

Supplementary material I

Table 1.

Summary of the characteristics of the 43 investigated organisms. For each organism we show the number of substrate (N), number of links (L), number of individual reactions or temporary substrate-enzyme complexes (R), number of enzymes (E), the exponent γ_{in} and γ_{out} and the diameter of the metabolic network (D). In the last two columns we list the ten substrates with the largest number of incoming (IN) and outgoing (OUT) links. The letters correspond to: a=H₂O, b=ADP, c=orthophosphate, d=ATP, e=L-glutamate, f=NADP⁺, g=pyrophosphate, h=NAD⁺, i=NADPH, j=NADH, k=CO₂, l=NH₄⁺, m=CoA, n=AMP, o=pyruvate, p=L-glutamine, q=2-oxoglutarate, r='alpha'-D-glucose 1-phosphate, s=phospho`enol`pyruvate, t=acetyl-CoA, u=H⁺, v=uridine, w=cytidine, x=UMP, y=CMP, z=glycerol, α =D-fructose 6-phosphate. The color code of the fields denotes the different domains of life such a magenta = Archae green = Bacterium sky blue =Eukaryote.

No.	Name	<i>N</i>	<i>L(IN)</i>	<i>L(OUT)</i>	<i>R</i>	<i>E</i>	γ_{in}	γ_{out}	<i>D</i>	Hub(IN)	Hub(OUT)
1	<i>A. pernix</i>	204	588	575	178	135	2.2	2.2	3.2	bacdelgfij	adbcegiqph
2	<i>A. fulgidus</i>	496	1527	1484	486	299	2.2	2.2	3.5	abcdghefjk	adbijchemf
3	<i>M. thermoautotrophicum</i>	430	1374	1331	428	280	2.2	2.2	3.4	abcdgefkh	adbicejfk
4	<i>M. jannaschii</i>	424	1317	1272	415	264	2.2	2.3	3.5	abcdgeknfh	adbceijkhf
5	<i>P. furiosus</i>	316	901	867	283	191	2.0	2.3	3.4	abcdgeknfh	dabceipjhf
6	<i>P. horikoshii</i>	323	914	882	288	196	2.0	2.2	3.4	abdcgefknf	dabceipjhf
7	<i>A. aeolicus</i>	419	1278	1249	401	285	2.1	2.2	3.3	bcadgefkh	adbceijghf
8	<i>C. pneumoniae</i>	194	401	391	134	84	2.2	2.3	3.4	bdcagfleri	dabciergfp
9	<i>C. trachomatis</i>	215	479	462	158	94	2.2	2.4	3.5	bdacgelfrm	dbaciegrfp
10	<i>Synechocystis</i> sp.	546	1782	1746	570	370	2.0	2.2	3.3	abcdgefghjk	adbicjehfg
11	<i>P. gingivalis</i>	424	1192	1156	374	254	2.2	2.2	3.3	abdcgefknh	adbceipjhg
12	<i>M. bovis</i>	429	1247	1221	391	282	2.2	2.2	3.2	abdcgefknm	adbceifhjq
13	<i>M. leprae</i>	422	1271	1244	402	282	2.2	2.2	3.2	abcdgefknml	adbceifhjq
14	<i>M. tuberculosis</i>	587	1862	1823	589	358	2.0	2.2	3.3	abdcghemjk	adbjhmceit
15	<i>B. subtilis</i>	785	2794	2741	916	516	2.2	2.1	3.3	abdcjhmegef	adhbjcimef
16	<i>E. faecalis</i>	386	1244	1218	382	281	2.1	2.2	3.1	bdacgelfik	adbceifghj
17	<i>C. acetobutylicum</i>	494	1624	1578	511	344	2.1	2.2	3.3	abcdgefghk	adbceijhfo
18	<i>M. genitalium</i>	209	535	525	196	85	2.4	2.2	3.5	bdcgzxuyos	adbcbguvwos
19	<i>M. pneumoniae</i>	178	470	466	154	88	2.3	2.2	3.2	bcdgxoyasl	dabcbgowvwr
20	<i>S. pneumoniae</i>	416	1331	1298	412	288	2.1	2.2	3.2	abdcgelfno	adbceifghj
21	<i>S. pyogenes</i>	403	1300	1277	404	280	2.1	2.2	3.1	abdcefoln	adbceifohg
22	<i>C. tepidum</i>	389	1097	1062	333	231	2.1	2.2	3.3	badcgfknki	dabceipgqf
23	<i>R. capsulatus</i>	670	2174	2122	711	427	2.1	2.2	3.4	abcdhgefjk	adbjhcimet
24	<i>R. prowazekii</i>	214	510	504	155	100	2.3	2.3	3.4	bdacgefilm	dabicfemgt
25	<i>N. gonorrhoeae</i>	406	1298	1270	413	285	2.1	2.2	3.2	abdcgefknj	adbiechfjg
26	<i>N. meningitidis</i>	381	1212	1181	380	271	2.2	2.2	3.2	abdcegfkli	adbceifhfg
27	<i>C. jejuni</i>	380	1142	1115	359	254	2.1	2.3	3.2	abdcegfkih	adbceifghj
28	<i>H. pylori</i>	375	1181	1144	375	246	2.0	2.3	3.3	abcdgefknk	dabciejfhp
29	<i>E. coli</i>	778	2904	2859	968	570	2.2	2.1	3.2	abcdhjmlf	adhjbciefm
30	<i>S. typhi</i>	819	3008	2951	1007	577	2.2	2.2	3.2	abcdhjefgm	adhjbciefm
31	<i>Y. pestis</i>	568	1754	1715	580	386	2.1	2.2	3.3	abdcgefklf	adbceihjfl
32	<i>A. actinomycetemcomitans</i>	395	1202	1166	380	271	2.1	2.2	3.2	bacdfefikl	adbceifhfg
33	<i>H. influenzae</i>	526	1773	1746	597	361	2.1	2.3	3.2	abcdgefghm	adbchiefju
34	<i>P. aeruginosa</i>	734	2453	2398	799	490	2.1	2.2	3.3	abdchjkgef	adjhbimcef
35	<i>T. pallidum</i>	207	562	555	175	124	2.2	2.3	3.1	bdcgaefnfh	dabcegiplf
36	<i>B. burgdorferi</i>	187	442	438	140	106	2.3	2.4	3.0	bdgcaefnfh	dabcbgifeal
37	<i>T. maritima</i>	338	1004	976	302	223	2.1	2.2	3.2	badcegfikn	dabceifgqh
38	<i>D. radiodurans</i>	815	2870	2811	965	557	2.2	2.1	3.3	acbdhjgkcm	adhbjcimef
39	<i>E. nidulans</i>	383	1095	1081	339	254	2.1	2.2	3.3	abdceghfl	adbceiheifq
40	<i>S. cerevisiae</i>	561	1934	1889	596	402	2.0	2.2	3.3	abdcehgkcm	adbhceifem
41	<i>C. elegans</i>	462	1446	1418	450	295	2.1	2.2	3.3	abdcjhelgk	adbhceiefm
42	<i>O. sativa</i>	292	763	751	238	178	2.1	2.3	3.5	badcegljkn	adbcehijfn
43	<i>A. thaliana</i>	302	804	789	250	185	2.1	2.3	3.5	badceghjlk	adbcehijgn