

Supplementary Table 2- Analysis of physiochemical characteristics for the 246 HP's present in *S.flexneri* 1c Y394. ExPASy's ProtParam tool was used to study physiochemical properties of the HP's which included number of amino acids, molecular weight, theoretical pI, extinction coefficient, and grand average of hydropathicity (GRAVY).

S.No	Protein ID	No of amino acids	MW	PI	Extinction Coefficient	Grand Average of Hydrophobicity (GRAVY)
1.	ATH66527.1	237	26708.94	9.37	15595	-0.284
2.	ATH66629.1	302	34186.18	9.11	22960	-0.299
3.	ATH66635.1	115	12509.10	6.75	7115	-0.357
4.	ATH66643.1	409	46351.22	9.84	59820	-0.284
5.	ATH66665.1	207	22289.85	7.80	29575	0.904
6.	ATH66697.1	181	20876.67	4.94	50085	-0.357
7.	ATH66700.1	274	29970.40	7.62	24325	-0.016
8.	ATH66742.1	102	11396.45	9.89	21095	0.501
9.	ATH66743.1	364	40443.32	9.61	51005	-0.384
10.	ATH66760.1	239	26104.41	6.82	14940	0.026
11.	ATH66809.1	62	7152.09	6.72	11460	-1.239
12.	ATH66812.1	94	10234.40	4.47	12950	-0.039
13.	ATH66845.1	717	81623.66	6.06	139845	-0.823
14.	ATH66856.1	192	20906.02	9.04	7450	-0.062

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15.	ATH66865.1	123	12703.65	8.76	2980	0.019
16.	ATH66868.1	524	60063.95	6.51	109235	-0.256
17.	ATH66876.1	190	19441.24	7.87	6990	0.172
18.	ATH66880.1	156	18267.19	6.74	21430	0.103
19.	ATH66907.1	264	29902.48	6.24	48930	-0.228
20.	ATH66913.1	152	16938.82	7.07	56490	0.376
21.	ATH66937.1	172	19064.66	4.89	20190	-0.035
22.	ATH66941.1	296	33145.90	8.75	59025	-0.158
23.	ATH66955.1	122	14040.28	8.71	20970	-0.358
24.	ATH66978.1	65	7467.46	6.70	7575	-0.797
25.	ATH67045.1	701	77354.73	4.87	146345	-0.496
26.	ATH67048.1	216	24527.70	5.12	22015	-0.348
27.	ATH67052.1	218	23986.66	5.06	36565	0.028
28.	ATH67074.1	108	12016.68	7.59	8730	-0.547
29.	ATH67096.1	235	26939.26	5.03	72100	-0.407

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30.	ATH67099.1	235	27696.14	4.97	73715	-0.496
31.	ATH67100.1	325	37196.09	4.91	100980	-0.633
32.	ATH67113.1	87	9827.35	5.50	5960	-0.166
33.	ATH67162.1	140	15620.86	7.95	20970	-0.309
34.	ATH67165.1	221	25837.34	8.07	45880	-0.691
35.	ATH67175.1	123	14054.13	9.00	17085	-0.238
36.	ATH70531.1	613	68940.90	5.49	101925	-0.450
37.	ATH67180.1	274	31148.59	6.67	37150	-0.455
38.	ATH67230.1	87	10105.81	10.07	9970	-0.663
39.	ATH67236.1	302	32814.94	6.00	14440	0.030
40.	ATH67241.1	234	25901.87	9.62	38390	0.815
41.	ATH67298.1	136	15464.69	10.03	36105	0.654
42.	ATH67300.1	125	14203.22	10.10	22375	0.751
43.	ATH67303.1	95	10520.70	9.39	1490	0.463
44.	ATH67308.1	158	17666.10	4.12	14105	0.126
45.	ATH67318.1	162	18518.04	9.72	33460	0.581
46.	ATH70538.1	107	11421.98	4.90	4470	0.102
47.	ATH67325.1	337	38100.69	8.97	46660	-0.297

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48.	ATH67371.1	299	32312.01	9.18	29575	1.077
49.	ATH67373.1	60	6854.98	4.91	7115	-0.127
50.	ATH70540.1	297	34487.65	6.61	80690	-0.303
51.	ATH67401.1	182	20354.38	10.27	15930	-0.383
52.	ATH67406.1	369	40597.26	7.03	40950	-0.189
53.	ATH67413.1	187	20634.41	5.81	48930	-0.158
54.	ATH67436.1	148	16275.36	9.41	34615	0.777
55.	ATH67468.1	214	24155.58	6.91	37595	-0.154
56.	ATH67536.1	163	17060.40	9.21	39210	0.948
57.	ATH67540.1	191	20942.50	5.57	16960	-0.436
58.	ATH67546.1	125	13933.06	6.96	16055	0.035
59.	ATH67604.1	180	21226.18	6.13	21680	-0.591
60.	ATH67634.1	93	10251.77	5.08	18575	-0.032
61.	ATH67647.1	117	12692.75	5.02	8605	0.190
62.	ATH67677.1	98	10602.04	5.19	11460	-0.031
63.	ATH67684.1	59	6032.37	9.87	As there are no Trp, Tyr or Cys in the region considered, protein should not be visible by	-1.680

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					UV spectrophotometry.	
64.	ATH67716.1	117	13959.89	9.25	26595	-0.638
65.	ATH67743.1	226	25958.54	4.56	52955	-0.672
66.	ATH67744.1	55	6428.82	4.33	12950	-0.705
67.	ATH67746.1	465	52795.82	8.49	71640	-0.235
68.	ATH67804.1	79	8586.18	9.18	10095	0.562
69.	ATH67810.1	206	22032.08	5.91	30480	0.743
70.	ATH70565.1	114	12493.23	4.96	20970	0.024
71.	ATH67825.1	193	20921.12	9.55	39420	-0.120
72.	ATH67828.1	33	3871.38	4.32	16960	-0.191
73.	ATH67852.1	346	40272.23	7.57	93320	-0.296
74.	ATH67855.1	206	22709.81	8.49	47565	0.686
75.	ATH67883.1	178	20337.04	6.83	22460	0.521
76.	ATH67885.1	96	10864.99	4.23	13980	-0.470

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77.	ATH67887.1	252	27598.27	4.99	53860	-0.502
78.	ATH67921.1	118	13537.84	10.05	12950	-0.281
79.	ATH67934.1	172	18264.75	4.74	17085	0.105
80.	ATH67952.1	304	34736.88	8.27	42650	0.359
81.	ATH67957.1	95	10047.59	8.98	2980	0.323
82.	ATH67966.1	108	11905.49	9.10	44710	1.152
83.	ATH67967.1	113	12942.69	9.15	18115	-0.761
84.	ATH67969.1	101	10503.72	4.74	1740	-0.149
85.	ATH67997.1	111	12323.10	9.51	36565	1.312
86.	ATH68032.1	155	15601.67	9.36	2980	0.114
87.	ATH68055.1	418	42880.00	4.41	20190	0.021
88.	ATH68061.1	215	24442.58	4.50	32110	-0.268
89.	ATH68062.1	208	22366.92	8.26	22095	-0.005
90.	ATH68063.1	69	7907.33	9.36	1490	-0.351
91.	ATH68075.1	1018	113233.17	6.93	101855	-0.139
92.	ATH68076.1	370	39841.18	8.49	78950	1.029
93.	ATH68077.1	118	13847.80	5.75	28210	-0.375

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94.	ATH68089.1	439	49574.34	9.25	107955	-0.464
95.	ATH68112.1	149	15794.96	11.35	23490	1.197
96.	ATH68113.1	77	8799.88	5.59	1490	-0.636
97.	ATH70578.1	73	8502.34	10.18	15470	0.936
98.	ATH68125.1	280	30680.47	4.92	37150	0.048
99.	ATH68140.1	166	19111.68	5.69	31970	-0.324
100.	ATH68145.1	585	65584.90	9.09	83895	-0.217
101.	ATH68146.1	201	22544.08	8.69	35200	0.821
102.	ATH68152.1	108	11964.87	9.59	11460	-0.225
103.	ATH68154.1	88	8725.99	7.58	7365	0.335
104.	ATH68182.1	124	13410.22	9.48	16960	-0.262
105.	ATH68188.1	118	12946.72	9.27	21095	-0.393
106.	ATH68190.1	40	4571.21	4.46	2980	-0.432

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107.	ATH68203.1	200	22674.98	7.71	36690	-0.131
108.	ATH68230.1	119	13650.86	9.83	11460	-0.386
109.	ATH68234.1	189	21371.79	9.23	7700	-0.256
110.	ATH68239.1	116	13261.31	8.20	17990	-0.290
111.	ATH68240.1	131	15226.27	9.39	38055	0.654
112.	ATH68248.1	162	18875.16	4.69	28670	-0.619
113.	ATH68250.1	152	17467.15	9.99	17990	-0.320
114.	ATH68272.1	107	11755.46	6.56	6210	0.277
115.	ATH68293.1	137	14959.21	4.87	22585	-0.242
116.	ATH68294.1	401	44486.93	9.98	112660	0.573
117.	ATH68297.1	183	19420.85	7.77	36565	-0.192

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118.	ATH68320.1	133	15126.99	5.46	30480	-0.483
119.	ATH68327.1	65	7206.48	10.01	20970	0.272
120.	ATH68340.1	121	13841.10	9.83	11460	-0.322
121.	ATH68357.1	121	13841.10	9.83	11460	-0.322
122.	ATH68374.1	75	8092.21	4.16	12615	0.151
123.	ATH70596.1	163	18646.13	9.59	19035	0.340
124.	ATH68421.1	149	16252.48	9.86	30480	0.817
125.	ATH68460.1	174	18301.71	4.80	7575	0.032
126.	ATH68471.1	378	42308.42	6.09	47690	-0.147
127.	ATH68472.1	667	73639.99	5.90	94390	-0.114
128.	ATH68473.1	153	16591.09	7.72	7450	-0.174

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129.	ATH68497.1	132	14607.71	9.15	25565	1.072
130.	ATH68515.1	349	36940.16	9.24	49055	0.987
131.	ATH68531.1	237	26761.12	9.88	42970	0.651
132.	ATH68551.1	69	7308.51	8.74	8605	0.043
133.	ATH68606.1	88	9960.62	9.61	17210	0.059
134.	ATH68609.1	216	25324.18	9.31	51005	-0.482
135.	ATH68611.1	68	7571.05	6.54	1615	0.287
136.	ATH68620.1	180	18611.71	4.73	28880	-0.080
137.	ATH68658.1	164	19562.24	5.96	31525	-0.567
138.	ATH68659.1	151	17198.23	9.94	33460	0.012
139.	ATH68662.1	506	54795.66	7.03	67045	0.746

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140.	ATH68680.1	219	24540.33	8.63	25900	0.821
141.	ATH68691.1	269	28673.44	9.59	21680	0.843
142.	ATH68709.1	310	34454.08	5.25	48470	0.147
143.	ATH68713.1	76	8251.81	4.32	17085	1.164
144.	ATH68737.1	108	13262.69	10.11	54430	-1.443
145.	ATH68741.1	114	12719.61	9.45	13980	-0.532
146.	ATH68742.1	130	14898.09	7.77	14105	-0.538
147.	ATH68747.1	72	8415.05	8.01	8480	-0.194
148.	ATH68756.1	124	13655.81	7.80	3105	-0.187
149.	ATH68766.1	149	17116.28	8.77	48595	0.570
150.	ATH70611.1	206	24037.30	8.77	30035	-0.591

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151.	ATH68777.1	337	38100.69	8.97	46660	-0.297
152.	ATH68793.1	299	32312.01	9.18	29575	1.077
153.	ATH68830.1	60	6854.98	4.91	7115	-0.127
154.	ATH68837.1	297	34487.65	6.61	80690	-0.303
155.	ATH68856.1	182	20354.38	10.27	15930	-0.383
156.	ATH68864.1	274	29970.40	7.62	24325	-0.016
157.	ATH68917.1	701	77354.73	4.87	146345	-0.496
158.	ATH68929.1	216	24527.70	5.12	22015	-0.348
159.	ATH68931.1	218	23986.66	5.06	36565	0.028
160.	ATH68947.1	108	12016.68	7.59	8730	-0.547
161.	ATH68957.1	235	26939.26	5.03	72100	-0.407

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162.	ATH68961.1	235	27696.14	4.97	73715	-0.496
163.	ATH68975.1	325	37196.09	4.91	100980	-0.633
164.	ATH69025.1	87	9827.35	5.50	5960	-0.166
165.	ATH69052.1	152	16938.82	7.07	56490	0.376
166.	ATH69068.1	172	19064.66	4.89	20190	-0.035
167.	ATH69109.1	296	33145.90	8.75	59025	-0.158
168.	ATH69124.1	122	14040.28	8.71	20970	-0.358
169.	ATH69181.1	65	7467.46	6.70	7575	-0.797
170.	ATH69187.1	701	77354.73	4.87	146345	-0.496
171.	ATH69209.1	216	24527.70	5.12	22015	-0.348

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172.	ATH69239.1	218	23986.66	5.06	36565	0.028
173.	ATH69259.1	108	12016.68	7.59	8730	-0.547
174.	ATH69265.1	235	26939.26	5.03	72100	-0.407
175.	ATH69300.1	235	27696.14	4.97	73715	-0.496
176.	ATH69301.1	148	16275.36	9.41	34615	0.777
177.	ATH69313.1	214	24155.58	6.91	37595	-0.154
178.	ATH69314.1	163	17060.40	9.21	39210	0.948
179.	ATH69322.1	701	77354.73	4.87	146345	-0.496
180.	ATH69323.1	216	24527.70	5.12	22015	-0.348
181.	ATH69359.1	218	23986.66	5.06	36565	0.028

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182.	ATH69360.1	108	12016.68	7.59	8730	-0.547
183.	ATH69408.1	235	26939.26	5.03	72100	-0.407
184.	ATH69432.1	235	27696.14	4.97	73715	-0.496
185.	ATH69450.1	65	7206.48	10.01	20970	0.272
186.	ATH69450.1	121	13841.10	9.83	11460	-0.322
187.	ATH69519.1	121	13841.10	9.83	11460	-0.322
188.	ATH69527.1	114	12493.23	4.96	20970	0.024
189.	ATH69530.1	193	20921.12	9.55	39420	-0.120
190.	ATH69548.1	33	3871.38	4.32	16960	-0.191
191.	ATH69552.1	346	40272.23	7.57	93320	-0.296

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192.	ATH69554.1	136	15464.69	10.03	36105	0.654
193.	ATH69573.1	369	40597.26	7.03	40950	-0.189
194.	ATH69585.1	187	20634.41	5.81	48930	-0.158
195.	ATH69653.1	148	16275.36	9.41	34615	0.777
196.	ATH69662.1	214	24155.58	6.91	37595	-0.154
197.	ATH69677.1	163	17060.40	9.21	39210	0.948
198.	ATH69683.1	191	20942.50	5.57	16960	-0.436
199.	ATH69717.1	125	13933.06	6.96	16055	0.035
200.	ATH69741.1	180	21226.18	6.13	21680	-0.591
201.	ATH69743.1	93	10251.77	5.08	18575	-0.032
202.	ATH69744.1	717	81623.66	6.06	139845	-0.823

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203.	ATH69782.1	108	11905.49	9.10	44710	1.152
204.	ATH70654.1	113	12942.69	9.15	18115	-0.761
205.	ATH69795.1	101	10503.72	4.74	1740	-0.149
206.	ATH69815.1	111	12323.10	9.51	36565	1.312
207.	ATH69824.1	155	15601.67	9.36	2980	0.114
208.	ATH69836.1	418	42880.00	4.41	20190	0.021
209.	ATH69872.1	297	34487.65	6.61	80690	-0.303
210.	ATH70659.1	182	20354.38	10.27	15930	-0.383
211.	ATH70660.1	239	26104.41	6.82	14940	0.026
212.	ATH69906.1	140	15620.86	7.95	20970	-0.309
213.	ATH69913.1	221	25837.34	8.07	45880	-0.691

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214.	ATH69954.1	123	14054.13	9.00	17085	-0.238
215.	ATH69997.1	613	68940.90	5.49	101925	-0.450
216.	ATH70006.1	274	31148.59	6.67	37150	-0.455
217.	ATH70008.1	87	10105.81	10.07	9970	-0.663
218.	ATH70042.1	302	32814.94	6.00	14440	0.030
219.	ATH70056.1	234	25901.87	9.62	38390	0.815
220.	ATH70067.1	193	20921.12	9.55	39420	-0.120
221.	ATH70101.1	33	3871.38	4.32	16960	-0.191
222.	ATH70117.1	346	40272.23	7.57	93320	-0.296
223.	ATH70671.1	206	22709.81	8.49	47565	0.686
224.	ATH70198.1	178	20337.04	6.83	22460	0.521

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225.	ATH70203.1	96	10864.99	4.23	13980	-0.470
226.	ATH70213.1	252	27598.27	4.99	53860	-0.502
227.	ATH70218.1	304	34736.88	8.27	42650	0.359
228.	ATH70219.1	95	10047.59	8.98	2980	0.323
229.	ATH70237.1	77	8799.88	5.59	1490	-0.636
230.	ATH70244.1	73	8502.34	10.18	15470	0.936
231.	ATH70274.1	280	30680.47	4.92	37150	0.048
232.	ATH70275.1	166	19111.68	5.69	31970	-0.324
233.	ATH70277.1	108	12016.68	7.59	8730	-0.547
234.	ATH70286.1	235	26939.26	5.03	72100	-0.407

Supplementary Table 2- Analysis of physiochemical characteristics for the 246 HP's present in *S.flexneri* 1c Y394. ExPASy's ProtParam tool was used to study physiochemical properties of the HP's which included number of amino acids, molecular weight, theoretical pI, extinction coefficient, and grand average of hydropathicity (GRAVY).

235.	ATH70287.1	235	27696.14	4.97	73715	-0.496
236.	ATH70326.1	325	37196.09	4.91	100980	-0.633
237.	ATH70347.1	87	9827.35	5.50	5960	-0.166
238.	ATH70373.1	181	20118.78	6.28	13980	-0.499
239.	ATH70395.1	177	19911.71	8.88	35535	- 0.194
240.	ATH70424.1	387	45048.67	4.61	96175	-0.443
241.	ATH70426.1	91	9949.13	4.18	16960	-0.141
242.	ATH70436.1	91	10149.35	5.09	11460	-0.153
243.	ATH70444.1	113	12294.12	8.64	10095	-0.168
244.	ATH70449.1	67	7728.79	8.60	9065	-0.945
245.	ATH70469.1	157	17062.55	10.12	33460	0.882

Supplementary Table 2- Analysis of physiochemical characteristics for the 246 HP's present in *S.flexneri* 1c Y394. ExPASy's ProtParam tool was used to study physiochemical properties of the HP's which included number of amino acids, molecular weight, theoretical pI, extinction coefficient, and grand average of hydropathicity (GRAVY).

246.	ATH70687.1	256	28000.88	8.87	32470	0.434
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