

Table S1. Overview of residue conservation based on 135 MDR-type RND pumps.
 The table details the residue variety in % for each position in the query sequence (AcrB-Ec). Each column shows the % for that amino-acid, found in the position based on AcrB-Ec. Analysis after ClustalOmega [65] and output data by ConSurf [68]. Efflux pumps selected from Zwama *et al.* (2019) [17]. Colors are per Figure 3a of the main article, with green being most variable and purple being most conserved.

Position (#)	AA (%)	Percentage	ConSurf Category	A	C	D	E	F	G	H	I	K	L	M	N	P	Q	R	S	T	V	W	Y	
1	M 54.815	54.815	8						31.111			6.667		6.667	54.815							0.741		
2	A 31.852	31.852	7	31.852										2.963	0.741		14.074			31.111	18.519		0.741	
3	R 25.185	25.185	5		1.481		18.519	2.963		0.741	4.444		17.037	0.741		16.296		11.111	25.185	0.741	0.741			
4	F 71.852	71.852	7						71.852			12.593		0.741	2.963		1.481				2.222	3.704		4.444
5	F 97.037	97.037	9			2.963			97.037															
6	I 88.889	88.889	9									88.889									0.741	10.37		
7	D 42.963	42.963	2	0.741			42.963	5.185			8.148	0.741	8.148			8.889		5.926	17.037	0.741	1.481			
8	R 93.333	93.333	9								3.704		2.222					0.741	93.333					
9	P 100.000	100	9														100							
10	I 56.296	56.296	8									56.296	3.704			2.222			0.741			37.037		
11	F 76.296	76.296	8						76.296			0.741		21.481	0.741						0.741			
12	A 96.296	96.296	9	96.296																2.963	0.741			
13	W 55.556	55.556	5	7.407					2.222	2.963		9.63		5.926	0.741	0.741				8.148	2.963	3.704	55.556	
14	V 92.593	92.593	9	0.741	0.741							0.741			0.741					3.704	0.741	92.593		
15	I 48.889	48.889	7						0.741			48.889		31.111	1.481							17.037		
16	A 54.815	54.815	9	54.815												2.963				41.481	0.741			
17	I 54.074	54.074	6	0.741					1.481			54.074		37.037	1.481					0.741	1.481	2.963		
18	L 32.593	32.593	4	2.222					13.333			28.889		32.593	4.444							18.519		
19	I 67.407	67.407	7	0.741					0.741			67.407		14.815	5.926						2.963	7.407		
20	M 37.037	37.037	6	1.481		6.667			6.667			8.148		16.296	37.037					4.444	5.926	13.333		
21	L 65.926	65.926	6	2.222					1.481			21.481		65.926	5.185							3.704		
22	A 50.370	50.37	4	50.37	1.481				2.222	7.407		4.444		17.778	0.741					1.481	9.63	4.444		
23	G 100.000	100	9							100														
24	L 25.926	25.926	1	25.185					1.481	13.333				25.926	2.222					2.963	5.185	11.852	0.741	
25	L 53.333	53.333	6	2.963				0.741	3.704			18.519		53.333	1.481	1.481		10.37	2.963		3.704	0.741		
26	A 65.185	65.185	6	65.185	0.741					2.222										28.889	1.481	1.481		
27	I 56.296	56.296	5	3.704					4.444	0.741		56.296		18.519	5.926						6.667	2.222	1.481	
28	L 21.481	21.481	1	2.222			0.741		14.074	1.481	1.481	2.222	5.185	21.481	6.667	4.444	11.852	2.222	5.926	11.111	3.704	2.222	0.741	
29	K 31.852	31.852	1	1.481			1.481	2.222	1.481	2.222		2.222	31.852	4.444		7.407		16.296	2.963	17.778	5.926	2.222		
30	L 90.370	90.37	8									2.963		90.37	6.667									
31	P 78.519	78.519	6	3.704		0.741		2.963		1.481						1.481	78.519	5.185		3.704	1.481	0.741		
32	V 54.074	54.074	6									40.741		4.444							0.741	54.074		
33	A 31.852	31.852	6	31.852		0.741	19.259					0.741		0.741	0.741	4.444		0.741	20	19.259	2.222			
34	Q 66.667	66.667	8	0.741			20.741	1.481			0.741				2.222			66.667	5.185	1.481			0.741	
35	Y 93.333	93.333	8					5.926			0.741												93.333	
36	P 100.000	100	9														100							
37	T 18.519	18.519	2	5.185			17.037	17.037					7.407	1.481	0.741	8.889		8.148	2.963	11.111	18.519	1.481		
38	I 41.481	41.481	7						0.741		0.741	41.481		11.111	10.37					1.481	0.741	31.852		
39	A 54.815	54.815	7	54.815		2.963	8.889						0.741			1.481		0.741		5.185	12.593	12.593		
40	P 76.296	76.296	7	2.222					0.741			1.481		0.741		11.852	76.296	0.741		2.963	2.963			
41	P 78.519	78.519	8	7.407							0.741					0.741	78.519			2.963	8.148	1.481		
42	A 23.704	23.704	6	23.704			0.741			0.741		1.481		2.963	0.741	5.926		11.852		14.815	22.222	14.815		
43	V 62.963	62.963	7	0.741								34.815		1.481								62.963		
44	T 28.148	28.148	4	5.926		0.741	4.444			1.481		0.741	0.741	1.481	1.481	5.926		8.889	8.889	19.259	28.148	11.852		
45	I 54.074	54.074	8									54.074		1.481								44.444		
46	S 37.778	37.778	4	4.444		0.741	2.222				0.741		2.222		1.481	4.444		2.963	8.889	37.778	28.889	0.741	4.444	
47	A 66.667	66.667	8	66.667					0.741	1.481									0.741		24.444	5.926		
48	T 28.148	28.148	1	12.593		0.741	2.222		1.481	0.741		0.741		0.741	0.741	17.778		1.481	0.741	20.741	28.148	9.63	1.481	
49	Y 92.593	92.593	8						5.185			0.741		0.741									1.481	
50	P 82.963	82.963	6	2.222		0.741						2.963		0.741			82.963			2.963	2.963	1.481	2.963	
51	G 98.519	98.519	9							98.519							0.741			0.741				
52	A 100.000	100	9		100																			
53	S 51.852	51.852	8				23.704													51.852	3.704			
54	A 77.037	77.037	8	77.037						0.741							17.778			4.444				
55	K 27.407	27.407	3	2.222			11.852	20.741		0.741			27.407			1.481		26.667	1.481		3.704	3.704		
56	T 51.852	51.852	7				1.481	0.741	0.741	0.741		1.481		16.296							51.852	26.667		
57	V 41.481	41.481	7	0.741								27.407		20.741	8.889						0.741	41.481		
58	Q 32.593	32.593	7	14.074			1.481	31.852		2.963		0.741	1.481			5.926		32.593	2.963	3.704	2.222	1.481		
59	D 32.593	32.593	5	2.963			32.593	17.037		16.296			2.222			20.741		4.444			2.222	1.481		
60	T 42.963	42.963	7	9.63					15.556					0.741		1.481		0.741		26.667	42.963		2.222	
61	V 82.963	82.963	9									17.037										82.963		
62	T 62.222	62.222	8	20								2.963		1.481						1.481	62.222	11.852		
63	Q 51.111	51.111	7	6.667			1.481	0.741		1.481			0.741	0.741		0.741		51.111	2.222	18.519	14.815	0.741		
64	V 40.741	40.741	7	0.741								9.63	2.963	6.667			37.037	1.481	0.741		40.741			

65	I 64.444	64.444	7						64.444		31.852	0.741							2.963	
66	E 92.593	92.593	9	0.741		92.593				0.741				4.444				1.481	0.741	
67	Q 68.148	68.148	7		0.741	14.074							1.481	68.148	11.111	0.741	0.741			
68	N 25.926	25.926	6			23.704				2.222			25.926	17.778	2.222	9.63				
69	M 36.296	36.296	7			1.481		0.741	26.667		23.704	36.296		0.741					11.111	
70	N 44.444	44.444	8			15.556				5.926			44.444	0.741		12.593	20	0.741		
71	G 80.000	80	8			1.481		80						5.926		10.37	0.741			
72	V 31.852	31.852	8	20					25.926		20.741						1.481	31.852		
73	D 57.778	57.778	7			57.778	31.111			6.667			0.741	1.481	0.741	1.481				
74	N 48.148	48.148	4			6.667		34.815	7.407				48.148							
75	L 53.333	53.333	8					0.741		18.519		53.333	24.444			0.741			2.963	
76	L 34.074	34.074	5	0.741		20.741	1.481			5.185		34.074	26.667		0.741	6.667	1.481	0.741	1.481	
77	Y 95.556	95.556	9				1.481									0.741	2.222		95.556	
78	M 60.000	60	7				15.556			11.852		6.667	60				0.741		3.704	
79	S 54.815	54.815	6			2.222		2.963		0.741	4.444			2.222		2.963	54.815	12.593	1.481	
80	S 94.815	94.815	9			3.704				0.741							94.815	1.481		
81	T 25.926	25.926	4					2.963						9.63	22.222	1.481	24.444	25.926	6.667	
82	S 78.519	78.519	8	12.593	0.741								0.741	1.481			78.519	1.481	2.963	
83	D 27.481	27.481	5			6.107	27.481	2.29	0.763	4.58			0.763	8.397	3.053	2.29	23.664	14.504	3.817	
84	S 66.038	66.038	7			8.491	3.774			5.66				7.547		0.943	66.038	7.547		
85	D 24.444	24.444	5			8.889	24.444	1.481	2.222	0.741		4.444	1.481	9.63	3.704	10.37	19.259	13.333		
86	G 94.074	94.074	9						94.074					2.963			2.963			
87	S 27.407	27.407	1	4.444		0.741	1.481	1.481		1.481	0.741	5.185	1.481	2.963	11.111	10.37	9.63	27.407	7.407	
88	A 30.370	30.37	6		0.741	30.37				0.741			8.148	11.852			21.481	1.481	17.778	
89	T 37.778	37.778	2			2.222	0.741	5.185	0.741			2.222	3.704	0.741	3.704	15.556	3.704	15.556	3.704	
90	I 56.296	56.296	6							56.296		20	0.741				2.222	20.741		
91	T 69.630	69.63	6			0.741	1.481			2.963	1.481		2.963	8.148		2.222	8.889	69.63	1.481	
92	L 42.222	42.222	6	14.074						16.296			42.222					2.222	27.407	
93	T 66.667	66.667	7					2.963	2.222		4.444	0.741	0.741	3.704		0.741	3.704	8.148	66.667	
94	F 80.741	80.741	9			2.222		80.741		1.481			5.926	9.63						
95	E 31.852	31.852	1	12.593		4.444	31.852		0.741	1.481	20.741	1.481		4.444		6.667	8.148		4.444	
96	L 25.926	25.926	4	15.556		0.741			0.741	8.148		25.926	0.741	1.481	14.815	10.37	15.556	3.704	1.481	
97	G 77.778	77.778	8			4.444	0.741		77.778	1.481				15.556						
98	T 78.519	78.519	8	3.704		0.741	2.222	0.741		2.963						2.222	1.481	78.519	2.222	
99	D 77.778	77.778	7			77.778	0.741		0.741		0.741			19.259			0.741	0.741		
100	P 60.741	60.741	1	14.815		0.741	0.741	0.741		0.741		7.407	0.741		60.741		7.407	2.222	2.963	
101	D 71.852	71.852	7	1.481		71.852	5.926		1.481	1.481	0.741			8.148		1.481	2.222	4.444	0.741	
102	I 34.074	34.074	4	2.963	0.741		9.63	2.963		34.074	5.185	11.852	5.185	3.704	8.148	4.444	0.741	7.407	2.222	
103	A 95.556	95.556	9	95.556		0.741						2.963						0.741	0.741	
104	Q 63.704	63.704	7	5.185		0.741	2.963	0.741				12.593	3.704		63.704	1.481	0.741	1.481	6.667	
105	V 62.222	62.222	8	9.63					4.444			2.963	1.481		8.148		2.963	8.148	62.222	
106	Q 54.815	54.815	7	0.741		19.259	11.852			1.481	2.963	0.741	6.667		54.815	0.741		0.741		
107	V 82.222	82.222	8						11.111			4.444						2.222	82.222	
108	Q 77.778	77.778	8	0.741								8.148	3.704	2.963	77.778	2.222	1.481	2.963		
109	N 77.778	77.778	9	14.074		2.222								77.778			5.926			
110	K 58.519	58.519	8	0.741						58.519					8.889	31.111	0.741			
111	LV 44.444	44.444	8	2.222					7.407		44.444						0.741	0.741	44.444	
112	Q 39.259	39.259	6	11.852	0.741	1.481	0.741	1.481		11.111				17.037	39.259		13.333	2.963		
113	L 27.407	27.407	4	11.111		3.704		1.481		1.481	2.222	27.407			25.185	7.407	15.556	1.481	2.963	
114	A 62.222	62.222	7							5.926					1.481			3.704	26.667	
115	M 25.185	25.185	4	0.741		20				1.481	2.963	9.63	25.185	1.481		2.963	16.296	1.481	17.037	
116	P 42.222	42.222	4	15.556	1.481		0.741	2.963		0.741			5.185		42.222		7.407	17.778	2.222	
117	R 30.370	30.37	5	1.481		2.963	2.222	1.481		13.333	25.185	0.741	2.222			13.333	30.37	2.963	2.222	
118	L 97.778	97.778	9								97.778	1.481			0.741				1.481	
119	P 99.259	99.259	9											99.259	0.741					
120	Q 47.407	47.407	4	6.667	1.481	17.778				2.222	1.481		2.222	5.185	47.407	3.704	8.889	2.963		
121	E 54.815	54.815	9	11.852	9.63	54.815		4.444		0.741		0.741	1.481	2.222	1.481	0.741	5.926	3.704	2.222	
122	V 77.037	77.037	4	12.593						4.444							4.444	1.481	77.037	
123	Q 53.333	53.333	7			2.963	11.852			1.481	0.741	1.481		2.222	53.333	17.037		6.667		
124	Q 36.296	36.296	6	2.963		15.556	2.222			2.963		1.481	0.741	5.185	0.741	36.296	22.963	4.444	2.222	
125	Q 55.556	55.556	7			0.741	0.741			2.963	6.667	1.481	6.667		20.741	55.556	0.741	1.481	1.481	
126	G 78.519	78.519	8	1.481				78.519		0.741							3.704	3.704	11.852	
127	V 46.667	46.667	6						36.296		15.556	1.481						46.667		
128	T 34.815	34.815	3			2.222	3.704	0.741	0.741	2.222	2.963	0.741	0.741	5.926	11.852	8.148	17.778	34.815	5.926	
129	V 72.593	72.593	8	0.741		0.741				2.222	3.704	2.222	2.222			2.222	4.444	8.889	72.593	
130	E 27.407	27.407	3	4.444		8.889	27.407	1.481		3.704	1.481			4.444	11.852	8.148	14.815	11.111	2.222	
131	K 67.407	67.407	7			5.926				67.407					3.704	1.481	11.111	8.889	0.741	
132	S 34.074	34.074	5	24.444		0.741		0.741		13.333	4.444		0.741		4.444	3.704	34.074	10.37	1.481	
133	S 51.111	51.111	6	6.667		8.889	1.481			11.852					6.667	1.481	51.111	5.185	2.963	

134 S 40.152	40.152	5	7.576	9.091	0.758		2.273		0.758	1.515		0.758	5.303	15.909	1.515	3.788	40.152	9.848	0.758		
135 S 31.852	31.852	5	2.963	13.333		3.704	11.111		0.741		1.481		16.296				31.852	17.778	0.741		
136 F 48.889	48.889	7	15.556			48.889	2.222		6.667		14.074	2.963	5.926	0.741			1.481	0.741			0.741
137 L 63.910	63.910	7	3.008			1.504			8.271		63.91	5.263			0.752		1.481	0.741	5.263		
138 M 56.391	56.391	6	5.263		0.752	0.752		0.752	1.504		27.82	56.391	2.256		3.759		2.256	9.774	0.752		
139 V 49.630	49.63	7		0.741		1.481	4.444		11.852		4.444	4.444						4.444	49.63	18.519	
140 V 37.778	37.778	5	18.519					0.741	23.704		12.593	2.963			0.741			0.741	37.778	2.222	
141 G 32.593	32.593	6	26.667				32.593	11.111				0.741	5.926		0.741	0.741	14.815	5.926	0.741		
142 F 49.630	49.63	6				49.63			2.222		35.556	3.704						8.889			
143 V 21.481	21.481	1	1.481	0.741	0.741	4.444		0.741	16.296	1.481	2.222		0.741		2.222	2.963	9.63	19.259	21.481	0.741	14.815
144 S 82.963	82.963	9	2.963			6.667	0.741						5.926				82.963			0.741	
145 P 29.907	29.907	1	2.804	14.953	19.626		0.935			5.607				29.907	0.935	0.935	4.673	19.626			
146 D 56.190	56.19	2	0.952	56.19	3.81		2.857			3.81			17.143		1.905	0.952	7.619	4.762			
147 G 44.030	44.03	1	2.239	12.687	8.209		44.03			6.716			9.701	7.463	4.478	0.746	1.493	2.239			
148 S 27.407	27.407	1	2.222	2.222	7.407		2.963		2.222	11.111	0.741		5.185		6.667	18.519	27.407	12.593	0.741		
149 M 34.074	34.074	4	1.481	0.741	0.741	3.704	0.741	4.444	2.963	2.222	22.222	34.074	0.741		1.481	2.222	1.481	2.222	1.481	17.037	
150 D 42.222	42.222	3	0.741	42.222	3.704		0.741	0.741		1.481			7.407	0.741	0.741		20.741	20	0.741		
151 Q 22.222	22.222	1	7.407	5.926	5.926	0.741	3.704			9.63	0.741	5.185	5.926	5.926	22.222	5.185	9.63	6.667	1.481		
152 L 14.074	14.074	1	7.407	9.63	10.37	2.222	1.481		3.704	1.481	14.074	0.741	5.926	5.926	9.63		11.852	9.63	5.185		0.741
153 D 44.444	44.444	7	10.37	44.444	8.148	5.926										0.741				0.741	14.074
154 I 53.333	53.333	7							53.333		37.778	2.963						0.741	5.185		
155 S 37.037	37.037	6	25.185	0.741			8.148			0.741			4.444			5.185	37.037	17.778		0.741	
156 D 70.370	70.37	9		70.37	0.741			0.741					27.407				0.741				
157 Y 90.370	90.37	8				4.444			2.963											2.222	90.37
158 V 31.111	31.111	6	26.667			0.741			12.593		22.963	5.185						0.741	31.111		
159 A 31.852	31.852	3		2.222	6.667		8.148		1.481	0.741	4.444	0.741	5.926		0.741	0.741	11.111	9.63	14.815		0.741
160 S 31.111	31.111	7	11.852				0.741		3.704		17.037		1.481		1.481	30.37	31.111	2.222			
161 N 57.778	57.778	6	1.481					4.444	0.741	2.222	0.741		57.778		3.704	2.222	5.185	1.481	17.037	2.963	
162 V 45.185	45.185	5							34.074		12.593	8.148							45.185		
163 K 37.037	37.037	5		0.741	2.963				4.444	37.037	6.667	1.481			30.37	5.926	2.222	5.185			
164 D 59.259	59.259	6		59.259	11.852		0.741					5.185		21.481	1.481						
165 P 33.333	33.333	4	11.111		22.222				1.481	5.926		1.481	0.741	33.333	14.074	4.444	1.481	2.222	1.481		
166 L 60.741	60.741	5				5.926			28.889		60.741	1.481						2.963			
167 S 48.148	48.148	6	18.519		2.963	5.926	1.481		4.444	2.222			0.741		3.704	10.37	48.148	0.741	0.741		
168 R 77.778	77.778	9	5.185			0.741			0.741						2.222	77.778	2.963	10.37			
169 V 34.074	34.074	4	1.481								25.926						0.741	12.593	34.074		
170 P 21.481	21.481	1	5.185	14.815	12.593	0.741	2.963		5.926				13.333	21.481	3.704	0.741	14.074	3.704		0.741	
171 G 100.000	100	9				100															
172 V 89.630	89.63	9	0.741						6.667			2.222						0.741	89.63		
173 G 76.296	76.296	7	12.593				76.296						0.741		4.444		5.185	0.741			
174 D 34.815	34.815	2	3.704	34.815	14.074					15.556		0.741	5.185		7.407	6.667	10.37	1.481			
175 V 54.815	54.815	7	18.519			3.704			14.815		2.963							5.185	54.815		
176 Q 58.519	58.519	5	0.741	11.852	8.889		2.222				2.222	0.741	2.963		58.519	4.444	3.704	2.222	1.481		
177 L 43.704	43.704	4	6.667			1.481			16.296		43.704	0.741	1.481	1.481			1.481	2.222	21.481		0.741
178 F 69.630	69.63	7	0.741		0.741	69.63	0.741		1.481		11.111	1.481								11.852	
179 G 97.778	97.778	9	0.741				97.778														
180 S 33.582	33.582	4	21.642	0.746			14.925		2.985	0.746	0.746	1.493	0.746	9.701	7.463	33.582	5.224				
181 Q 37.037	37.037	6		14.815	21.481		0.741		4.444			1.481	4.444	37.037	1.481	1.481	10.37	2.222			
182 Y 72.593	72.593	7	2.222			11.852		0.741	2.222	2.222				0.741	3.704	3.704				72.593	
183 A 78.519	78.519	8	78.519				1.481										19.259	0.741			
184 M 87.407	87.407	9							0.741		10.37	87.407							0.741		0.741
185 R 97.778	97.778	9											2.222			97.778					
186 I 68.889	68.889	7	1.481						68.889		5.185								24.444	98.519	
187 W 98.519	98.519	9				0.741															
188 L 81.481	81.481	8							2.222		81.481	7.407		0.741					8.148		
189 D 74.815	74.815	7		74.815						2.963			16.296		1.481	3.704	0.741				
190 P 91.111	91.111	7	4.444				0.741							91.111			2.222	1.481			
191 N 20.741	20.741	1	13.333	20	12.593		0.741	4.444	0.741	2.963	2.222	0.741	20.741	0.741	8.148	2.222	2.222	5.185	2.222		0.741
192 K 68.889	68.889	6	3.704		2.963			0.741		68.889	4.444				2.222	15.556	0.741		0.741		
193 L 63.704	63.704	7							2.222		63.704	25.185						1.481	7.407		
194 A 40.741	40.741	4	40.741	0.741	1.481	0.741	0.741	1.481	2.222	1.481	2.222	0.741	27.407		4.444	1.481	2.222	6.667	5.185		
195 S 25.926	25.926	5	25.185	2.222	0.741		11.111		0.741	9.63			16.296		5.926	0.741	25.926	1.481			
196 Y 37.778	37.778	2				26.667	2.963			13.333	0.741	0.741			2.222	13.333		2.222		37.778	
197 N 29.630	29.63	3	3.704	4.444	2.963		25.185	0.741		5.185			29.63		22.222	0.741	5.185				
198 L 74.815	74.815	6				0.741			5.185		74.815	9.63							9.63		
199 T 71.852	71.852	8							0.741			7.407	1.481				17.778	71.852	0.741		
200 P 40.000	40	4	28.148			1.481	1.481		3.704			3.704		40			2.963	11.111	7.407		
201 S 22.222	22.222	1	15.556	3.704	1.481		5.926			4.444	4.444	2.222	5.185	0.741	5.185		22.222	13.333	15.556		
202 D 81.481	81.481	7	1.481	81.481	9.63								0.741		5.926			0.741			

[illegible]

479 V 29.630	29.63	4	21.481			8.148	3.704		16.296	12.593	0.741				2.222	5.185	29.63	
480 L 47.407	47.407	8				11.852			34.815	47.407							5.926	
481 S 100.000	100	9													100			
482 V 40.741	40.741	8	27.407				25.926			0.741					4.444	0.741	40.741	
483 L 38.519	38.519	5				18.519			28.148	38.519	2.222						12.593	
484 V 60.000	60	8							7.407	14.074		17.037					60	
485 A 85.926	85.926	9													14.074			
486 L 85.185	85.185	8							4.444	85.185	10.37							
487 T 58.519	58.519	8		0.741			0.741		28.148	0.741					5.926	58.519	5.185	
488 L 88.889	88.889	8				9.63			0.741	88.889	0.741							
489 T 57.778	57.778	9	0.741					0.741							40.741	57.778		
490 P 100.000	100	9											100					
491 A 77.037	77.037	9	77.037						0.741	0.741	17.778					1.481	2.222	
492 L 77.778	77.778	9							0.741	77.778	20.741				0.741			
493 C 73.333	73.333	8	11.852	73.333			0.741								14.074			
494 A 74.074	74.074	7	74.074				2.222								0.741	0.741	17.037	4.444
495 T 48.148	48.148	5	3.704				0.741		2.222	11.111	14.815	1.481	0.741		5.185	3.704	48.148	6.667
496 L 61.481	61.481	4				5.926			8.148	61.481	20						3.704	0.741
497 L 97.037	97.037	9							1.481	97.037	0.741					0.741		
498 K 77.778	77.778	6								0.741								
499 P 58.955	58.955	1	10.448	0.746	0.741		1.481	0.741	77.778				1.481	0.741	1.481	10.37	2.963	1.481
500 H 18.797	18.797	1	6.015		1.504	4.478	2.985	5.224	2.985				0.746	58.955	2.985	2.239	3.731	2.239
501 A 15.625	15.625	1	15.625		14.844	7.031	9.023	18.797	18.045	1.504	7.519		6.015	2.256	1.504	3.759	3.008	3.008
502 K 36.082	36.082	1	21.649		2.062	8.247	6.186	6.186	1.031	36.082		1.031	2.062	5.155	1.031	4.124	1.031	3.093
503 G 55.128	55.128	1	1.282		11.538	11.538	55.128	3.846		3.846		1.282	2.564		2.564	1.282	1.282	3.846
504 E 20.779	20.779	1	7.792		15.584	20.779	10.39	16.883	1.299	11.688	1.299	1.299	1.299	2.597	1.299	6.494		1.299
505 H 38.889	38.889	2			3.968	6.349	0.794	2.381	38.889	13.492	0.794		6.349	11.111	7.143	1.587	4.762	1.587
506 H 22.689	22.689	1	1.681		1.681	5.882	0.84	16.807	22.689	15.966		5.042	17.647	1.681		6.723	3.361	
507 E 19.512	19.512	1	6.504		13.008	19.512		14.634	1.626	3.252	8.943	0.813	8.13	0.813	2.439	2.439	9.756	1.626
508 L 20.000	20	1	15		2.5		7.5	12.5	2.5	7.5	10		5	7.5			2.5	2.5
509 K 42.500	42.5	1			1.25	2.5		1.25	1.25	7.5	42.5	8.75		1.25	12.5	8.75	1.25	5
510 K 23.333	23.333	1	3.333		13.333	1.111		8.889	1.111	23.333		6.667	1.111		16.667	3.333	20	1.111
511 G 74.444	74.444	4	1.111			1.111		74.444		6.667		1.111	2.222		8.889	4.444		
512 F 65.649	65.649	5					65.649	0.763		3.817	16.031	3.817		1.527			3.817	3.053
513 F 69.403	69.403	7	6.716		7.463	69.403	1.493				5.97		0.746			2.985	2.985	0.746
514 G 45.185	45.185	1	10.37		1.481		45.185	2.963	2.963	3.704	0.741		2.222	0.741	4.444	17.778	3.704	1.481
515 W 46.667	46.667	1	6.667	1.481		1.481	8.889		3.704	2.963	2.963	0.741	11.111	0.741	5.185	0.741	4.444	1.481
516 F 77.612	77.612	8	2.239			77.612			4.478	6.716						0.746	8.209	46.667
517 N 74.815	74.815	7	2.222		10.37	10.37		0.741	1.481				74.815					
518 R 62.963	62.963	3	2.963			1.481		0.741	5.185	7.407	0.741	0.741	3.704		2.963	62.963	2.222	5.926
519 GL 14.074	14.074	1	5.185				11.852	14.074	0.741	4.444	2.963	14.074	12.593	2.963	1.481	5.926	4.444	10.37
520 F 78.519	78.519	8				78.519			2.222			11.111	0.741				1.481	7.407
521 D 34.815	34.815	1	4.444		34.815	28.148		3.704	1.481	1.481			14.074		0.741	4.444	4.444	
522 R 40.741	40.741	1	2.963					4.444	3.704	28.148			1.481	0.741	3.704	40.741	8.148	3.704
523 S 26.667	26.667	3	9.63				4.444	2.963		5.185		22.963	8.148		5.926	26.667	5.926	6.667
524 T 38.519	38.519	5	13.333	0.741		1.481		0.741		5.926			4.444	0.741	3.704	4.444	19.259	38.519
525 H 20.741	20.741	1	3.704		7.407	11.111		8.889	20.741	3.704	2.222		14.074		8.148	11.111	4.444	2.963
526 R 27.407	27.407	1	5.926	0.741			2.222	25.926	18.519	6.667	1.481			0.741	27.407	3.704	1.481	2.222
527 Y 96.296	96.296	9	0.741			1.481					0.741						0.741	96.296
528 T 20.000	20	1	3.704		0.741	17.037	0.741	8.148	0.741	2.222	1.481	0.741	0.741		18.519	2.963	10.37	20
529 R 24.444	24.444	1	5.926		11.852	2.222		12.593	1.481	0.741	11.111	2.963		11.111	2.222	24.444	6.667	1.481
530 G 22.222	22.222	1	7.407	0.741		0.741	3.704	22.222	0.741	4.444	1.481		6.667		1.481	6.667	20	5.185
531 V 63.704	63.704	8	0.741	0.741		0.741				6.667		23.704						1.481
532 G 29.630	29.63	1	19.259		5.926	2.963		29.63	6.667	2.963	1.481		2.222	11.111	11.111	2.963	0.741	
533 K 18.519	18.519	1	4.444			1.481	8.148	13.333	7.407	18.519	2.963	0.741	10.37		2.222	17.037	5.926	0.741
534 I 34.815	34.815	3	7.407				1.481			34.815	18.519	8.148			3.704	5.926	19.259	0.741
535 L 61.481	61.481	5					2.963			13.333	61.481	6.667	1.481		0.741	1.481	11.852	
536 R 35.556	35.556	1	5.926		2.963	2.222		10.37	8.889			0.741	6.667		4.444	35.556	3.704	4.444
537 R 34.815	34.815	1	2.222		0.741		2.222	7.407	11.111	11.111	0.741	2.222			2.222	34.815	2.963	1.481
538 RS 24.444	24.444	4	3.704			0.741	6.667			8.148	2.222			5.926	2.222	24.444	24.444	20.741
539 G 37.778	37.778	1	5.185			0.741	2.963	37.778	0.741	2.963	3.704	10.37	1.481		8.148	3.704	2.963	10.37
540 R 45.926	45.926	3	6.667	0.741			1.481	0.741		8.889	0.741	11.852	1.481		4.444	1.481	45.926	3.704
541 Y 27.407	27.407	3	7.407				7.407	2.963		4.444		0.741	12.593			2.963	3.704	20.741
542 L 44.444	44.444	4		0.741			5.185	6.667		8.889	44.444	20.741			1.481		8.148	0.741
543 L 37.037	37.037	1			9.63		3.704	6.667		7.407	37.037	4.444			0.741	2.222	28.148	
544 I 31.111	31.111	2			8.148		13.333	1.481		31.111	20.741	1.481					21.481	
545 Y 60.741	60.741	6	15.556				11.111	2.222		0.741	2.222					0.741	3.704	2.963
546 L 31.852	31.852	1	20.741	0.741			2.963	11.852		5.926	31.852	1.481				0.741	23.704	
547 L 31.111	31.111	1	14.074				1.481	15.556		14.815	31.111				0.741	1.481	20.741	

548 L 37.778	37.778	4	2.963				2.963			34.074		37.778	4.444				0.741	0.741	16.296			
549 V 36.296	36.296	3	4.444	5.185			6.667	0.741		8.889		28.148	3.704				2.963	2.963	36.296			
550 V 30.370	30.37	1	20.741	2.963			0.741	28.148		7.407		7.407	0.741				1.481		30.37			
551 G 34.074	34.074	1	12.593	0.741				34.074		5.185		20	2.222				9.63	2.222	13.333			
552 M 31.111	31.111	4	5.926	5.185				3.704		4.444		23.704	31.111				0.741	19.259	5.926			
553 A 24.444	24.444	1	24.444	1.481				20.741		5.185				11.111			0.741	18.519	3.704	7.407		
554 F 22.963	22.963	1	2.963				22.963	3.704	0.741	5.926	1.481	19.259	0.741	0.741	2.222		0.741	17.778	11.111	9.63		
555 L 57.778	57.778	2	5.185			0.741		3.704	11.111	4.444		57.778	10.37			1.481	0.741	2.222				
556 F 65.926	65.926	5	2.963				65.926			0.741		8.148	2.222				1.481	0.741	0.741	16.296		
557 L 17.778	17.778	1	2.222		0.741	0.741	1.481	1.481	1.481	6.667	8.889	17.778	12.593	3.704		5.185	1.481	11.111	11.852	8.889	2.963	0.741
558 R 44.444	44.444	1	4.444			0.741	4.444	0.741		0.741	6.667	4.444	2.222	3.704		6.667	44.444	12.593	3.704	0.741	2.222	
559 L 51.111	51.111	6	0.741							11.111		51.111	6.667			1.481		6.667	11.111	10.37	0.741	
560 P 85.185	85.185	6	2.222						0.741		3.704			0.741	85.185	2.963		3.704	0.741			
561 T 35.556	35.556	2	3.704		0.741	2.222		13.333	0.741		8.148		0.741	2.222	1.481	1.481	2.222	25.926	35.556	1.481		
562 S 38.519	38.519	6	18.519		0.741	20.741		20.741		0.741								38.519				
563 F 75.556	75.556	8					75.556					21.481							1.481	0.741		0.741
564 L 55.556	55.556	8	16.296				0.741			8.889		55.556	0.741					2.222	15.556			
565 P 99.259	99.259	9															0.741					
566 DE 20.741	20.741	1	7.407		20.741	20.741		1.481		0.741	2.222	5.926	1.481	6.667	3.704	99.259	0.741	2.222	14.074	2.222		
567 E 86.667	86.667	9			0.741	86.667									12.593		0.741					
568 D 100.000	100	9			100																	
569 Q 68.889	68.889	8								0.741	17.778	1.481	0.741			68.889	9.63	0.741				
570 G 84.444	84.444	8	2.963					84.444				2.963				7.407		0.741				1.481
571 V 28.889	28.889	3	5.185	2.222	0.741		9.63	0.741		12.593		1.481	5.185				0.741	0.741	4.444	28.889	0.741	26.667
572 L 34.815	34.815	4	2.963				30.37			8.148		34.815	5.185					0.741	1.481	14.815		1.481
573 M 23.704	23.704	5	0.741		0.741		20.741	0.741		12.593		22.222	23.704	0.741		0.741			4.444	11.852		0.741
574 T 34.074	34.074	4	17.037				1.481	7.407		2.963		1.481	2.963	2.963				8.148	34.074	20.741		0.741
575 M 25.926	25.926	5	7.407		5.185	0.741	6.667	2.963		10.37		5.185	25.926	1.481		16.296	0.741	13.333	1.481	1.481		0.741
576 V 43.704	43.704	4	21.481				2.222	4.444		16.296		1.481	1.481					2.963	1.481	43.704		4.444
577 Q 60.741	60.741	5	0.741		0.741	2.222	0.741			2.222	7.407	2.963	2.222	4.444	0.741	60.741	1.481	3.704	9.63			
578 L 69.630	69.63	7	12.593					3.704		69.63		4.444	0.741			0.741		3.704	3.704			
579 P 94.815	94.815	8	1.481		0.741											94.815	0.741	1.481		0.741		
580 A 30.370	30.37	4	30.37	14.074	6.667									2.222		11.852	6.667	17.037	4.444	6.667		
581 G 62.222	62.222	6	10.37	3.704	0.741			62.222	2.222			8.889				2.222		3.704	4.444			1.481
582 A 67.407	67.407	7	67.407	0.741														25.185	2.963	3.704		
583 T 53.333	53.333	8	1.481		0.741			0.741					10.37		0.741			32.593	53.333			
584 L 35.556	35.556	3	7.407	1.481	2.222	0.741			0.741	5.926	4.444	35.556	3.704	0.741		24.444	3.704	0.741	2.963		1.481	
585 E 36.296	36.296	2	7.407		25.926	36.296		2.963		0.741			0.741	4.444		10.37		5.926	3.704	1.481		
586 R 62.963	62.963	7			1.481				0.741				0.741	0.741		14.815	62.963	1.481	0.741		16.296	
587 T 77.037	77.037	8	2.963		0.741				0.741	5.185	0.741	4.444	0.741	0.741				2.963	77.037	3.704		
588 Q 24.444	24.444	1	3.704	13.333	19.259			2.222		2.222	2.222	14.074	2.963	6.667		24.444	3.704	3.704	2.963		0.741	
589 A 26.667	26.667	1	26.667	7.407	10.37		0.741	2.222	3.704	1.481	23.704	1.481	5.926		7.407	3.704	0.741	1.481	2.963			
590 V 65.926	65.926	6	4.444				3.704	0.741	1.481	1.481	0.741	1.481	1.481	2.222		0.741	1.481	6.667	65.926		7.407	
591 L 25.185	25.185	3	6.667				1.481	4.444		14.074		25.185	11.852	2.222			1.481	2.963	8.148	21.481		
592 D 25.926	25.926	1	9.63	25.926	17.037			2.222	1.481	0.741	14.074	0.741		5.926		7.407	11.111	3.704				
593 Q 27.407	27.407	1	8.148	4.444	21.481				0.741	0.741	22.222				2.963	27.407	5.926	0.741	3.704	1.481		
594 V 35.556	35.556	3	6.667				8.889			11.111		10.37	20.741						1.481	35.556		5.185
595 E 32.593	32.593	2	3.704	4.444	32.593		1.481		1.481	0.741			8.889			3.704	8.148	12.593	17.778	1.481		0.741
596 D 22.963	22.963	1	9.63	22.963	11.111			2.963	6.667	2.963	11.852		11.852	1.481		13.333	4.444	2.963	0.741			
597 Y 39.259	39.259	2	2.222	0.741	1.481		3.704		8.889	20.741	2.963	2.963	2.222		1.481	0.741	0.741	2.963	4.444	1.481	39.259	22.963
598 F 23.704	23.704	2	11.852				23.704	2.963		8.148		20	2.222	1.481			0.741	0.741	0.741	5.926		
599 L 47.407	47.407	1	8.889		3.704	3.704		2.222			7.407	47.407	10.37	1.481		2.222	1.481	3.704	2.963	0.741		
600 T 18.519	18.519	1	6.667	5.185	16.296			1.481	0.741		11.111			14.815		7.407	2.222	14.815	18.519	0.741		
601 Q 18.182	18.182	1	3.306	8.264	9.917	6.612		9.091	5.785	10.744	3.306		12.397	0.826		18.182		7.438	4.132			
602 E 94.545	94.545	9			94.545											5.455						
603 K 63.768	63.768	3	5.797		2.899		5.797	1.449	1.449	63.768			1.449			2.899	11.594	2.899				
604 P 39.552	39.552	1	11.94	26.866	9.701		1.493		1.493	2.239					39.552	1.493		1.493				
605 N 28.148	28.148	4	16.296	0.741	20		22.963					2.222			28.148		0.741	2.222	3.704	2.222		
606 V 68.148	68.148	7	0.741				1.481			12.593	0.741	1.481	2.222	0.741			1.481	0.741	5.185	68.148		4.444
607 E 28.148	28.148	1	19.259	9.63	28.148			3.704	0.741		8.889	2.963	2.963	4.444		2.963	2.222	4.444	2.963		2.222	
608 S 51.111	51.111	4	3.704	11.111	2.222	4.444	5.185	3.704			0.741					0.741	51.111	3.704	0.741		2.963	
609 V 44.444	44.444	5	7.407				1.481	0.741		11.852		1.481	2.963	6.667			0.741	8.889	10.37	44.444		2.222
610 F 49.630	49.63	5	0.741				49.63			11.111		7.407	5.185	0.741		3.704			4.444	11.852	2.963	2.222
611 T 33.333	33.333	5	23.704							6.667	0.741	2.222				8.889		16.296	33.333	5.926		
612 V 44.444	44.444	6	0.741			17.778				22.963		4.444	0.741		0.741			7.407	44.444		0.741	
613 N 22.222	22.222	3	13.333		1.481			0.741				8.148	0.741	22.222	11.852	2.222		17.778	9.63	7.407		
614 G 93.333	93.333	8		0.741	0.741	2.222		93.333				0.741	1.481					0.741				
615 F 59.848	59.848	6	3.788	0.758				1.515		3.03		12.121				0.758		7.576	3.788	1.515	1.515	3.788
616 S 42.308	42.308	6	0.769	6.154																		

617 F 52.344	52.344	5	3.125			52.344	9.375		8.594		5.469	0.781	3.125	8.594		2.344	1.562	4.688		
618 S 26.357	26.357	4	22.481	2.326		0.775	7.752		2.326	0.775	11.628	0.775	13.178	2.326		26.357	3.101	5.426	0.775	
619 G 72.222	72.222	7	6.481				72.222						0.926		0.926	1.852	12.037	5.556		
620 N 29.630	29.63	5	6.481	0.926			1.852		0.926		2.778	1.852	29.63		14.815	18.519	19.444	0.926	0.926	
621 G 67.290	67.29	6	5.607				67.29		0.935	1.869	1.869				1.869	1.869	14.019	3.738	0.935	
622 Q 56.410	56.41	7	1.709	1.709	1.709		0.855						5.128	21.368	56.41	7.692	3.419			
623 N 84.252	84.252	8	3.937	0.787			0.787						84.252			8.661	0.787	0.787		
624 A 29.323	29.323	3	29.323			0.752	7.519					6.015	3.759		5.263	21.805	14.286	11.278		
625 G 60.902	60.902	6	27.82	0.752			60.902				2.256	0.752		0.752		4.511		2.256		
626 I 25.373	25.373	4	1.493			13.433	0.746	25.373			18.657	18.657	0.746		0.746	7.463	2.239	4.478	5.97	
627 A 42.424	42.424	4	42.424			0.758	17.424	6.061			5.303	5.303	1.515			6.061	1.515	13.636		
628 F 74.074	74.074	8	0.741			74.074	11.852	0.741	8.148							0.741	0.741	1.481	1.481	
629 V 41.481	41.481	5	7.407			6.667		21.481			3.704	5.185		2.963				11.111	41.481	
630 S 20.741	20.741	2	4.444	0.741			2.222	5.926	6.667	4.444	8.889	8.148	6.667			11.111	20.741	14.815	5.185	
631 L 87.407	87.407	8				5.926				87.407	4.444				0.741			1.481	1.481	
632 K 77.037	77.037	6	4.444	3.704	1.481					77.037	0.741			2.963	0.741	2.222	2.222	2.222	2.222	
633 D 49.630	49.63	4	1.481	49.63	0.741		1.481	1.481						4.444	35.556	0.741	2.963	0.741	0.741	
634 W 81.481	81.481	8	0.741			15.556		0.741			0.741				0.741				81.481	
635 S 35.556	35.556	2	8.889	22.222	14.815		5.926		5.926				4.444		2.222	35.556				
636 E 60.000	60	3	2.963	10.37	60		0.741		3.704	1.481			0.741		17.037	0.741	0.741	1.481		
637 R 100.000	100	9														100				
638 E 15.556	15.556	1	0.741	11.852	15.556		2.963	2.963	14.074	0.741		5.185	13.333	5.185	2.963	9.63	13.333	0.741	0.741	
639 G 34.615	34.615	1	8.462	7.692	6.154	0.769	34.615	0.769	1.538	5.385	0.769		2.308	2.308	16.154	6.923	3.846	0.769	1.538	
640 S 24.444	24.444	1	12.593	9.63	11.852		1.481	0.741	0.741	7.407	0.741	2.222	1.481	14.815	1.481	2.963	24.444	7.407		
641 E 24.603	24.603	1	9.524	10.317	24.603		7.937	0.794	1.587	3.175			1.587	1.587	15.079	1.587	7.937	11.111	3.175	
642 N 29.921	29.921	2	9.449	5.512	2.362	3.15	5.512		0.787	3.15	11.811	4.724	29.921	13.386	0.787	7.874	0.787	0.787		
643 S 26.446	26.446	2	4.959	8.264	12.397		7.438	1.653	0.826	13.223			1.653	0.826	9.091	26.446	11.57	1.653		
644 A 38.000	38	5	38	1				1	4		7	1				12		34	1	
645 F 16.346	16.346	1	15.385	4.808	13.462	16.346	6.731	0.962	0.962	0.962	2.885	7.692	6.731	10.577	1.923	4.808	3.846	1.923		
646 A 61.905	61.905	4	61.905	4.762	5.714	0.952	2.857		1.905			1.905	1.905	5.714		10.476	1.905			
647 I 57.031	57.031	5	1.562		7.031	2.344				57.031	13.281	0.781				0.781		17.188		
648 A 31.298	31.298	3	31.298		0.763				19.847	0.763	8.397	1.527	3.053		5.344	3.053	9.16	16.031	0.763	
649 A 25.000	25	1	25	4.545	12.121		20.455	2.273	0.758	5.303	0.758	3.03	8.333	9.848	0.758	2.273	1.515			
650 R 53.030	53.03	3	9.091	4.545	9.848			1.515	1.515	6.061	3.788		1.515	0.758	4.545	53.03	0.758	2.273	0.758	
651 A 48.507	48.507	5	48.507			1.493	1.493		11.194	26.119	2.985		1.515			0.746	0.746	5.97		
652 N 26.119	26.119	4	2.985	0.746		1.493	2.239		0.746	0.746		17.164	26.119		22.388	1.493	4.478	17.164		
653 G 23.485	23.485	1	21.97	0.758	2.273		23.485		11.364	0.758	3.788	2.273	3.788		17.424	6.061	1.515	2.273	2.273	
654 A 54.217	54.217	2	54.217		2.41	3.614		8.434	1.205	1.205	1.205	6.024		2.41	6.024	2.41	1.205	2.41	7.229	
655 F 38.843	38.843	2	2.479	0.826	4.132	38.843	1.653		1.653	21.488	10.744	0.826	1.653	4.959	6.612	3.306			0.826	
656 S 22.901	22.901	3	10.687		16.031		2.29		5.344		16.794	8.397	5.344	0.763	1.527	22.901	1.527	3.817	4.58	
657 Q 26.667	26.667	1	9.63	8.148	5.926		9.63	2.222	1.481	8.148	0.741	3.704	3.704	26.667	2.963	11.852	8.148	0.741		
658 I 66.667	66.667	6				3.704			66.667	0.741	8.889	3.704	1.481	0.741		2.222	0.741	9.63	1.481	
659 K 28.148	28.148	1	6.667	2.963	2.963		2.963	0.741	28.148	0.741		4.444	18.519	8.889	14.074	3.704	2.222	2.963		
660 D 39.259	39.259	4	2.222	39.259	36.296		17.037		0.741			0.741		1.481		2.222				
661 A 54.074	54.074	5	54.074		0.741	23.704			2.222	6.667	2.963			0.741	0.741	2.963		4.444	0.741	
662 FM 15.556	15.556	2	3.704	2.222	2.222	15.556			2.963	3.704	8.148	15.556	6.667	14.815	6.667	6.667	5.185	0.741	5.185	
663 V 51.111	51.111	4	10.37				1.481		23.704	2.963	2.222	1.481	0.741			1.481	4.444	51.111		
664 F 48.889	48.889	4	10.37		48.889	2.222	0.741		7.407	2.963	11.111	0.741				2.963	4.444	3.704	4.444	
665 A 50.370	50.37	5	50.37			2.222			6.667					11.852		13.333	2.963	12.593		
666 F 55.556	55.556	5	0.741		55.556				6.667	7.407	7.407					6.667	1.481	12.593	1.481	
667 N 31.111	31.111	3	7.407	0.741		1.481			1.481	5.185	6.667	31.111	15.556	7.407		11.111	4.444	7.407		
668 P 60.150	60.15	4	0.752			3.759			3.008		23.308	5.263			60.15	1.504	0.752	1.504		
669 P 93.333	93.333	8	4.444												93.333	0.741	1.481			
670 A 45.926	45.926	6	45.926	0.741	5.926		0.741								27.407		15.556	3.704		
671 I 57.778	57.778	8	0.741			0.741			57.778		17.037	0.741						22.963		
672 P 28.148	28.148	1	0.741	11.111	2.963		0.741		5.185	5.926	3.704	2.222	28.148	10.37	3.704	7.407	5.185	12.593		
673 G 57.037	57.037	7	0.741	2.963	31.852		57.037					1.481		0.741		2.222	2.963			
674 L 71.852	71.852	7	2.963			0.741	8.148	2.222		71.852	4.444	0.775	0.775			6.667	2.222		0.741	
675 G 88.372	88.372	7		0.775	3.101		88.372				0.775					4.651	0.775	0.775		
676 T 36.567	36.567	4	0.746	1.493	2.985		10.448	0.746	0.746	1.493	0.746	17.164		10.448	1.493	12.687	36.567	2.985		
677 A 32.836	32.836	6	32.836			2.239	20.149	5.224	0.746	1.493		1.493		2.239		24.627	8.955			
678 S 23.134	23.134	5	7.463	1.493		2.985	21.642		11.194	1.493			6.716	3.731		23.134	20.149			

686 D 68.148	68.148	8	6.667	68.148	0.741		0.741		2.963								19.259		
687 R 35.556	35.556	4	0.741						5.185	12.593	3.704	8.889			17.037	35.556	2.963	2.222	2.222
688 G 31.111	31.111	1	30.37		2.222		31.111					2.963	0.741		3.704	0.741	16.296	11.111	0.741
689 G 51.111	51.111	2	9.63	4.444			51.111		0.741					20.741	5.926	0.741	6.667		
690 L 37.037	37.037	1	11.852	2.222	0.741	0.741	6.667		0.741	2.963	37.037	2.222	4.444		11.111	8.148	0.741	4.444	5.926
691 G 67.407	67.407	5		12.593	2.963		67.407						2.963		2.222	1.481	6.667	2.963	
692 H 41.481	41.481	5	2.222		1.481	7.407		41.481	0.741	0.741	2.222	0.741			5.926	1.481	7.407	2.963	2.222
693 E 36.296	36.296	1	13.333	18.519	36.296			3.704	0.741		2.963			1.481	3.704	5.185	3.704	5.185	0.741
694 A 33.333	33.333	1	33.333	4.444	14.074			2.963		20				0.741	3.704	8.889	2.222	5.926	3.704
695 L 91.852	91.852	8	0.741			0.741				4.444	91.852	1.481							0.741
696 T 17.037	17.037	1	11.111	1.481	1.481	5.926			2.963	4.444	16.296	16.296	0.741		5.926	0.741	2.222	17.037	5.185
697 A 28.889	28.889	1	28.889	6.667	14.074		2.222			7.407	0.741		6.667		25.185	2.963	2.222	2.222	0.741
698 A 59.259	59.259	6	59.259	0.741	3.704	1.481			2.222	2.963	2.963	0.741		0.741	2.963	1.481	4.444	14.074	2.222
699 R 48.148	48.148	6	20		1.481		1.481		1.481		2.222	5.926			2.963	48.148	2.222	8.148	5.926
700 N 42.963	42.963	4	3.704	16.296	8.889	0.741		2.222		0.741	0.741	42.963			15.556	0.741	2.963	3.704	0.741
701 Q 45.926	45.926	3	3.704	3.704	11.111		2.222		2.222	8.889		1.481	5.185		45.926	5.926	0.741	7.407	1.481
702 L 59.259	59.259	5	1.481			9.63		10.37		59.259	8.148								11.111
703 L 52.593	52.593	4			0.741	2.963		15.556	5.185	52.593	5.185				4.444		2.963	1.481	8.889
704 G 34.815	34.815	1	17.778	2.963	7.407	2.963	34.815		0.741	5.185		2.963	3.704		12.593	0.741	1.481	5.185	
705 M 25.185	25.185	2	13.333		9.63			0.741	17.778		13.333	25.185	1.481		5.185	8.148	2.222	2.222	0.741
706 A 71.852	71.852	7	71.852				1.481		8.148		4.444	3.704					2.963	0.741	6.667
707 A 35.556	35.556	1	35.556	2.222	1.481	0.741		3.704	1.481	7.407	0.741	5.926	12.593		8.148	8.889	6.667	2.222	0.741
708 Q 44.444	44.444	3	7.407		8.889		2.963	0.741		21.481		0.741	5.185		44.444	0.741	2.222	3.704	
709 S 33.333	33.333	4	1.481		11.111	3.704	0.741	14.815		1.481	0.741		14.074		0.741	6.667	33.333	4.444	2.222
710 P 60.741	60.741	2		1.481	2.222		19.259	0.741		8.889				60.741	1.481	1.481	3.704		
711 D 16.296	16.296	1	6.667	16.296	13.333		5.926	0.741	5.926	11.852	8.148	2.222	3.704		7.407	6.667	3.704	0.741	6.667
712 L 29.167	29.167	1					4.167				29.167	25			4.167		4.167	16.667	16.667
713 L 62.963	62.963	7	0.741			23.704			3.704		62.963	2.963					0.741	5.185	
714 TV 30.263	30.263	1	11.842		1.316		1.316				3.947				2.632		14.474	30.263	30.263
715 G 24.444	24.444	1	5.185	2.963	1.481	14.815	24.444		0.741		1.481	8.889	0.741		2.632		6.667	0.741	2.963
716 V 63.704	63.704	6	4.444							5.185	9.63	4.444		5.185		0.741	3.704	2.963	63.704
717 R 48.889	48.889	5	0.741	10.37	0.741	10.37	0.741	1.481	2.963	0.741	0.741	5.185	2.963		2.963	48.889	0.741	2.222	0.741
718 P 35.556	35.556	4	7.407		1.481	0.741	1.481	6.667	4.444	1.481	8.148	2.222		35.556		17.037	8.889	0.741	1.481
719 N 42.963	42.963	7	2.222	21.481	3.704	0.741	2.222		0.741		17.778	0.741	42.963			14.815	11.111		
720 G 48.148	48.148	5	1.481		1.481	8.148	48.148		0.741		17.778	0.741				2.963	3.704	2.222	1.481
721 L 40.000	40	4	3.704		5.926	0.741	0.741			11.111	40	5.926	2.222		17.778	8.148	2.222	1.481	
722 E 30.370	30.37	4	13.333	7.407	30.37	8.889	0.741		5.926		0.741		3.704	7.407	0.741	2.222	2.963	1.481	6.667
723 D 58.519	58.519	7	1.481	58.519	5.185		1.481					20.741	2.963		4.444		5.185		
724 T 23.704	23.704	5	11.852		4.444		5.185		2.222	5.185	1.481	4.444	2.963		2.963	0.741	17.037	23.704	17.778
725 P 80.000	80	6	6.667		0.741	0.741					0.741	0.741		80		2.963	0.741	2.222	1.481
726 Q 70.370	70.37	7		0.741	6.667		0.741	0.741		1.481	0.741		1.481		70.37	3.704	5.185	3.704	
727 L 35.556	35.556	3	2.222			15.556			5.926		35.556	6.667				0.741	2.222	12.593	18.519
728 KQ 21.481	21.481	1	2.222	9.63	5.926	0.741		3.704		21.481	1.481		5.926		21.481	15.556	1.481	4.444	2.222
729 L 37.037	37.037	4	8.889		0.741					31.111	37.037	0.741						20.741	0.741
730 D 41.481	41.481	1	2.222	41.481	12.593			5.185	3.704	7.407	1.481		5.926	0.741	2.963	2.222	7.407	2.963	0.741
731 I 69.630	69.63	7				0.741			69.63		5.926							23.704	
732 D 90.370	90.37	8			90.37					0.741			8.889						
733 R 52.593	52.593	7	0.741		5.185	0.741		2.222		5.185	2.222		1.481	0.741	24.444	52.593	0.741	0.741	2.963
734 E 42.963	42.963	2	12.593	12.593	42.963			0.741	0.741	0.741	0.741		5.926		3.704	9.63	1.481	3.704	4.444
735 K 80.741	80.741	7	2.222						0.741	80.741	2.222				8.148	5.926			
736 A 88.148	88.148	8							1.481		2.963	0.741							6.667
737 Q 22.963	22.963	3	14.815		11.852	0.741	10.37		0.741	16.296	2.222	0.741	2.963		22.963	7.407	6.667	1.481	0.741
738 A 59.259	59.259	5		5.185	1.481				0.741	0.741	2.963				5.926	1.481	10.37	8.889	2.963
739 L 61.481	61.481	6	1.481				3.704		0.741	61.481	14.074				10.37		0.741		
740 G 91.111	91.111	7	0.741	1.481			91.111		0.741				1.481		3.704		0.741		7.407
741 V 64.444	64.444	6	0.741																
742 S 50.370	50.37	4	7.407	4.444	1.481		2.222		0.741		20.741	1.481							64.444
743 I 28.148	28.148	4	0.741			9.63		28.148		26.667	17.037		1.481	0.741					11.852
744 S 29.630	29.63	3	14.074	13.333	5.185		2.222	0.741		2.222			6.667		14.815	1.481	29.63	8.889	
745 D 59.259	59.259	3	5.185	59.259	8.148								5.926		9.63	1.481	5.185	5.185	
746 I 65.185	65.185	7	1.481						65.185		8.148								25.185
747 N 42.222	42.222	6	3.704		0.741	20.741	13.333						42.222			0.741	11.852	2.963	0.741
748 S 23.704	23.704	1	8.148	16.296	11.111	0.741	4.444	0.741	1.481	0.741					9.63		23.704	11.852	0.741
749 T 77.037	77.037	7	6.667		3.704				1.481						0.741		5.926	77.037	3.704
750 L 76.296	76.296	7				1.481			10.37		76.296	7.407							4.444
751 S 35.556	35.556	6	12.593	0.741	1.481		17.037		1.481				0.741		27.407	1.481	35.556	1.481	
752 T 39.259	39.259	3	21.481				1.481		10.37		2.222		1.481			11.111	39.259	11.852	0.741
753 A 51.852	51.852	6	51.852			3.704	1.481				8.889	10.37		1.481			2.222	3.704	14.074
754 L 43.704	43.704	5			10.37				0.741		43.704	11.111						3.704	28.889

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824 S 51.852	51.852		7	42.963													51.852	5.185		
825 A 29.630	29.63		5	29.63				5.926		8.148	25.926						1.481	0.741	21.481	
826 E 42.963	42.963		4	2.222		8.148	42.963	2.222	0.741								3.704	11.111	0.741	3.704
827 I 69.630	69.63		7					69.63			22.222	0.741							6.667	
828 Q 20.000	20		4	2.963		0.741	2.963	0.741	2.963	0.741							18.519	6.667	11.852	0.741
829 G 84.444	84.444		8	13.333					84.444		0.741								0.741	
830 E 23.704	23.704		2	11.111		8.148	23.704	1.481	5.185									14.815	0.741	14.074
831 A 50.000	50		2	50				3.906										1.562	0.781	3.125
832 A 74.803	74.803		6	74.803		3.15				0.787								6.299	3.15	1.575
833 P 84.211	84.211		4	5.263		0.752	0.752	0.752										0.787	0.752	3.008
834 G 89.552	89.552		7	0.746		0.746			89.552		2.985	0.752						2.985	3.008	3.008
835 V 29.104	29.104		1	2.239		0.746	0.746	4.478	1.493	3.731	3.731	14.925	2.239	0.746				1.493	2.239	2.239
836 S 84.444	84.444		8	4.444														84.444	6.667	5.224
837 S 43.704	43.704		7	0.741			0.741				0.741	0.741	6.667	8.148		1.481	2.222	0.741	37.037	29.104
838 G 88.148	88.148		7	2.222		5.185	0.741		88.148									43.704	0.741	0.741
839 E 37.037	37.037		3	6.667		16.296	37.037				1.481							2.963	10.37	2.222
840 A 93.333	93.333		9	93.333				2.222										0.741		5.185
841 M 60.741	60.741		8				2.963				13.333	1.481	11.111	60.741				4.444	0.741	5.185
842 A 44.444	44.444		1	44.444		17.037	6.667				0.741	3.704	2.222	0.741		6.667		5.185	0.741	2.222
843 A 24.444	24.444		2	24.444			17.778	6.667			3.704	2.222	16.296	3.704				1.481	0.741	5.185
844 M 51.852	51.852		7	0.741				1.481			14.074	2.222	51.852					0.741	9.63	6.667
845 E 74.815	74.815		5	2.963		2.963	74.815		0.741		0.741	2.963				0.741		8.889	0.741	2.222
846 E 17.778	17.778		1	9.63		5.926	17.778		4.444			15.556		1.481		2.963	12.593	17.037	5.926	5.185
847 L 53.333	53.333		3	4.444			4.444	1.481		0.741	16.296	1.481	53.333	5.185	0.741		2.222		2.963	6.667
848 A 58.647	58.647		5	58.647							5.263		10.526	1.504				1.504	1.504	21.053
849 A 28.571	28.571		1	28.571		6.015	3.759		5.263	0.752		16.541				6.767	3.008	3.759	15.789	0.752

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1031 R 48.889	48.889	1	2.222		2.222	2.963		7.407	1.481		15.556			1.481		1.481	48.889	9.63	5.926		0.741
1032 R 27.407	27.407	1	2.963	0.741	5.926	2.963	8.148		7.407	5.185	19.259	3.704	2.963	1.481	0.741	27.407		2.222	5.185	2.222	1.481
1033 F 43.704	43.704	5	3.704		1.481	0.741	43.704	1.481	14.074	0.741	4.444	4.444	0.741		3.704	7.407	4.444		8.889		
1034 KS 14.925	14.925	1	4.478		2.985	14.179		11.194	2.239	1.493	14.925	2.239	1.493	11.94	4.478	6.716	14.925	6.716			
1035 R 32.090	32.09	1	1.493		4.478	2.239	0.746	6.716	2.239		17.91	6.716	0.746	8.209	1.493	32.09	4.478	0.746	3.731	4.478	1.493
1036 K 34.091	34.091	1	1.515		2.273	3.788	3.03	2.273	4.545	3.03	34.091	11.364	0.758	2.273	1.515	2.273	16.667	5.303	1.515	3.03	0.758
1037 P 13.077	13.077	1	6.923		3.846	9.231	0.769	4.615	5.385		11.538	3.846	1.538	6.923	13.077	7.692	5.385	10.769	4.615	3.077	0.769
1038 E 19.380	19.38	1	14.729		6.202	19.38	0.775	3.876	3.876	0.775	10.853	1.55	1.55	5.426	3.101	13.178	3.876	5.426	4.651		0.775
1039 D 12.000	12	1	8		12	8	7.2	2.4	4.8	1.6	8.8	2.4	1.6	9.6	4.8	10.4	5.6	5.6	4	3.2	
1040 A 15.238	15.238	1	15.238		5.714	11.429		5.714	0.952	6.667	7.619	3.81	1.905	2.857	3.81	5.714	7.619	6.667	5.714	7.619	0.952
1041 E 20.000	20	1	10		4	20	2	2	3	7	6	6		6	5	4	9	3	5	8	
1042 AEHPS 10.784	10.784	1	10.784		5.882	10.784	0.98	3.922	10.784	0.98	5.882	0.98	1.961	3.922	10.784	5.882	4.902	10.784	4.902	3.922	1.961
1043 E 18.367	18.367	1	4.082	1.02	4.082	18.367		3.061	7.143	1.02	4.082	10.204	4.082		12.245	3.061	3.061	17.347	5.102	2.041	
1044 H 17.778	17.778	1	11.111		5.556	12.222		2.222	17.778	1.111	10	6.667	1.111	3.333		6.667	2.222	6.667	5.556	7.778	
1045 P 16.279	16.279	1	13.953		5.814	10.465		3.488	2.326	3.488	8.14	4.651	1.163	1.163	16.279	3.488	3.488	10.465	9.302	2.326	
1046 SV 14.286	14.286	1	10.39		2.597	11.688		3.896	2.597	1.299	6.494	6.494		3.896	6.494	9.091	2.597	14.286	3.896	14.286	
1047 E 25.000	25	1	6.818		22.727	25		9.091	9.091	2.273	2.273	2.273			2.273	2.273		4.545	6.818		4.545
1048 H 26.316	26.316	1	5.263		5.263	13.158			26.316	2.632	13.158		5.263	5.263	5.263		13.158	5.263			
1049 H 43.243	43.243	1	10.811			5.405	2.703	5.405	43.243		2.703	8.108		2.703	8.108	2.703	8.108	2.703	5.405		