

Supporting Information

Sustainable strategy based on induced precipitation for the purification of phycobiliproteins

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Figures

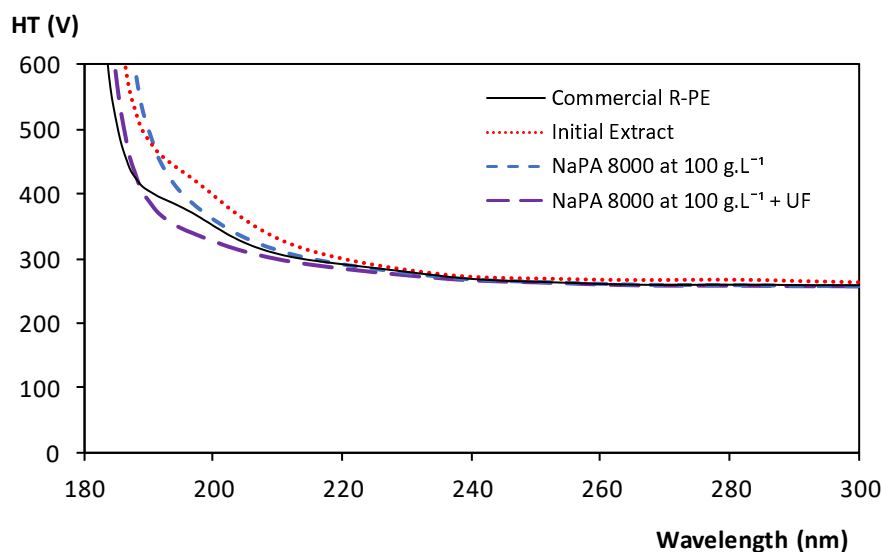


Figure S1. High-tension voltage graph of the circular dichroism spectra displayed regarding the initial extract (dotted line), resuspended pellet after precipitation using NaPA 8000 at 100 g.L⁻¹ (smaller dashed line), and resuspended pellet after precipitation using NaPA 8000 at 100 g.L⁻¹ followed by an UF step (larger dashed line), and commercial R-PE from Sigma-Aldrich (solid line).

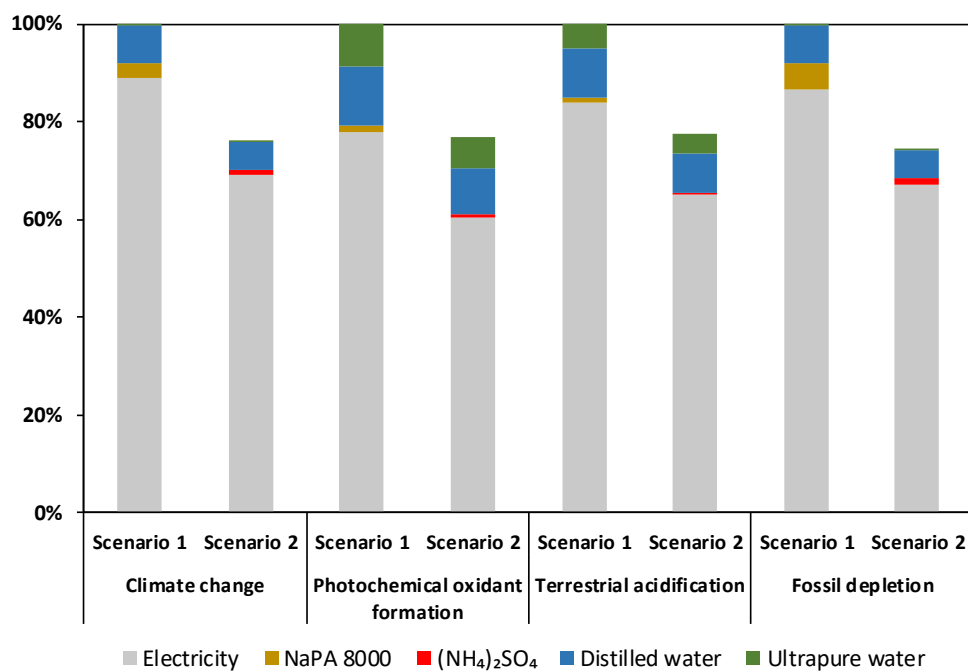


Figure S2. Relative contribution of the inputs for the life cycle assessment results. Scenario 1 with NaPA 8000 and Scenario 2 with (NH₄)₂SO₄.

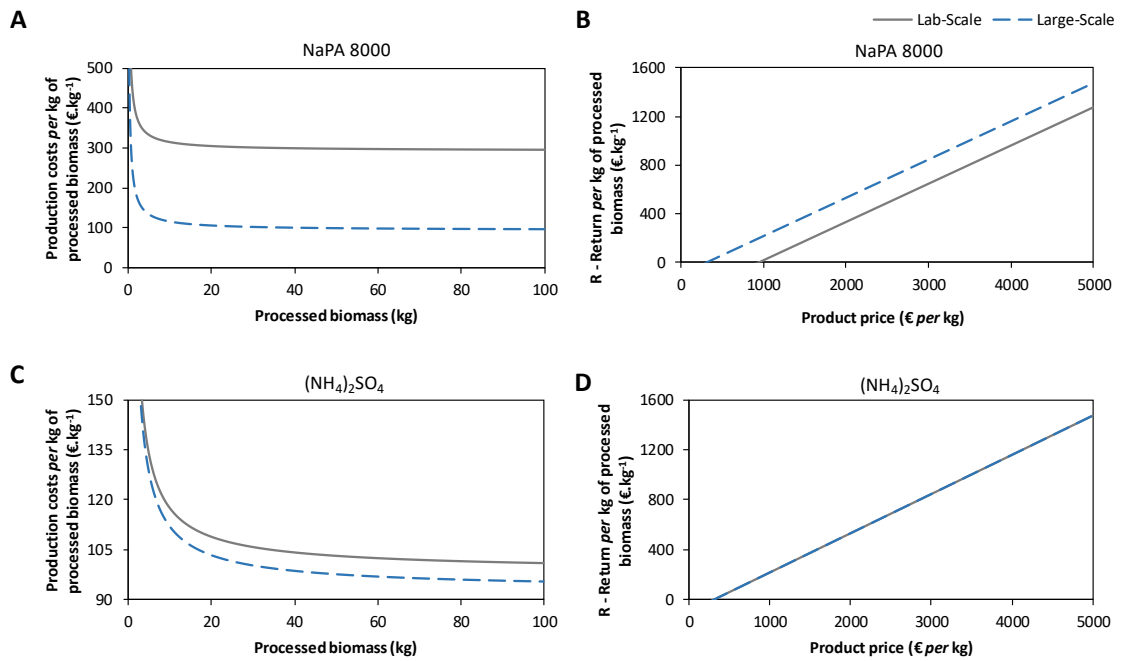


Figure S3. Impact on the production cost of using laboratory and large-scale prices for the calculation of the CoG.kg⁻¹ of biomass and the Return. Results for NaPA 8000 are presented in A) and B) for the CoG.kg⁻¹ of biomass and Return, respectively. Results for $(\text{NH}_4)_2\text{SO}_4$ are presented in C) and D) for the CoG.kg⁻¹ of biomass and Return, respectively. Solid lines are for laboratory prices and dashed lines for large-scale prices. Results presented in D) show two lines that are almost overlapped, denoting the reduced impact on the prices of the materials in the Return for the case of $(\text{NH}_4)_2\text{SO}_4$.

Tables

Table S1. Inputs of chemicals, water and electricity for obtaining 1 mg of R-PE in both scenarios under study. Scenario 1 using NaPA 8000 and Scenario 2 using $(\text{NH}_4)_2\text{SO}_4$ as precipitating agents.

	Scenario 1	Scenario 2
Inputs: Solid-liquid extraction		
Distilled water (mL)	1.39	1.10
Electricity (W.h)	2.91	2.31
Inputs: Purification		
NaPA 8000 (45 wt%)	0.39	-
$(\text{NH}_4)_2\text{SO}_4$ (g)	-	0.28
Distilled water (mL)	1.61	1.24
Ultrapure water (mL)	4.64	3.59
Electricity (W.h)	23.23	17.97
Outputs		
R-PE (mg)	1	1

Table S2. Process and economic parameters for the construction of the economic model. For the recovery yield of each operation, as the experimental work obtained the overall recovery yield for the process, it was decided for all operations to have 100 %, while the precipitation will capture the overall recovery yield. For economic-related calculation this does not make any difference in the results. Duration shown is for the process to take place, additional time will be required for preparation and cleaning but that occurs simultaneously during previous operations. Size/volume/flow rate change accordingly for each scale analyzed to meet the duration fixed. Price for large-scale NaPA 8000 is complicated to obtain as in Alibaba, it does not clarify molecular weight, so the average of three products was used as a reference in this work. Equations for cost calculations were constructed using prices in US dollars, and then they were changed to Euro by a factor of 1 US \$ = 0.85 € (consulted on July 31st, 2020).

Unit Operations	Process Parameters	Equipment Cost
Solid-liquid extraction	Solid-liquid ratio: 1:2 Recovery yield: 100 % Duration: 20 min	Stirred-Tank: $Cost [US \$] = Volume [L]$ $\times 42.195$ $+ 3035.2$

Centrifugation (Biomass Removal)	Recovery yield: 100 % Duration: 1 h	Centrifuge: <i>Cost [US \$]</i> $= 426720 \times \frac{Flow [L \cdot h^{-1}]^{0.4}}{600}$
Mixing with precipitant	Recovery yield: 100 % Duration: 4 h NaPA 8000: 100 g.L ⁻¹ (NH ₄) ₂ SO ₄ : 200 g.L ⁻¹	Stirred-Tank: <i>Cost [US \$] = Volume [L]</i> $\times 42.195$ $+ 3035.2$
Centrifugation (induced precipitation)	Recovery yield: 100 % Duration: 1 h	Centrifuge: <i>Cost [US \$]</i> $= 426720 \times \frac{Flow [L \cdot h^{-1}]^{0.4}}{600}$
Resuspension (dissolve precipitate)	Recovery yield: 100 % Duration: 1 h Volume: Same as before centrifugation	Stirred-Tank: <i>Cost [US \$] = Volume [L]</i> $\times 42.195$ $+ 3035.2$
UF/Diafiltration	Flux: 4 L.h ⁻¹ .m ⁻² Diavolumes: 5 (water) Recovery yield: 100 % Duration: 4 h	Ultrafiltration/diafiltration device: <i>Cost [US \$]</i> $= 91036 \times (Area [m^2])^{0.3741}$
Materials		
NaPA 8000	Lab-scale: € 512 <i>per kg</i> Large-scale: € 2.65 <i>per kg</i>	Lab-scale: Sigma-Aldrich (416029) Large-scale: Alibaba (Average of: shorturl.at/hij19 ; shorturl.at/loxKN ; shorturl.at/agoLV)
(NH ₄) ₂ SO ₄	Lab-scale: € 18.8 <i>per kg</i> Large-scale: € 1.72 <i>per kg</i>	Lab-scale: Sigma-Aldrich (1012179050) Large-scale: Alibaba (shorturl.at/jADU8)
Consumables		
Vessel filters	Size: Depends on the vessel size, which in turn depends on the scale being analyzed Re-uses: 1	Vessel filter cost: <i>Cost [US \$]</i> $= 0.3058 \times (Tank Volume)$ $+ 45.334$

Ultrafiltration Membrane	Area: the area needed is calculated by considering the volume to process, diavolumes and flux Re-uses: 10	Ultrafiltration membrane cost: $Cost [US \$] = Area (m^2) \times \left(\frac{5259.046}{1.14}\right)$
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Table S3. Hydrophilic-lipophilic balance of each copolymer used.

Copolymer	Hydrophilic-lipophilic balance	Reference
Pluronic PE 6800	29	1
Pluronic PE 6400	15	1
Pluronic 17R4	7.0 - 12.0	2
Pluronic PE 6200	7	1
Pluronic P123	7 - 9	3
Pluronic L81	1.0 - 7.0	4

Table S4. Detailed data of the purity and yield (%) obtained in different fractions (*i.e.* initial extract, and resuspended pellets after precipitation using $(\text{NH}_4)_2\text{SO}_4$ at 200 g.L^{-1} , $(\text{NH}_4)_2\text{SO}_4$ at 200 g.L^{-1} followed by an UF step, NaPA 8000 at 100 g.L^{-1} , NaPA 8000 at 100 g.L^{-1} followed by an ultrafiltration step, and lastly initial extract purified by an ultrafiltration step) separately for R-PE and R-PC. Analysis performed by HPLC-DAD.

	Purity (%)			Yield (%)	
	R-PE	R-PC	Phycobiliproteins (R-PE + R-PC)	R-PE	R-PC
Initial extract	4.4 ± 1.0	3.2 ± 1.5	7.4	-	-
$(\text{NH}_4)_2\text{SO}_4$ at 200 g.L^{-1}	35.0 ± 2.4	18.5 ± 1.2	53.4	100.0 ± 2.6	81.1 ± 1.3
$(\text{NH}_4)_2\text{SO}_4$ at 200 g.L^{-1} + UF	68.8 ± 5.0	20.7 ± 2.4	89.5	100.0 ± 8.7	57.77 ± 0.28
NaPA 8000 at 100 g.L^{-1}	50.5 ± 7.4	-	50.5	79.5 ± 3.6	-
NaPA 8000 at 100 g.L^{-1} + UF	87.32 ± 0.90	-	87.3	79.5 ± 1.8	-
Initial extract + UF	29.6 ± 2.0	9.7 ± 2.0	39.4	100.0 ± 3.0	72.1 ± 3.0

Table S5. Data obtained in the Monte Carlo simulation.

NaPA 8000							(NH ₄) ₂ SO ₄						
	R-PE content	Overall Recovery Yield	Materials Discount	Process Duration	0.01 kg CoG.mg ⁻¹	100 kg CoG.mg ⁻¹		R-PE content	Overall Recovery Yield	Materials Discount	Process Duration	0.01 kg CoG.mg ⁻¹	100 kg CoG.mg ⁻¹
1	2.919256	-21.3404	4.918737	4.788512	107.5609	1.654121	1	4.079489	-11.389	5.409151	8.991537	60.03452	0.158467
2	4.508999	10.04028	8.110671	3.048164	71.86338	1.104721	2	3.485766	-18.187	4.88191	0.926288	62.8305	0.174363
3	8.995706	-6.68256	7.790545	4.32999	43.0251	0.656635	3	2.122141	-2.43167	1.266451	2.35279	24.82246	0.16506
4	0.357671	8.032359	1.852473	1.017459	214.4975	3.796332	4	4.818541	0.670222	3.771204	1.973736	28.90086	0.092795
5	2.811125	23.097	2.248828	9.28458	34.49502	0.501121	5	3.413123	0.896233	0.675157	7.80368	12.56139	0.102002
6	2.986782	-8.84413	2.562115	3.741296	46.44721	0.746189	6	2.305487	0.259269	6.798953	1.582637	107.2119	0.251882
7	4.254897	16.0651	1.657474	4.003682	16.48474	0.271795	7	4.049128	3.072738	5.887987	4.774642	53.33512	0.134735
8	0.969296	-9.77333	4.825936	1.677406	255.1114	4.055793	8	5.793949	-3.18374	0.654724	4.79678	6.301128	0.058994
9	4.996787	21.12177	9.154753	4.103114	65.42413	0.996518	9	3.130228	-5.88103	2.458095	1.660943	31.44447	0.132649
10	2.019293	-22.06	6.332978	4.951529	200.3208	3.057156	10	3.087326	-3.10698	4.383536	2.590287	54.78655	0.161204
11	3.932625	1.00694	3.621433	6.598253	44.65755	0.677123	11	1.652886	-12.7169	0.821905	4.222888	27.83115	0.23298
12	1.626066	2.186505	1.530524	4.554423	48.05582	0.784784	12	7.998362	-6.47998	6.005386	1.380348	29.34924	0.073157

13	2.299768	0.63265	1.772344	1.968373	36.07715	0.625442	13	3.182894	-6.80122	0.24902	3.62597	6.063326	0.103009
14	4.867334	-3.05434	4.300774	2.996511	42.20526	0.665347	14	7.141014	-0.77914	3.049103	1.270635	15.90398	0.058375
15	6.474509	9.036686	1.474525	3.064789	10.21288	0.175178	15	1.296841	0.458728	2.434238	4.090853	74.7469	0.310736
16	4.476277	6.700349	1.94772	2.861914	19.33522	0.323794	16	2.842384	1.705809	7.392262	7.942687	98.32262	0.22503
17	1.915185	-14.3345	3.593243	3.489476	106.9252	1.6908	17	0.88114	-1.41539	8.106655	3.002661	343.4289	0.748572
18	1.422753	1.760297	5.170452	8.373315	172.4953	2.561408	18	2.710633	-13.0347	3.925917	8.03223	68.45729	0.212345
19	1.478412	-22.71	1.254112	1.050432	55.19661	1.044702	19	1.208643	-5.79572	8.450102	1.414715	270.0001	0.576369
20	1.312504	-13.9578	2.691188	1.770627	114.0546	1.894733	20	1.617542	-9.01869	0.9297	0.80172	24.24437	0.215687
21	1.820316	-18.9199	1.321983	6.032743	54.2828	0.854956	21	4.911208	-18.657	1.73557	2.735733	17.45895	0.092196
22	8.128288	-7.05391	6.895129	0.906879	41.2523	0.647703	22	3.199848	0.05133	0.621226	0.968813	7.769924	0.094801
23	6.061083	-4.75683	2.78151	0.821	21.88458	0.368896	23	2.883809	0.929513	4.331142	3.478369	56.30058	0.166625
24	8.227182	4.486261	6.28416	2.496528	32.58473	0.50734	24	2.182779	-11.7545	5.916156	1.604074	112.8872	0.283554
25	3.654967	-20.4294	6.007288	2.928892	100.2561	1.558122	25	4.549988	-0.13071	6.034388	2.785519	49.15031	0.122428
26	0.851887	-18.0838	2.459103	3.27378	178.4751	2.901808	26	4.099018	1.751199	5.689409	3.523861	50.97042	0.130784
27	5.604332	-8.34719	0.316363	2.285233	4.106125	0.099372	27	0.747949	-14.6725	6.835219	3.028463	398.6776	0.936643
28	1.009872	-1.53502	2.333935	5.914558	120.554	1.865896	28	3.113445	-9.08038	2.294481	4.650562	33.25109	0.142749
29	1.367452	-4.90147	0.886026	1.070591	32.87886	0.672039	29	7.693773	-0.86869	3.091767	0.329346	14.67848	0.053659

30	1.647614	17.70917	1.287982	8.165076	39.61271	0.5857	30	0.792074	-20.3345	4.054288	2.047746	241.1509	0.742125
31	0.811481	-10.2026	4.384889	4.46773	290.3394	4.496302	31	8.631689	-0.63745	1.487183	2.918664	7.069864	0.041401
32	3.580409	2.449537	1.308692	2.148127	17.28074	0.310903	32	1.574655	-5.62485	2.913507	3.097057	75.67869	0.28305
33	1.022721	22.11243	2.49841	2.409597	89.31366	1.475566	33	1.906357	-19.587	2.821525	4.390044	73.80871	0.279483
34	4.719161	-5.43521	1.830384	5.267022	21.71312	0.344158	34	3.661908	-6.623	5.108066	1.055245	54.54137	0.147708
35	2.575289	-9.83813	4.055566	2.087755	81.63216	1.305706	35	8.151956	-7.15109	5.801251	0.228676	27.67598	0.070102
36	2.093729	-23.5813	3.639555	2.600061	113.6616	1.818344	36	9.040537	-22.6513	6.412388	3.795649	34.64358	0.083936
37	0.934594	4.253232	8.801966	4.43525	405.4569	6.168795	37	1.406889	-3.3586	4.789764	4.060435	133.8878	0.375223
38	3.150081	11.27542	2.715887	3.924842	36.29914	0.579092	38	2.454027	-24.3226	1.431467	1.718203	30.41362	0.188016
39	3.691457	11.79606	6.690566	1.85074	70.58763	1.101816	39	1.884122	-2.15981	1.572286	2.400068	33.89273	0.192928
40	2.542366	10.27533	5.049535	3.416792	80.66702	1.256641	40	6.072274	-0.75284	0.830823	5.01907	6.995746	0.056399
41	4.358756	15.30221	4.417075	0.244574	37.49619	0.60972	41	1.188168	-11.4586	5.320465	6.699321	197.9782	0.526186
42	6.244786	2.886577	6.655869	0.309733	45.33294	0.716411	42	3.253058	-0.68245	2.723741	4.616979	33.76065	0.130428
43	3.396627	-1.32596	1.565503	3.517215	23.62516	0.397063	43	6.679018	-22.2047	3.006699	2.010655	21.99062	0.08112
44	3.352006	3.021185	3.232055	4.766409	44.71876	0.697677	44	1.803683	1.176424	6.29958	1.512682	125.8479	0.306504
45	1.870727	-12.0469	6.991855	7.578917	207.0156	3.094689	45	1.229165	-12.6725	2.658634	1.568935	93.1332	0.373116
46	9.353996	-2.21867	4.502969	3.160042	22.75087	0.357173	46	7.568958	-14.4535	3.213902	1.40128	18.4881	0.065582

47	3.451436	-2.69991	6.253223	6.378553	87.80972	1.325341	47	3.615433	-3.77037	5.282112	1.914666	55.92675	0.148855
48	7.85884	7.70337	2.08954	3.02229	11.66107	0.193227	48	3.002313	-20.1235	4.689673	8.596895	79.69111	0.225515
49	1.505547	10.76887	1.544165	7.278854	51.80415	0.784451	49	3.070648	-5.93467	2.403785	1.088358	30.91901	0.133142
50	3.097665	13.45599	5.410806	1.887099	67.13155	1.058188	50	2.867606	-9.4062	4.115218	1.811888	58.83018	0.179563
51	1.088829	6.291349	5.775647	5.368653	228.9084	3.488006	51	3.495718	-11.3477	1.045503	3.777071	15.19888	0.110642
52	2.961133	-12.5906	2.847735	1.909342	52.43561	0.864244	52	1.753682	-5.98959	1.058403	0.947817	24.63023	0.196321
53	1.415204	-1.19928	5.918016	3.203402	193.0779	2.995343	53	1.054972	0.167237	4.22778	0.866539	145.6596	0.438291
54	1.83444	-6.0781	7.284049	2.472549	193.0371	2.989248	54	1.775564	-16.5648	5.677674	2.541804	142.8967	0.366719
55	5.277017	-25.3125	0.908628	4.974446	15.06011	0.252173	55	6.042994	-5.48652	0.63351	1.456799	4.649545	0.053935
56	3.469086	5.398844	6.602407	2.648928	80.33378	1.246849	56	0.911897	-11.0582	3.829339	1.739991	175.6805	0.559298
57	3.140631	7.116658	3.188513	6.124656	46.03031	0.704129	57	0.826612	-6.67955	7.900737	0.912198	371.5071	0.814976
58	2.415825	-16.2986	4.437789	3.444224	106.6417	1.669957	58	2.501943	2.74666	3.676989	3.701068	54.79484	0.177798
59	4.889873	5.011137	4.524009	5.046682	40.99702	0.630228	59	2.934638	0.096173	0.461017	1.108603	6.627453	0.101212
60	4.411409	8.413704	4.269241	6.20171	42.05824	0.639146	60	3.279821	-8.4704	2.442805	4.866516	33.29664	0.137249
61	0.982475	-26.167	5.072907	5.407729	361.4367	5.520163	61	2.290499	-7.63256	6.43049	4.529295	114.6495	0.277697
62	3.379169	-10.6942	1.418891	8.949709	30.00784	0.43484	62	5.924512	-19.0769	2.466689	2.191382	19.79699	0.082929
63	8.684915	3.517008	2.127003	2.18587	11.00579	0.185665	63	1.075141	-7.33222	3.877437	1.022254	142.7417	0.451792

64	1.015508	14.66209	4.906004	4.022963	188.724	2.925172	64	8.187347	-5.09938	3.075078	3.263028	15.26978	0.055193
65	0.514362	3.971967	2.058631	5.242696	195.1912	3.078243	65	4.475076	-2.08587	5.932049	2.130679	49.81477	0.125034
66	1.79042	-4.52133	3.611285	5.512546	103.2482	1.588087	66	2.153301	-6.07559	3.267223	1.182698	59.62025	0.209506
67	2.131212	15.55203	3.509407	8.01047	69.42443	1.033711	67	2.41495	-16.8189	7.487965	2.654788	138.1199	0.311277
68	3.95168	-6.23078	6.188398	2.754638	76.80752	1.194069	68	5.275612	-11.2771	4.145922	3.980852	34.0422	0.103151
69	0.231896	-7.15576	7.131762	2.162842	1513.976	23.51507	69	2.09289	-10.9886	6.021635	1.892408	119.0904	0.296635
70	0.616591	12.53931	8.137675	6.686301	527.2587	7.923055	70	2.605551	-11.8678	7.60855	1.856025	121.5351	0.271553
71	1.618334	-0.78747	5.787655	7.213415	171.4318	2.571537	71	4.442554	-9.34219	6.481338	0.397727	58.24993	0.139707
72	2.695723	11.47087	1.998934	3.591038	31.81694	0.522155	72	6.371888	-0.31348	0.972058	0.434257	5.694537	0.049685
73	2.108343	1.168252	3.838786	4.5004	84.83235	1.319537	73	1.855725	3.194373	2.764486	3.569674	56.31555	0.217014
74	6.55939	3.743502	2.880087	0.619973	18.70486	0.315242	74	3.422965	-18.2969	4.802212	4.831531	66.43768	0.185915
75	1.394237	-15.614	1.172076	1.486416	49.90862	0.939746	75	1.928653	-2.9531	6.268516	7.723106	130.3226	0.320733
76	3.524508	3.882526	5.54151	8.790235	72.58417	1.074278	76	0.328279	1.877741	6.619279	3.20974	732.9596	1.748193
77	7.272421	12.88478	6.019995	3.973703	32.6311	0.502631	77	3.523484	1.447388	0.789183	6.473319	12.34616	0.09719
78	2.025642	7.540682	1.649713	3.32758	37.00593	0.622196	78	8.090515	-13.6419	3.382803	3.071	18.57775	0.063432
79	1.436221	-18.596	5.436028	3.399281	225.8644	3.508978	79	7.595751	-11.5701	2.739623	7.406308	17.41383	0.065945
80	8.476605	-24.8389	6.396485	3.186439	49.77232	0.770117	80	3.165983	-10.1483	8.492476	1.928955	109.2736	0.233061

81	3.902996	-1.45321	1.151686	3.847013	16.09409	0.276021	81	1.14164	-14.8076	0.407069	3.334036	23.71119	0.320767
82	5.340034	14.90132	0.797584	2.027841	6.465838	0.128011	82	3.028113	-3.15508	4.310816	1.951314	54.47098	0.161886
83	5.443293	-5.04694	5.036467	2.795558	44.97487	0.705108	83	1.470036	3.733214	5.359135	1.682581	128.6432	0.339791
84	5.140093	-11.3232	8.749064	3.712568	89.5769	1.368782	84	1.892107	-0.45267	1.185902	1.075415	24.09631	0.174878
85	6.120137	-15.3632	3.135803	6.651648	31.73193	0.481804	85	5.377432	-6.30418	2.014192	3.054361	15.89077	0.075497
86	3.616473	-5.14057	3.15264	2.624454	43.18487	0.697406	86	1.914364	-15.6334	0.951143	2.695148	25.49646	0.205698
87	2.736311	5.642831	9.497294	2.536033	144.8179	2.223051	87	3.209381	-14.1072	4.745641	6.213063	67.70967	0.190585
88	3.644766	20.97558	1.356118	4.697989	15.85568	0.260084	88	2.477947	-4.40044	4.015585	3.496093	64.56673	0.199313
89	1.196276	-4.28798	2.706999	3.25664	113.3567	1.830761	89	4.982534	-16.0174	4.095636	5.115539	38.40439	0.11697
90	2.56657	-14.7205	7.761419	3.619219	167.9444	2.57532	90	4.496009	-13.1111	3.858613	6.291954	39.60931	0.124386
91	2.478829	-6.32909	2.225613	2.584478	46.13851	0.767688	91	1.034848	-6.39133	4.600808	5.482086	184.713	0.528478
92	4.617759	9.500387	7.370426	6.512426	66.19577	0.996574	92	3.450422	-7.87723	2.5941	9.347534	36.55786	0.141124
93	5.239013	5.493819	2.60197	2.820616	21.86251	0.357045	93	9.110611	-17.6723	3.427633	2.229335	17.28978	0.058742
94	5.768161	-9.54405	5.096391	0.440694	44.38269	0.712352	94	6.212419	-9.60735	4.448079	2.337711	29.5799	0.086351
95	4.3269	-8.01349	1.706895	8.445896	25.44184	0.374361	95	5.416582	0.239655	8.417757	5.314433	57.98623	0.125061
96	1.14239	16.23347	5.133281	4.21544	172.6569	2.666903	96	8.98912	0.286789	3.24051	3.433193	13.83332	0.0484
97	2.761163	-7.47675	7.89763	2.713948	141.7801	2.185965	97	2.19107	-9.24265	3.144138	4.809245	62.91404	0.222833

98	1.929475	-3.6391	6.141408	5.772304	155.425	2.357809	98	4.029762	-5.54044	5.595077	1.312021	53.73075	0.138771
99	8.191011	1.294801	1.480469	4.133754	9.239005	0.153187	99	0.433527	-0.93953	3.936591	5.644559	361.0753	1.122891
100	4.141814	-5.28745	6.497932	2.912586	75.98009	1.177531	100	5.521606	-10.5979	4.34258	2.408596	32.93133	0.097422
101	4.497215	20.33639	2.104146	4.858136	18.82758	0.299119	101	8.030991	-2.4038	3.196913	4.454663	16.04332	0.056352
102	0.802317	-15.2047	8.902539	7.047583	633.3757	9.492875	102	2.760246	-11.1673	8.141183	1.99622	121.7441	0.264309
103	4.061141	-14.5686	1.522879	3.817794	23.48021	0.392098	103	2.168026	-1.24478	3.455109	2.704021	61.05754	0.206112
104	4.763061	-16.5669	2.141678	3.770156	27.82568	0.452345	104	6.698581	-17.401	1.098803	5.496447	9.645934	0.064703
105	8.093993	-11.1988	1.728654	2.208966	11.8479	0.204641	105	7.228029	-4.18871	0.893267	7.476745	7.277309	0.051921
106	1.339119	4.629355	3.040882	2.223796	98.82442	1.610887	106	3.597379	0.193108	5.024745	5.055383	53.43102	0.146063
107	3.74885	9.793838	5.608321	6.28036	62.74184	0.948957	107	7.450245	-19.3909	3.338275	2.299223	21.10665	0.072855
108	5.999369	17.41645	0.877741	0.382896	5.454015	0.116443	108	0.627726	2.994792	6.972552	1.783742	393.2488	0.913537
109	3.844165	-0.13657	1.635901	1.828656	20.12879	0.354226	109	1.491188	-11.2375	4.930003	1.841863	137.8174	0.380431
110	2.168873	8.583023	1.786386	5.687895	39.41487	0.61901	110	8.824288	-25.222	3.55613	1.668715	20.2548	0.06742
111	6.166866	7.972868	2.838684	1.396274	18.9876	0.315974	111	3.980447	-8.34064	5.789204	2.199682	58.63682	0.148978
112	1.907177	-21.4929	6.725632	5.472565	223.4657	3.392941	112	5.441837	-17.7799	9.90622	0.605862	80.48671	0.161007
113	1.776371	-15.8694	5.567476	1.73478	175.5532	2.767086	113	5.547456	-11.0191	4.567533	6.925459	36.79822	0.105607
114	5.58962	-12.801	2.36411	3.865802	24.51211	0.39492	114	5.23762	-8.18508	4.513381	0.640313	34.15231	0.099012

115	2.843311	-27.2778	2.57765	5.8864	69.61124	1.074769	115	6.243019	-10.0077	2.789436	4.152165	19.71985	0.0753
116	5.378867	-0.46022	0.364385	3.895251	5.093007	0.101395	116	2.032937	-4.93437	2.805462	1.20316	53.79982	0.208554
117	3.254042	9.974822	1.192514	3.545074	17.0956	0.295454	117	2.801198	1.211745	7.735547	6.358623	103.2689	0.231164
118	3.796325	4.343965	3.319992	2.779554	38.42951	0.616891	118	3.719032	-14.7589	1.07858	1.353606	13.40793	0.103707
119	0.867086	-5.67956	4.458581	5.447141	262.5146	4.019414	119	1.249736	-10.454	2.380099	1.726028	80.59824	0.347278
120	3.825442	24.02453	3.015034	4.915958	29.40627	0.458994	120	2.629963	-9.73725	6.855754	2.018767	106.1793	0.248684
121	5.657171	-23.2278	0.838751	1.286361	10.16907	0.208028	121	2.541476	-5.59447	1.918161	1.169616	30.02345	0.151464
122	4.58438	-2.48201	8.342468	6.154558	86.43401	1.302765	122	4.705655	-23.6378	6.566387	4.071351	69.2083	0.165903
123	0.555783	22.58835	8.659961	0.704601	535.9067	8.3399	123	5.33861	1.114566	2.279515	1.366966	15.79261	0.070343
124	8.255989	-5.88392	7.843423	1.320356	45.56707	0.709223	124	5.880531	-7.29956	4.62223	5.328278	32.91146	0.09394
125	2.711543	2.838354	0.725662	0.942723	12.38719	0.2693	125	4.410221	-6.50344	7.134039	2.995426	64.02981	0.147532
126	6.044671	0.712164	5.33293	2.125209	39.41736	0.620371	126	1.195522	-16.9194	4.655845	2.486888	175.846	0.500582
127	2.08554	-11.3934	6.817202	4.394959	174.6032	2.671613	127	2.826275	-12.8255	4.259085	1.278059	63.72499	0.190839
128	1.271115	-1.49909	0.573496	4.5462	30.66948	0.548615	128	1.987826	-4.08037	3.410093	3.607886	68.94227	0.233838
129	0.890229	19.6102	2.349008	0.937389	95.55234	1.639624	129	8.472255	-1.17319	6.532932	2.423817	28.71779	0.068833
130	2.070969	19.83713	6.446847	1.078504	110.661	1.741002	130	4.222466	-5.01674	5.86001	1.443298	53.43608	0.134838
131	4.1925	-1.03779	6.266767	2.036704	67.94737	1.06207	131	4.583155	-14.9824	1.801247	2.969746	18.61481	0.095473

132	7.10321	4.202455	1.314522	5.219715	9.718278	0.157086	132	0.86622	-18.5247	7.534345	4.369505	401.8294	0.906188
133	2.206717	14.81489	8.076691	2.554195	138.3043	2.133063	133	4.140682	-18.0598	1.240057	2.176613	14.86422	0.100855
134	0.948312	-2.74789	0.425486	7.76403	44.573	0.668337	134	4.853439	-19.5161	1.837387	2.138915	18.43736	0.094485
135	1.892926	10.58049	6.364593	1.801164	132.7751	2.077946	135	8.358529	-15.582	1.43903	0.835805	7.694206	0.048412
136	4.983857	-3.46277	2.287064	6.619076	25.03129	0.38236	136	7.061373	0.595993	2.699016	5.75522	15.60831	0.060202
137	4.161552	13.82103	6.874335	9.224468	67.15559	0.992349	137	3.824368	-23.1269	5.084526	2.22282	64.72637	0.175771
138	1.470813	-11.0752	3.205481	2.466598	116.8752	1.889915	138	6.118427	-16.2614	5.257708	5.289861	39.65067	0.105941
139	1.661446	6.64425	2.947238	3.455005	77.43023	1.239162	139	2.214181	-7.3578	1.349382	9.189706	34.62201	0.191046
140	6.293086	-10.8838	1.011821	2.194913	9.366764	0.175519	140	2.229021	-25.6749	1.494796	1.922682	35.81934	0.213532
141	1.73266	-2.5296	6.636554	7.416957	186.3038	2.788656	141	6.291296	-28.0768	2.506037	7.187562	24.13259	0.0963
142	2.314773	-6.6948	1.925371	6.142922	48.16304	0.746298	142	0.396907	-12.129	6.050757	1.805704	638.909	1.587489
143	3.280809	5.052122	0.957959	6.268332	17.18871	0.272046	143	1.833628	-19.0092	3.058429	8.516906	88.69579	0.314225
144	2.048273	-5.58387	7.091796	5.903604	172.3674	2.606944	144	5.697324	-16.7628	0.574873	0.794464	4.846965	0.063854
145	7.002888	9.614461	1.411345	7.1338	10.48673	0.159608	145	1.400996	-26.5441	2.256208	3.682769	88.81446	0.388937
146	0.904704	-1.37164	2.513814	4.176669	137.6674	2.196008	146	5.481546	-7.59946	7.956463	2.237676	57.63412	0.126415
147	0.961812	5.345707	0.696164	3.223353	38.88189	0.734965	147	1.739696	-22.8332	0.915669	1.959367	28.52053	0.243735
148	0.776171	9.909579	0.644319	4.207698	46.28836	0.833989	148	3.872427	-4.42308	2.964551	1.332788	29.71462	0.111023

149	1.28435	6.800651	5.649549	1.593614	181.3236	2.859581	149	0.925993	-5.23555	4.034905	3.388326	174.8639	0.538429
150	3.981549	18.40451	5.676164	5.024607	53.76595	0.822016	150	3.901908	-13.9319	2.674375	3.011925	30.99981	0.122429
151	5.043145	-8.68612	2.17939	2.948066	23.20909	0.383776	151	5.766593	-24.1936	0.341349	6.867394	6.734522	0.076576
152	6.507405	1.122899	3.179009	5.295717	23.45012	0.363188	152	4.671726	-9.10809	7.239122	2.161872	62.67323	0.14324
153	2.977552	6.138287	5.000292	6.021463	73.81608	1.120971	153	0.649164	-14.2743	7.417222	5.603378	506.0871	1.151747
154	4.797587	7.218793	1.880858	6.672806	19.42116	0.297509	154	4.923953	-21.8532	6.913601	6.963236	69.65325	0.163852
155	4.672971	16.13873	4.321064	4.965537	36.28287	0.55899	155	1.291023	-11.6015	9.019948	6.014541	297.9171	0.625992
156	9.118103	-4.95366	1.764474	1.537198	9.598908	0.168581	156	6.165135	-6.73623	4.836999	0.740465	30.60948	0.085378
157	3.880986	-8.85762	4.848294	5.320319	66.14738	1.012161	157	0.711282	-15.7256	3.781612	1.082676	232.7841	0.747805
158	4.283025	11.72431	0.743848	2.364875	8.055261	0.158524	158	1.325036	-15.9645	4.872022	2.639089	164.1133	0.455883
159	3.147307	13.59755	1.98452	0.697143	24.24746	0.428443	159	0.947529	1.312474	2.03679	5.825449	90.91983	0.41518
160	7.96712	-0.70775	0.771254	8.046288	7.191262	0.106451	160	2.130368	1.379053	5.816708	6.135783	103.4699	0.263265
161	1.803897	3.107761	0.203782	5.158264	12.66513	0.238311	161	4.273865	-8.03062	3.482702	0.453106	32.22972	0.109107
162	1.060833	22.41383	6.781139	1.206294	221.6287	3.474622	162	7.269989	-4.5038	6.1431	1.576621	32.37328	0.079821
163	5.751732	-15.0479	1.75047	7.816265	21.25846	0.317448	163	0.851004	-0.06178	7.071834	1.06249	301.4542	0.694863
164	2.993312	18.09468	1.445837	5.462678	21.53409	0.343625	164	1.001932	-9.30635	8.046639	4.574261	331.3152	0.726841
165	3.287625	0.916806	4.155881	0.66616	55.51401	0.902495	165	1.951011	-1.48094	5.746622	8.400003	117.9311	0.302385

166	6.86267	-1.92133	2.118779	1.743329	14.66462	0.250125	166	5.078287	-9.83923	1.977256	2.284248	16.8195	0.081739
167	2.925724	-1.58103	3.391612	7.0716	58.96615	0.889148	167	4.24248	-0.35799	6.173146	4.995949	55.2749	0.136554
168	3.503781	-2.61463	4.20669	6.972326	60.37826	0.909788	168	7.475778	-15.4907	2.855734	0.989313	16.75321	0.064277
169	5.709522	0.385752	3.65773	4.427203	30.21122	0.471264	169	8.223443	-8.84918	1.152424	8.643848	8.359544	0.05066
170	5.065499	-9.90314	5.501272	2.618381	56.19092	0.878924	170	3.961301	-15.3493	0.686311	5.536641	11.48189	0.1012
171	2.661594	-4.71632	1.044774	7.197379	26.52207	0.404697	171	4.936731	-17.1805	5.976593	2.599034	54.47414	0.136299
172	4.451993	-0.18042	2.593219	2.341309	27.17758	0.448103	172	0.955138	-23.3217	1.628939	3.729743	93.5564	0.50707
173	1.263139	11.59716	5.745088	3.90683	182.0574	2.809987	173	1.761541	-9.90483	0.598588	3.806098	19.55829	0.20343
174	1.276361	-5.73343	6.049105	6.448491	239.8119	3.618811	174	0.660836	-11.4186	6.348605	3.579756	406.195	0.988483
175	4.571533	-6.2859	0.338629	3.338172	5.828213	0.123773	175	4.369072	-1.86522	1.132079	4.285616	11.94647	0.081298
176	6.148736	3.921737	3.074135	6.189931	23.66181	0.361891	176	3.682382	-8.27977	2.195	2.361266	25.15834	0.11375
177	0.918327	-2.26581	1.024673	3.781502	62.66408	1.091638	177	3.758158	-3.87123	8.850686	1.611793	89.13372	0.186794
178	4.149633	-0.58373	4.512192	4.374402	51.15003	0.792174	178	3.533494	-1.74529	8.617174	2.384894	90.7868	0.192681
179	9.253918	-5.98082	8.200725	1.260575	42.52023	0.660873	179	4.233689	-3.1275	5.121326	7.549205	49.33552	0.133648
180	3.989159	11.08199	3.954579	7.238874	42.74276	0.642375	180	2.322343	0.961933	3.127322	1.464385	49.42008	0.178307
181	0.817886	-4.57274	4.928715	6.532735	304.9367	4.608579	181	3.122858	-13.7228	9.225352	1.387866	124.9241	0.257371
182	2.701992	20.58079	0.950375	5.257564	16.69821	0.275334	182	4.09044	-13.1454	2.830554	3.175825	30.98825	0.117954

183	7.0182	17.31288	1.756612	1.045427	9.400364	0.167605	183	7.430455	-3.4579	4.534461	3.654306	23.96317	0.069159
184	2.726727	1.925938	0.653546	0.716171	11.09418	0.253264	184	2.943813	-2.92572	7.685132	4.041032	100.0439	0.223551
185	4.200388	-5.19327	4.361863	3.196812	51.14126	0.803769	185	2.85144	0.313506	3.906942	2.944159	51.53761	0.161759
186	3.358895	8.245704	3.675957	7.032444	48.94745	0.737911	186	5.152071	-10.9497	7.305185	7.362179	61.32347	0.140923
187	6.43658	1.585578	3.751655	2.530031	26.21686	0.419005	187	3.607504	2.82962	4.395081	1.633304	43.56163	0.128098
188	3.559501	-4.05673	3.527215	3.240408	48.6277	0.772429	188	3.991218	-6.18622	5.061099	0.897859	49.24546	0.134022
189	8.431545	4.577826	4.226649	2.764392	21.71422	0.343579	189	2.902038	-0.42761	1.685978	5.431272	25.54404	0.131719
190	4.48457	13.02158	2.317054	4.310695	21.86921	0.349598	190	7.251497	-7.78426	9.392369	2.794504	51.58495	0.105897
191	6.539203	0.263071	1.571511	4.814557	12.62381	0.20425	191	3.149112	-5.15246	7.816579	3.080355	96.61833	0.213914
192	8.632972	0.062898	2.340546	8.753743	14.77755	0.216904	192	0.85958	2.157132	6.096655	6.440739	266.6614	0.663771
193	7.079262	-8.51599	7.414696	2.658541	52.72972	0.814969	193	0.568366	-18.4102	1.460106	2.728763	128.8471	0.767365
194	1.188367	-8.40772	2.938059	2.830459	129.1412	2.089107	194	4.628572	0.872582	1.16548	3.289831	10.70088	0.073471
195	3.035634	10.2091	1.348627	4.065077	20.70598	0.346903	195	3.037411	-6.59133	3.752699	5.391996	52.24721	0.166913
196	5.186817	20.2019	3.126372	5.71941	23.61874	0.363661	196	6.357953	-8.6899	8.754293	8.126048	57.70962	0.123261
197	6.82609	-11.5901	3.601154	4.77992	29.46999	0.457798	197	4.540701	-8.43601	3.032516	2.47154	27.75309	0.101581
198	7.247001	7.913537	3.984462	1.881577	22.65314	0.363725	198	3.245555	-9.20698	3.800203	4.202942	49.97399	0.158938
199	1.027821	-16.1294	2.896318	3.75259	168.438	2.68499	199	5.327756	-6.97137	3.284389	2.550494	25.13032	0.087524

200	3.680425	7.059541	7.236759	7.372649	84.53628	1.265433	200	7.973214	-14.6243	4.988654	1.115892	26.90007	0.073781
201	3.009806	-12.4571	3.143186	2.157126	56.87043	0.925578	201	4.202521	-20.0488	5.568949	4.31724	63.25637	0.164144
202	0.497195	0.464601	0.854214	4.655717	101.7447	1.737526	202	4.151748	-14.4908	0.855079	0.874943	9.370809	0.08887
203	0.792328	8.692185	5.357729	3.81055	280.1408	4.337732	203	2.510587	-1.10178	3.170475	0.722181	46.61145	0.167307
204	4.659911	0.588122	4.621016	2.490558	44.77072	0.707219	204	2.526016	-11.5299	3.355625	3.912941	58.48897	0.200065
205	5.794366	-0.91236	3.031579	8.535608	27.47988	0.405915	205	6.962432	-22.5512	4.711455	1.704276	32.52947	0.09203
206	1.407093	-4.80872	6.346818	1.294469	213.7519	3.359621	206	0.835473	-10.7345	6.673011	3.758549	334.9656	0.796632
207	2.259014	6.958113	4.533267	1.349303	82.6733	1.324417	207	2.115714	-8.94686	5.528464	2.055896	106.0327	0.275692
208	1.167939	4.813857	3.239544	1.185825	117.7438	1.941595	208	6.260301	-7.69167	2.341398	2.510913	15.67393	0.067767
209	5.12578	-17.5927	5.319071	1.685896	59.76581	0.944783	209	1.668422	-11.7139	4.363021	6.577043	117.7831	0.346242
210	4.346421	9.729177	7.953272	7.608263	76.02582	1.136061	210	6.013929	-1.29073	0.287517	2.535015	2.812066	0.050411
211	4.431225	23.8094	4.195519	5.789042	34.86663	0.532529	211	2.018461	-10.6661	1.825998	3.961705	41.95606	0.210114
212	4.180518	-17.1203	4.144807	7.684836	62.15488	0.929132	212	4.253742	1.598935	4.180636	3.149469	36.47607	0.110135
213	4.969989	-24.4053	2.505166	3.482597	34.8596	0.563683	213	6.49104	-4.21116	3.395991	6.060018	22.01334	0.074241
214	2.858775	-9.14202	1.077849	5.502571	24.93444	0.403917	214	4.285189	-5.9039	2.145361	5.456608	22.46077	0.099745
215	3.727381	2.139494	4.257948	5.358988	52.85275	0.810954	215	3.91254	-11.128	7.270883	1.590336	76.54605	0.174413
216	4.806393	2.752634	0.829929	0.878492	7.879785	0.165722	216	3.106094	-2.45168	0.994991	4.234112	15.24456	0.112945

217	0.466984	-29.6404	2.110564	1.239978	329.248	5.68775	217	5.985074	-6.13084	1.048006	1.042349	7.202333	0.057644
218	3.531581	-22.8917	3.85755	1.51593	69.15705	1.118377	218	5.391466	-10.2818	0.881452	7.833374	10.54005	0.074938
219	3.430938	-10.5738	1.663548	0.633381	25.24535	0.460001	219	1.554965	-4.29121	1.372836	6.630102	44.06704	0.252179
220	6.056261	5.440476	3.704517	3.409989	26.66162	0.421377	220	6.80962	-0.61223	6.679753	6.122696	37.61428	0.089739
221	4.26287	-6.79508	2.013374	5.832057	26.95565	0.419982	221	1.009134	-7.06105	5.200437	1.340266	203.1689	0.545059
222	4.693765	14.42654	2.465823	4.513256	21.86264	0.346874	222	1.590046	-7.20894	6.73448	2.953345	169.1971	0.40018
223	3.486036	-12.6659	6.479484	2.427456	99.49696	1.548106	223	1.202883	-13.5967	3.087679	6.408454	122.4229	0.43521
224	0.298763	10.70095	4.278086	0.366585	557.9605	9.08332	224	2.423495	-28.9713	4.947228	4.163253	110.8971	0.305573
225	3.756177	17.60315	3.905871	0.789084	37.92233	0.618683	225	4.683897	-6.88204	4.819012	5.770508	42.99364	0.120076
226	1.317775	-7.37345	3.100204	2.990115	121.1199	1.946808	226	4.843606	1.486559	0.375111	1.849807	3.69499	0.060674
227	1.114225	-1.8384	5.974971	9.509052	265.8544	3.914409	227	1.115617	-15.8708	0.940142	1.31948	39.89861	0.34366
228	5.428031	-9.3173	5.382661	0.97198	49.94642	0.794528	228	1.257142	-8.09079	1.20892	5.008911	48.36486	0.309697
229	3.633815	13.37708	1.550157	2.403695	17.69019	0.308014	229	2.237362	-0.58703	8.431982	5.342165	141.8583	0.305758
230	7.694535	8.974353	4.175666	3.67688	22.65022	0.354695	230	5.562029	-16.3036	3.019177	2.583454	24.84781	0.091145
231	5.325109	9.436648	1.004617	7.988072	11.22434	0.166687	231	2.769199	0.544601	5.238132	5.470888	72.26444	0.193456
232	3.862151	8.078991	1.585218	1.628857	17.50043	0.311339	232	8.64205	2.919109	4.049539	6.64938	18.13343	0.055448
233	6.274342	12.46452	1.198267	8.307285	10.5078	0.154626	233	1.995915	-7.65848	2.08501	0.618509	41.65713	0.199412

234	0.719796	1.249248	2.418136	4.871888	164.3474	2.592105	234	7.123351	-13.6774	7.856881	6.076493	48.55331	0.107916
235	4.934289	-2.96794	2.788531	1.7076	26.84404	0.444943	235	0.605379	-15.2988	9.254837	2.911514	666.2931	1.376072
236	4.87626	1.376155	4.835735	4.480509	45.39697	0.700684	236	2.67903	-20.1824	2.621509	4.101826	49.21624	0.195327
237	3.061559	-14.8064	1.111046	4.290442	24.53708	0.41519	237	3.70068	-8.65516	7.645289	4.183063	84.47912	0.189247
238	3.078215	4.669721	1.252498	1.425477	18.18864	0.339093	238	2.399747	-10.0738	0.579568	3.942618	14.22067	0.149651
239	8.869743	-4.42996	2.232131	5.976422	13.74221	0.212729	239	8.124746	-0.95948	2.062275	4.696557	10.63224	0.048783
240	1.297043	5.73876	3.409102	1.315194	110.4886	1.809949	240	6.57633	-14.0971	3.270551	1.197404	21.46057	0.075359
241	2.637077	8.522006	2.763584	6.762881	48.1701	0.731529	241	6.718261	-2.89836	6.941979	1.886163	38.93839	0.090655
242	7.54317	10.89052	8.612462	8.140815	46.79306	0.697021	242	6.308804	-0.84327	1.317853	2.688217	8.634294	0.055318
243	2.159983	4.43502	1.990842	3.05833	42.22374	0.702177	243	7.750651	-2.18063	7.141868	8.783971	36.63338	0.085212
244	7.182301	-15.4528	4.341427	8.240412	36.99805	0.549724	244	4.454223	2.488302	4.378509	1.733861	35.32607	0.104092
245	2.533031	5.83507	0.597278	1.460026	11.25687	0.24868	245	3.46032	-23.2117	1.39375	1.654871	20.66643	0.130505
246	4.99299	-8.07309	2.673484	0.854988	26.76358	0.452884	246	4.486813	-11.6734	4.01933	3.516044	38.7794	0.119643
247	7.911109	21.66363	2.03597	2.789341	9.686691	0.161798	247	1.783445	-2.49965	3.843484	4.021692	85.06343	0.268909
248	5.029112	15.21344	0.97131	2.442715	8.310903	0.155003	248	5.352527	-1.98567	1.121595	4.433885	9.760383	0.066545
249	4.604832	5.19848	4.778801	5.746461	46.12018	0.702874	249	3.175468	1.417176	5.363966	3.272651	62.21138	0.164391
250	3.709006	-6.03536	6.564487	1.650412	85.52613	1.338226	250	5.643999	-17.9979	1.015041	8.441015	12.42768	0.080841

251	7.141628	-14.5025	6.705908	4.745511	52.75969	0.805472	251	6.440053	-23.5224	6.027271	1.908404	45.44237	0.11314
252	6.354558	21.08969	6.297817	3.58405	35.67896	0.550576	252	7.186694	-5.12266	7.040235	1.156554	37.55054	0.086748
253	3.698717	-9.96837	7.732666	3.08434	107.7176	1.657812	253	5.289343	0.465876	2.686286	5.957029	20.87108	0.080626
254	1.774061	-2.44484	4.446903	4.723588	121.4372	1.874379	254	1.725733	-13.4267	7.101762	3.115851	176.764	0.408203
255	2.984073	-17.2224	3.454112	0.460827	65.54719	1.086568	255	5.670579	-4.13136	1.154957	3.415638	9.196484	0.063304
256	3.745811	-17.6987	4.479451	2.096686	69.66131	1.107251	256	2.574396	-24.8085	0.299108	7.146814	14.77478	0.172999
257	3.234143	12.94468	1.778503	8.570617	27.25071	0.40003	257	0.919837	0.625179	2.430506	3.047071	102.3408	0.429658
258	4.921517	2.3547	3.266253	5.182164	31.23283	0.484101	258	9.1867	-3.02342	2.099608	3.636141	9.475216	0.043495
259	0.678921	-16.6647	3.169519	7.348108	298.3843	4.484281	259	5.495905	-11.8589	5.163035	5.912699	41.43972	0.111758
260	0.808805	0.871844	5.634684	2.5455	311.6532	4.872874	260	1.387583	-7.50764	1.338635	5.241099	47.60275	0.284452
261	3.12106	9.664721	6.428662	1.9691	82.29391	1.285577	261	8.729896	-7.26695	4.262989	2.778501	19.80395	0.059173
262	3.304844	-20.9613	7.172294	6.251014	136.7468	2.062925	262	5.824865	-7.99692	3.183252	4.607578	23.50235	0.082708
263	4.647794	6.33455	5.280729	6.707682	50.01977	0.754151	263	0.897553	-5.87317	2.710967	1.361101	119.5553	0.47355
264	1.214606	-23.4238	1.720826	3.355522	99.53109	1.665265	264	1.936683	-13.0236	4.242904	1.374473	93.01037	0.279116
265	5.453349	8.912204	3.481701	6.892463	28.44977	0.429917	265	7.671913	-17.7194	7.999582	4.730646	47.70837	0.104954
266	2.2973	12.59801	2.568928	9.391242	52.41587	0.762209	266	7.54821	-12.9026	1.767988	6.376456	12.09326	0.059763
267	4.303252	-5.63752	0.914868	1.307739	11.03577	0.220863	267	4.717905	-0.21924	4.431349	1.016613	34.3297	0.100537

268	1.890582	-16.4909	5.059777	7.869781	163.2232	2.434966	268	2.835311	-18.942	2.776546	4.296964	48.40389	0.18519
269	2.588288	-20.323	5.486896	3.72381	130.6213	2.022514	269	7.832248	-19.6428	4.00006	0.438457	23.23241	0.072265
270	5.311273	19.14429	1.382868	5.107926	11.43596	0.184927	270	2.550167	-9.43435	0.775551	4.132459	16.53744	0.144123
271	7.159405	-7.27062	4.964376	5.206183	35.80363	0.548176	271	4.171519	-7.75093	7.911437	0.927996	74.61987	0.163604
272	4.886155	-9.6724	5.815148	4.917107	62.77953	0.960186	272	6.924666	-6.5597	3.440911	2.819557	20.21628	0.068386
273	2.189486	5.535612	0.892444	5.844228	23.87182	0.385613	273	3.579375	-10.3489	3.690792	7.318775	47.03915	0.151006
274	1.680801	-17.4062	1.931647	1.837303	68.74991	1.183101	274	6.629378	-0.40257	1.44922	2.844699	8.949443	0.053443
275	1.738199	1.879362	4.599599	2.585266	117.7421	1.858413	275	4.040622	-17.5527	3.785217	4.349041	44.35375	0.141335
276	1.567178	5.780976	7.531699	3.472665	202.678	3.113514	276	4.662228	-26.9499	4.583605	3.48831	51.58682	0.148033
277	2.091326	3.14584	4.710221	1.071246	96.63516	1.548944	277	1.443013	-3.22594	6.072895	6.68401	167.87	0.418739
278	0.392711	12.18451	2.829644	2.418906	289.9506	4.738129	278	7.886169	-10.9801	4.211686	3.693031	22.93201	0.068909
279	6.660095	15.62303	7.813592	2.332855	43.90789	0.678911	279	7.022351	-9.80252	1.732153	9.129434	13.37942	0.064581
280	0.448887	-12.5319	2.544716	4.415592	329.0662	5.221883	280	5.602823	-1.52728	2.726821	4.641101	19.8076	0.076459
281	4.008394	2.571594	2.402926	5.011604	28.97037	0.455821	281	1.223392	-11.2684	2.792544	6.794544	108.126	0.406386
282	1.106938	3.506236	6.911487	5.513848	276.2209	4.190828	282	0.933798	-9.00966	2.597126	9.591835	137.6645	0.530326
283	6.131952	10.63326	3.573053	4.13475	24.27862	0.380609	283	3.432822	-3.30304	3.200207	7.386851	40.06341	0.139044
284	1.255727	24.19831	6.617349	1.018109	179.2952	2.818446	284	7.622847	0.266032	7.451202	1.285489	35.38898	0.07971

285	1.623797	15.372	4.033811	2.60961	95.32836	1.515244	285	2.74432	-12.4692	0.817981	3.158931	15.58064	0.136868
286	1.912835	-1.62711	4.654624	1.793267	111.9099	1.780788	286	3.477995	-6.09982	1.539927	5.367013	21.00318	0.114714
287	1.073755	8.740264	1.438268	7.657023	71.29809	1.069413	287	2.985836	-12.0876	5.574009	7.106639	83.23161	0.216315
288	3.929494	-15.9623	4.688444	3.955545	69.17808	1.074776	288	4.595127	-22.7306	0.615778	7.575781	11.57448	0.099003
289	1.268938	-0.10232	7.008741	4.299321	252.5799	3.864887	289	3.115496	-5.78789	0.467171	1.123186	6.737162	0.10168
290	5.14952	14.49239	5.593595	0.621095	40.67022	0.647604	290	5.303115	-27.7239	2.244205	3.816565	23.84001	0.10462
291	2.874958	9.085558	1.218765	3.877325	20.19573	0.343932	291	1.37419	2.374737	2.661687	3.132639	73.31785	0.290189
292	2.37445	1.667767	0.928913	4.555496	22.22539	0.378303	292	1.52003	-6.93922	2.99341	0.672696	77.44526	0.288626
293	1.181019	-12.8772	3.42664	7.581331	173.8476	2.60328	293	2.534688	-17.0208	2.039604	0.905937	36.24122	0.175582
294	3.476099	-5.39359	7.605822	6.566188	108.8464	1.637672	294	3.768545	-7.41618	5.46777	4.821739	59.79007	0.156621
295	2.312301	-5.00596	2.738724	3.573962	60.26574	0.966992	295	3.08937	-14.7104	0.842657	6.001852	17.17784	0.132584
296	1.344406	-6.18776	1.858692	5.731259	79.05671	1.238298	296	0.618039	-12.2773	7.313513	1.506716	493.6928	1.121771
297	2.84971	-2.79595	1.459342	2.014106	25.46497	0.452856	297	2.283932	-1.33676	4.130052	2.369751	68.40246	0.208179
298	4.220325	-15.1357	2.722844	2.028573	36.73892	0.606686	298	4.764491	-12.1614	1.906658	1.264834	17.22524	0.08715
299	2.068572	25.34013	5.119988	5.887821	88.58067	1.346393	299	0.941531	-6.79305	2.160071	5.303634	103.4259	0.458076
300	2.031385	-14.8928	2.005268	8.492022	67.97606	1.00092	300	2.995078	-9.53482	2.934984	4.499019	43.12395	0.159353

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