O C	coef_O C	pvalue_O C
86.6701	246.9	1.504	0.012	0.097	2.610	0.099	0.006	0.927	0.037	0.319
87.0087	38.6	2.024	0.019	0.032	1.539	0.064	0.131	1.674	0.065	0.133
88.0404	47	2.466	0.018	0.004	2.904	0.096	0.002	2.473	0.082	0.010
89.0089	45.7	2.030	0.019	0.025	1.505	0.064	0.131	2.389	0.103	0.016
89.0192	37	1.840	0.018	0.038	1.360	0.059	0.172	2.187	0.097	0.026
89.0244	41.1	1.951	0.018	0.035	1.504	0.062	0.134	2.356	0.098	0.019
89.0297	37.5	1.947	0.020	0.027	1.493	0.066	0.129	2.235	0.100	0.022
89.04	44.3	2.004	0.019	0.030	1.428	0.059	0.162	2.408	0.102	0.016
90.0277	41.3	2.092	0.019	0.021	1.539	0.063	0.128	2.519	0.106	0.011
91.0286	39.7	2.427	0.023	0.005	1.839	0.077	0.059	2.520	0.107	0.009
98.949	165.1	1.904	0.015	0.031	1.246	0.045	0.195	2.074	0.078	0.026
100.985										
6	59.3	1.561	-0.009	0.107	2.057	-0.055	0.037	1.746	-0.048	0.073
103.003										
7	128.1	1.917	-0.016	0.024	1.415	-0.053	0.134	2.657	-0.104	0.004
104.043										
4	37.1	1.199	-0.012	0.187	2.311	-0.103	0.016	1.366	-0.061	0.161
108.453										
7	263.7	0.979	0.006	0.273	2.056	0.055	0.029	0.754	0.018	0.478
109.040										
7	56.1	1.616	0.012	0.065	1.217	0.042	0.198	2.534	0.090	0.006
114.027										
8	48.1	0.647	0.005	0.457	0.238	0.008	0.831	2.237	0.087	0.015
118.930										
9	60.3	1.402	-0.010	0.100	0.913	-0.028	0.353	2.865	-0.093	0.002
121.533										
8	278.7	1.954	-0.018	0.024	2.685	-0.109	0.004	1.603	-0.067	0.085
122.946										
7	23.5	1.729	-0.007	0.055	0.582	-0.012	0.541	2.872	-0.058	0.002
123.975										
1	20.6	1.563	0.011	0.079	0.610	0.020	0.529	2.018	0.069	0.030
125.001										
1	41.6	1.884	0.015	0.046	1.389	0.050	0.167	2.379	0.087	0.016
126.998										
2	42	2.015	0.016	0.026	1.525	0.057	0.121	2.450	0.092	0.012
129.005										
6	63.6	0.937	-0.003	0.308	2.852	-0.042	0.002	1.438	-0.021	0.134
132.982										
7	32.8	0.146	0.001	0.909	2.195	0.050	0.024	1.167	-0.028	0.209
135.971										
7	24.8	1.510	0.015	0.086	2.377	0.104	0.012	0.477	0.021	0.618
136.977										
4	128	1.844	0.011	0.034	1.025	0.027	0.292	2.124	0.059	0.022
142.016										
9	24.9	1.725	0.010	0.046	2.298	0.058	0.015	2.019	0.053	0.029
144.012										
5	45.9	1.962	-0.019	0.030	2.032	-0.092	0.031	1.022	-0.048	0.270
144.976										
50.3	2.128	-0.011	0.013	1.988	-0.047	0.036	1.426	-0.035	0.122	
145.999										
1	45.1	2.040	0.018	0.017	1.590	0.059	0.107	2.053	0.078	0.033
148.043										
9	47.3	1.311	0.012	0.156	2.377	0.100	0.013	1.315	0.053	0.197
148.98										
43.2	1.699	0.011	0.061	0.954	0.028	0.330	2.034	0.060	0.036	
150.056										
1	247.8	1.507	0.014	0.134	1.074	0.043	0.356	2.316	0.110	0.018
151.061										
2	275	1.691	-0.014	0.050	2.270	-0.086	0.016	0.869	-0.031	0.385
153.868										
5	33.2	2.069	0.015	0.018	1.670	0.056	0.079	1.158	0.040	0.213
154.062										
3	50.6	1.850	0.014	0.031	2.651	0.091	0.005	1.692	0.060	0.067
154.947										
5	117.4	0.467	-0.002	0.596	2.230	-0.044	0.019	0.771	-0.016	0.414

155.071										
4	35.7	2.393	0.022	0.007	2.070	0.086	0.032	2.260	0.098	0.016
156.027										
9	46.7	2.417	0.018	0.006	2.802	0.096	0.004	2.605	0.090	0.007
157.011										
9	39.9	1.464	0.012	0.131	1.007	0.039	0.322	2.099	0.084	0.034
159.114										
96.8	2.325	0.019	0.011	0.941	0.035	0.334	1.636	0.064	0.083	
161.045										
6	278.2	0.679	-0.005	0.447	0.766	-0.025	0.432	2.504	-0.086	0.007
163.061										
3	136.8	0.763	-0.007	0.405	0.532	-0.023	0.582	2.024	-0.089	0.030
163.967										
7	107.2	2.095	0.019	0.019	1.290	0.053	0.185	1.830	0.078	0.055
168.999										
3	290.5	1.675	0.012	0.063	0.300	0.010	0.758	2.208	0.074	0.019
172.929										
122.4	1.292	-0.009	0.130	2.673	-0.084	0.004	1.143	-0.037	0.216	
176.009										
5	44.2	0.901	0.008	0.301	2.171	0.087	0.021	0.869	0.035	0.358
177.040										
5	282.6	2.586	-0.016	0.003	3.683	-0.102	0.000	2.456	-0.071	0.007
179.962										
6	133.6	1.867	0.014	0.036	0.861	0.029	0.381	2.072	0.073	0.027
180.959										
9	129	2.521	0.019	0.003	2.303	0.077	0.015	1.965	0.069	0.033
181.018										
3	61.1	1.773	0.011	0.042	1.010	0.028	0.310	2.246	0.067	0.015
182.315										
4	42.8	0.805	0.007	0.348	0.975	0.037	0.305	2.191	0.087	0.017
182.988										
8	54.7	2.110	0.016	0.017	0.963	0.034	0.315	1.890	0.069	0.042
184.019										
4	36.6	2.124	0.015	0.012	3.676	0.111	0.000	1.680	0.051	0.075
197.154										
6	130.2	1.740	-0.010	0.187	2.087	-0.061	0.102	1.557	-0.038	0.322
199.134										
285.7	2.082	-0.020	0.016	1.888	-0.082	0.045	1.544	-0.069	0.095	
201.022										
7	45.7	0.581	-0.006	0.499	2.108	-0.100	0.025	0.225	-0.008	0.855
203.092										
5	22.8	1.641	0.013	0.056	1.101	0.040	0.244	2.076	0.078	0.024
203.129										
91.6	2.816	-0.023	0.001	2.372	-0.087	0.011	1.932	-0.073	0.036	
210.918										
3	97.4	2.166	-0.008	0.011	1.981	-0.034	0.037	1.582	-0.028	0.090
213.064										
4	39.9	1.157	0.007	0.332	2.293	0.083	0.017	1.887	0.068	0.052
216.024										
6	40.5	0.845	-0.008	0.334	1.236	-0.056	0.191	2.129	-0.100	0.021
224.015										
1	47.5	1.190	0.009	0.216	1.139	0.036	0.325	2.116	0.084	0.024
224.818										
9	42.6	1.785	0.015	0.061	2.258	0.091	0.019	0.782	0.030	0.449
225.024										
2	68.5	2.222	-0.012	0.013	1.147	-0.028	0.226	0.696	-0.017	0.473
227.129										
26.4	1.251	0.013	0.142	1.183	0.054	0.215	2.153	0.102	0.019	
228.994										
4	28.4	2.688	0.024	0.002	0.728	0.030	0.443	1.566	0.066	0.091
231.123										
8	283.9	1.633	-0.015	0.072	3.084	-0.135	0.001	1.550	-0.070	0.100
232.008										
6	39	2.514	-0.015	0.003	2.622	-0.071	0.005	1.958	-0.055	0.034
232.059										
47.1	1.904	0.009	0.038	1.530	0.032	0.126	2.087	0.044	0.036	
232.913										
7	107.7	2.722	-0.013	0.001	3.464	-0.072	0.000	2.753	-0.059	0.003
234.157										
7	191.8	1.185	-0.008	0.242	2.488	-0.084	0.011	0.749	-0.023	0.496
239.935										
46.2	1.823	0.017	0.032	0.313	0.011	0.777	2.056	0.090	0.026	
241.214										
7	219.1	1.851	-0.017	0.052	2.336	-0.104	0.015	0.983	-0.042	0.340

246.912										
8	45	1.668	0.013	0.051	0.716	0.018	0.588	2.171	0.081	0.018
252.897										
5	109.6	1.403	0.009	0.118	0.902	0.027	0.344	2.539	0.079	0.006
257.212										
2	133.8	1.659	-0.016	0.052	1.378	-0.060	0.147	2.163	-0.097	0.018
257.918										
6	26.3	1.191	-0.011	0.255	3.312	-0.161	0.001	1.793	-0.086	0.071
258.893										
3	30.8	2.396	-0.007	0.005	2.416	-0.033	0.010	1.087	-0.015	0.253
259.028										
2	43.8	1.238	0.012	0.152	0.077	0.001	0.986	2.258	0.101	0.016
261.962										
9	36.2	0.265	0.002	0.843	2.141	0.087	0.025	0.968	0.038	0.339
262.945										
3	131	2.015	0.016	0.019	0.368	0.013	0.700	1.646	0.060	0.074
263.979										
5	64.6	2.408	0.010	0.005	0.489	0.008	0.644	1.662	0.031	0.075
266.017										
5	35.4	1.577	-0.016	0.082	0.432	-0.019	0.669	2.248	-0.106	0.017
269.037										
4	39.7	1.676	-0.015	0.052	2.201	-0.091	0.019	0.685	-0.028	0.481
269.087										
8	45.7	2.329	0.017	0.018	1.423	0.046	0.183	2.040	0.066	0.060
270.090										
4	45.3	2.337	0.017	0.016	1.621	0.054	0.114	2.361	0.080	0.020
272.073										
48.4	2.677	0.027	0.002	2.588	0.115	0.006	1.998	0.092	0.030	
273.882										
6	21.4	1.093	0.013	0.213	0.936	0.048	0.334	2.292	0.124	0.013
275.106										
8	44.2	1.804	0.013	0.038	1.319	0.041	0.186	2.117	0.070	0.025
275.999										
9	39.3	1.549	-0.013	0.076	1.729	-0.064	0.066	3.141	-0.119	0.001
279.196										
4	115.4	1.410	-0.014	0.130	2.136	-0.104	0.025	0.734	-0.035	0.458
280.948										
77.7	2.523	-0.013	0.003	2.402	-0.057	0.011	2.563	-0.063	0.005	
280.974										
1	183.1	1.918	-0.005	0.038	1.397	-0.016	0.148	2.069	-0.023	0.037
281.072										
9	80.3	2.031	0.013	0.019	1.710	0.046	0.083	1.249	0.034	0.212
281.160										
7	242.7	1.702	-0.012	0.130	2.042	-0.066	0.097	1.722	-0.057	0.154
281.219										
3	242.9	1.894	-0.014	0.067	2.118	-0.069	0.075	1.670	-0.052	0.186
281.248										
5	246	1.694	-0.012	0.152	2.002	-0.062	0.118	1.647	-0.050	0.210
281.278										
4	242.9	1.770	-0.013	0.105	2.005	-0.064	0.109	1.469	-0.040	0.326
281.334										
5	242.6	1.776	-0.012	0.115	2.089	-0.066	0.090	1.729	-0.054	0.167
281.973										
5	43.3	1.795	0.012	0.038	1.723	0.051	0.068	2.081	0.063	0.024
282.164										
3	243.4	1.687	-0.012	0.138	2.146	-0.076	0.061	1.551	-0.046	0.261
282.251										
9	245.7	1.719	-0.012	0.141	2.007	-0.062	0.116	1.666	-0.051	0.201
282.338										
6	242.4	1.765	-0.013	0.122	2.110	-0.069	0.085	1.719	-0.055	0.174
282.957										
9	44.7	1.959	0.015	0.029	0.944	0.031	0.365	2.437	0.086	0.011
283.103										
1	44.8	1.534	-0.012	0.097	2.150	-0.077	0.024	2.094	-0.077	0.025
283.234										
2	271.4	1.286	-0.011	0.162	2.688	-0.107	0.005	0.697	-0.028	0.469
283.255										
6	242.7	1.732	-0.012	0.135	2.047	-0.065	0.103	1.682	-0.052	0.191

283.294											
3	271.3	1.503	-0.011	0.140	2.843	-0.111	0.003	0.937	-0.035	0.360	
284.896											
8	27.5	1.809	0.010	0.038	2.348	0.055	0.014	2.162	0.053	0.019	
286.059											
9	35.1	2.163	0.019	0.012	1.725	0.066	0.068	1.732	0.067	0.068	
289.105											
9	26.5	1.254	0.008	0.159	0.467	0.014	0.632	2.261	0.070	0.014	
289.376											
7	256.2	1.755	0.013	0.080	2.052	0.075	0.044	1.150	0.026	0.495	
289.956											
5	66.4	1.588	0.008	0.066	1.394	0.032	0.140	2.584	0.061	0.005	
291.124											
4	125.5	0.614	0.004	0.519	2.051	0.068	0.034	0.180	-0.001	0.966	
292.080											
4	35.8	1.681	-0.017	0.048	0.620	-0.027	0.518	2.839	-0.129	0.002	
292.882											
5	79.8	1.247	0.005	0.149	2.021	0.038	0.032	1.734	0.034	0.060	
296.267											
4	257.4	1.989	-0.018	0.036	2.122	-0.081	0.050	2.089	-0.084	0.044	
296.921											
1	65.2	1.450	-0.008	0.117	1.628	-0.042	0.107	2.460	-0.066	0.011	
304.070											
5	38.6	1.213	-0.013	0.157	0.194	-0.006	0.886	2.353	-0.116	0.010	
304.871											
1	44.6	1.803	-0.014	0.037	1.589	-0.054	0.097	2.205	-0.079	0.017	
304.898											
9	31.5	0.475	-0.002	0.580	2.103	-0.045	0.027	1.157	-0.025	0.222	
310.15											
45.6	2.216	0.015	0.024	1.373	0.036	0.256	1.927	0.059	0.065		
310.902											
2	140.9	2.252	-0.009	0.009	1.997	-0.036	0.034	2.381	-0.044	0.009	
312.893											
7	118.6	2.827	-0.014	0.001	2.854	-0.065	0.002	1.629	-0.038	0.078	
318.885											
2	76.9	2.105	-0.018	0.015	1.389	-0.053	0.146	1.736	-0.068	0.062	
321.207											
1	194.8	1.917	-0.017	0.040	2.258	-0.091	0.025	2.092	-0.086	0.037	
322.209											
205.5	2.326	-0.020	0.008	2.289	-0.088	0.018	2.548	-0.102	0.006		
322.855											
5	43	1.948	0.013	0.033	1.206	0.036	0.220	2.011	0.061	0.040	
322.955											
5	79.2	1.151	-0.009	0.244	2.347	-0.098	0.013	0.963	-0.039	0.339	
326.086											
9	36.7	0.477	-0.004	0.592	1.198	-0.047	0.205	3.011	-0.121	0.001	
327.090											
5	36.5	2.308	-0.017	0.006	1.726	-0.053	0.077	1.383	-0.043	0.153	
327.144											
9	242.9	1.718	-0.012	0.127	2.094	-0.067	0.082	1.680	-0.051	0.187	
327.216											
9	242.3	1.648	-0.011	0.148	2.063	-0.066	0.078	1.743	-0.056	0.142	
327.254											
1	244.5	1.747	-0.012	0.125	2.087	-0.067	0.088	1.689	-0.052	0.189	
327.291											
2	240.2	1.292	-0.011	0.162	2.651	-0.108	0.005	1.061	-0.044	0.262	
327.362											
6	242.4	1.723	-0.012	0.133	2.070	-0.066	0.093	1.672	-0.052	0.192	
327.485											
35.4	2.056	-0.009	0.017	1.460	-0.024	0.169	1.540	-0.029	0.101		
328.257											
5	244.5	1.687	-0.011	0.151	2.033	-0.064	0.104	1.652	-0.050	0.204	
329.261											
2	242	1.694	-0.012	0.147	2.038	-0.064	0.103	1.665	-0.051	0.196	
329.359											
2	226.4	0.783	-0.006	0.495	2.114	-0.096	0.033	0.283	0.003	0.947	
333.924											
6	77.5	2.327	-0.012	0.006	2.947	-0.065	0.002	1.146	-0.025	0.228	
334.879											
7	29.8	2.320	-0.020	0.008	2.334	-0.092	0.013	1.958	-0.079	0.035	

336.909	72.3	2.186	-0.013	0.010	1.481	-0.037	0.127	1.944	-0.051	0.037
336.947										
5	47.4	0.349	-0.001	0.872	2.061	-0.040	0.029	0.235	0.003	0.886
337.947										
7	43.4	2.409	0.020	0.004	2.330	0.086	0.013	1.359	0.051	0.145
340.038										
8	49.2	2.429	-0.021	0.004	1.630	-0.059	0.096	1.507	-0.054	0.130
340.882										
1	86.4	2.087	0.009	0.042	1.245	0.027	0.227	2.333	0.052	0.019
341.269										
9	232.9	1.770	-0.012	0.120	2.080	-0.066	0.090	1.697	-0.052	0.181
342.272										
5	242.2	1.799	-0.013	0.108	2.107	-0.067	0.084	1.745	-0.056	0.158
344.134										
6	46.3	2.097	0.009	0.082	1.252	0.025	0.344	1.484	0.026	0.333
344.819										
4	44.2	1.754	-0.012	0.049	2.820	-0.087	0.003	1.846	-0.059	0.045
346.123										
2	138.6	1.167	-0.008	0.197	2.477	-0.073	0.010	1.463	-0.044	0.127
346.958										
1	47.1	1.535	-0.012	0.079	2.107	-0.074	0.025	1.077	-0.038	0.260
348.935										
3	73.8	1.714	-0.018	0.045	1.970	-0.090	0.036	2.279	-0.107	0.013
348.997										
1	41.2	2.050	-0.018	0.016	0.894	-0.035	0.350	2.063	-0.084	0.025
350.969										
4	30.3	1.556	-0.013	0.068	2.253	-0.081	0.016	0.922	-0.034	0.328
352.762										
1	43.7	1.743	-0.015	0.047	1.487	-0.060	0.117	2.259	-0.092	0.017
352.801										
3	43.5	0.697	-0.005	0.445	2.453	-0.078	0.012	0.986	-0.033	0.294
352.895										
9	102.6	2.055	-0.019	0.016	1.843	-0.076	0.051	1.606	-0.069	0.082
354.961										
3	54.4	1.067	-0.006	0.249	2.146	-0.055	0.023	1.075	-0.028	0.257
358.005										
3	45.4	2.183	0.019	0.012	1.544	0.058	0.122	3.258	0.133	0.000
358.283										
2	249.7	1.503	-0.015	0.082	2.097	-0.091	0.026	1.603	-0.071	0.086
358.838										
4	42.8	1.756	-0.010	0.047	1.138	-0.028	0.240	2.199	-0.057	0.017
361.938										
1	34.8	1.931	-0.014	0.044	1.645	-0.055	0.105	2.981	-0.104	0.002
362.063										
6	37	0.835	-0.007	0.345	1.687	-0.064	0.077	3.829	-0.150	0.000
362.080										
6	48	0.836	-0.005	0.487	1.014	-0.038	0.311	2.006	-0.075	0.045
362.911										
5	79.5	2.168	-0.009	0.013	1.478	-0.026	0.132	2.899	-0.053	0.002
362.981										
9	48.4	2.148	-0.008	0.012	1.779	-0.027	0.069	1.986	-0.033	0.031
364.061										
4	36.9	1.285	-0.012	0.134	2.117	-0.089	0.024	2.912	-0.126	0.001
364.909										
1	70.1	0.788	0.005	0.372	0.776	0.020	0.423	2.422	0.066	0.009
368.246										
4	234.5	2.194	-0.013	0.011	0.719	-0.018	0.471	1.043	-0.027	0.288
368.280										
8	173	2.602	0.023	0.003	1.984	0.081	0.036	2.816	0.117	0.002
370.869	138.2	1.106	-0.004	0.214	2.540	-0.042	0.008	1.576	-0.026	0.110
372.119										
1	226.6	1.054	-0.008	0.216	2.339	-0.079	0.013	1.683	-0.059	0.069
372.914										
4	74.8	1.389	-0.008	0.113	2.320	-0.061	0.015	1.837	-0.050	0.047
373.277										
2	211	2.359	-0.017	0.011	2.368	-0.078	0.017	3.082	-0.107	0.001

374.519											
1	267.1	2.105	0.010	0.016	1.332	0.028	0.184	1.658	0.037	0.082	
375.015	67.1	0.360	0.000	0.967	2.073	-0.057	0.038	0.390	0.003	0.922	
377.236											
6	242.8	1.897	-0.014	0.090	2.157	-0.070	0.074	1.795	-0.057	0.153	
377.919											
1	90.5	1.765	-0.014	0.050	1.466	-0.052	0.129	2.003	-0.074	0.032	
378.220											
4	231.3	0.937	0.001	0.885	2.094	0.059	0.101	0.840	-0.004	0.905	
378.239											
2	241.7	1.821	-0.012	0.120	2.125	-0.068	0.084	1.807	-0.057	0.148	
379.232											
3	242.5	2.440	-0.021	0.008	2.410	-0.086	0.027	1.934	-0.068	0.082	
380.236											
3	242.5	2.167	-0.016	0.025	1.749	-0.045	0.202	2.326	-0.079	0.024	
380.902											
2	103.9	0.717	-0.004	0.420	2.158	0.057	0.027	0.191	-0.005	0.844	
381.231											
2	168.3	2.236	-0.022	0.009	1.200	-0.053	0.205	1.911	-0.087	0.038	
392.317											
2	178.4	1.601	-0.014	0.067	2.381	-0.092	0.011	1.583	-0.062	0.093	
393.012											
7	37.2	1.825	0.006	0.073	2.041	0.036	0.039	1.392	0.023	0.198	
394.860											
6	130.1	1.904	0.017	0.031	2.313	0.095	0.014	2.175	0.092	0.019	
398.901											
7	83.3	1.948	0.010	0.025	1.463	0.034	0.128	2.118	0.052	0.022	
399.219											
4	218.3	1.655	-0.010	0.054	2.385	-0.063	0.011	1.069	-0.029	0.251	
401.870											
2	107	1.146	-0.009	0.185	0.692	-0.022	0.508	2.014	-0.074	0.028	
402.867											
4	89	1.169	-0.007	0.175	2.131	-0.056	0.024	1.309	-0.035	0.159	
402.905											
2	75.3	1.642	-0.013	0.079	2.167	-0.082	0.024	1.461	-0.055	0.135	
406.909											
7	86.5	1.987	0.018	0.020	0.770	0.029	0.445	2.699	0.111	0.003	
407.291	194.5	3.472	-0.022	0.000	3.988	-0.116	0.000	2.256	-0.068	0.014	
409.984											
9	38.1	1.503	-0.013	0.078	3.037	-0.114	0.001	1.440	-0.056	0.119	
410.257											
5	200.6	2.281	-0.014	0.013	1.274	-0.036	0.198	2.057	-0.062	0.029	
412.859											
7	121.6	0.566	-0.003	0.696	0.175	0.004	0.901	2.122	-0.070	0.029	
412.873											
9	25.7	1.244	0.010	0.180	1.337	0.051	0.174	2.053	0.079	0.035	
414.998											
7	66.7	1.534	0.013	0.115	1.583	0.067	0.104	2.011	0.086	0.037	
415.216											
1	47.1	1.281	-0.011	0.140	2.081	-0.083	0.029	0.912	-0.038	0.325	
417.268											
1	263.3	2.597	-0.015	0.003	2.378	-0.064	0.012	2.553	-0.070	0.006	
422.948											
7	53.9	1.074	-0.004	0.270	2.121	-0.044	0.025	1.209	-0.025	0.211	
425.25	185	1.234	-0.011	0.198	0.624	-0.012	0.762	2.249	-0.098	0.015	
425.992											
3	46.9	1.467	-0.014	0.085	2.185	-0.090	0.020	1.315	-0.056	0.154	
426.051											
9	185	1.777	-0.006	0.045	2.208	-0.036	0.020	0.952	-0.015	0.322	
427.049											
9	185.6	0.999	-0.003	0.262	2.048	-0.033	0.031	0.168	-0.002	0.920	
428.820											
5	47.5	2.346	-0.023	0.006	2.500	-0.110	0.008	1.875	-0.085	0.043	
433.140											
3	263.5	2.404	-0.013	0.007	3.206	-0.078	0.001	1.846	-0.045	0.056	
435.270											
9	173.5	1.288	0.011	0.145	3.059	0.117	0.001	0.360	0.013	0.735	

445.053										
7	76.8	1.400	-0.011	0.102	0.299	-0.007	0.817	2.174	-0.075	0.019
445.316										
6	206	2.604	0.031	0.004	2.731	0.149	0.005	1.369	0.077	0.151
445.770										
2	41.9	1.572	-0.009	0.138	2.103	-0.068	0.030	1.596	-0.049	0.120
445.987										
5	35.8	2.487	0.019	0.003	1.022	0.035	0.289	1.821	0.065	0.049
449.844										
6	29.1	2.337	-0.011	0.010	2.101	-0.047	0.027	1.519	-0.034	0.114
450.037										
48.6	1.491	-0.015	0.085	1.351	-0.062	0.160	2.001	-0.096	0.030	
450.777										
3	42.3	1.585	0.015	0.069	1.553	0.066	0.103	3.357	0.147	0.000
452.100										
5	204.4	2.657	-0.026	0.002	2.708	-0.117	0.004	1.914	-0.085	0.039
452.456										
2	204.3	1.854	-0.014	0.041	2.124	-0.073	0.030	1.216	-0.033	0.331
452.863										
1	77.4	1.382	-0.010	0.115	2.287	-0.074	0.016	1.437	-0.048	0.120
454.291										
3	265.8	1.125	0.006	0.194	2.070	0.051	0.028	0.599	0.001	0.952
455.242										
191.9	2.322	-0.016	0.007	3.046	-0.093	0.001	0.984	-0.030	0.298	
455.246										
8	52	2.027	-0.021	0.018	1.233	-0.056	0.207	2.211	-0.107	0.016
459.272										
5	114.9	2.185	0.021	0.011	0.753	0.024	0.556	2.421	0.108	0.009
460.282										
9	201.1	1.819	0.017	0.034	0.783	0.030	0.449	2.280	0.098	0.013
461.207										
9	175.2	3.474	0.025	0.000	2.899	0.094	0.003	2.874	0.096	0.003
462.963										
3	89.9	2.036	-0.010	0.017	1.862	-0.041	0.049	2.323	-0.052	0.012
466.917										
2	64	2.833	-0.015	0.001	1.493	-0.037	0.124	2.597	-0.066	0.006
467.312										
3	252.1	0.652	-0.004	0.460	2.403	-0.070	0.011	0.623	0.015	0.589
468.896										
5	77.5	1.382	0.006	0.111	2.178	0.040	0.023	1.354	0.026	0.145
470.278										
276.8	2.122	-0.014	0.013	1.233	-0.035	0.195	0.620	-0.017	0.529	
470.687										
9	36.7	1.865	-0.016	0.041	2.168	-0.084	0.025	1.201	-0.048	0.211
474.262										
5	183.5	2.141	0.020	0.013	1.831	0.074	0.059	2.587	0.110	0.005
475.265										
2	183.8	2.402	0.025	0.005	2.204	0.099	0.021	2.456	0.115	0.008
476.085										
6	194.3	1.482	0.010	0.118	1.784	0.057	0.064	2.120	0.068	0.027
476.278										
2	193.9	1.615	0.013	0.073	1.504	0.054	0.130	2.141	0.080	0.026
476.470										
1	194.2	1.445	0.012	0.126	1.166	0.042	0.267	2.022	0.081	0.036
477.281										
6	194	1.592	0.013	0.078	1.467	0.053	0.141	2.138	0.080	0.026
478.346										
4	250	2.111	0.015	0.018	1.533	0.049	0.132	1.918	0.066	0.043
478.848										
3	131.6	2.330	0.017	0.007	1.911	0.063	0.043	1.938	0.066	0.035
480.812										
6	29.8	1.455	-0.013	0.094	0.977	-0.040	0.310	2.230	-0.095	0.015
480.954										
1	65.6	2.005	0.010	0.018	1.102	0.024	0.243	1.785	0.039	0.052
482.315										
4	251.2	1.214	-0.009	0.174	0.843	-0.024	0.464	2.036	-0.073	0.028
482.958										
3	65.6	1.740	0.013	0.049	2.021	0.066	0.035	1.246	0.043	0.180
484.869										
6	82.1	1.061	0.008	0.224	0.586	0.019	0.561	2.066	0.072	0.026

485.768											
6	41	1.712	-0.010	0.046	2.089	-0.053	0.031	0.996	-0.025	0.312	
490.979											
4	70.3	2.440	-0.010	0.005	2.103	-0.040	0.026	1.487	-0.028	0.116	
493.484											
7	35.3	1.608	-0.009	0.061	2.445	-0.063	0.009	1.163	-0.031	0.213	
494.257											
1	167.6	1.192	-0.010	0.170	2.022	-0.074	0.032	1.478	-0.055	0.115	
494.338											
7	196.7	2.233	-0.019	0.013	1.554	-0.060	0.104	0.802	-0.031	0.403	
495.260											
2	204.7	2.001	-0.017	0.024	1.943	-0.074	0.043	0.710	-0.025	0.508	
498.260											
8	183.1	2.096	0.017	0.018	2.154	0.081	0.026	1.528	0.055	0.130	
499.822											
1	177.5	2.065	0.010	0.025	1.518	0.035	0.119	2.352	0.056	0.012	
502.871											
4	35.5	2.164	-0.017	0.016	1.338	-0.048	0.164	1.725	-0.063	0.068	
504.873											
1	74.4	1.719	-0.011	0.061	2.011	-0.059	0.037	2.457	-0.073	0.010	
506.873											
3	71.4	0.560	-0.003	0.552	0.315	-0.008	0.771	2.413	-0.074	0.009	
507.271											
6	156.6	2.151	0.015	0.014	1.555	0.046	0.132	2.314	0.075	0.015	
507.351											
198.3	1.279	-0.009	0.275	2.049	-0.084	0.036	0.480	-0.010	0.813		
512.299											
3	200.7	2.118	0.013	0.020	2.239	0.064	0.021	2.087	0.060	0.032	
515.326											
6	35	2.012	0.017	0.019	1.181	0.045	0.218	0.975	0.037	0.315	
516.793											
2	113.3	0.531	-0.004	0.594	0.210	0.001	0.989	2.005	-0.078	0.029	
516.864											
3	49.7	0.203	-0.001	0.853	2.023	-0.067	0.031	0.304	-0.006	0.855	
524.056											
191.6	1.449	-0.013	0.102	2.182	-0.089	0.022	0.665	-0.023	0.554		
526.854											
9	81.4	2.788	0.016	0.002	2.798	0.072	0.004	2.338	0.063	0.013	
528.285											
1	210.9	1.402	-0.013	0.102	2.074	-0.087	0.028	0.803	-0.035	0.387	
529.268											
4	248.4	3.440	-0.016	0.000	3.356	-0.069	0.000	2.141	-0.045	0.022	
530.791											
9	113.5	1.894	-0.017	0.027	2.088	-0.084	0.026	2.029	-0.083	0.028	
530.888											
5	57.1	2.139	-0.011	0.022	1.555	-0.038	0.109	0.658	-0.015	0.540	
531.174											
7	221	0.810	-0.005	0.376	1.200	0.032	0.282	2.034	-0.066	0.028	
534.962											
1	56.6	1.379	-0.010	0.106	1.563	-0.050	0.097	2.318	-0.076	0.012	
537.330											
7	187.5	1.412	0.014	0.100	1.262	0.054	0.191	2.149	0.098	0.020	
540.345											
7	274.6	1.553	0.012	0.077	0.979	0.031	0.345	2.188	0.076	0.020	
541.322											
3	285.9	1.327	-0.008	0.144	2.950	-0.081	0.002	0.643	-0.017	0.514	
541.333											
7	274.1	2.530	0.013	0.003	2.019	0.045	0.035	2.431	0.056	0.009	
544.201											
8	34	1.451	0.011	0.089	1.785	0.060	0.063	2.613	0.092	0.005	
544.905											
3	57	1.616	0.014	0.058	0.811	0.032	0.398	2.569	0.105	0.005	
545.268											
3	186.1	1.907	0.018	0.026	1.247	0.050	0.212	2.697	0.118	0.003	
545.915											
58	2.107	0.013	0.013	1.296	0.035	0.170	1.810	0.051	0.049		
550.771											
6	42.6	1.128	0.003	0.285	1.298	0.019	0.200	2.578	0.039	0.007	
552.989											
1	70.9	1.646	0.007	0.089	3.229	0.066	0.001	1.131	0.022	0.261	

554.105											
5	282	0.838	-0.007	0.372	1.836	-0.075	0.054	2.040	-0.086	0.027	
554.588											
2	281.8	2.065	-0.018	0.015	2.499	-0.097	0.008	2.691	-0.108	0.003	
556.353	275.4	2.029	0.008	0.054	1.898	0.037	0.060	1.715	0.029	0.142	
557.936											
9	65.8	3.038	0.027	0.001	2.443	0.098	0.014	3.066	0.130	0.001	
558.828											
4	84.5	0.969	-0.009	0.268	2.079	-0.083	0.027	0.618	-0.025	0.506	
560.789											
1	110.1	1.738	0.014	0.044	0.550	0.020	0.569	2.194	0.083	0.017	
562.314	199.7	2.769	0.020	0.001	2.607	0.082	0.006	2.902	0.094	0.002	
563.317											
9	200.5	2.848	0.021	0.001	2.547	0.083	0.008	2.948	0.098	0.002	
567.350											
3	281.3	2.034	0.009	0.021	1.455	0.028	0.151	1.583	0.031	0.119	
576.329											
7	200.5	2.578	0.018	0.003	2.445	0.075	0.010	2.789	0.087	0.003	
577.333											
4	200.8	2.280	0.019	0.009	2.287	0.083	0.018	2.261	0.083	0.019	
578.302	218.8	1.838	0.018	0.034	2.421	0.104	0.011	1.865	0.083	0.044	
580.286											
1	199.8	2.189	0.017	0.015	1.896	0.065	0.052	1.769	0.060	0.077	
580.771											
8	107	1.304	0.007	0.130	2.033	0.051	0.031	1.318	0.034	0.153	
580.959											
2	57.8	1.099	-0.008	0.257	0.432	-0.010	0.774	2.045	-0.075	0.029	
583.757											
9	122.6	2.139	0.017	0.017	1.413	0.051	0.152	2.498	0.096	0.007	
587.317											
6	196.3	2.028	0.014	0.023	1.831	0.058	0.062	1.580	0.051	0.107	
590.857											
4	66.7	1.679	-0.013	0.065	2.460	-0.087	0.009	1.497	-0.054	0.111	
593.365											
6	172.2	1.352	0.010	0.112	2.133	0.070	0.025	0.696	0.024	0.452	
594.278											
9	288.2	1.318	-0.012	0.142	2.875	-0.125	0.002	1.048	-0.046	0.271	
594.499											
4	36.1	1.387	-0.005	0.268	2.000	-0.048	0.040	0.892	-0.009	0.695	
594.946											
8	65.8	2.330	-0.019	0.008	1.557	-0.057	0.099	1.512	-0.057	0.104	
595.287											
9	149.4	2.774	0.021	0.001	2.054	0.067	0.033	2.778	0.094	0.003	
596.291											
7	151.2	2.689	0.021	0.002	2.003	0.067	0.038	2.767	0.097	0.003	
599.781											
6	105.8	0.990	0.008	0.257	2.500	0.085	0.009	1.826	0.065	0.050	
606.377											
4	177.1	1.492	0.014	0.095	0.346	0.012	0.768	2.038	0.087	0.032	
607.917											
6	65	1.476	-0.011	0.096	2.188	-0.076	0.021	1.153	-0.041	0.226	
614.949											
9	59.9	1.154	-0.008	0.210	1.024	-0.032	0.284	2.171	-0.070	0.020	
617.325											
4	280.8	1.416	-0.009	0.115	1.772	-0.053	0.070	2.020	-0.064	0.030	
619.922											
4	59.8	2.604	-0.013	0.002	1.870	-0.043	0.049	1.693	-0.040	0.066	
620.024											
5	69.1	2.002	-0.007	0.018	1.191	-0.019	0.208	1.837	-0.030	0.047	
621.208											
7	250.7	2.040	0.013	0.017	1.925	0.053	0.041	1.510	0.043	0.102	
621.301											
8	155	1.921	0.014	0.028	1.694	0.052	0.091	2.063	0.066	0.033	
623.159											
4	217.9	0.845	-0.008	0.341	2.266	-0.093	0.017	1.216	-0.051	0.196	
625.542											
1	247.2	1.735	-0.013	0.085	2.270	-0.077	0.035	1.751	-0.058	0.120	

626.778										
5	105.8	2.619	0.021	0.002	2.173	0.076	0.023	2.116	0.076	0.024
626.956										
2	69.3	2.241	-0.012	0.008	1.549	-0.036	0.101	0.509	-0.011	0.609
630.303										
5	199.7	1.537	-0.011	0.075	1.100	-0.033	0.255	2.306	-0.074	0.012
633.036										
3	70.7	2.611	-0.012	0.003	2.785	-0.060	0.003	2.102	-0.047	0.023
635.337										
9	170.7	2.052	0.017	0.016	2.099	0.079	0.026	1.785	0.069	0.053
636.350										
6	278.1	1.751	0.014	0.041	2.286	0.079	0.015	1.171	0.041	0.218
643.289										
7	152.2	2.346	0.018	0.006	1.669	0.056	0.086	1.139	0.040	0.224
645.305										
6	156.6	2.461	0.020	0.004	1.157	0.039	0.261	2.061	0.076	0.028
647.899										
8	61.8	2.169	-0.014	0.011	1.157	-0.033	0.232	1.796	-0.053	0.051
652.345										
6	179.5	2.084	-0.014	0.015	2.088	-0.061	0.027	2.064	-0.062	0.026
653.170										
2	198.3	1.304	0.010	0.232	2.512	0.097	0.013	1.134	0.043	0.278
655.927										
4	66.3	1.658	-0.013	0.054	1.425	-0.049	0.132	2.360	-0.082	0.011
666.912										
8	67.2	0.940	-0.009	0.272	1.679	-0.067	0.075	2.054	-0.085	0.027
687.540										
1	235.9	1.958	-0.010	0.077	2.203	-0.053	0.064	1.889	-0.046	0.114
688.012										
9	68.4	2.151	-0.008	0.011	2.388	-0.040	0.011	2.066	-0.036	0.024
688.544										
8	240.7	1.946	-0.010	0.079	2.202	-0.053	0.064	1.846	-0.044	0.128
690.557										
1	260.9	1.716	-0.009	0.124	2.142	-0.057	0.056	1.637	-0.040	0.181
712.545										
3	228.6	1.661	0.009	0.060	2.013	0.051	0.040	1.110	0.028	0.255
722.894										
3	60.2	2.032	0.007	0.017	0.698	0.010	0.494	1.518	0.024	0.104
750.926										
6	60.6	1.510	0.005	0.077	0.989	0.016	0.295	2.175	0.035	0.018
755.553										
206.6	2.153	-0.018	0.029	1.778	-0.066	0.093	2.880	-0.117	0.003	
761.596										
4	271.4	1.849	-0.020	0.032	2.939	-0.142	0.002	1.417	-0.071	0.124
763.507										
221.2	1.299	-0.006	0.134	2.026	-0.041	0.031	0.938	-0.019	0.334	
763.603										
2	281.7	1.385	-0.007	0.127	2.245	-0.052	0.019	2.200	-0.053	0.017
783.674										
5	35.3	1.905	0.016	0.025	1.296	0.049	0.170	2.190	0.086	0.017
801.586										
7	239	1.449	-0.011	0.125	2.008	-0.065	0.057	1.048	-0.028	0.410
804.898										
1	61.8	1.953	0.007	0.022	0.608	0.010	0.523	2.692	0.045	0.003
810.568										
1	282.5	0.490	0.002	0.642	2.062	-0.056	0.029	0.127	-0.001	0.974
816.577										
7	246.9	1.198	-0.009	0.208	2.001	-0.073	0.043	1.256	-0.045	0.216
818.913										
5	61.9	2.305	0.007	0.007	0.481	0.004	0.749	2.287	0.033	0.013
819.596										
5	280.4	1.218	-0.011	0.162	0.413	-0.014	0.725	2.493	-0.105	0.007
824.581										
6	237.6	2.183	0.017	0.016	1.511	0.048	0.171	2.068	0.075	0.033
835.013										
5	35.9	1.770	-0.009	0.104	2.231	-0.061	0.023	1.455	-0.032	0.245
836.585										
3	197.4	2.274	-0.019	0.007	1.590	-0.058	0.093	2.177	-0.083	0.018
837.562										
241.2	1.651	-0.010	0.144	2.383	-0.071	0.027	1.557	-0.040	0.220	

838.009										
6	35.6	2.184	-0.009	0.010	1.303	-0.022	0.214	1.477	-0.028	0.112
840.144										
7	194.3	1.709	0.015	0.045	1.515	0.056	0.121	2.464	0.096	0.008
848.567										
4	206.5	0.637	0.005	0.521	0.950	0.037	0.334	2.314	0.093	0.014
871.603										
3	276.1	2.020	0.018	0.019	1.004	0.039	0.291	2.702	0.109	0.003
883.578										
1	194.5	1.254	-0.012	0.150	2.171	-0.091	0.021	2.764	-0.119	0.002
884.539										
9	221.7	1.810	-0.018	0.033	0.243	-0.008	0.847	2.259	-0.101	0.014
892.610										
7	285.1	2.061	0.017	0.019	0.209	0.006	0.867	2.043	0.080	0.028
898.642										
1	265.8	1.343	-0.009	0.150	2.740	-0.086	0.004	1.397	-0.040	0.182
928.572										
1	155.3	2.251	-0.016	0.008	1.610	-0.052	0.090	0.943	-0.029	0.345
994.628										
1	221	2.073	0.017	0.015	1.330	0.047	0.162	1.517	0.055	0.106
1023.64										
53	193.4	2.741	-0.021	0.001	2.885	-0.100	0.002	2.207	-0.078	0.017
1038.81										
3	244	2.483	-0.018	0.007	2.153	-0.063	0.056	2.613	-0.087	0.009
1051.02										
07	35.8	1.822	-0.007	0.041	1.356	-0.021	0.207	2.079	-0.037	0.026
1054.01										
66	35.7	1.753	-0.007	0.066	2.279	-0.042	0.016	0.994	-0.011	0.540
1081.65										
19	214.8	2.509	-0.020	0.003	1.825	-0.066	0.058	2.927	-0.110	0.001
1112.70										
14	214.7	2.328	-0.012	0.006	2.690	-0.062	0.004	2.276	-0.054	0.013
1233.84										
4	194.7	0.737	-0.006	0.442	2.152	-0.085	0.023	0.625	-0.014	0.710

Table S4. Annotated Metabolites within each enriched pathway based on mummichog

pathway	Name	Adduct	mz	time	vip_OP	coef_OP	vip_PYR	coef_PYR	vip_OC	coef_OC	Metabolite Annotation Confidence		
Tyrosine metabolism	3- (4-Hydroxyphenyl)pyruvate	M+2H[2+]	91.027	289	5	.3	2.970	-0.020	4.062	-0.118	2.110	-0.065	3
	3-Methoxy-4-hydroxyphenylacetaldehyde	M[1+]	166.06	261	45	.2	2.036	-0.009	2.053	-0.039	1.720	-0.034	3
	dGDP	M(C13)+2H[2+]	215.02	252	34	.1	2.200	-0.017	1.935	-0.065	2.240	-0.081	3
	3'-monoiodo-L-thyronine	M(C13)+H[1+]	401.00	61.	86	7	2.615	-0.024	0.484	-0.017	2.263	-0.098	3
	3,5,3',5'-tetraiodo-L-thyronine-beta-D-glucuronoside	M+HCOONa[1+]	1020.7	59.	04	7	2.574	0.008	1.801	0.022	2.419	0.034	3
	3-Methoxy-4-hydroxyphenylethylene glycol	M+2H[2+]	93.044	134	8	.6	2.109	0.013	2.833	0.073	2.018	0.056	3
Nitrogen metabolism	L-Asparagine	M+H[1+]	133.06	131	03	.5	1.731	0.011	2.347	0.062	1.219	0.032	3
	L-Asparagine	M(C13)+H[1+]	134.06	112	4	.7	1.576	0.010	2.137	0.054	1.138	0.028	3
	L-Asparagine	M+Na[1+]	155.04	114	27	.9	1.987	0.011	2.031	0.045	1.580	0.038	3
Vitamin B6 (pyridoxine) metabolism	Pyridoxal	M[1+]	167.05	116	66	.3	1.122	0.010	2.167	0.085	1.050	0.043	3
	Pyridoxamine	M[1+]	168.09	70.	4	70.	2.027	0.014	3.306	0.098	1.569	0.047	3
Pyrimidine metabolism	dTTP	M+2H[2+]	241.99	178	96	.9	3.096	-0.032	3.459	-0.163	2.292	-0.113	3
	ITP	M+2H[2+]	254.99	97.	93	3	1.022	-0.009	1.222	-0.046	2.015	-0.083	3
	CDP	M(C13)+H[1+]	405.02	296	5	.9	1.121	-0.011	0.487	-0.022	2.393	-0.118	3
Carnitine shuttle	Tetradecanoylcarnitine	M+H_[+1]	373.31	37	48	37	1.816	-0.017	1.505	-0.063	2.224	-0.099	3
	clupanodonyl carnitine	M+Na[1+]	496.33	58.	98	1	2.422	0.009	2.064	0.030	2.049	0.030	3
	tetracosapentaenoyl carnitine	M+Na[1+]	524.37	57.	14	1	2.156	0.009	1.659	0.024	2.070	0.035	3
	octadecenoyl carnitine	M+Na-2H[-]	445.31	66	206	66	2.604	0.031	2.731	0.149	1.369	0.077	3
	stearidonyl carnitine	M+K-2H[-]	455.24	191	2	.9	2.322	-0.016	3.046	-0.093	0.984	-0.030	3
	stearidonyl carnitine	M+K-2H[-]	455.24	68	52	52	2.027	-0.021	1.233	-0.056	2.211	-0.107	3
	Linoelaidyl carnitine	M+K-2H[-]	459.27	114	25	.9	2.185	0.021	0.753	0.024	2.421	0.108	3
	cervonyl carnitine	M+K-2H[-]	507.27	156	16	.6	2.151	0.015	1.555	0.046	2.314	0.075	3
	pentadecanoyl Coenzyme A	M+Na[1+]	1010.2	8	77	8	2.149	0.018	2.657	0.099	2.790	0.112	3
Alanine and Aspartate Metabolism	Pyruvic acid	M-H	87.008	38.	7	6	2.024	0.019	1.539	0.064	1.674	0.065	1
Aminosugars metabolism	3-Oxopropanoate	M-H+O[-]	103.00	128	37	.1	1.917	-0.016	1.415	-0.053	2.657	-0.104	3
	N-Glycoloyl-neuraminate	M+Cl137[-]	362.06	36	37	37	0.835	-0.007	1.687	-0.064	3.829	-0.150	3
Arachidonic acid metabolism	Glycerol	M+CH3COO[-]	151.06	12	275	12	1.691	-0.014	2.270	-0.086	0.869	-0.031	3
	12 hydroxy arachidonic acid	M+CH3COO[-]	378.23	241	92	.7	1.821	-0.012	2.125	-0.068	1.807	-0.057	3
Arginine and Proline Metabolism	L-Methionine	M+Cl[-]	184.01	36.	94	6	2.124	0.015	3.676	0.111	1.680	0.051	3

	N-(L-Arginino)succinate	M+Cl37[-]	327.09 05	36. 5	2.308	-0.017	1.726	-0.053	1.383	-0.043	3
Ascorbate (Vitamin C) and Aldarate Metabolism	L-Gulonate	M-H2O-H[-]	177.04 05	282. .6	2.586	-0.016	3.683	-0.102	2.456	-0.071	3
	D-Glucarate	M-H+O[-]	225.02 42	68. 5	2.222	-0.012	1.147	-0.028	0.696	-0.017	3
	5,6-Dihydroxyindole-2-carboxylate	M+Cl37[-]	228.99 44	28. 4	2.688	0.024	0.728	0.030	1.566	0.066	3
Beta-Alanine metabolism	Beta-Alanine	M-H	88.040 4	47 41.	2.466	0.018	2.904	0.096	2.473	0.082	3
	Dihydroxyacetone	M+Cl[-]	125.00 11	41. 6	1.884	0.015	1.389	0.050	2.379	0.087	3
	L-Histidine	M-H[-]	154.06 23	50. 6	1.850	0.014	2.651	0.091	1.692	0.060	1
Butanoate metabolism	2-Methyl-3-oxopropanoate	M+CH3COO[-]	161.04 56	278 .2	0.679	-0.005	0.766	-0.025	2.504	-0.086	3
	4-Hydroxybutanoic acid	M+CH3COO[-]	163.06 13	136 .8	0.763	-0.007	0.532	-0.023	2.024	-0.089	3
Fatty acid activation	Octanoic acid	M+CH3COO[-]	203.12 9	91. 6	2.816	-0.023	2.372	-0.087	1.932	-0.073	3
	pentadecanoate	M(C13)-H[-]	241.21 47	219 .1	1.851	-0.017	2.336	-0.104	0.983	-0.042	3
	Elaidic acid	M-H	281.24 85	246 244	1.694	-0.012	2.002	-0.062	1.647	-0.050	1
	(9E)-Octadecenoic acid	M+HCOO[-]	327.25 41	240 .5	1.747	-0.012	2.087	-0.067	1.689	-0.052	3
	Phytanate	M-H+O[-]	327.29 12	240 .2	1.292	-0.011	2.651	-0.108	1.061	-0.044	3
	(9E)-Octadecenoic acid	M+CH3COO[-]	341.26 99	232 .9	1.770	-0.012	2.080	-0.066	1.697	-0.052	3
Fructose and mannose metabolism	Galactose	M-2H[2-]	89.024 4	41. 1	1.951	0.018	1.504	0.062	2.356	0.098	3
	3-beta-D-Galactosyl-sn-glycerol	M-H+O[-]	269.08 78	45. 7	2.329	0.017	1.423	0.046	2.040	0.066	3
Glycerophospholipid metabolism	CMP-2-aminoethylphosphonate	M-H+O[-]	445.05 37	76. 8	1.400	-0.011	0.299	-0.007	2.174	-0.075	3
	CMP-2-aminoethylphosphonate	M+Na-2H[-]	450.03 7	48. 6	1.491	-0.015	1.351	-0.062	2.001	-0.096	3
Glycine, serine, alanine and threonine metabolism	Phosphocreatine	M+Br[-]	289.95 65	66. 4	1.588	0.008	1.394	0.032	2.584	0.061	3
	Dihydroxyacetone	M+Cl37[-]	126.99 82	42 77.	2.015	0.016	1.525	0.057	2.450	0.092	3
Glycolysis and Gluconeogenesis	2,3-Bisphospho-D-glycerate	M-H+O[-]	280.94 8	77. 7	2.523	-0.013	2.402	-0.057	2.563	-0.063	3
	S-acetyldihydrolipoyllysine	M+ACN-H[-]	289.10 59	26. 5	1.254	0.008	0.467	0.014	2.261	0.070	3
Methionine and cysteine metabolism	2-keto-4-methylthiobutyrate	M+Cl[-]	182.98 88	54. 7	2.110	0.016	0.963	0.034	1.890	0.069	3
	Adenosine 5'-phosphosulfate	M+K-2H[-]	462.96 33	89. 9	2.036	-0.010	1.862	-0.041	2.323	-0.052	3
N-Glycan biosynthesis	Isopentenyl diphosphate	M+Cl[-]	280.97 41	183 .1	1.918	-0.005	1.397	-0.016	2.069	-0.023	3
Pentose phosphate pathway	L-Gulonate	M+Na-2H[-]	216.02 46	40. 5	0.845	-0.008	1.236	-0.056	2.129	-0.100	3
Prostaglandin formation from arachidonate	Prostaglandin B1	M+HCOO[-]	381.23 12	168 .3	2.236	-0.022	1.200	-0.053	1.911	-0.087	3
	Prostaglandin E2 ethanolamide	M-H+O[-]	410.25 75	200 .6	2.281	-0.014	1.274	-0.036	2.057	-0.062	3
	(5Z)-(15S)-11alpha-Hydroxy-9,15-dioxoprostanoate	M+Br81[-]	433.14 03	263 .5	2.404	-0.013	3.206	-0.078	1.846	-0.045	3
	15-oxo-Prostaglandin E2 glyceryl ester	M+Cl37[-]	461.20 79	175 .2	3.474	0.025	2.899	0.094	2.874	0.096	3

Pyruvate Metabolism	Dihydroxyacetone	M-H[-]	90.027 7	41. 3	2.092	0.019	1.539	0.063	2.519	0.106	3
Selenoamino acid metabolism	Dithiothreitol	M-H+O[-]	168.99 93	290 .5	1.675	0.012	0.300	0.010	2.208	0.074	3
	Oxidized dithiothreitol	M+Br81[-]	232.91 37	107 .7	2.722	-0.013	3.464	-0.072	2.753	-0.059	3
Starch and Sucrose Metabolism	Cellobiose	M+Na-2H[-]	362.08 06	48	0.836	-0.005	1.014	-0.038	2.006	-0.075	3
Vitamin K metabolism	Phylloquinone	M+Br[-]	529.26 84	248 .4	3.440	-0.016	3.356	-0.069	2.141	-0.045	3
	Vitamin K1 epoxide	M+Br[-]	545.26 83	186 .1	1.907	0.018	1.247	0.050	2.697	0.118	3

Table S5. Enriched pathways associated with pesticide exposures

Pathways	Overlap size	Pathway size	Ratio	P-value	Platform	Pesticide
Tyrosine metabolism	6	156	0.038	0.048	HILICpos	Organophosphate
Beta-Alanine metabolism	6	34	0.076	0.000	C18neg	Organophosphate
Glutamate metabolism	5	33	0.052	0.003	C18neg	Organophosphate
Carnitine shuttle	6	53	0.013	0.005	C18neg	Organophosphate
Glycine, serine, alanine and threonine metabolism	9	117	0.077	0.009	C18neg	Organophosphate
Prostaglandin formation from arachidonate	7	79	0.089	0.010	C18neg	Organophosphate
Histidine metabolism	5	45	0.011	0.011	C18neg	Organophosphate
Arginine and Proline Metabolism	7	82	0.085	0.011	C18neg	Organophosphate
Alanine and Aspartate Metabolism	5	46	0.009	0.012	C18neg	Organophosphate
Pyruvate Metabolism	3	24	0.025	0.028	C18neg	Organophosphate
Ascorbate (Vitamin C) and Aldarate Metabolism	5	62	0.081	0.031	C18neg	Organophosphate
Butanoate metabolism	5	64	0.078	0.034	C18neg	Organophosphate
Methionine and cysteine metabolism	7	109	0.064	0.037	C18neg	Organophosphate
Fatty acid oxidation, peroxisome	2	13	0.054	0.045	C18neg	Organophosphate
Glycolysis and Gluconeogenesis	4	49	0.082	0.048	C18neg	Organophosphate
Glycine, serine, alanine and threonine metabolism	6	75	0.080	0.056	HILICpos	Pyrethroid
Beta-Alanine metabolism	4	34	0.018	0.025	C18neg	Pyrethroid
Arachidonic acid metabolism	5	53	0.094	0.030	C18neg	Pyrethroid
Phytanic acid peroxisomal oxidation	3	22	0.036	0.033	C18neg	Pyrethroid
Fatty acid activation	5	59	0.085	0.040	C18neg	Pyrethroid
Carnitine shuttle	4	45	0.089	0.010	HILICpos	Organochlorine
Pyrimidine metabolism	4	74	0.054	0.042	HILICpos	Organochlorine
Glycolysis and Gluconeogenesis	8	49	0.063	0.000	C18neg	Organochlorine
Galactose metabolism	7	44	0.059	0.000	C18neg	Organochlorine
Pentose phosphate pathway	7	50	0.040	0.002	C18neg	Organochlorine
Fructose and mannose metabolism	5	28	0.079	0.002	C18neg	Organochlorine
Propanoate metabolism	5	33	0.052	0.005	C18neg	Organochlorine
Vitamin K metabolism	2	4	0.000	0.005	C18neg	Organochlorine
Glycine, serine, alanine and threonine metabolism	10	117	0.085	0.009	C18neg	Organochlorine
Sialic acid metabolism	5	37	0.035	0.009	C18neg	Organochlorine
N-Glycan Degradation	3	14	0.014	0.011	C18neg	Organochlorine
Starch and Sucrose Metabolism	3	14	0.014	0.011	C18neg	Organochlorine

Hexose phosphorylation	4	28	0.1	0.015		Organochlor
			43	63	C18neg	ine
			0.0	0.017		Organochlor
Glycerophospholipid metabolism	9	111	81	73	C18neg	ine
			0.0	0.025		Organochlor
Butanoate metabolism	6	64	94	71	C18neg	ine
			0.1	0.026		Organochlor
Glutamate metabolism	4	33	21	47	C18neg	ine
			0.1	0.026		Organochlor
Selenoamino acid metabolism	4	33	21	47	C18neg	ine
			0.1	0.028		Organochlor
Beta-Alanine metabolism	4	34	18	57	C18neg	ine
			0.1	0.040		Organochlor
Caffeine metabolism	3	23	30	08	C18neg	ine
			0.1	0.044		Organochlor
N-Glycan biosynthesis	3	24	25	37	C18neg	ine
			0.1	0.044		Organochlor
Pyruvate Metabolism	3	24	25	37	C18neg	ine
			0.1	0.046		Organochlor
Aminosugars metabolism	4	40	00	38	C18neg	ine

Table S6. Enriched metabolic pathways associated with xMWAS cluster 1 (OP)

Pathways	Overlap size	Pathway size	P-value	Platform
Pyrimidine metabolism	3	74	0.016 13	HILICp os
Aspartate and asparagine metabolism	3	98	0.034 7	HILICp os
Glycerophospholipid metabolism	3	109	0.045 63	HILICp os
Beta-Alanine metabolism	5	34	0.000 17	C18neg
Glutathione Metabolism	3	12	0.000 17	C18neg
Histidine metabolism	4	45	0.001 09	C18neg
Glycine, serine, alanine and threonine metabolism	6	117	0.001 09	C18neg
Glutamate metabolism	3	33	0.004 12	C18neg
Arachidonic acid metabolism	3	53	0.011 6	C18neg
Arginine and Proline Metabolism	3	82	0.030 33	C18neg

Table S7. Enriched metabolic pathways associated with xMWAS cluster 2 (PYR, OC)

Pathways	Overlap size	Pathway size	P-value	Platform
Saturated fatty acids beta-oxidation	4	17	0.000 25	HILICp os
Di-unsaturated fatty acid beta-oxidation	4	20	0.000 34	HILICp os
Carnitine shuttle	3	45	0.010 92	HILICp os
Fatty Acid Metabolism	3	50	0.013 19	HILICp os
Pentose phosphate pathway	2	50	0.020 17	C18neg
Ascorbate (Vitamin C) and Aldarate Metabolism	2	62	0.028 23	C18neg
Butanoate metabolism	2	64	0.030 17	C18neg

Supplemental Table S8. Pathway enrichment analysis for features associated with all three pesticides in xMWAS

Pathways	Overlap size	Pathway size	P-value	Platform
Di-unsaturated fatty acid beta-oxidation	3	20	0.0014	HILICpos
Carnitine shuttle	3	45	0.0093	HILICpos
Selenoamino acid metabolism	2	33	0.0105	C18neg
Glutamate metabolism	2	33	0.0105	C18neg
Beta-Alanine metabolism	2	34	0.0108	C18neg
Histidine metabolism	2	45	0.0170	C18neg
Pentose phosphate pathway	2	50	0.0202	C18neg
Ascorbate (Vitamin C) and Aldarate Metabolism	2	62	0.0266	C18neg
Butanoate metabolism	2	64	0.0286	C18neg