

Supplementary tables

Table S1. Amino acid scale values: Bulkiness.

Author(s): Zimmerman J.M., Eliezer N., Simha R. (J. Theor. Biol. 21:170-201, 1968).

aa	value
Ala:	11.5
Arg:	14.28
Asn:	12.82
Asp:	11.68
Cys:	13.46
Gln:	14.45
Glu:	13.57
Gly:	3.4
His:	13.69
Ile:	21.4
Leu:	21.4
Lys:	15.71
Met:	16.25
Phe:	19.8
Pro:	17.43
Ser:	9.47
Thr:	15.77
Trp:	21.67
Tyr:	18.03
Val:	21.57

Table S2.Amino acid scale values: Polarity.

Author(s): Grantham R. (Science 185:862-864, 1974).

aa	value
Ala:	8.1
Arg:	10.5
Asn:	11.6
Asp:	13
Cys:	5.5
Gln:	10.5
Glu:	12.3
Gly:	9
His:	10.4
Ile:	5.2
Leu:	4.9
Lys:	11.3
Met:	5.7
Phe:	5.2
Pro:	8
Ser:	9.2
Thr:	8.6
Trp:	5.4
Tyr:	6.2
Val:	5.9

Table S3. List of the proteins on the chip

Accession	Protein Name	Rv number	Description
1	CAE55240	Rv0096	Uncharacterized PPE family protein PPE1
2	CAE55258	Rv0256c	Uncharacterized PPE family protein PPE2
3	CAE55264	Rv0280	Uncharacterized PPE family protein PPE3
4	CAE55266	Rv0286	Uncharacterized PPE family protein PPE4
5	CAE55269	Rv0304c	PPE FAMILY PROTEIN
6	CAE55270	Rv0305c	PPE FAMILY PROTEIN
7	CAE55275	Rv0354c	PPE FAMILY PROTEIN
8	CAE55276	Rv0355c	PPE FAMILY PROTEIN
9	CAE55279	Rv0388c	PPE FAMILY PROTEIN
10	CAE55281	Rv0442c	Uncharacterized PPE family protein PPE10
11	CAE55282	Rv0453	Uncharacterized PPE family protein PPE11
12	CAE55317	Rv0747	Uncharacterized PE-PGRS family protein PE_PGRS10
13	CAE55320	Rv0755c	Uncharacterized PPE family protein PPE12
14	CAE55333	Rv0878c	Uncharacterized PPE family protein PPE13
15	CAE55334	Rv0915c	Uncharacterized PPE family protein PPE14
16	CAE55349	Rv1039c	Uncharacterized PPE family protein PPE15
17	CAE55364	Rv1135c	Uncharacterized PPE family protein PPE16
18	CAE55367	Rv1168c	Uncharacterized PPE family protein PPE17
19	CAE55371	Rv1196	PPE FAMILY PROTEIN (PPE family protein)
20	CAE55379	Rv1361c	Uncharacterized PPE family protein PPE19
21	CAE55384	Rv1387	Uncharacterized PPE family protein PPE20
22	CAE55401	Rv1548c	Uncharacterized PPE family protein PPE21
23	CAE55412	Rv1705c	Uncharacterized PPE family protein PPE22
24	CAE55413	Rv1706c	Uncharacterized PPE family protein PPE23
25	CAE55416	Rv1753c	Uncharacterized PPE family protein PPE24
26	CAE55420	Rv1787	Uncharacterized PPE family protein PPE25
27	CAE55422	Rv1789	PPE FAMILY PROTEIN
28	CAE55423	Rv1790	PPE FAMILY PROTEIN
29	CAE55427	Rv1800	Uncharacterized PPE family protein PPE28
30	CAE55428	Rv1801	Uncharacterized PPE family protein PPE29
31	CAE55429	Rv1802	Uncharacterized PPE family protein PPE30
32	CAE55432	Rv1807	PPE FAMILY PROTEIN (Fragment)
33	CAE55433	Rv1808	Uncharacterized PPE family protein PPE32
34	CAE55434	Rv1809	Uncharacterized PPE family protein PPE33
35	CAE55440	Rv1917c	PPE FAMILY PROTEIN
36	CAE55441	Rv1918c	PPE FAMILY PROTEIN
37	CAE55455	Rv2108	Uncharacterized PPE family protein PPE36
38	CAE55457	Rv2123	Uncharacterized PPE family protein PPE37
39	CAE55476	Rv2352c	Uncharacterized PPE family protein PPE38
40	CAE55477	Rv2353c	PPE FAMILY PROTEIN
41	CAE55478	Rv2356c	Uncharacterized PPE family protein PPE40
42	CAE55484	Rv2396	PE-PGRS FAMILY PROTEIN
43	CAE55489	Rv2430c	PPE FAMILY PROTEIN
44	CAE55504	Rv2608	Uncharacterized PPE family protein PPE42
45	CAE55520	Rv2768c	PPE FAMILY PROTEIN
46	CAE55522	Rv2770c	Uncharacterized PPE family protein PPE44
47	CAE55529	Rv2892c	Uncharacterized PPE family protein PPE45
48	CAE55538	Rv3018c	Uncharacterized PPE family protein PPE46
49	CAE55555	Rv3125c	Uncharacterized PPE family protein PPE49
50	CAE55558	Rv3135	Uncharacterized PPE family protein PPE50

51	CAE55559	Rv3136	Uncharacterized PPE family protein PPE51
52	CAE55560	Rv3144c	PPE-FAMILY PROTEIN
53	CAE55561	Rv3159c	PPE FAMILY PROTEIN
54	CAE55585	Rv3343c	Uncharacterized PPE family protein PPE54
55	CAE55588	Rv3347c	PPE FAMILY PROTEIN
56	CAE55589	Rv3350c	PPE FAMILY PROTEIN
57	CAE55590	Rv3367	PE-PGRS FAMILY PROTEIN
58	CAE55596	Rv3425	Uncharacterized PPE family protein PPE57
59	CAE55597	Rv3426	Uncharacterized PPE family protein PPE58
60	CAE55598	Rv3429	Uncharacterized PPE family protein PPE59
61	CAE55601	Rv3478	PE FAMILY PROTEIN
62	CAE55609	Rv3532	Uncharacterized PPE family protein PPE61
63	CAE55610	Rv3533c	Uncharacterized PPE family protein PPE62
64	CAE55612	Rv3539	Uncharacterized PPE family protein PPE63
65	CAE55613	Rv3558	PPE FAMILY PROTEIN
66	CAE55623	Rv3621c	Uncharacterized PPE family protein PPE65
67	CAE55634	Rv3738c	Uncharacterized PPE family protein PPE66
68	CAE55635	Rv3739c	PPE FAMILY PROTEIN
69	CAE55649	Rv3892c	Uncharacterized PPE family protein PPE69
70	CAE55541	Rv3021c	Uncharacterized PPE family protein PPE47/PPE48
71	CAE55542	Rv3022c	Uncharacterized PPE family protein PPE47/PPE48
72	CAA15575	Rv2780	Alanine dehydrogenase (EC 1.4.1.1) (40 kDa antigen) (TB43)
73	CAA15747	Rv3362c	PROBABLE ATP/GTP-BINDING PROTEIN
74	CAA16039	Rv2462c	Trigger factor (TF)
75	CAA16091	Rv3006	Lipoprotein, putative (PROBABLE CONSERVED LIPOPROTEIN LPPZ)
76	CAA17091	Rv3319	PROBABLE SUCCINATE DEHYDROGENASE)
77	CAA17454	Rv0583c	Lipoprotein, MK35 (PROBABLE CONSERVED LIPOPROTEIN LPQN)
78	CAA17732	Rv3495c	POSSIBLE MCE-FAMILY LIPOPROTEIN LPRN
79	CAA17852	Rv1979c	Uncharacterized transporter Rv1979c/MT2031
80	CAA17874	Rv3810	Exported repetitive protein (Cell surface protein pirG) (EXP53)
81	CAA17997	Rv3675	POSSIBLE MEMBRANE PROTEIN
82	CAA18085	Rv3763	Lipoprotein lpqH (19 kDa lipoprotein antigen)
83	CAA98206	Rv2094c	Sec-independent protein translocase protein tatA/E homolog
84	CAA98350	Rv2873	Cell surface lipoprotein MPT83 (Lipoprotein p23)
85	CAA98373	Rv2875	Immunogenic protein MPT70
86	CAA98382	Rv1980c	Immunogenic protein MPT64 (Antigen MPT64)
87	CAA98399	Rv1984c	Probable cutinase Rv1984c/MT2037 (EC 3.1.1.74)
88	CAB00936	Rv0475	Heparin-binding hemagglutinin (Adhesin)
89	CAB01465	Rv1837c	Malate synthase G (EC 2.3.3.9)
90	CAB02197	Rv1411c	Lipoprotein lprG (27 kDa lipoprotein) (Antigen P27)
91	CAB06194	Rv2544	Putative lipoprotein lppB
92	CAB06500	Rv1926c	Immunogenic protein MPT63 (16 kDa immunoprotective extracellular protein)
93	CAB06600	Rv0394c	POSSIBLE SECRETED PROTEIN
94	CAB06849	Rv1030	Potassium-transporting ATPase B chain (EC 3.6.3.12)
95	CAB08091	Rv3883c	MEMBRANE-ANCHORED MYCOSIN
96	CAB08642	Rv2151c	Cell division protein ftsQ homolog
97	CAB08674	Rv3444c	PUTATIVE ESAT-6 LIKE PROTEIN ESXT
98	CAB08989	Rv0538	POSSIBLE CONSERVED MEMBRANE PROTEIN
99	CAB10947	Rv1690	PROBABLE LIPOPROTEIN LPRJ
100	CAE55277	Rv0379	POSSIBLE PROTEIN TRANSPORT PROTEIN SECE2
101	CAE55339	Rv0934	Phosphate-binding protein pstS 1 (PBP 1) (PstS-1) (Antigen Ag78)
102	CAE55438	Rv1860	Alanine and proline-rich secreted protein apa (45 kDa glycoprotein)
103	CAA17583	Rv0984	Molybdenum cofactor biosynthesis protein
104	CAA15754	Rv3369	Possible role in intermediary metabolism (central biochemistry)
105	CAB01977	Rv0944	formamidopyrimidine-DNA glycosylase
106	CAB06684	Rv0272c	Possible hydrolase
107	CAB08851	Rv3628	Inorganic pyrophosphatase (EC 3.6.1.1) (Pyrophosphate phospho-hydrolase) (PPase)

108	CAB08882	Rv1629	DNA polymerase I (POL I) (EC 2.7.7.7)
109	CAB09390	Rv0667	DNA-directed RNA polymerase subunit beta (
110	CAB09599	Rv0302	PROBABLE TRANSCRIPTIONAL REGULATORY PROTEIN
111	CAA16135	Rv3050c	TRANSCRIPTIONAL REGULATORY PROTEIN (PROBABLY ASNC-FAMILY)
112	CAB00986	Rv2282c	transcriptional regulator, lysR-family
113	CAB07007	Rv0212c	asnC-family transcriptional regulator nadR
114	CAB08347	Rv3246c	two component system; DNA-binding response regulator mtrA
115	CAB08624	Rv2618	Putative transcriptional regulator
116	CAA15542	Rv2746c	Putative CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyl-transferase 2
117	CAA15852	Rv1175c	PROBABLE NADPH DEPENDENT 2,4-DIENOYL-COA REDUCTASE FADH
118	CAA17289	Rv2252	Diacylglycerol kinase (DAG kinase) (DAGK) (EC 2.7.1.107)
119	CAA17868	Rv3804c	Antigen 85-A (Antigen 85 complex A) (85A) (Ag85A) (
120	CAA97750	Rv1284	Putative carbonate dehydratase-like protein Rv1284 (EC 4.2.1.-)
121	CAA98375	Rv2870c	1-deoxy-D-xylulose 5-phosphate reductoisomerase
122	CAB02482	Rv3775	PROBABLE LIPASE LIPE (EC 3.1.-.-)
123	CAB05415	Rv2962c	PGL/p-HBAD biosynthesis rhamnosyltransferase (EC 2.4.1.-)
124	CAB05419	Rv2957	PGL/p-HBAD biosynthesis glycosyltransferase Rv2957/MT3031 (EC 2.4.1.-)
125	CAB07015	Rv0220	Esterase, putative (PROBABLE ESTERASE LIPC) (EC 3.1.1.-)
126	CAB07121	Rv0632c	Enoyl-CoA hydratase/isomerase family protein
127	CAB09570	Rv0456c	ENOYL-CoA HYDRATASE ECHA2 (
128	CAB10044	Rv1886c	Antigen 85-B (30 kDa extracellular protein)
129	CAA15761	Rv3376	Hydrolase, haloacid dehalogenase-like family
130	CAA15898	Rv1242	Probable ribonuclease VapC33 (Probable RNase VapC33) (EC 3.1.-.-) (Toxin VapC33)
131	CAA16227	Rv3914	Thioredoxin (Trx) (MPT46)
132	CAA17245	Rv2031c	Alpha-crystallin (Acr) (14 kDa antigen) (16 kDa antigen) (HSP 16.3) (Nox16)
133	CAA17973	Rv3881c	ESX-1 secretion-associated protein EspB (Antigen MTB48)
134	CAB05444	Rv2984	Polyphosphate kinase (
135	CAB06225	Rv3841	Probable bacterioferritin BfrB (Non-heme ferritin Ftn) (Nox19)
136	CAB06237	Rv3864	ESX-1 secretion-associated protein EspE
137	CAB06572	Rv0432	Superoxide dismutase [Cu-Zn] (EC 1.15.1.1)
138	CAB08349	Rv3248c	Adenosylhomocysteinase (EC 3.3.1.1) (AdoHcyase)
139	CAB08950	Rv3616c	ESX-1 secretion-associated protein EspA
140	CAB09046	Rv1114	Probable ribonuclease VapC32 (Probable RNase VapC32) (EC 3.1.-.-) (Toxin VapC32)
141	CAB09572	Rv0798c	29 kDa ANTIGEN CFP29 (Bacteriocin CFP29)
142	CAB10056	Rv1908c	Catalase-peroxidase (CP) (EC 1.11.1.6) (EC 1.11.1.7) (Peroxidase/catalase)
143	CAB10938	Rv1681	POSSIBLE MOLYBDOPTERIN BIOSYNTHESIS PROTEIN MOEX
144	CAB10951	Rv1694	CYTOTOXIN HAEMOLYSIN HOMOLOGUE TLYA
145	CAA18084	Rv3762c	POSSIBLE HYDROLASE (EC 3.-.-.-)
146	CAA17525	Rv0796	Transposase for insertion sequence element IS986/IS6110 (ORFB)
147	CAA17966	Rv3874	ESAT-6-like protein esxB
148	CAE55647	Rv3873	Uncharacterized PPE family immunogenic protein PPE68
149	CAE55648	Rv3875	6 kDa early secretory antigenic target (ESAT-6)
150	CAB09110	Rv0801	Conserved uncharacterised protein (possible glyoxalase family)
151	CAA98210	Rv2100	Uncharacterized protein Rv2100/MT2160
152	CAB08344	Rv3243c	Putative uncharacterized protein
153	CAB08696	Rv3472	Putative uncharacterized protein
154	CAB09250	Rv1434	Putative uncharacterized protein