ADDITIONAL DATA FILE 3: Conditional dependency of the regulatory network

Arrays were grouped into conditional categories depending on the major cue that was changed in the experiments of the compendium (this categorization is shown in Table S1). For instance, the category *aerobic-anaerobic* groups all arrays in which the effect of changing the oxygen level on gene expression was measured.

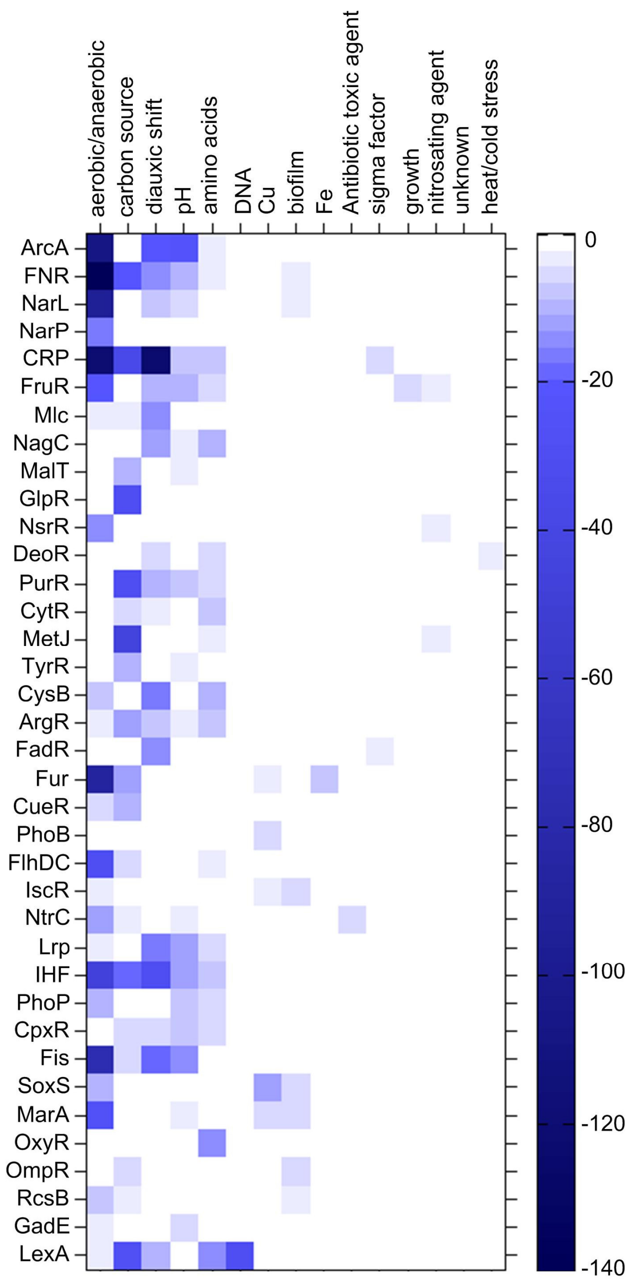

Figure S1: Columns: Conditional categories. Rows: regulators for which modules were detected by DISTILLER. Each entry indicates to what extent the conditions of the modules of a particular regulator are enriched (log p-value) for a specific category.

Figure S1 shows to what extent the conditions of the modules of a particular regulator are enriched for a specific category. Enrichment of a conditional category thus implies that the target genes of a particular regulator are mainly co-expressed in conditions belonging to the enriched category and this indirectly gives information on the conditions where a particular regulator is active. As the global metabolism has to be tuned towards the simultaneous interplay of several triggers such as oxygen, carbon source and amino acid availability, cross talk between conditional categories is to be expected: the more categories a regulator is involved in, the more global its role is in coordinating the overall cellular response. In general, most regulators are active in conditions that are in agreement with their annotation. A more detailed description follows next.

Oxygen responsive regulators

The well-known regulators responsive to oxygen, redox levels and alternative electron acceptors (FNR, ArcA, NarL and NarP) [49] are among the most overrepresented in the conditional category *aerobic-anaerobic*. To some extent their activity is also visible during *diauxic shift*. This is to be expected as changes in the expression levels of genes of the respiratory chain should be tuned towards the reducing power generated during carbon catabolism switches.

Regulators of the carbon metabolism

The regulators of carbon metabolism (CRP, MalT, Mlc, NagC, FruR, GlpR) are active in different conditional categories. The global regulator CRP has the most pronounced pleiotropic behavior and is active in the categories *aerobic-anaerobic*, *diauxic shift*, *carbon source* and *amino acids*. FruR and Mlc (and its paralog NagC [28]), regulators of respectively glyconeogenesis and glycolysis, seem mainly active in *diauxic shift* conditions. FruR activity also depends on changes in the oxygen concentration and to a lower extent on amino acid availability, indicating that FruR together with CRP tunes the level of carbon source utilization towards oxygen and amino acid availability. Although they are paralogs, Mlc is mainly active during *diauxic shift*, while NagC modules are also linked to *amino acids* conditions. This is to be expected as Mlc is mainly sensitive to glucose levels while NagC repressed genes are derepressed in the presence of amino sugars (N-acetylglucosamine (GlcNAc) [28]. Modules of the more specific regulators MalT and GlpR, involved respectively in the regulation of maltose and glycerol catabolism, are mainly expressed in the conditional category *carbon source*, upon addition of their respective carbon sources to the medium.

Regulators of nucleoside and amino acid biosynthesis

The conditions of modules involved in synthesis of novel molecular building blocks (nucleotides (DeoR, PurR, CytR), amino acids (CysB, Lrp, ArgR) and fatty acids (FadR)) are all enriched for the *diauxic shift* category. This is not surprising as most diauxic experiments assess growth recovery after starvation: the growth renewal requires the synthesis of novel building blocks. The conditional categories where regulators of purine and pyrimidine metabolism (DeoR, PurR, and CytR) are active suggest partial complementary: DeoR is mainly active during *diauxic shift* and *amino acid* starvation, CytR during *amino acid* starvation and PurR during *diauxic shift* and alterations of the *carbon source*. The condition sets of the modules involved in the biosynthesis of methionine, tyrosine and arginine (MetJ, TyrR and ArgR modules) are overrepresented in the *carbon source* category. Modules regulated by the nitrogen sensor NtrBC contain mainly conditions related to *diauxic shift*, and *amino acid* and *carbon source* alterations, confirming the role of the two-component system NtrBC in tuning the nitrogen availability to the carbon source and energy availability [50].

Regulators sensitive towards Iron/Cu

The role of Fur is very pronounced during *iron* related conditions but also during conditions which alter the oxygen level (*aerobic-anaerobic*). Indeed, Fe^{2+} is known to be an essential component of the prosthetic groups in enzymes involved in the electron transport chain and in protection against oxidative stress. The synthesis of these proteins not only depends on the oxygen concentration but also needs to be tuned towards the iron availability [51]. CueR, the regulator of the copper efflux system *copA,* is induced upon elevated copper levels [52], but does not seem active during comparable conditions in our compendium.

Nucleoid associated regulators

By acting both as a specific transcriptional regulator and nucleoid-associated protein, Lrp functions as a global regulator that is responsive to medium quality changes (starvation, osmolarity, …) and involved in the biosynthesis and transport of molecules (amino acids, rRNA) [53-55]. According to our results its modules are mainly enriched for *diauxic shift* and *pH* related stress conditions. Similarly, modules of the nucleoid associated proteins Fis and IHF are active in a whole range of (stress) related conditions (carbon source starvation, pH dependent and O_2 related stress conditions) [27].

Stress responsive regulators

The other stress related regulators seem to act in more specific conditions. LexA, for instance, is apparently the only regulator with a clear activity during conditions that induce *DNA damage* [56,57]. Starvation conditions (*carbon source* and *amino acid* starvation) also induce the LexA dependent pathways.

The modules of both the PhoPQ two-component system, a pleiotropic regulator known to be induced by low pH [58,59], and CpxR, activated by envelope stress which results in protein misfolding (such as alkaline conditions) [60], are mainly enriched in *pH* induced stress conditions.

The SoxS (regulator of the superoxide response regulon) and MarA regulators (multiple antibiotic resistance) seem to act in concert in the detoxification of externally added copper, during growth on biofilm and upon changes in the cellular oxygen level. The OxyR regulator, mainly active during oxygen changes [61], may activate the Fur regulon and protect the cell by scavenging iron (expression of *dps*, a stationary phase nucleoid protein that sequesters iron and protects DNA from damage).

Biofilm related conditions

OmpR, a known major regulator of membrane remodeling during growth on biofilms [29], and RscB, also a known regulator of growth during biofilm formation [30], are indeed overrepresented in *biofilm* conditions but may also play a role in alterations of the *carbon source* (both OmpR and RscB) or in oxygen changes i.e. *aerobic-anaerobic* (only RscB). GadE, known to be involved in the resistance to low pH [62], is mainly activated upon *diauxic shift* but also upon changes in the *pH* of the medium. Although CpxR has recently been described as a biofilm related regulator [31], it does not seem to be overrepresented in the biofilm related conditions present in our compendium.

Table S1: Information on the arrays that are present in the microarray compendium. ArrayID: a unique identifier for each array. **Array**: the array name. **Exp. ID**: a unique identifier assigned to all experiments. **Experiment:** the experiment name. **Funct. category ID:** a unique identifier indicating the conditional category. **Functional category:** arrays were grouped into functional categories depending on the major cue that was changed in the experiments of the compendium.

Array ID	Array	Exp. ID	Experiment	Funct. category ID	Functional category
86	EC_GLU_WILD_A	1	Palsson_2005_Genome_Res	1	carbon_source
87	EC_GLU_WILD_B	1	Palsson_2005_Genome_Res	1	carbon_source
88	EC_GLU_WILD_C	1	Palsson_2005_Genome_Res	1	carbon_source
1	EC_GLY_GLY1_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
2	EC_GLY_GLY1_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
3	EC_GLY_GLY1_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
4	EC_GLY_GLY1_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
5	EC_GLY_GLY1_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
6	EC_GLY_GLY1_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
7	EC_GLY_GLY2_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
8	EC_GLY_GLY2_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
9	EC_GLY_GLY2_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
10	EC_GLY_GLY2_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
11	EC_GLY_GLY2_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
12	EC_GLY_GLY2_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
13	EC_GLY_GLYA_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
14	EC_GLY_GLYA_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
15	EC_GLY_GLYA_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
16	EC_GLY_GLYA_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
17	EC_GLY_GLYA_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
18	EC_GLY_GLYA_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
19	EC_GLY_GLYB_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
20	EC_GLY_GLYB_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
21	EC_GLY_GLYB_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
22	EC_GLY_GLYB_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
23	EC_GLY_GLYB_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
24	EC_GLY_GLYB_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
25	EC_GLY_GLYC_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
26	EC_GLY_GLYC_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
27	EC_GLY_GLYC_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
28	EC_GLY_GLYC_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
29	EC_GLY_GLYC_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
30	EC_GLY_GLYC_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
31	EC_GLY_GLYD_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
32	EC_GLY_GLYD_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
33	EC_GLY_GLYD_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
34	EC_GLY_GLYD_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
35	EC_GLY_GLYD_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
36	EC_GLY_GLYD_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
37	EC_GLY_GLYE_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
38	EC_GLY_GLYE_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
39	EC_GLY_GLYE_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
40	EC_GLY_GLYE_44_A	1	Palsson_2005_Genome_Res	1	carbon_source
41	EC_GLY_GLYE_44_B	1	Palsson_2005_Genome_Res	1	carbon_source
42	EC_GLY_GLYE_44_C	1	Palsson_2005_Genome_Res	1	carbon_source
89	EC_GLY_WILD_A	1	Palsson_2005_Genome_Res	1	carbon_source
90	EC_GLY_WILD_B	1	Palsson_2005_Genome_Res	1	carbon_source
91	EC_GLY_WILD_C	1	Palsson_2005_Genome_Res	1	carbon_source
92	EC_GLY_WILD_D	1	Palsson_2005_Genome_Res	1	carbon_source
93	EC_GLY_WILD_E	1	Palsson_2005_Genome_Res	1	carbon_source
43	EC_LAC_L2_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
44	EC_LAC_L2_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
45	EC_LAC_L2_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
46	EC_LAC_L2_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
47	EC_LAC_L2_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
48	EC_LAC_L2_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
49	EC_LAC_L3_20_A	1	Palsson_2005_Genome_Res	1	carbon_source

50	EC_LAC_L3_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
51	EC_LAC_L3_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
52	EC_LAC_L3_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
53	EC_LAC_L3_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
54	EC_LAC_L3_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
55	EC_LAC_LA_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
56	EC_LAC_LA_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
57	EC_LAC_LA_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
58	EC_LAC_LA_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
59	EC_LAC_LA_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
60	EC_LAC_LA_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
61	EC_LAC_LA_60_D	1	Palsson_2005_Genome_Res	1	carbon_source
62	EC_LAC_LB_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
63	EC_LAC_LB_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
64	EC_LAC_LB_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
65	EC_LAC_LB_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
66	EC_LAC_LB_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
67	EC_LAC_LB_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
68	EC_LAC_LC_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
69	EC_LAC_LC_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
70	EC_LAC_LC_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
71	EC_LAC_LC_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
72	EC_LAC_LC_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
73	EC_LAC_LC_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
74	EC_LAC_LD_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
75	EC_LAC_LD_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
76	EC_LAC_LD_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
77	EC_LAC_LD_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
78	EC_LAC_LD_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
79	EC_LAC_LD_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
80	EC_LAC_LE_20_A	1	Palsson_2005_Genome_Res	1	carbon_source
81	EC_LAC_LE_20_B	1	Palsson_2005_Genome_Res	1	carbon_source
82	EC_LAC_LE_20_C	1	Palsson_2005_Genome_Res	1	carbon_source
83	EC_LAC_LE_60_A	1	Palsson_2005_Genome_Res	1	carbon_source
84	EC_LAC_LE_60_B	1	Palsson_2005_Genome_Res	1	carbon_source
85	EC_LAC_LE_60_C	1	Palsson_2005_Genome_Res	1	carbon_source
94	EC_LAC_WILD_A	1	Palsson_2005_Genome_Res	1	carbon_source
95	EC_LAC_WILD_B	1	Palsson_2005_Genome_Res	1	carbon_source
96	EC_LAC_WILD_C	1	Palsson_2005_Genome_Res	1	carbon_source
97	EC_LAC_WILD_D	1	Palsson_2005_Genome_Res	1	carbon_source
98	EC_LAC_WILD_E	1	Palsson_2005_Genome_Res	1	carbon_source
99	EC_LAC_WILD_F	1	Palsson_2005_Genome_Res	1	carbon_source
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259	Clean_ANA17	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
251	Clean_ANA2	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
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253	Clean_ANA6	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
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298	Clean_DIAUX12	10	Chang_2002_Mol_Biol	7	diauxic_shift
299	Clean_DIAUX13	10	Chang_2002_Mol_Biol	7	diauxic_shift
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302	Clean_DIAUX16	10	Chang_2002_Mol_Biol	7	diauxic_shift
303	Clean_DIAUX17	10	Chang_2002_Mol_Biol	7	diauxic_shift
288	Clean_DIAUX2	10	Chang_2002_Mol_Biol	7	diauxic_shift
289	Clean_DIAUX3	10	Chang_2002_Mol_Biol	7	diauxic_shift
290	Clean_DIAUX4	10	Chang_2002_Mol_Biol	7	diauxic_shift
291	Clean_DIAUX5	10	Chang_2002_Mol_Biol	7	diauxic_shift
292	Clean_DIAUX6	10	Chang_2002_Mol_Biol	7	diauxic_shift
293	Clean_DIAUX7	10	Chang_2002_Mol_Biol	7	diauxic_shift
294	Clean_DIAUX8	10	Chang_2002_Mol_Biol	7	diauxic_shift
295	Clean_DIAUX9	10	Chang_2002_Mol_Biol	7	diauxic_shift

277	Clean_H2O21	10	Chang_2002_Mol_Biol	7	diauxic_shift
286	Clean_H2O210	10	Chang_2002_Mol_Biol	7	diauxic_shift
287	Clean_H2O211	10	Chang_2002_Mol_Biol	7	diauxic_shift
278	Clean_H2O22	10	Chang_2002_Mol_Biol	7	diauxic_shift
279	Clean_H2O23	10	Chang_2002_Mol_Biol	7	diauxic_shift
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281	Clean_H2O25	10	Chang_2002_Mol_Biol	7	diauxic_shift
282	Clean_H2O26	10	Chang_2002_Mol_Biol	7	diauxic_shift
283	Clean_H2O27	10	Chang_2002_Mol_Biol	7	diauxic_shift
284	Clean_H2O28	10	Chang_2002_Mol_Biol	7	diauxic_shift
285	Clean_H2O29	10	Chang_2002_Mol_Biol	7	diauxic_shift
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247	Clean_TGC12	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
248	Clean_TGC14	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
249	Clean_TGC16	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
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243	Clean_TGC5	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
244	Clean_TGC6	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
245	Clean_TGC8	10	Chang_2002_Mol_Biol	2	aerobic__anaerobic
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263	GADXW_exp3	10	Chang_2002_Mol_Biol	6	pH
264	GADXW_exp4	10	Chang_2002_Mol_Biol	6	pH
265	GADXW_exp5	10	Chang_2002_Mol_Biol	6	pH
266	GADXW_exp6	10	Chang_2002_Mol_Biol	6	pH
267	GADXW_exp7	10	Chang_2002_Mol_Biol	6	pH
268	GADXW_exp8	10	Chang_2002_Mol_Biol	6	pH
269	GADXW_exp9	10	Chang_2002_Mol_Biol	6	pH
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306	GSM62196	11	GSE2827	10	antibiotic__toxic_agent
307	GSM62197	11	GSE2827	10	antibiotic__toxic_agent
308	GSM62198	11	GSE2827	10	antibiotic__toxic_agent
309	GSM62199	11	GSE2827	10	antibiotic__toxic_agent
310	GSM7886	12	GSE533	9	heat_cold_stress
311	GSM8110	12	GSE533	9	heat_cold_stress
312	GSM8111	12	GSE533	9	heat_cold_stress
313	GSM8112	12	GSE533	9	heat_cold_stress
314	GSM8113	12	GSE533	9	heat_cold_stress
315	GSM8114	12	GSE533	9	heat_cold_stress
316	GSM8115	12	GSE533	9	heat_cold_stress
317	GSM8116	12	GSE533	9	heat_cold_stress
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320	GSM8119	12	GSE533	9	heat_cold_stress
321	GSM8120	12	GSE533	9	heat_cold_stress
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324	E-MEXP-222-raw-data-386285007.txt	13	E-MEXP-222	10	antibiotic__toxic_agent
325	E-MEXP-222-raw-data-386285038.txt	13	E-MEXP-222	10	antibiotic__toxic_agent
326	E-MEXP-222-raw-data-386285069.txt	13	E-MEXP-222	10	antibiotic__toxic_agent
327	E-MEXP-222-raw-data-386285101.txt	13	E-MEXP-222	10	antibiotic__toxic_agent
328	E-MEXP-244-raw-data-	14	E-MEXP-244	10	antibiotic__toxic_agent

	396455050.txt				
329	E-MEXP-244-raw-data-396455066.txt	14	E-MEXP-244	10	antibiotic__toxic_agent
330	E-MEXP-244-raw-data-396455082.txt	14	E-MEXP-244	10	antibiotic__toxic_agent
331	E-MEXP-244-raw-data-396455098.txt	14	E-MEXP-244	10	antibiotic__toxic_agent
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335	E-MEXP-245-raw-data-396455381.txt	15	E-MEXP-245	10	antibiotic__toxic_agent
336	E-MEXP-245-raw-data-396455397.txt	15	E-MEXP-245	10	antibiotic__toxic_agent
337	E-MEXP-245-raw-data-396455413.txt	15	E-MEXP-245	10	antibiotic__toxic_agent
338	E-MEXP-267-raw-data-495080191.txt	18	E-MEXP-267	3	DNA
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340	E-MEXP-267-raw-data-495080223.txt	18	E-MEXP-267	3	DNA
341	E-MEXP-267-raw-data-495080239.txt	18	E-MEXP-267	3	DNA
342	E-MEXP-267-raw-data-495080255.txt	18	E-MEXP-267	3	DNA
343	E-MEXP-267-raw-data-495080271.txt	18	E-MEXP-267	3	DNA
344	E-MEXP-267-raw-data-495080287.txt	18	E-MEXP-267	3	DNA
345	E-MEXP-267-raw-data-495080303.txt	18	E-MEXP-267	3	DNA
346	E-MEXP-267-raw-data-495080319.txt	18	E-MEXP-267	3	DNA
347	E-MEXP-267-raw-data-495080335.txt	18	E-MEXP-267	3	DNA
348	E-MEXP-267-raw-data-495080351.txt	18	E-MEXP-267	3	DNA
349	E-MEXP-267-raw-data-495080367.txt	18	E-MEXP-267	3	DNA
350	ANAEROBIC_CH	19	Blattner_2005_Genome_Res	2	aerobic__anaerobic
351	HEATSHOCK_CH	19	Blattner_2005_Genome_Res	9	heat_cold_stress
352	STATIONARYPHASE_CH	19	Blattner_2005_Genome_Res	14	growth
102	crp	2	Gossett_2005_J_of_Bact	1	carbon_source
103	crp__G	2	Gossett_2005_J_of_Bact	1	carbon_source
110	crpcysB	2	Gossett_2005_J_of_Bact	1	carbon_source
111	crpcysB__G	2	Gossett_2005_J_of_Bact	1	carbon_source
106	crpfruR	2	Gossett_2005_J_of_Bact	1	carbon_source
107	crpfruR__G	2	Gossett_2005_J_of_Bact	1	carbon_source
114	crpfur	2	Gossett_2005_J_of_Bact	1	carbon_source
115	crpfur__G	2	Gossett_2005_J_of_Bact	1	carbon_source
108	cysB	2	Gossett_2005_J_of_Bact	1	carbon_source
109	cysB__G	2	Gossett_2005_J_of_Bact	1	carbon_source
104	fruR	2	Gossett_2005_J_of_Bact	1	carbon_source
105	fruR__G	2	Gossett_2005_J_of_Bact	1	carbon_source
112	fur	2	Gossett_2005_J_of_Bact	1	carbon_source
113	fur__G	2	Gossett_2005_J_of_Bact	1	carbon_source
100	wt	2	Gossett_2005_J_of_Bact	1	carbon_source
101	wt__G	2	Gossett_2005_J_of_Bact	1	carbon_source
353	GSM1367	20	GSE33	3	DNA
354	GSM1368	20	GSE33	3	DNA
355	GSM1369	20	GSE33	3	DNA
356	GSM1370	20	GSE33	3	DNA
357	GSM1371	20	GSE33	3	DNA
358	GSM1372	20	GSE33	3	DNA
359	GSM1373	20	GSE33	3	DNA

360	GSM1374	20	GSE33	3	DNA
361	GSM1375	20	GSE33	3	DNA
362	GSM1376	20	GSE33	3	DNA
363	GSM1377	20	GSE33	3	DNA
364	GSM1378	20	GSE33	3	DNA
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368	GSM1382	20	GSE33	3	DNA
369	GSM23459	21	GSE1421	1	carbon_source
370	GSM23465	21	GSE1421	1	carbon_source
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372	GSM30815	22	GSE1780	11	Cu
373	GSM30816	22	GSE1780	11	Cu
374	GSM30817	22	GSE1780	11	Cu
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376	GSM30819	22	GSE1780	11	Cu
377	GSM30820	22	GSE1780	11	Cu
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380	GSM30823	22	GSE1780	11	Cu
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474	GSM77346	26	GSE3437	13	sigma_factor
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563	GSM98732	29	GSE4321	13	sigma_factor
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620	GSM99136	38	GSE4365	14	growth
621	GSM99137	39	GSE4366	14	growth
622	GSM99138	39	GSE4366	14	growth
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624	GSM99140	39	GSE4366	14	growth
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171	GSM37075	4	GSE2037	1	carbon_source
172	GSM37076	4	GSE2037	1	carbon_source
173	GSM37077	4	GSE2037	1	carbon_source
626	GSM99142	40	GSE4367	3	DNA
627	GSM99143	40	GSE4367	3	DNA
628	GSM99144	40	GSE4367	3	DNA
629	GSM99145	40	GSE4367	3	DNA
630	GSM99146	40	GSE4367	3	DNA
631	GSM99147	41	GSE4368	3	DNA
632	GSM99148	41	GSE4368	3	DNA
633	GSM99149	41	GSE4368	3	DNA
634	GSM99150	41	GSE4368	3	DNA
635	GSM99151	41	GSE4368	3	DNA
636	GSM99152	42	GSE4369	3	DNA
637	GSM99153	42	GSE4369	3	DNA
638	GSM99154	42	GSE4369	3	DNA
639	GSM99155	42	GSE4369	3	DNA
640	GSM99156	42	GSE4369	3	DNA
641	GSM99157	43	GSE4370	7	diauxic_shift

642	GSM99158	43	GSE4370	7	diauxic_shift
643	GSM99159	43	GSE4370	7	diauxic_shift
644	GSM99160	43	GSE4370	7	diauxic_shift
645	GSM99161	43	GSE4370	7	diauxic_shift
646	GSM99162	43	GSE4370	7	diauxic_shift
647	GSM99163	43	GSE4370	7	diauxic_shift
648	GSM99164	44	GSE4371	7	diauxic_shift
649	GSM99165	44	GSE4371	7	diauxic_shift
650	GSM99166	44	GSE4371	7	diauxic_shift
651	GSM99167	44	GSE4371	7	diauxic_shift
652	GSM99168	44	GSE4371	7	diauxic_shift
653	GSM99169	44	GSE4371	7	diauxic_shift
654	GSM99170	44	GSE4371	7	diauxic_shift
655	GSM99171	45	GSE4372	10	antibiotic__toxic_agent
656	GSM99172	45	GSE4372	10	antibiotic__toxic_agent
657	GSM99173	45	GSE4372	10	antibiotic__toxic_agent
658	GSM99174	45	GSE4372	10	antibiotic__toxic_agent
659	GSM99175	46	GSE4373	14	growth
660	GSM99176	46	GSE4373	14	growth
661	GSM99177	46	GSE4373	14	growth
662	GSM99178	46	GSE4373	14	growth
663	GSM99179	46	GSE4373	14	growth
664	GSM99180	46	GSE4373	14	growth
665	GSM99181	47	GSE4374	14	growth
666	GSM99182	47	GSE4374	14	growth
667	GSM99183	47	GSE4374	14	growth
668	GSM99184	47	GSE4374	14	growth
669	GSM99185	47	GSE4374	14	growth
670	GSM99186	47	GSE4374	14	growth
671	GSM99187	48	GSE4375	2	aerobic__anaerobic
672	GSM99188	48	GSE4375	2	aerobic__anaerobic
673	GSM99189	48	GSE4375	2	aerobic__anaerobic
674	GSM99190	48	GSE4375	2	aerobic__anaerobic
675	GSM99191	48	GSE4375	2	aerobic__anaerobic
676	GSM99192	48	GSE4375	2	aerobic__anaerobic
677	GSM99193	49	GSE4376	2	aerobic__anaerobic
678	GSM99194	49	GSE4376	2	aerobic__anaerobic
679	GSM99195	49	GSE4376	2	aerobic__anaerobic
680	GSM99196	49	GSE4376	2	aerobic__anaerobic
681	GSM99197	49	GSE4376	2	aerobic__anaerobic
682	GSM99198	49	GSE4376	2	aerobic__anaerobic
174	GSM63885	5	GSE2928	3	DNA
175	GSM63886	5	GSE2928	3	DNA
176	GSM63887	5	GSE2928	3	DNA
177	GSM63888	5	GSE2928	3	DNA
178	GSM63889	5	GSE2928	3	DNA
179	GSM63890	5	GSE2928	3	DNA
180	GSM63891	5	GSE2928	3	DNA
181	GSM63892	5	GSE2928	3	DNA
182	GSM63893	5	GSE2928	3	DNA
183	GSM63894	5	GSE2928	3	DNA
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185	GSM63896	5	GSE2928	3	DNA
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686	GSM99202	50	GSE4377	3	DNA
687	GSM99203	50	GSE4377	3	DNA
688	GSM99204	51	GSE4378	3	DNA
689	GSM99205	51	GSE4378	3	DNA
690	GSM99206	51	GSE4378	3	DNA
691	GSM99207	51	GSE4378	3	DNA
692	GSM99208	52	GSE4379	14	growth
693	GSM99209	52	GSE4379	14	growth
694	GSM99210	52	GSE4379	14	growth
695	GSM99211	53	GSE4380	14	growth
696	GSM99212	53	GSE4380	14	growth
697	GSM99213	53	GSE4380	14	growth

698	GSM99214	53	GSE4380	14	growth
699	GSM99215	53	GSE4380	14	growth
700	GSM99216	53	GSE4380	14	growth
701	GSM99380	54	GSE4408	3	DNA
702	GSM99384	54	GSE4408	3	DNA
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705	GSM99390	54	GSE4408	3	DNA
706	GSM99391	54	GSE4408	3	DNA
707	GSM99392	54	GSE4408	3	DNA
708	GSM99393	54	GSE4408	3	DNA
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711	GSM99396	54	GSE4408	3	DNA
712	GSM99397	54	GSE4408	3	DNA
713	GSM99398	54	GSE4408	3	DNA
714	GSM99399	54	GSE4408	3	DNA
715	GSM99400	54	GSE4408	3	DNA
716	GSM99401	54	GSE4408	3	DNA
717	GSM99636	55	GSE4417	9	heat_cold_stress
718	GSM99637	55	GSE4417	9	heat_cold_stress
719	GSM99638	55	GSE4417	9	heat_cold_stress
720	GSM99639	55	GSE4417	9	heat_cold_stress
721	GSM38546	56	GSE2129	3	DNA
722	GSM38547	56	GSE2129	3	DNA
723	GSM38548	56	GSE2129	3	DNA
724	GSM38549	56	GSE2129	3	DNA
725	1277	57	Courcelle_2001_Genetics	3	DNA
726	1278	57	Courcelle_2001_Genetics	3	DNA
727	1282	57	Courcelle_2001_Genetics	3	DNA
728	1285	57	Courcelle_2001_Genetics	3	DNA
729	1287	57	Courcelle_2001_Genetics	3	DNA
730	1290	57	Courcelle_2001_Genetics	3	DNA
731	1292	57	Courcelle_2001_Genetics	3	DNA
732	1908	57	Courcelle_2001_Genetics	3	DNA
733	1909	57	Courcelle_2001_Genetics	3	DNA
734	1911	57	Courcelle_2001_Genetics	3	DNA
735	1912	57	Courcelle_2001_Genetics	3	DNA
736	1913	57	Courcelle_2001_Genetics	3	DNA
737	1914	57	Courcelle_2001_Genetics	3	DNA
738	1915	57	Courcelle_2001_Genetics	3	DNA
739	1916	57	Courcelle_2001_Genetics	3	DNA
740	1585	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
741	1589	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
742	1592	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
743	1593	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
744	1595	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
745	1597	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
746	1637	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
747	1638	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
748	1639	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
749	1641	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
750	1642	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
752	1644	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
753	1646	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
754	1647	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
757	5265	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
758	5266	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
759	5268	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
760	5272	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
761	5273	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
762	5277	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
763	5278	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
764	5281	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
765	5284	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
766	5287	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
767	8455	58	Khodursky_2000_24_okt_PNAS	8	amino_acids
768	9395	58	Khodursky_2000_24_okt_PNAS	8	amino_acids

769	14829	59	Tani_2002_15_okt_PNAS	8	amino_acids
770	14830	59	Tani_2002_15_okt_PNAS	8	amino_acids
771	14831	59	Tani_2002_15_okt_PNAS	8	amino_acids
186	GSM65588	6	GSE2999	3	DNA
187	GSM65589	6	GSE2999	3	DNA
188	GSM65590	6	GSE2999	3	DNA
189	GSM65591	6	GSE2999	3	DNA
190	GSM65593	6	GSE2999	3	DNA
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196	GSM65601	6	GSE2999	3	DNA
197	GSM65622	6	GSE2999	3	DNA
198	GSM65623	6	GSE2999	3	DNA
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204	GSM65632	6	GSE2999	3	DNA
205	GSM65634	6	GSE2999	3	DNA
206	GSM65636	6	GSE2999	3	DNA
207	GSM65638	6	GSE2999	3	DNA
208	GSM65639	6	GSE2999	3	DNA
209	GSM65641	6	GSE2999	3	DNA
783	GSM120166	61	GSE5356	4	Fe
784	GSM120192	61	GSE5356	4	Fe
785	GSM120193	61	GSE5356	4	Fe
786	GSM120194	61	GSE5356	4	Fe
787	GSM120196	61	GSE5356	4	Fe
788	GSM120197	61	GSE5356	4	Fe
789	GSM116028	62	GSE5139	12	nitrosating_agent
790	GSM116029	62	GSE5139	12	nitrosating_agent
791	GSM116030	62	GSE5139	12	nitrosating_agent
792	GSM116031	62	GSE5139	12	nitrosating_agent
793	GSM116024	63	GSE5137	12	nitrosating_agent
794	GSM116025	63	GSE5137	12	nitrosating_agent
795	GSM116026	63	GSE5137	12	nitrosating_agent
796	GSM116027	63	GSE5137	12	nitrosating_agent
797	GSM114383	64	GSE5076	12	nitrosating_agent
798	GSM114384	64	GSE5076	12	nitrosating_agent
799	GSM114385	64	GSE5076	12	nitrosating_agent
800	GSM114386	64	GSE5076	12	nitrosating_agent
801	GSM114368	65	GSE5075	12	nitrosating_agent
802	GSM114370	65	GSE5075	12	nitrosating_agent
803	GSM114371	65	GSE5075	12	nitrosating_agent
804	GSM114372	65	GSE5075	12	nitrosating_agent
805	GSM106337	66	GSE4706	7	diauxic_shift
806	GSM106338	66	GSE4706	7	diauxic_shift
807	GSM106339	66	GSE4706	7	diauxic_shift
808	GSM106340	66	GSE4706	7	diauxic_shift
809	GSM106341	66	GSE4706	7	diauxic_shift
810	GSM106342	66	GSE4706	7	diauxic_shift
811	GSM114612	67	GSE5084	12	nitrosating_agent
812	GSM114613	67	GSE5084	12	nitrosating_agent
813	GSM114614	67	GSE5084	12	nitrosating_agent
814	GSM114615	67	GSE5084	12	nitrosating_agent
815	GSM111413	68	GSE4941	10	antibiotic__toxic_agent
816	GSM111414	68	GSE4941	10	antibiotic__toxic_agent
817	GSM111415	68	GSE4941	10	antibiotic__toxic_agent
818	GSM111416	68	GSE4941	10	antibiotic__toxic_agent
819	GSM111417	68	GSE4941	10	antibiotic__toxic_agent
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821	GSM111419	68	GSE4941	10	antibiotic__toxic_agent
822	GSM111420	68	GSE4941	10	antibiotic__toxic_agent
823	GSM111421	68	GSE4941	10	antibiotic__toxic_agent

824	GSM111422	68	GSE4941	10	antibiotic__toxic_agent
825	GSM111423	68	GSE4941	10	antibiotic__toxic_agent
826	GSM111424	68	GSE4941	10	antibiotic__toxic_agent
210	GSM67647	7	GSE3105	4	Fe
211	GSM67648	7	GSE3105	4	Fe
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216	GSM67657	7	GSE3105	4	Fe
217	GSM67658	7	GSE3105	4	Fe
218	GSM67659	7	GSE3105	4	Fe
219	GSM67660	7	GSE3105	4	Fe
220	GSM67663	7	GSE3105	4	Fe
221	GSM67665	7	GSE3105	4	Fe
833	GSM101766	70	GSE4556	6	pH
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836	GSM101769	70	GSE4556	6	pH
837	GSM101770	70	GSE4556	6	pH
838	GSM101771	70	GSE4556	6	pH
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840	GSM101773	70	GSE4556	6	pH
841	GSM101774	70	GSE4556	6	pH
842	GSM101775	70	GSE4556	6	pH
843	GSM101776	70	GSE4556	6	pH
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846	GSM101779	70	GSE4556	6	pH
847	GSM101780	70	GSE4556	6	pH
848	GSM88912	71	GSE3905	5	Biofilm
849	GSM88913	71	GSE3905	5	Biofilm
850	GSM88914	71	GSE3905	5	Biofilm
851	GSM88915	71	GSE3905	5	Biofilm
852	GSM88916	71	GSE3905	5	Biofilm
853	GSM88917	71	GSE3905	5	Biofilm
854	GSM88918	71	GSE3905	5	Biofilm
855	GSM88919	71	GSE3905	5	Biofilm
856	GSM106504	72	GSE4724	8	amino_acids
857	GSM106751	72	GSE4724	8	amino_acids
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863	GSM106758	72	GSE4724	8	amino_acids
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865	GSM137282	73	GSE5904	5	Biofilm
866	GSM137283	73	GSE5904	5	Biofilm
867	GSM118600	74	GSE5239	15	unknown
868	GSM118601	74	GSE5239	15	unknown
869	GSM118602	74	GSE5239	15	unknown
870	GSM118603	74	GSE5239	15	unknown
871	GSM118604	74	GSE5239	15	unknown
872	GSM118605	74	GSE5239	15	unknown
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882	GSM118615	74	GSE5239	15	unknown
883	GSM118616	74	GSE5239	15	unknown
884	GSM118617	74	GSE5239	15	unknown
885	GSM118618	74	GSE5239	15	unknown

886	GSM118619	74	GSE5239	15	unknown
887	GSM118620	74	GSE5239	15	unknown
888	GSM118621	74	GSE5239	15	unknown
889	GSM118622	74	GSE5239	15	unknown
890	GSM118623	74	GSE5239	15	unknown
222	GSM89485	8	GSE3937	5	Biofilm
223	GSM89486	8	GSE3937	5	Biofilm
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226	GSM101230	9	GSE4511	6	pH
227	GSM101231	9	GSE4511	6	pH
228	GSM101232	9	GSE4511	6	pH
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233	GSM101237	9	GSE4511	6	pH
234	GSM101238	9	GSE4511	6	pH
235	GSM101239	9	GSE4511	6	pH
236	GSM101240	9	GSE4511	6	pH
237	GSM101241	9	GSE4511	6	pH
238	GSM101242	9	GSE4511	6	pH
239	GSM101243	9	GSE4511	6	pH
240	GSM101244	9	GSE4511	6	pH