

Name	Synonym
citM	SMD_3550
-	SMD_3549
tRNA-Phe	SMD_2917
fabG3	SMD_3551
tRNA-Val	SMD_0987
-	SMD_2515
tRNA-Lys	SMD_0865
-	SMD_0047
C4.6	SMD_2668
-	SMD_3032
-	SMD_0425
-	SMD_1284
-	SMD_2384
phoD	SMD_2779
-	SMD_3687
-	SMD_0487
-	SMD_2496
-	SMD_1542
-	SMD_2010
fliO	SMD_2055
-	SMD_1262
tRNA-Leu	SMD_2593
fhuE	SMD_3599
-	SMD_1458
tRNA-Phe	SMD_2916
tRNA-fMet	SMD_2965
-	SMD_0184
C4.2	SMD_0414
-	SMD_0949
flhA	SMD_2049
-	SMD_2166
-	SMD_2205
-	SMD_2245
C4.15	SMD_2322
glgA	SMD_2428
-	SMD_2661
-	SMD_3297
-	SMD_3503
tRNA-Pseudo	SMD_2178
-	SMD_0994
tRNA-Ala	SMD_2910
-	SMD_1074
-	SMD_0620
-	SMD_3819
fliF	SMD_2064
-	SMD_1242
-	SMD_1265
-	SMD_1995
-	SMD_2394
-	SMD_1154
tRNA-Asp	SMD_0878

-	SMD_2911
-	SMD_0488
iroE	SMD_2119
rpoE2	SMD_3502
tRNA-Gln	SMD_3894
fliG	SMD_2063
-	SMD_2470
tRNA-Leu	SMD_1365
-	SMD_1907
-	SMD_1071
tRNA-Pro	SMD_2859
flgD	SMD_2086
bfrA	SMD_1066
fliM	SMD_2057
-	SMD_3572
fliL	SMD_2058
-	SMD_3108
mtnX	SMD_1254
tRNA-Lys	SMD_0866
fliE	SMD_2065
-	SMD_0198
-	SMD_1996
-	SMD_2654
-	SMD_3363
-	SMD_3501
tRNA-Asp	SMD_0877
-	SMD_3507
tRNA-Val	SMD_1457
tRNA-His	SMD_0864
flgK	SMD_2080
flgF	SMD_2084
tRNA-Gly	SMD_1473
flgH	SMD_2082
-	SMD_3552
wecB	SMD_0599
-	SMD_1070
-	SMD_3161
-	SMD_3235
cdsA	SMD_1332
-	SMD_1258
flhF	SMD_2048
tRNA-Asp	SMD_0876
-	SMD_2268
-	SMD_4054
fliK	SMD_2059
-	SMD_0596
-	SMD_2162
rimI	SMD_0564
-	SMD_2824
-	SMD_4118
-	SMD_0680
-	SMD_3136

fliN	SMD_2056
tRNA-Pro	SMD_2858
tRNA-Met	SMD_3893
-	SMD_0201
-	SMD_1257
tRNA-Pro	SMD_0862
dxr	SMD_1331
I	SMD_3284
-	SMD_3891
fliI	SMD_2061
-	SMD_1203
-	SMD_3393
-	SMD_1396
-	SMD_0305
-	SMD_3545
flgJ	SMD_2078
tRNA-Arg	SMD_1920
tRNA-Leu	SMD_0868
flgG	SMD_2083
-	SMD_0110
arsH	SMD_0134
smmP2	SMD_0142
smmJ	SMD_0147
-	SMD_0320
-	SMD_0433
-	SMD_0442
-	SMD_0465
-	SMD_0470
-	SMD_0621
huvA	SMD_0679
-	SMD_0846
-	SMD_0902
trbG	SMD_0930
-	SMD_0954
-	SMD_1065
-	SMD_1083
-	SMD_1123
-	SMD_1138
-	SMD_1146
-	SMD_1243
-	SMD_1398
aldH	SMD_1402
-	SMD_1598
-	SMD_1600
fliR	SMD_2052
fliH	SMD_2062
-	SMD_2157
-	SMD_2158
-	SMD_2161
-	SMD_2202
-	SMD_2288
-	SMD_2305

-	SMD_2353
-	SMD_2355
-	SMD_2358
-	SMD_2426
entC	SMD_2468
-	SMD_2512
-	SMD_2524
-	SMD_2529
-	SMD_2532
hmsF	SMD_2862
-	SMD_3158
-	SMD_3160
-	SMD_3192
fabG2	SMD_3221
S	SMD_3282
-	SMD_3301
tRNA-Lys	SMD_3304
-	SMD_3609
-	SMD_3653
-	SMD_3686
-	SMD_3737
-	SMD_3741
-	SMD_3752
-	SMD_3867
smeB	SMD_4022
tRNA-Trp	SMD_0771
tRNA-Ile	SMD_4180
uppS	SMD_1333
-	SMD_4142
-	SMD_4121
flgB	SMD_2088
dctA	SMD_3542
pdxA	SMD_0700
-	SMD_0177
flgC	SMD_2087
-	SMD_2314
ihfB	SMD_1840
otsB	SMD_3344
-	SMD_2614
fabG4	SMD_4015
smeZ	SMD_1983
tRNA-Leu	SMD_1362
-	SMD_2954
-	SMD_1256
-	SMD_3058
-	SMD_0306
-	SMD_1436
ccmB	SMD_2843
-	SMD_3236
Glycine.3	SMD_3800
-	SMD_0565
-	SMD_1890

-	SMD_2107
-	SMD_2649
-	SMD_3470
tRNA-Ile	SMD_0344
tRNA-Gly	SMD_1588
flhB	SMD_2050
-	SMD_2189
copA2	SMD_3257
copB2	SMD_3258
C4.14	SMD_3364
-	SMD_0598
-	SMD_1143
-	SMD_1252
mrkC	SMD_0597
-	SMD_3187
smeM	SMD_3392
tRNA-Leu	SMD_2981
mgo	SMD_1155
fliQ	SMD_2053
-	SMD_2421
-	SMD_2564
-	SMD_3413
smmP	SMD_4139
tRNA-fMet	SMD_2966
rplM	SMD_3896
frr	SMD_1334
-	SMD_1250
-	SMD_2695
tRNA-Gly	SMD_1581
flgE	SMD_2085
potH	SMD_1413
ruvA	SMD_3317
-	SMD_2120
-	SMD_2655
rpsI	SMD_3895
-	SMD_2838
-	SMD_1255
smeY	SMD_1982
fimA	SMD_0595
smeN	SMD_3391
phaC	SMD_3915
feoA	SMD_1991
-	SMD_2758
-	SMD_4150
-	SMD_0772
-	SMD_1397
fliJ	SMD_2060
-	SMD_2117
-	SMD_2497
-	SMD_2780
GpE	SMD_3291
xseB	SMD_3047

tRNA-Asp	SMD_0875
-	SMD_2933
fliD	SMD_2074
atpF	SMD_3702
-	SMD_1178
flgI	SMD_2081
-	SMD_2936
flgL	SMD_2079
-	SMD_2316
-	SMD_0834
-	SMD_1587
yegD	SMD_3090
-	SMD_2923
pilW	SMD_1449
-	SMD_3483
-	SMD_3950
-	SMD_2700
-	SMD_2913
-	SMD_2943
-	SMD_3583
-	SMD_1711
tRNA-Ala	SMD_2588
nusG	SMD_0773
tktA	SMD_3416
-	SMD_1963
-	SMD_0363
tRNA-Arg	SMD_3996
acpD	SMD_2675
-	SMD_2792
-	SMD_2313
-	SMD_3833
-	SMD_2942
-	SMD_2987
-	SMD_0993
-	SMD_1584
-	SMD_1251
-	SMD_0816
-	SMD_0291
-	SMD_1017
-	SMD_1298
-	SMD_1474
hisB	SMD_1949
-	SMD_2180
-	SMD_2601
-	SMD_2657
-	SMD_2912
-	SMD_3070
-	SMD_3078
J	SMD_3283
GpT	SMD_3293
-	SMD_3515
rodA	SMD_3641

-	SMD_3743
-	SMD_3753
-	SMD_3999
kup	SMD_3316
fabG	SMD_0979
-	SMD_3673
-	SMD_1925
-	SMD_3465
-	SMD_0709
pilJ	SMD_3238
-	SMD_3321
flgA	SMD_2090
-	SMD_3060
-	SMD_2460
ecnA	SMD_0277
-	SMD_3606
-	SMD_0684
pilF	SMD_1851
fimT	SMD_1454
-	SMD_2676
-	SMD_3380
pstC	SMD_1383
pilH2	SMD_3240
-	SMD_4011
purA	SMD_3164
-	SMD_2915
-	SMD_0844
-	SMD_3647
tRNA-Tyr	SMD_0767
-	SMD_0434
-	SMD_1245
-	SMD_1868
hisC	SMD_1948
-	SMD_2249
-	SMD_2251
-	SMD_2315
-	SMD_2956
vdh	SMD_3104
cdsA2	SMD_3841
-	SMD_4236
pilV	SMD_1448
-	SMD_0416
tRNA-Ile	SMD_0339
phaD	SMD_3916
-	SMD_4161
tRNA-Cys	SMD_1590
trmD	SMD_1228
tRNA-Asn	SMD_1453
-	SMD_2293
-	SMD_1330
nusA	SMD_2963
fliA	SMD_2046

zupT	SMD_2821
-	SMD_3696
-	SMD_4208
nuoI	SMD_2972
-	SMD_3004
pyrF	SMD_0054
-	SMD_4200
-	SMD_0023
yaiO	SMD_0183
yaeJ	SMD_0190
-	SMD_1061
-	SMD_3547
smeC	SMD_4021
-	SMD_0711
-	SMD_1063
tRNA-Thr	SMD_0769
typA	SMD_0817
-	SMD_1156
ruvC	SMD_3318
-	SMD_3695
tRNA-Ile	SMD_4185
-	SMD_0372
murJ	SMD_1195
-	SMD_3844
-	SMD_3935
-	SMD_4080
-	SMD_3024
atpH	SMD_3701
corA	SMD_1416
speA	SMD_3951
-	SMD_1931
-	SMD_0454
rlmN	SMD_1850
-	SMD_1646
smeP	SMD_3527
leuS	SMD_3066
tRNA-Ser	SMD_1682
-	SMD_1006
ndk	SMD_1849
-	SMD_1129
-	SMD_1222
rumA	SMD_3122
-	SMD_2009
pilZ	SMD_0986
-	SMD_0512
otsA	SMD_3346
-	SMD_0455
-	SMD_2476
nuoJ	SMD_2971
-	SMD_2955
-	SMD_2985
asnB	SMD_1352

-	SMD_3200
-	SMD_3911
Glycine.2	SMD_3801
-	SMD_2986
yrbG	SMD_3920
-	SMD_4188
-	SMD_0685
-	SMD_1582
tRNA-Ile	SMD_3763
nuoC	SMD_2978
-	SMD_2887
-	SMD_0396
pilB	SMD_3358
-	SMD_1586
-	SMD_2932
rimM	SMD_1227
lepB	SMD_3128
-	SMD_0079
yjbJ	SMD_0278
-	SMD_0670
-	SMD_0759
-	SMD_0761
-	SMD_0916
-	SMD_0918
-	SMD_0951
-	SMD_0995
-	SMD_1003
-	SMD_1100
-	SMD_1101
-	SMD_1308
rlmL	SMD_1395
-	SMD_1635
smmH	SMD_1830
-	SMD_1891
-	SMD_2051
-	SMD_2168
-	SMD_2181
xdhC	SMD_2182
-	SMD_2218
xylE	SMD_2238
-	SMD_2351
copC2	SMD_2364
cusR	SMD_2366
smmC	SMD_2372
gspH	SMD_2402
glgB	SMD_2427
-	SMD_2557
zntR	SMD_2583
-	SMD_2648
-	SMD_3102
-	SMD_3285
-	SMD_3286

FI	SMD_3289
FII	SMD_3290
-	SMD_3596
-	SMD_3600
-	SMD_3822
-	SMD_3843
phaE	SMD_3917
-	SMD_3944
cyoD2	SMD_3976
-	SMD_4037
-	SMD_4056
cioA	SMD_4109
-	SMD_4195
-	SMD_3456
-	SMD_3074
scpA	SMD_2834
nuoK	SMD_2970
pilM	SMD_3428
-	SMD_0333
dat	SMD_1253
-	SMD_3637
rpsT	SMD_1194
potI	SMD_1414
-	SMD_3508
-	SMD_0285
-	SMD_1261
tRNA-Leu	SMD_1366
-	SMD_0475
-	SMD_0214
-	SMD_1064
gpo	SMD_2805
-	SMD_3140
tpiA	SMD_2983
-	SMD_2756
-	SMD_2914
pilA	SMD_3359
tRNA-Ala	SMD_2584
amiC	SMD_2901
nagZ	SMD_3119
-	SMD_2909
aqpZ	SMD_3135
-	SMD_2479
-	SMD_1160
ycgL	SMD_4088
-	SMD_2885
tRNA-Gly	SMD_1589
-	SMD_0118
fpr	SMD_2804
-	SMD_2890
-	SMD_3806
nuoA	SMD_2980
tRNA-Gly	SMD_0768

-	SMD_0418
-	SMD_1459
htrB	SMD_3534
-	SMD_1813
pilY1	SMD_1451
rpsD	SMD_0808
smmD2	SMD_1476
hisA	SMD_1951
-	SMD_2827
-	SMD_3043
-	SMD_3333
-	SMD_4079
nuoB	SMD_2979
-	SMD_1644
-	SMD_3509
-	SMD_0408
-	SMD_4106
-	SMD_1260
mrda	SMD_3643
tRNA-Arg	SMD_1699
-	SMD_3308
rlmH	SMD_3061
-	SMD_4098
trmB	SMD_3379
-	SMD_0087
-	SMD_0894
rnhB	SMD_1324
-	SMD_1910
C4.1	SMD_2442
-	SMD_2457
-	SMD_2534
-	SMD_2650
-	SMD_3535
ehpR	SMD_3934
-	SMD_0314
-	SMD_0427
rpoA	SMD_0809
-	SMD_3100
-	SMD_3065
pilU	SMD_1014
-	SMD_1081
-	SMD_1095
cheZ	SMD_2044
tctD	SMD_3548
-	SMD_3986
sugE2	SMD_3898
-	SMD_3674
cyoA	SMD_1213
rpIF	SMD_0800
motB2	SMD_2041
-	SMD_0220
accA	SMD_1321

-	SMD_2832
-	SMD_1067
-	SMD_1351
-	SMD_1386
-	SMD_2097
-	SMD_2419
-	SMD_2498
-	SMD_2619
-	SMD_2651
-	SMD_4120
nuoD	SMD_2977
fabH2	SMD_0976
-	SMD_1435
dnaG	SMD_0371
-	SMD_2904
-	SMD_4170
-	SMD_1283
-	SMD_2334
-	SMD_3071
piIP	SMD_3425
-	SMD_0058
kdsD	SMD_1039
suhB	SMD_2893
piIG	SMD_3241
-	SMD_1233
-	SMD_1370
fliP	SMD_2054
-	SMD_3544
rpsP	SMD_1226
tRNA-Val	SMD_0874
-	SMD_2126
engA	SMD_1855
-	SMD_3127
-	SMD_3345
-	SMD_3220
flaN	SMD_2047
-	SMD_0944
-	SMD_3960
-	SMD_3031
-	SMD_1926
-	SMD_4092
tRNA-Ala	SMD_2586
grxC	SMD_0854
tRNA-Arg	SMD_0863
rimP	SMD_2964
-	SMD_0055
-	SMD_0294
cusA4	SMD_0911
-	SMD_1075
-	SMD_1098
-	SMD_1683
-	SMD_2250

-	SMD_2553
-	SMD_3039
tilS	SMD_3046
-	SMD_3193
hydG	SMD_3357
-	SMD_3495
-	SMD_3734
C4.4	SMD_4130
-	SMD_4136
aroC	SMD_3005
-	SMD_1072
-	SMD_1221
-	SMD_3476
cheY2	SMD_2045
-	SMD_2225
-	SMD_3307
cysB	SMD_3396
-	SMD_3660
oprP	SMD_3543
gidA	SMD_4020
ychF	SMD_0758
-	SMD_0880
-	SMD_1460
-	SMD_3041
-	SMD_4116
-	SMD_1094
-	SMD_1244
-	SMD_2459
-	SMD_3417
-	SMD_1353
hisH	SMD_1950
-	SMD_2484
-	SMD_2556
-	SMD_3194
rluE	SMD_4072
-	SMD_0500
-	SMD_1320
-	SMD_0315
-	SMD_1647
-	SMD_1993
-	SMD_3607
-	SMD_3677
-	SMD_0842
-	SMD_2782
ftsQ	SMD_0646
-	SMD_1069
cyoB	SMD_1214
-	SMD_1295
-	SMD_0282
-	SMD_1142
tRNA-Thr	SMD_1210
-	SMD_1297

ilvN	SMD_3518
-	SMD_3785
-	SMD_3842
-	SMD_3987
atpA	SMD_3700
potG	SMD_1412
-	SMD_2935
-	SMD_1162
-	SMD_0614
-	SMD_1022
wbil	SMD_1844
gyrA	SMD_2717
-	SMD_0202
tRNA-Ala	SMD_0343
-	SMD_4114
rpoD	SMD_3765
truA	SMD_3000
-	SMD_2806
pyrH	SMD_1335
metK	SMD_0668
carB	SMD_2000
-	SMD_0822
-	SMD_1313
-	SMD_2669
-	SMD_4115
rpsR	SMD_2727
-	SMD_1400
-	SMD_2642
obg	SMD_1193
-	SMD_2934
mreC	SMD_3645
dhaA	SMD_0176
-	SMD_1623
-	SMD_2906
fabG5	SMD_4091
-	SMD_3566
-	SMD_4053
-	SMD_4101
aroG	SMD_3803
arsC4	SMD_1498
-	SMD_2130
-	SMD_3154
rpsU	SMD_0374
atpB	SMD_3704
rplI	SMD_2726
ddlB	SMD_0645
-	SMD_2755
-	SMD_3147
mtnA	SMD_2718
-	SMD_3155
tRNA-Thr	SMD_0268
-	SMD_3389

-	SMD_1286
-	SMD_3014
rluF2	SMD_3101
lepA	SMD_3129
pth	SMD_0757
-	SMD_2867
-	SMD_3672
-	SMD_3968
-	SMD_3705
-	SMD_2475
-	SMD_2757
yfcB	SMD_3006
-	SMD_3457
nuoH	SMD_2973
-	SMD_3314
-	SMD_0422
-	SMD_0461
fabB	SMD_0492
-	SMD_0537
-	SMD_0556
-	SMD_0692
-	SMD_0764
-	SMD_0953
-	SMD_1005
-	SMD_1106
-	SMD_1278
-	SMD_1292
-	SMD_1317
-	SMD_1497
-	SMD_1505
czcD	SMD_1566
-	SMD_1583
-	SMD_1595
-	SMD_1772
-	SMD_2006
motA2	SMD_2042
-	SMD_2098
yagT	SMD_2185
-	SMD_2210
-	SMD_2231
glgX	SMD_2422
malQ	SMD_2425
cysJ	SMD_2430
-	SMD_2469
-	SMD_2570
-	SMD_2620
-	SMD_2707
-	SMD_2778
hmsH	SMD_2861
-	SMD_2871
trmJ	SMD_2892
-	SMD_3075

-	SMD_3195
-	SMD_3324
-	SMD_3562
rsmB	SMD_3775
-	SMD_3820
-	SMD_3955
-	SMD_3975
-	SMD_3985
smeS	SMD_4024
-	SMD_4055
-	SMD_4057
-	SMD_4176
rpsG	SMD_0781
accD	SMD_2989
secD	SMD_1811
-	SMD_3529
rplR	SMD_0801
nudE	SMD_3230
ccmC	SMD_2844
gidB	SMD_4148
rnE	SMD_2823
-	SMD_1927
-	SMD_0299
rpsF	SMD_2728
pilO	SMD_3426
-	SMD_0676
-	SMD_2708
-	SMD_3856
-	SMD_0974
-	SMD_3175
prfC	SMD_3205
cysQ	SMD_3229
murD	SMD_1091
rnpA	SMD_4238
tRNA-Ala	SMD_4186
-	SMD_1202
sufD	SMD_1076
-	SMD_3381
fmt	SMD_3776
cspA2	SMD_2794
-	SMD_1445
-	SMD_3655
-	SMD_3869
-	SMD_2840
-	SMD_2706
htrB2	SMD_3767
nuoF	SMD_2975
-	SMD_3670
-	SMD_1974
mutS	SMD_1238
ftsI	SMD_0638
rplT	SMD_2949

rep	SMD_0046
-	SMD_1103
-	SMD_1923
-	SMD_2747
-	SMD_3778
hel	SMD_0053
-	SMD_2875
-	SMD_4159
pitA	SMD_1645
-	SMD_0633
pgsA	SMD_1472
rplS	SMD_1229
-	SMD_3619
-	SMD_3728
tig	SMD_0869
coaD	SMD_1747
-	SMD_1273
xthA3	SMD_4151
rho	SMD_3859
ampN	SMD_0331
holB	SMD_0985
-	SMD_4199
rpsH	SMD_0799
-	SMD_1429
-	SMD_2662
tRNA-Pro	SMD_2944
-	SMD_3563
phaAB	SMD_3914
-	SMD_1329
fabD	SMD_0978
atpC	SMD_3697
glmM	SMD_2988
efp	SMD_2888
rnc	SMD_3126
phhA	SMD_0029
-	SMD_3722
-	SMD_3937
-	SMD_4201
trmE	SMD_4235
pheS	SMD_2948
-	SMD_3484
-	SMD_0667
parB	SMD_4146
-	SMD_4144
-	SMD_0071
-	SMD_0392
-	SMD_1746
-	SMD_2455
-	SMD_2841
-	SMD_3067
tRNA-seC	SMD_3452
-	SMD_3846

sndH	SMD_3970
-	SMD_4117
surE	SMD_1661
ispA	SMD_3048
aroQ	SMD_3832
-	SMD_3148
slyD	SMD_3040
lspA	SMD_1198
-	SMD_1018
-	SMD_2938
-	SMD_2760
-	SMD_1426
mrdB	SMD_3642
trpF	SMD_2999
pill	SMD_3239
-	SMD_3390
mreD	SMD_3644
fabH	SMD_0175
tRNA-Ala	SMD_0338
-	SMD_4082
emrB	SMD_1361
-	SMD_2703
-	SMD_3588
-	SMD_3319
cutA	SMD_3816
RL35	SMD_2950
speD	SMD_3899
dnaB	SMD_2781
fabF	SMD_0981
-	SMD_2884
apbE	SMD_1062
-	SMD_3123
-	SMD_0496
murG	SMD_0643
-	SMD_1684
yagR	SMD_2183
-	SMD_2192
-	SMD_2483
-	SMD_2527
-	SMD_3386
-	SMD_3395
-	SMD_3797
himA	SMD_2946
ftsY	SMD_1743
pncA	SMD_0223
ppx	SMD_0849
dnaA	SMD_0001
-	SMD_2070
-	SMD_2945
mrcB	SMD_3248
parA	SMD_4147
-	SMD_3902

pilH	SMD_3170
-	SMD_3222
-	SMD_4112
-	SMD_1053
-	SMD_1145
-	SMD_0203
-	SMD_4225
-	SMD_3458
phaF	SMD_3918
-	SMD_4137
lpxB	SMD_1325
rplA	SMD_0775
-	SMD_1170
-	SMD_2247
-	SMD_2297
-	SMD_2602
arcD	SMD_3059
pbpC	SMD_3174
sucA	SMD_2774
-	SMD_3567
rpmE	SMD_3439
-	SMD_3587
fis	SMD_3840
-	SMD_0040
-	SMD_1104
-	SMD_2860
-	SMD_0008
-	SMD_0486
amn	SMD_3561
accC	SMD_3835
-	SMD_3306
rph	SMD_3455
-	SMD_0088
-	SMD_1024
pilX	SMD_1450
rpoN2	SMD_2069
-	SMD_3839
tesB	SMD_1185
-	SMD_3693
-	SMD_0204
-	SMD_2482
topA	SMD_3783
bioF	SMD_4013
-	SMD_4033
-	SMD_0473
-	SMD_3001
ftsW	SMD_0642
cyoE	SMD_0367
msbA	SMD_1466
-	SMD_3156
-	SMD_1368
-	SMD_1636

-	SMD_3784
-	SMD_0571
mraY	SMD_0641
nuoG	SMD_2974
tRNA-Arg	SMD_1700
yidC	SMD_4237
-	SMD_3212
tRNA-Ala	SMD_4181
-	SMD_1073
pnuC	SMD_0158
-	SMD_0293
-	SMD_0436
C4.9	SMD_0622
-	SMD_0653
-	SMD_0691
trbI	SMD_0931
-	SMD_0948
-	SMD_0988
-	SMD_1001
-	SMD_1058
-	SMD_1092
-	SMD_1093
-	SMD_1105
ogt	SMD_1288
-	SMD_1359
-	SMD_1364
-	SMD_1425
-	SMD_1789
thrC	SMD_1941
-	SMD_1945
bmnA	SMD_1969
-	SMD_2312
-	SMD_2376
-	SMD_2389
-	SMD_2615
-	SMD_2705
-	SMD_2709
-	SMD_3299
-	SMD_3598
exbD4	SMD_3601
-	SMD_3706
-	SMD_3739
exbD3	SMD_0011
engB	SMD_3591
nuoL	SMD_2969
-	SMD_0122
speE	SMD_3952
tuf	SMD_0770
-	SMD_1650
mfd	SMD_1271
-	SMD_1638
deaD	SMD_1296

ftsE	SMD_3854
smel	SMD_3873
-	SMD_2998
nuoE	SMD_2976
cheA2	SMD_2043
-	SMD_3399
fusA	SMD_0782
-	SMD_1836
atpG	SMD_3699
-	SMD_0513
-	SMD_1319
-	SMD_2898
-	SMD_3115
hemA	SMD_0750
tatD	SMD_4069
thiG	SMD_3378
-	SMD_1164
-	SMD_1841
thrS	SMD_2952
-	SMD_0365
tgt	SMD_1809
-	SMD_3106
yajC	SMD_1810
atpE	SMD_3703
-	SMD_0421
-	SMD_2461
-	SMD_2530
-	SMD_2889
-	SMD_3045
rpsK	SMD_0807
fabF2	SMD_4090
-	SMD_4105
-	SMD_4081
-	SMD_1835
-	SMD_1968
argS	SMD_0318
-	SMD_1441
nfi	SMD_1267
-	SMD_1994
sbcB	SMD_2739
-	SMD_2993
-	SMD_3218
-	SMD_4168
-	SMD_0398
spoT	SMD_3443
secF	SMD_1812
-	SMD_1973
wbpL	SMD_1843
-	SMD_0181
-	SMD_0508
-	SMD_2465
smeE	SMD_3657

piuC	SMD_1068
-	SMD_4095
-	SMD_0612
ispH	SMD_1199
nrdR	SMD_0610
mraZ	SMD_0635
clpP	SMD_0870
ruvB	SMD_3315
-	SMD_0373
-	SMD_0159
-	SMD_1025
creB	SMD_1274
-	SMD_1778
-	SMD_2704
-	SMD_3103
hpt	SMD_3118
-	SMD_3511
smeR	SMD_4025
putA	SMD_0356
cyoC	SMD_1215
scpB	SMD_2835
-	SMD_0128
copC	SMD_1486
hemE	SMD_3191
rfbD	SMD_0547
-	SMD_1211
ligA	SMD_2722
argE	SMD_2872
-	SMD_0613
-	SMD_1499
sirB1	SMD_3471
-	SMD_3845
smeF	SMD_3656
sufB	SMD_1078
-	SMD_2143
hmsS	SMD_2864
-	SMD_3109
-	SMD_3949
-	SMD_4190
yybP-ykoY	SMD_4231
-	SMD_0097
rpsJ	SMD_0784
-	SMD_0005
ubiG	SMD_2886
rpsM	SMD_0806
-	SMD_0456
-	SMD_0165
sufC	SMD_1077
parE	SMD_1648
-	SMD_2611
tdk	SMD_0043
rfbB	SMD_0544

purT	SMD_1179
-	SMD_1300
-	SMD_2481
smc	SMD_2725
pheT	SMD_2947
-	SMD_3994
-	SMD_4158
aspS	SMD_3323
carA	SMD_1999
rnt	SMD_1375
-	SMD_1239
-	SMD_2939
-	SMD_0830
kefA	SMD_3941
-	SMD_4164
-	SMD_0448
pilE	SMD_1452
-	SMD_4045
rbsK	SMD_0675
-	SMD_1305
-	SMD_0123
-	SMD_3329
-	SMD_3802
murE	SMD_0639
ccmA	SMD_2842
nuoM	SMD_2968
-	SMD_0491
sspB	SMD_1434
hoIA	SMD_3064
acpP	SMD_0980
-	SMD_0623
-	SMD_0689
-	SMD_0696
pilT	SMD_1013
ldhA	SMD_1208
-	SMD_1263
hisD	SMD_1947
-	SMD_2122
-	SMD_2335
-	SMD_2594
arsC2	SMD_2797
rnd	SMD_2908
-	SMD_3320
-	SMD_3437
rubA	SMD_3472
nhoA	SMD_3821
-	SMD_3829
tuf2	SMD_0783
-	SMD_3107
pcm	SMD_1662
-	SMD_0281
-	SMD_0298

metX	SMD_2851
ubiB	SMD_0182
-	SMD_3141
murC	SMD_0644
gmk	SMD_3445
rluC	SMD_2822
-	SMD_1055
cadC	SMD_3510
-	SMD_4198
-	SMD_2628
-	SMD_1158
rplC	SMD_0785
pnuC2	SMD_0354
feoB	SMD_1992
-	SMD_3051
ampG	SMD_0332
-	SMD_3733
-	SMD_4126
rpmF	SMD_0975
nusB	SMD_0618
-	SMD_1639
-	SMD_0413
-	SMD_2150
-	SMD_2825
rhtB	SMD_2937
-	SMD_3901
-	SMD_0605
-	SMD_2640
pilQ	SMD_3424
aroH	SMD_0813
-	SMD_2831
-	SMD_1691
-	SMD_3624
fimU	SMD_1447
rmlA	SMD_0545
lpxK	SMD_1467
hsdM	SMD_1863
-	SMD_2528
-	SMD_3540
secY	SMD_0805
hoIC	SMD_0568
dnaN	SMD_0002
-	SMD_1269
-	SMD_2759
csrA	SMD_1681
truD	SMD_1659
-	SMD_3678
-	SMD_0028
asd	SMD_3003
-	SMD_1079
-	SMD_2518
-	SMD_2538

-	SMD_2991
lpiA	SMD_3084
-	SMD_3589
-	SMD_3881
-	SMD_1965
sucD	SMD_3354
-	SMD_4016
-	SMD_3228
fabZ	SMD_1327
-	SMD_3590
rplJ	SMD_0776
murF	SMD_0640
-	SMD_2813
dxs	SMD_2922
-	SMD_0555
purL	SMD_0576
ileS	SMD_1197
-	SMD_3072
fliS	SMD_2073
-	SMD_0099
folP	SMD_1671
-	SMD_2772
ftsL	SMD_0637
nth	SMD_1387
-	SMD_2996
folD	SMD_1858
-	SMD_2870
-	SMD_3190
-	SMD_1478
-	SMD_1928
-	SMD_1040
-	SMD_3927
apt	SMD_1822
mnmA	SMD_2101
-	SMD_0457
nfrB	SMD_0601
-	SMD_0661
-	SMD_1881
-	SMD_1909
-	SMD_2656
-	SMD_2710
-	SMD_3069
-	SMD_3338
-	SMD_3707
-	SMD_0476
-	SMD_0731
mutX	SMD_2610
-	SMD_0710
ostA	SMD_0702
alf1	SMD_3400
infA	SMD_2108
-	SMD_1090

serS	SMD_2677
bioH	SMD_4014
rsuA	SMD_0490
ftsJ	SMD_1668
-	SMD_0973
-	SMD_1805
-	SMD_0688
-	SMD_1052
-	SMD_1016
-	SMD_2072
smeJ	SMD_3874
acpP2	SMD_4104
plsC	SMD_0096
-	SMD_2812
rplW	SMD_0787
-	SMD_1852
-	SMD_0739
hemB	SMD_4044
-	SMD_0221
aat	SMD_2109
rplV	SMD_0790
xpsG	SMD_0582
glyS	SMD_4166
-	SMD_0117
glyQ	SMD_4167
purB	SMD_2770
-	SMD_3871
smpB	SMD_1785
xpsD	SMD_0590
-	SMD_1139
-	SMD_1721
sdaA	SMD_3199
-	SMD_3305
-	SMD_3500
-	SMD_4058
-	SMD_3049
-	SMD_0407
pdxJ	SMD_0014
-	SMD_0861
-	SMD_4087
fur	SMD_1788
-	SMD_0034
-	SMD_1929
orn	SMD_2617
-	SMD_1309
-	SMD_1737
-	SMD_2068
-	SMD_2317
dcd	SMD_3025
chiA2	SMD_2957
-	SMD_2118
-	SMD_1173

smeT	SMD_3659
-	SMD_2810
asnC	SMD_2731
cls	SMD_0012
-	SMD_1291
-	SMD_2477
tRNA-Glu	SMD_2587
sdhD	SMD_1733
rpoB	SMD_0778
-	SMD_0366
-	SMD_1438
clcD	SMD_3022
mtgA	SMD_3210
-	SMD_3774
-	SMD_4196
rpIO	SMD_0804
mtaP	SMD_3117
coaE	SMD_3362
exbD	SMD_0010
-	SMD_4052
rpIK	SMD_0774
-	SMD_0136
-	SMD_0279
dut	SMD_0322
-	SMD_0760
hsdS	SMD_1864
-	SMD_1906
-	SMD_1962
-	SMD_2121
smmD	SMD_2131
-	SMD_2242
-	SMD_2608
-	SMD_2643
-	SMD_3143
-	SMD_3144
-	SMD_3394
-	SMD_4010
mtnD	SMD_1971
-	SMD_1465
-	SMD_2685
rpfG	SMD_2014
-	SMD_1665
dnaE	SMD_1323
-	SMD_3309
-	SMD_0164
rpsO	SMD_2959
-	SMD_0563
-	SMD_1224
hemF	SMD_4119
hscC	SMD_4160
phaG	SMD_3919
plsB	SMD_0057

rsmC	SMD_0489
-	SMD_0334
qseC	SMD_1259
-	SMD_2604
-	SMD_3332
rplQ	SMD_0810
-	SMD_1446
-	SMD_2190
-	SMD_2671
-	SMD_0453
-	SMD_1217
-	SMD_2750
-	SMD_3352
nuoN	SMD_2967
apaH	SMD_0697
-	SMD_2713
mdoD	SMD_0042
rplD	SMD_0786
-	SMD_4165
ispF	SMD_1658
atpD	SMD_3698
pssA	SMD_0562
-	SMD_1144
-	SMD_3033
queA	SMD_1808
nadE	SMD_3353
rpsE	SMD_0802
-	SMD_0409
phaZ	SMD_1318
dsbB	SMD_0811
rpsS	SMD_0789
-	SMD_2116
-	SMD_4103
-	SMD_1180
-	SMD_2224
-	SMD_0160
-	SMD_0168
-	SMD_0384
motB	SMD_0477
-	SMD_0738
macB	SMD_1371
-	SMD_1624
-	SMD_2040
truB	SMD_2960
phoA	SMD_3044
-	SMD_3088
-	SMD_3095
-	SMD_3565
-	SMD_1629
-	SMD_3958
emrA	SMD_1360
-	SMD_0187

-	SMD_2618
-	SMD_2093
mscL	SMD_3384
rpfN	SMD_2228
-	SMD_3654
rpoZ	SMD_3444
era	SMD_3125
-	SMD_0376
-	SMD_0712
bcd	SMD_2751
-	SMD_2458
-	SMD_3339
cyoD	SMD_1216
-	SMD_1443
ribF	SMD_1196
tRNA-Gly	SMD_3375
-	SMD_3081
tRNA-Val	SMD_1456
surA	SMD_0701
-	SMD_0856
-	SMD_1131
-	SMD_2899
tsf	SMD_1337
-	SMD_0659
-	SMD_3087
-	SMD_4128
-	SMD_1403
-	SMD_0084
pilC	SMD_3360
-	SMD_3034
thiL	SMD_0619
rpsC	SMD_0791
tolC	SMD_3531
Glycine.1	SMD_3152
-	SMD_0460
-	SMD_1132
-	SMD_1399
-	SMD_1475
kefB2	SMD_1857
-	SMD_1904
-	SMD_2095
-	SMD_2321
gph2	SMD_3402
-	SMD_3725
DPM1	SMD_4143
-	SMD_4163
sucC	SMD_3355
-	SMD_1266
yceG	SMD_0983
-	SMD_0024
-	SMD_0166
ftsB	SMD_1656

-	SMD_2103
-	SMD_4043
ffh	SMD_1223
dgkA	SMD_0687
-	SMD_1622
-	SMD_4031
rmlC	SMD_0546
rluB	SMD_2836
-	SMD_3468
-	SMD_0312
-	SMD_0970
-	SMD_2193
-	SMD_2653
lpxH	SMD_0845
-	SMD_2683
gtrB	SMD_3209
-	SMD_1853
-	SMD_1315
-	SMD_2345
cheV	SMD_2089
tRNA-Gln	SMD_0754
-	SMD_0510
qbsG	SMD_2738
ssuE2	SMD_0100
smeD	SMD_3658
def	SMD_3777
-	SMD_0146
tolA	SMD_0162
-	SMD_0656
prs	SMD_0755
tcrA	SMD_0996
-	SMD_1051
-	SMD_1462
hisF	SMD_1952
-	SMD_3546
gst6	SMD_4051
hetI	SMD_4149
aceE2	SMD_0412
-	SMD_2071
argH	SMD_2868
-	SMD_3030
rpmG	SMD_4131
zur	SMD_1280
ex7L	SMD_2905
motA	SMD_0478
guaB	SMD_1859
-	SMD_2803
ccmF	SMD_2847
-	SMD_4162
rbfA	SMD_2961
-	SMD_1322
-	SMD_1422

rpIL	SMD_0777
panD	SMD_1718
cysS	SMD_2877
rpmB	SMD_4132
-	SMD_2809
mutY	SMD_1742
acnB	SMD_2025
-	SMD_3243
-	SMD_0501
-	SMD_3121
-	SMD_1127
-	SMD_1140
-	SMD_1183
-	SMD_1312
gst2	SMD_1820
cydC	SMD_2853
-	SMD_3139
-	SMD_3460
cirA	SMD_3723
-	SMD_4102
lpxA	SMD_1326
-	SMD_4093
-	SMD_2897
spgM	SMD_0549
ppiD	SMD_0879
-	SMD_3076
-	SMD_3482
-	SMD_4107
phnA	SMD_3089
rpsA	SMD_1839
-	SMD_2340
accB	SMD_3834
-	SMD_4028
pyrB	SMD_1023
-	SMD_3880
rpsL	SMD_0780
coaX	SMD_0266
-	SMD_0509
gcvT	SMD_3225
rplB	SMD_0788
purM	SMD_1049
-	SMD_0704
rplP	SMD_0792
-	SMD_1842
-	SMD_3322
mutT	SMD_0652
-	SMD_1626
-	SMD_0554
-	SMD_0893
-	SMD_2329
cdh	SMD_2539
-	SMD_3159

pgk	SMD_3403
-	SMD_3963
ubiA	SMD_3995
-	SMD_1854
exbB	SMD_0009
-	SMD_0534
-	SMD_0406
serA	SMD_1976
-	SMD_2767
prfB	SMD_2008
proA	SMD_2865
acrD	SMD_2749
pcnB	SMD_1714
secB	SMD_0125
-	SMD_2732
infB	SMD_2962
-	SMD_1754
rhIB	SMD_3855
-	SMD_0420
mgtE	SMD_1026
-	SMD_0829
nadC	SMD_1437
-	SMD_0016
-	SMD_3083
-	SMD_0525
smmQ2	SMD_0143
manA	SMD_0548
-	SMD_0665
petA	SMD_1430
-	SMD_2105
-	SMD_2381
-	SMD_2494
ispD	SMD_1657
-	SMD_1585
rarD	SMD_0287
folK	SMD_1715
-	SMD_0383
-	SMD_1349
-	SMD_0938
-	SMD_1419
gst4	SMD_2798
-	SMD_3166
-	SMD_3478
-	SMD_3956
-	SMD_0317
-	SMD_3621
trpS	SMD_0280
-	SMD_0095
-	SMD_3938
-	SMD_0310
ftsZ	SMD_0648
-	SMD_0219

-	SMD_2558
-	SMD_2740
recG	SMD_3441
-	SMD_3467
smmO	SMD_4138
pabA	SMD_3905
nudH	SMD_3892
rlmI	SMD_4230
pnp	SMD_2958
pntAa	SMD_0732
-	SMD_1015
cutC	SMD_1958
corC	SMD_1418
-	SMD_0533
-	SMD_2903
-	SMD_1390
rplU	SMD_1191
masA	SMD_1970
ksgA	SMD_0699
-	SMD_0368
-	SMD_1670
-	SMD_2795
-	SMD_2895
-	SMD_3623
estB	SMD_3721
-	SMD_3997
-	SMD_1188
-	SMD_2142
-	SMD_0329
pcm2	SMD_3530
exo	SMD_0729
-	SMD_1663
birA	SMD_0265
-	SMD_3506
rhIE	SMD_0517
pefK	SMD_0586
-	SMD_0630
betT	SMD_2490
mrcA	SMD_3429
lpxD	SMD_1328
rpmA	SMD_1192
wzt	SMD_0530
maf	SMD_3055
metF	SMD_0654
-	SMD_1186
-	SMD_1249
-	SMD_1802
lctR	SMD_2545
-	SMD_2603
Q	SMD_3270
-	SMD_4197
lpxC	SMD_0649

-	SMD_1270
ftsX	SMD_3853
truC	SMD_0188
proB	SMD_2866
cstA	SMD_3138
-	SMD_3616
-	SMD_3942
-	SMD_0502
recQ	SMD_3255
rpmD	SMD_0803
dinG	SMD_4039
icd	SMD_3868
rstA	SMD_0511
exoD	SMD_1642
gloB	SMD_0934
dapD	SMD_1347
kbl	SMD_0833
-	SMD_1187
-	SMD_1874
-	SMD_2696
-	SMD_3028
acvB	SMD_3085
hemO	SMD_3498
-	SMD_3928
ftsA	SMD_0647
ubiE	SMD_3651
valS	SMD_0566
nadD	SMD_3063
gpsA	SMD_0126
-	SMD_3464
-	SMD_3537
-	SMD_0235
-	SMD_0417
-	SMD_3959
-	SMD_1421
-	SMD_0007
wzm	SMD_0529
purH	SMD_3847
eda	SMD_0026
-	SMD_3186
-	SMD_3922
fliC3	SMD_2077
ampDII	SMD_0107
ccmE	SMD_2846
-	SMD_3648
wxocA	SMD_0532
btuE2	SMD_2761
rlpA	SMD_3639
-	SMD_2031
rpoC	SMD_0779
-	SMD_0030
-	SMD_0135

glmS	SMD_3685
pps	SMD_2613
-	SMD_2830
dusB	SMD_0673
fabA	SMD_0493
ribH	SMD_0617
-	SMD_0033
-	SMD_0269
-	SMD_2609
-	SMD_2741
ampR	SMD_3328
-	SMD_3387
calB	SMD_4152
-	SMD_0283
rluF	SMD_1299
-	SMD_2478
mltB	SMD_3640
-	SMD_0044
smeO	SMD_3528
purC	SMD_3912
-	SMD_4030
-	SMD_1172
trpB	SMD_2992
-	SMD_3334
dbpA	SMD_1823
gltX	SMD_1279
-	SMD_3099
-	SMD_1171
rpfC	SMD_2015
-	SMD_1723
-	SMD_0124
-	SMD_0381
agp	SMD_1307
-	SMD_3013
hupB	SMD_0873
upp	SMD_1755
pepQ	SMD_3461
-	SMD_3989
-	SMD_2818
pstS	SMD_1384
-	SMD_2169
-	SMD_2652
gph	SMD_0499
-	SMD_2791
-	SMD_4145
-	SMD_1860
-	SMD_0855
-	SMD_2876
-	SMD_3605
-	SMD_0300
pntAb	SMD_0736
greA	SMD_2001

sphB	SMD_3105
-	SMD_3418
-	SMD_3576
-	SMD_0557
-	SMD_2382
-	SMD_4125
virB9	SMD_2638
-	SMD_0370
-	SMD_0671
-	SMD_3361
-	SMD_3586
-	SMD_4036
sdhC	SMD_1732
ribD	SMD_0611
-	SMD_0631
-	SMD_2318
-	SMD_4032
-	SMD_1264
poxA	SMD_2720
-	SMD_2765
-	SMD_3146
sufE	SMD_2878
ppa	SMD_3505
ybeB	SMD_3062
rpiA	SMD_3469
pyrG	SMD_1651
xpsI	SMD_0584
-	SMD_2163
lysA	SMD_1089
-	SMD_2536
-	SMD_3629
maeB	SMD_3541
-	SMD_0395
-	SMD_1054
phoB	SMD_0852
-	SMD_3036
-	SMD_3347
-	SMD_3925
-	SMD_4048
-	SMD_0081
-	SMD_1050
-	SMD_1084
cca	SMD_3604
rpIE	SMD_0797
-	SMD_3781
mutL	SMD_2900
pdxH	SMD_3185
parC	SMD_1356
-	SMD_4066
folC	SMD_0838
-	SMD_0060
ppiB	SMD_0818

-	SMD_3250
-	SMD_3720
foIE	SMD_4202
wbpO	SMD_1633
fimV	SMD_3002
rpmC	SMD_0793
ispB	SMD_1096
-	SMD_1804
gshB	SMD_3242
piIN	SMD_3427
-	SMD_3622
smmQ	SMD_4140
-	SMD_1984
-	SMD_1048
-	SMD_3365
ipk	SMD_0753
-	SMD_2164
-	SMD_3649
-	SMD_0531
-	SMD_3408
-	SMD_1930
adhB	SMD_1693
-	SMD_1903
-	SMD_1975
-	SMD_2024
-	SMD_3405
eno	SMD_1655
-	SMD_2744
-	SMD_4096
-	SMD_0189
-	SMD_0745
argG	SMD_2873
-	SMD_1666
-	SMD_2635
-	SMD_2023
trpD	SMD_3904
-	SMD_3206
-	SMD_3142
-	SMD_3625
-	SMD_1220
-	SMD_0349
-	SMD_1977
hfIC	SMD_3167
-	SMD_4099
yqgE	SMD_1021
-	SMD_1786
-	SMD_1230
-	SMD_0941
-	SMD_2845
trpC	SMD_3903
-	SMD_1956
-	SMD_2737

-	SMD_0839
rlmB	SMD_1369
algC	SMD_0323
rnG	SMD_3054
-	SMD_3555
-	SMD_1784
hisS	SMD_1943
secG	SMD_2982
-	SMD_2338
phbC	SMD_2605
pgi	SMD_1719
-	SMD_2811
-	SMD_1477
cheY	SMD_2037
tatC	SMD_4171
gap	SMD_3406
pdxK	SMD_1798
-	SMD_3023
rluB2	SMD_0831
-	SMD_0288
fdx	SMD_1749
trxA	SMD_3857
fnr	SMD_1942
dfp	SMD_0321
tRNA-Arg	SMD_1701
tRNA-Glu	SMD_2585
-	SMD_1816
-	SMD_2102
aroK	SMD_3188
-	SMD_2639
glnD	SMD_1346
glmU	SMD_3694
purK	SMD_1440
rplY	SMD_0756
-	SMD_1987
panC	SMD_1717
sufA	SMD_2730
purF	SMD_0841
mreB	SMD_3646
ispG	SMD_1722
C4.3	SMD_0048
-	SMD_0067
5SrRNA	SMD_0346
-	SMD_0364
-	SMD_0441
-	SMD_0669
-	SMD_0891
-	SMD_0895
-	SMD_0899
-	SMD_0900
trbJ	SMD_0926
-	SMD_0955

-	SMD_0956
C4.10	SMD_0989
smqnr	SMD_0998
-	SMD_1134
-	SMD_1513
-	SMD_1518
-	SMD_1519
-	SMD_1522
-	SMD_1540
-	SMD_1549
-	SMD_1553
-	SMD_1564
-	SMD_1596
-	SMD_1614
-	SMD_1894
-	SMD_1899
-	SMD_2154
-	SMD_2156
C4.5	SMD_2179
-	SMD_2199
-	SMD_2200
-	SMD_2212
-	SMD_2265
-	SMD_2281
-	SMD_2282
-	SMD_2303
xthA2	SMD_2306
-	SMD_2308
-	SMD_2309
-	SMD_2311
-	SMD_2354
-	SMD_2396
gspl	SMD_2403
-	SMD_2423
-	SMD_2501
-	SMD_2505
-	SMD_2513
-	SMD_2525
-	SMD_2547
fecR2	SMD_2571
-	SMD_2771
met2	SMD_3203
-	SMD_3504
C4.13	SMD_3608
C4.7	SMD_3962
fbp	SMD_0017
-	SMD_0068
-	SMD_0086
-	SMD_0091
-	SMD_0109
hemD	SMD_0121
smrA	SMD_0127

cusA	SMD_0149
-	SMD_0213
C4.11	SMD_0274
-	SMD_0289
-	SMD_0290
-	SMD_0382
-	SMD_0390
-	SMD_0391
-	SMD_0400
-	SMD_0405
-	SMD_0429
-	SMD_0431
-	SMD_0432
-	SMD_0437
-	SMD_0449
-	SMD_0471
-	SMD_0506
ptpS	SMD_0514
-	SMD_0516
chiA	SMD_0575
-	SMD_0600
-	SMD_0662
lemA	SMD_0690
-	SMD_0705
-	SMD_0733
-	SMD_0815
fadH	SMD_0826
-	SMD_0857
-	SMD_0890
-	SMD_0898
-	SMD_0908
smeX2	SMD_0909
-	SMD_0912
-	SMD_0927
-	SMD_0952
-	SMD_0957
-	SMD_0958
-	SMD_0971
tmk	SMD_0984
soxR	SMD_1008
-	SMD_1012
tag	SMD_1019
rpoN	SMD_1034
lptB	SMD_1035
-	SMD_1037
-	SMD_1044
phzF	SMD_1087
adrA	SMD_1119
-	SMD_1121
-	SMD_1209
-	SMD_1225
-	SMD_1247

-	SMD_1282
-	SMD_1285
-	SMD_1341
-	SMD_1342
macA	SMD_1372
-	SMD_1373
-	SMD_1374
pstB	SMD_1381
-	SMD_1394
-	SMD_1408
-	SMD_1463
-	SMD_1488
-	SMD_1501
-	SMD_1510
-	SMD_1523
-	SMD_1525
-	SMD_1535
-	SMD_1541
-	SMD_1544
topB	SMD_1567
-	SMD_1570
-	SMD_1574
-	SMD_1575
-	SMD_1593
-	SMD_1597
-	SMD_1603
-	SMD_1612
-	SMD_1615
-	SMD_1616
-	SMD_1617
-	SMD_1621
-	SMD_1641
aceE	SMD_1685
-	SMD_1688
-	SMD_1760
-	SMD_1771
-	SMD_1800
-	SMD_1806
smml	SMD_1831
-	SMD_1882
-	SMD_1896
-	SMD_1898
-	SMD_1902
-	SMD_1911
hisG	SMD_1946
-	SMD_1955
-	SMD_1959
mtnB	SMD_1972
-	SMD_1997
-	SMD_2005
-	SMD_2096
-	SMD_2123

-	SMD_2124
cusB	SMD_2132
cusB2	SMD_2140
-	SMD_2160
-	SMD_2172
-	SMD_2173
-	SMD_2175
-	SMD_2188
-	SMD_2206
-	SMD_2213
-	SMD_2217
-	SMD_2219
-	SMD_2229
-	SMD_2232
xynB	SMD_2233
-	SMD_2234
aguA	SMD_2235
-	SMD_2241
-	SMD_2246
-	SMD_2270
-	SMD_2277
-	SMD_2279
-	SMD_2289
-	SMD_2294
-	SMD_2300
-	SMD_2304
-	SMD_2307
pip2	SMD_2324
-	SMD_2327
-	SMD_2339
-	SMD_2343
-	SMD_2349
-	SMD_2352
-	SMD_2362
-	SMD_2363
-	SMD_2377
-	SMD_2378
-	SMD_2383
-	SMD_2386
-	SMD_2387
-	SMD_2391
-	SMD_2392
-	SMD_2395
exbD2	SMD_2397
-	SMD_2399
gspC	SMD_2401
gspJ	SMD_2404
-	SMD_2405
gspF	SMD_2407
gspE	SMD_2408
gspG	SMD_2413
fecR	SMD_2416

-	SMD_2420
-	SMD_2424
-	SMD_2445
-	SMD_2447
-	SMD_2449
-	SMD_2450
-	SMD_2452
-	SMD_2454
dgk	SMD_2456
entF	SMD_2464
entB	SMD_2466
entE	SMD_2467
-	SMD_2510
-	SMD_2511
-	SMD_2516
cpo	SMD_2519
-	SMD_2523
atzC2	SMD_2535
-	SMD_2551
-	SMD_2555
-	SMD_2559
-	SMD_2560
-	SMD_2565
-	SMD_2567
-	SMD_2568
-	SMD_2572
-	SMD_2573
mcpA	SMD_2595
-	SMD_2646
-	SMD_2658
macB2	SMD_2660
-	SMD_2674
serC	SMD_2682
gcd	SMD_2716
-	SMD_2729
-	SMD_2733
gst3	SMD_2786
-	SMD_2799
-	SMD_2802
-	SMD_2837
-	SMD_2852
hmsR	SMD_2863
-	SMD_2928
-	SMD_3029
tldD	SMD_3052
metG	SMD_3080
-	SMD_3114
-	SMD_3145
katE	SMD_3157
-	SMD_3178
prpR	SMD_3183
-	SMD_3198

-	SMD_3219
-	SMD_3246
copL2	SMD_3256
P	SMD_3271
O	SMD_3272
L	SMD_3275
W	SMD_3288
-	SMD_3327
poxB	SMD_3340
-	SMD_3349
piIS	SMD_3356
yfiF	SMD_3388
-	SMD_3404
-	SMD_3409
-	SMD_3430
-	SMD_3431
cbIC	SMD_3435
-	SMD_3462
tam	SMD_3521
-	SMD_3526
-	SMD_3553
-	SMD_3568
-	SMD_3573
-	SMD_3574
-	SMD_3597
-	SMD_3667
-	SMD_3690
glpK	SMD_3713
-	SMD_3732
-	SMD_3769
-	SMD_3828
-	SMD_3830
prmA	SMD_3838
-	SMD_3863
smeK	SMD_3875
-	SMD_3876
-	SMD_3939
-	SMD_3947
-	SMD_3964
-	SMD_3967
-	SMD_3973
cyoC2	SMD_3977
-	SMD_3993
-	SMD_4006
-	SMD_4049
kefB	SMD_4086
tatB	SMD_4172
-	SMD_4207
-	SMD_4221
-	SMD_4222
clpX	SMD_0871
cspD	SMD_3116

-	SMD_2032
cbsB	SMD_0527
flgN	SMD_2092
-	SMD_2880
infC	SMD_2951
-	SMD_3852
rluD	SMD_3350
gltA	SMD_3438
-	SMD_1628
dsbC	SMD_0574
aroE	SMD_4041
-	SMD_0650
tRNA-Glu	SMD_2589
rpIN	SMD_0795
acnA	SMD_3180
-	SMD_0212
-	SMD_4229
-	SMD_2839
-	SMD_3331
-	SMD_3536
-	SMD_3885
-	SMD_2592
-	SMD_1464
murA	SMD_1041
bioA	SMD_3231
galU	SMD_1845
secA	SMD_0651
-	SMD_3369
-	SMD_0077
recJ	SMD_2004
-	SMD_3790
-	SMD_2099
-	SMD_3213
-	SMD_4141
pssA2	SMD_2607
-	SMD_1827
-	SMD_3620
rpmH	SMD_4239
-	SMD_1163
-	SMD_0094
tyrS	SMD_0336
greB	SMD_3012
-	SMD_0191
-	SMD_0218
-	SMD_3909
DLAT	SMD_3709
aas	SMD_3878
-	SMD_3442
virB4	SMD_2632
efp2	SMD_1986
-	SMD_1184
purE	SMD_1439

mraW	SMD_0636
-	SMD_1080
-	SMD_1174
sdhA	SMD_1734
-	SMD_1206
scrK	SMD_1967
trpE	SMD_3907
-	SMD_0840
rplX	SMD_0796
miaA	SMD_1672
-	SMD_0698
-	SMD_0658
gcvP	SMD_3153
-	SMD_3026
lysS	SMD_2013
ccmH	SMD_2849
-	SMD_3680
-	SMD_3773
-	SMD_3897
ssb	SMD_1108
katA2	SMD_1237
-	SMD_4123
prfA	SMD_0749
-	SMD_1470
-	SMD_3165
-	SMD_4169
rpsN	SMD_0798
-	SMD_1169
-	SMD_3886
dacC	SMD_3638
-	SMD_0663
purN	SMD_1045
gor	SMD_3037
-	SMD_3792
dapE	SMD_1350
rpsQ	SMD_0794
-	SMD_1388
mltD	SMD_0933
ilvE	SMD_0740
-	SMD_2994
-	SMD_1165
-	SMD_2686
-	SMD_3053
leuB	SMD_3524
gyrB	SMD_0004
-	SMD_0474
hflK	SMD_3168
glpQ	SMD_4234
-	SMD_2114
-	SMD_0224
cheA	SMD_2036
-	SMD_2039

-	SMD_2723
mpl	SMD_3488
cspR	SMD_0171
-	SMD_0541
-	SMD_0503
folA	SMD_0695
phbB	SMD_2896
-	SMD_2702
-	SMD_3421
-	SMD_0686
-	SMD_2921
lipB	SMD_3635
-	SMD_0812
gpmA	SMD_1268
-	SMD_3499
kdpE	SMD_0324
-	SMD_1405
recO	SMD_3124
-	SMD_0447
hrpA	SMD_3253
comL	SMD_3351
pykA	SMD_3401
map	SMD_1345
-	SMD_2253
-	SMD_0504
xpsN	SMD_0589
-	SMD_2612
cycH	SMD_2850
-	SMD_4206
-	SMD_3214
tRNA-Leu	SMD_1631
lipA	SMD_3634
-	SMD_3717
waaE	SMD_3772
-	SMD_0037
copD	SMD_1485
-	SMD_2715
rimK	SMD_3372
-	SMD_3556
-	SMD_1916
StmPr1	SMD_0741
-	SMD_0967
-	SMD_3682
-	SMD_2002
-	SMD_0730
-	SMD_2766
-	SMD_4017
-	SMD_0205
sucB	SMD_2775
bcr	SMD_3150
rnhA	SMD_0936
-	SMD_1085

hemH	SMD_4175
-	SMD_0197
-	SMD_1938
-	SMD_3877
-	SMD_4007
-	SMD_4083
-	SMD_4135
-	SMD_0260
-	SMD_3454
cmk	SMD_1838
-	SMD_1415
-	SMD_3692
-	SMD_3762
ampDI	SMD_1393
-	SMD_0083
-	SMD_3516
hnsB	SMD_3749
dtd	SMD_3766
-	SMD_4027
-	SMD_0825
-	SMD_3027
-	SMD_2743
tolR	SMD_3312
-	SMD_0090
kdtA	SMD_3533
pepA	SMD_0569
-	SMD_1354
panB	SMD_1716
-	SMD_2333
zipA	SMD_2724
-	SMD_3262
-	SMD_3636
-	SMD_0677
-	SMD_0982
cydD	SMD_2854
-	SMD_0013
-	SMD_0439
-	SMD_0497
xpsE	SMD_0580
-	SMD_0748
fkbp	SMD_1637
-	SMD_2034
-	SMD_3303
-	SMD_0940
ggt	SMD_1750
-	SMD_0609
-	SMD_0837
-	SMD_1059
dapA	SMD_1709
-	SMD_1336
nreB	SMD_0144
-	SMD_0286

-	SMD_3770
-	SMD_1954
-	SMD_1046
-	SMD_2783
panE	SMD_3787
potF	SMD_1411
-	SMD_0885
-	SMD_0660
-	SMD_2003
-	SMD_2606
-	SMD_1814
cspA	SMD_1819
-	SMD_0592
-	SMD_0567
uvrB	SMD_1455
-	SMD_2721
-	SMD_2879
cheW	SMD_2033
tolA	SMD_3311
rdgC	SMD_0059
tatE	SMD_4173
ctaC	SMD_0358
-	SMD_0464
cytR	SMD_1118
-	SMD_1159
-	SMD_1241
-	SMD_1302
pstA	SMD_1382
-	SMD_2186
argC	SMD_2869
Gp17	SMD_3296
-	SMD_4100
lolA	SMD_2115
phoQ	SMD_0262
virB11	SMD_2636
fnr2	SMD_2434
-	SMD_2480
-	SMD_3879
moaB3	SMD_2819
-	SMD_0051
mItA	SMD_0108
kdpA	SMD_0328
-	SMD_2374
-	SMD_2627
-	SMD_2673
-	SMD_3564
-	SMD_3948
aroA	SMD_2680
cheD	SMD_2028
-	SMD_2796
mviM	SMD_0052
virD4	SMD_2641

uvrA	SMD_1190
nlpD	SMD_1664
-	SMD_0348
xerC	SMD_3663
-	SMD_0167
-	SMD_0313
creC	SMD_1275
xylE2	SMD_1712
rsmE	SMD_3232
-	SMD_1944
dapB	SMD_1998
exoD2	SMD_3969
-	SMD_3595
-	SMD_3827
rpsB	SMD_1338
proS	SMD_0559
gcvH	SMD_3224
hns	SMD_0558
-	SMD_1724
-	SMD_0726
-	SMD_1141
-	SMD_1281
-	SMD_1937
-	SMD_3650
-	SMD_1189
-	SMD_1483
hsp90xo	SMD_1219
smmJ2	SMD_2141
-	SMD_0458
-	SMD_1918
-	SMD_2569
-	SMD_3870
-	SMD_0428
-	SMD_0836
-	SMD_1010
-	SMD_2094
-	SMD_3035
-	SMD_3419
odhL	SMD_2776
alaS	SMD_1680
-	SMD_0050
-	SMD_2826
-	SMD_1417
pyrE	SMD_0330
-	SMD_0163
-	SMD_0858
-	SMD_2533
-	SMD_2742
fdnH	SMD_3447
blc2	SMD_3943
lpxO	SMD_3953
fpg	SMD_0041

mItD	SMD_3010
-	SMD_1643
-	SMD_1348
petB	SMD_1431
-	SMD_3486
ccmG	SMD_2848
-	SMD_1653
-	SMD_3560
sspA	SMD_1433
-	SMD_0446
merR	SMD_1558
-	SMD_0085
-	SMD_0393
minE	SMD_1166
-	SMD_1290
-	SMD_1692
uvrC	SMD_1471
thiD	SMD_1703
ohr	SMD_0234
-	SMD_0309
-	SMD_2350
codA	SMD_3652
arcA	SMD_0276
-	SMD_0438
-	SMD_1461
-	SMD_1495
-	SMD_1825
-	SMD_2198
moaA	SMD_2441
smeG	SMD_2748
-	SMD_2929
-	SMD_3091
cbIB	SMD_3433
-	SMD_3479
thiC	SMD_3512
-	SMD_3676
-	SMD_3825
-	SMD_4111
toIB	SMD_3310
-	SMD_1391
oxyR	SMD_0718
-	SMD_3794
-	SMD_3929
-	SMD_0006
-	SMD_3884
-	SMD_1634
yhgE	SMD_1020
-	SMD_4040
pheA	SMD_2681
-	SMD_1579
-	SMD_1236
sodA2	SMD_2474

hsdR	SMD_1862
-	SMD_3463
-	SMD_3097
-	SMD_3791
-	SMD_1708
adhC	SMD_3577
-	SMD_0307
-	SMD_0523
-	SMD_1124
-	SMD_1358
-	SMD_1620
rpfF	SMD_2016
-	SMD_2694
-	SMD_3383
-	SMD_3617
-	SMD_3760
-	SMD_3990
cbpD2	SMD_4062
sdhB	SMD_1735
-	SMD_3480
-	SMD_4035
sahH	SMD_0664
-	SMD_1043
-	SMD_1246
-	SMD_1872
-	SMD_4224
-	SMD_2038
-	SMD_0742
rpmJ2	SMD_1837
-	SMD_1740
prpD	SMD_3176
-	SMD_3628
-	SMD_4157
rnr	SMD_1367
-	SMD_1936
iunH	SMD_3440
-	SMD_4026
mobA	SMD_2436
-	SMD_3726
-	SMD_0570
-	SMD_0217
-	SMD_0746
relA	SMD_3251
-	SMD_4029
-	SMD_0397
-	SMD_3009
-	SMD_0535
tdh	SMD_0835
-	SMD_0208
-	SMD_0275
-	SMD_0942
creD	SMD_1276

-	SMD_2301
-	SMD_2531
-	SMD_2549
-	SMD_2591
-	SMD_2907
-	SMD_3077
-	SMD_3204
-	SMD_3244
-	SMD_3497
leuA	SMD_3520
-	SMD_3689
-	SMD_3786
purD	SMD_3848
-	SMD_3858
-	SMD_4059
-	SMD_1675
-	SMD_2664
uvrD	SMD_4127
-	SMD_2637
yjjV	SMD_2790
-	SMD_4047
-	SMD_1036
hemL	SMD_3474
phoR	SMD_0851
-	SMD_1200
-	SMD_0038
-	SMD_1966
-	SMD_3627
-	SMD_0572
-	SMD_1780
-	SMD_3691
GCDH	SMD_0170
dld2	SMD_0626
-	SMD_0903
-	SMD_1002
tRNA-Glu	SMD_1713
-	SMD_1924
-	SMD_3580
bioB	SMD_4012
-	SMD_4226
talB	SMD_0716
tyrA	SMD_1799
-	SMD_0935
lpdA	SMD_3708
ribB	SMD_0616
-	SMD_2714
D	SMD_3295
rnk	SMD_0717
-	SMD_4089
-	SMD_3367
-	SMD_1042
-	SMD_0056

amtB	SMD_0105
arsR	SMD_0133
-	SMD_0209
-	SMD_0430
-	SMD_0463
hemK	SMD_0721
-	SMD_0843
-	SMD_0972
-	SMD_1207
-	SMD_1289
-	SMD_1339
-	SMD_1420
-	SMD_1534
-	SMD_1578
-	SMD_1698
-	SMD_1796
C4.8	SMD_1867
cusA3	SMD_2133
-	SMD_2176
-	SMD_2197
moaD	SMD_2438
-	SMD_3163
-	SMD_3496
-	SMD_3972
ilvD	SMD_4038
-	SMD_4156
-	SMD_2684
-	SMD_3889
-	SMD_1887
-	SMD_2495
-	SMD_3385
-	SMD_2997
xerD	SMD_0573
-	SMD_2165
-	SMD_3487
smg	SMD_3780
engC	SMD_3554
-	SMD_2800
clpS	SMD_2104
-	SMD_4192
-	SMD_0977
-	SMD_1306
rnfB	SMD_3082
-	SMD_3795
-	SMD_1957
ybbN	SMD_3068
-	SMD_2924
-	SMD_1379
-	SMD_2111
-	SMD_2346
-	SMD_2699
-	SMD_3410

-	SMD_2745
-	SMD_2820
-	SMD_0674
kdsB	SMD_1468
-	SMD_2035
-	SMD_3073
-	SMD_0076
-	SMD_3812
Glycine.4	SMD_3151
recF	SMD_0003
-	SMD_0350
-	SMD_2645
-	SMD_3817
-	SMD_3771
-	SMD_0292
-	SMD_0814
cusA5	SMD_0910
arsC3	SMD_1496
-	SMD_1515
plcC	SMD_1690
hchA	SMD_1773
uup	SMD_1826
tnpA	SMD_2147
-	SMD_2574
-	SMD_2891
-	SMD_3370
-	SMD_3532
-	SMD_3719
ung	SMD_3851
thyA	SMD_0694
-	SMD_1979
-	SMD_4094
-	SMD_1787
-	SMD_1828
-	SMD_0137
-	SMD_2616
thiE	SMD_3473
-	SMD_3485
xpsF	SMD_0581
-	SMD_2067
-	SMD_3086
-	SMD_4232
-	SMD_0206
-	SMD_3247
-	SMD_0859
-	SMD_2701
-	SMD_3325
glnE	SMD_0399
-	SMD_1212
-	SMD_3681
-	SMD_1731
-	SMD_3675

-	SMD_0887
hrcA	SMD_1792
-	SMD_2670
wrbA	SMD_0744
-	SMD_2874
glnS	SMD_0713
-	SMD_4068
rmuC	SMD_4220
fdsC	SMD_2347
-	SMD_3584
cusA2	SMD_2139
-	SMD_0119
etfB	SMD_0543
metH	SMD_2754
-	SMD_3249
-	SMD_3611
yoaA	SMD_3245
-	SMD_4228
-	SMD_3539
-	SMD_0472
-	SMD_0264
ampC	SMD_0070
-	SMD_0308
nadR	SMD_0355
-	SMD_0357
-	SMD_0459
-	SMD_0579
-	SMD_1479
-	SMD_1592
phoD	SMD_1689
-	SMD_1697
-	SMD_1790
-	SMD_1921
-	SMD_2252
-	SMD_2444
-	SMD_2596
-	SMD_2626
-	SMD_3098
-	SMD_3179
-	SMD_3571
-	SMD_3921
-	SMD_4153
-	SMD_1619
folB	SMD_0377
-	SMD_3913
map2	SMD_1248
-	SMD_1856
-	SMD_2030
-	SMD_2829
kdsC	SMD_1038
rpe	SMD_3910
xpsH	SMD_0583

dld	SMD_2543
-	SMD_3578
-	SMD_3936
-	SMD_2663
crt2	SMD_1389
lspA2	SMD_2136
nagA2	SMD_4005
-	SMD_2788
-	SMD_0210
-	SMD_0747
prpC	SMD_3181
-	SMD_1801
-	SMD_3348
-	SMD_1748
-	SMD_2633
trpA	SMD_2990
-	SMD_3011
-	SMD_3208
glyA	SMD_0607
-	SMD_0419
-	SMD_0867
-	SMD_1480
copG	SMD_1489
-	SMD_4063
-	SMD_2623
-	SMD_0484
-	SMD_1406
-	SMD_1625
-	SMD_2622
ftsK	SMD_2113
-	SMD_0380
cadA	SMD_1565
-	SMD_4050
cydA	SMD_2855
-	SMD_1720
-	SMD_0485
-	SMD_2634
minD	SMD_1167
-	SMD_1649
ddlA	SMD_0180
-	SMD_0591
-	SMD_1047
modB	SMD_2432
-	SMD_2828
-	SMD_3716
-	SMD_4085
-	SMD_1834
-	SMD_2223
-	SMD_3326
-	SMD_3491
crp	SMD_3900
-	SMD_0703

-	SMD_0178
recR	SMD_0966
-	SMD_2698
-	SMD_2817
fliC2	SMD_2075
hemN	SMD_1630
-	SMD_0120
-	SMD_0385
-	SMD_1176
sodB	SMD_1442
-	SMD_1803
fruA	SMD_2227
fliC	SMD_2076
dsbG	SMD_2580
-	SMD_2631
-	SMD_4073
etfA	SMD_0542
-	SMD_0297
-	SMD_0628
-	SMD_3932
-	SMD_0061
-	SMD_0074
-	SMD_0179
kdpD	SMD_0325
-	SMD_0435
phnB	SMD_0450
-	SMD_0827
aglA	SMD_1097
amyM	SMD_1102
-	SMD_1232
-	SMD_1311
-	SMD_1378
aptA	SMD_1401
-	SMD_1696
-	SMD_1865
-	SMD_1870
-	SMD_1922
-	SMD_2174
-	SMD_2325
-	SMD_2566
-	SMD_2575
-	SMD_3133
-	SMD_3137
-	SMD_3836
dnaX	SMD_0964
-	SMD_3715
aspC	SMD_0018
lgt	SMD_0693
-	SMD_1444
-	SMD_0961
-	SMD_4097
-	SMD_1310

-	SMD_0681
-	SMD_0267
phzF2	SMD_1088
batA	SMD_3420
-	SMD_3557
-	SMD_2735
-	SMD_2550
-	SMD_3824
-	SMD_3991
-	SMD_1410
ftsH	SMD_1669
-	SMD_4008
-	SMD_2773
-	SMD_4219
-	SMD_2621
-	SMD_1667
ubiH	SMD_0706
-	SMD_0019
rluA	SMD_0820
-	SMD_2135
mgtE2	SMD_4084
-	SMD_3735
astC	SMD_3477
glnL	SMD_0112
-	SMD_0752
cbpA	SMD_3171
-	SMD_4034
katA	SMD_0296
prpE	SMD_0821
-	SMD_0629
-	SMD_0848
cfa	SMD_2807
-	SMD_2517
-	SMD_4191
lepB2	SMD_0195
-	SMD_0451
-	SMD_1577
-	SMD_1990
-	SMD_2149
-	SMD_3149
-	SMD_3558
-	SMD_3808
dnaQ2	SMD_4134
-	SMD_4154
benE	SMD_4189
-	SMD_0387
-	SMD_2815
-	SMD_3933
-	SMD_3630
dsbA2	SMD_3594
-	SMD_1871
-	SMD_3373

acsA	SMD_4155
-	SMD_2299
-	SMD_0069
-	SMD_1314
chrA	SMD_1500
moaE	SMD_2437
lctP	SMD_2546
leuC	SMD_3522
-	SMD_3559
-	SMD_3805
-	SMD_3227
-	SMD_3371
nbaC	SMD_2736
-	SMD_1654
frzE	SMD_3237
-	SMD_3669
mdh	SMD_0819
gltD	SMD_0063
-	SMD_0139
pefL	SMD_0587
-	SMD_1423
-	SMD_2431
-	SMD_3050
-	SMD_3729
recD	SMD_4209
-	SMD_0608
proC	SMD_1011
-	SMD_4124
-	SMD_0886
-	SMD_2236
-	SMD_3514
fadL	SMD_0353
-	SMD_0992
-	SMD_3481
-	SMD_3754
-	SMD_1287
-	SMD_0727
-	SMD_0965
-	SMD_2379
-	SMD_3837
dnaQ	SMD_0937
this	SMD_3377
-	SMD_4042
-	SMD_0263
-	SMD_1744
sppA	SMD_3789
-	SMD_0140
smmK	SMD_0148
-	SMD_0157
-	SMD_0284
-	SMD_0440
-	SMD_0444

-	SMD_0603
-	SMD_0624
-	SMD_0743
-	SMD_1316
phoX	SMD_1385
-	SMD_1775
-	SMD_1905
spcN	SMD_1912
ilvK	SMD_2012
-	SMD_2195
-	SMD_2208
-	SMD_2220
-	SMD_2368
modA	SMD_2433
tRNA-Ser	SMD_2672
-	SMD_2687
-	SMD_3292
-	SMD_3300
ilvG	SMD_3517
leuD	SMD_3523
-	SMD_3575
exbD5	SMD_3602
-	SMD_3731
-	SMD_3736
-	SMD_3740
-	SMD_3759
priA	SMD_3793
-	SMD_3826
-	SMD_3908
-	SMD_3984
agaZ	SMD_4003
-	SMD_3711
-	SMD_0883
purU	SMD_0222
-	SMD_2127
-	SMD_4213
-	SMD_3626
-	SMD_0369
-	SMD_2375
petC	SMD_1432
dadA	SMD_0483
-	SMD_1833
gst5	SMD_3746
-	SMD_1741
-	SMD_2146
-	SMD_2453
-	SMD_2712
-	SMD_0913
-	SMD_3042
-	SMD_1738
-	SMD_0708
-	SMD_3252

bglX	SMD_0379
-	SMD_1120
-	SMD_1204
-	SMD_2273
-	SMD_3113
tolQ	SMD_3313
-	SMD_0031
-	SMD_2984
-	SMD_3906
apbA	SMD_4067
-	SMD_1107
-	SMD_1205
-	SMD_0082
-	SMD_0402
-	SMD_1409
-	SMD_1886
-	SMD_2262
-	SMD_3493
-	SMD_3751
flgM	SMD_2091
-	SMD_1736
-	SMD_3368
-	SMD_1919
hemC	SMD_3718
-	SMD_1632
-	SMD_0078
-	SMD_3860
agaR	SMD_4004
-	SMD_0498
-	SMD_3056
-	SMD_3414
-	SMD_4046
moeA	SMD_2439
cheB	SMD_2027
-	SMD_3093
dapF	SMD_3665
hsIR	SMD_1235
adk	SMD_3489
ivd	SMD_0207
ffs	SMD_0945
-	SMD_1627
-	SMD_2144
-	SMD_0389
-	SMD_0943
-	SMD_0962
-	SMD_1304
-	SMD_1880
fruK	SMD_2226
-	SMD_2271
-	SMD_2537
-	SMD_3226
hrpB	SMD_4070

recB	SMD_4210
-	SMD_3633
polA	SMD_4122
htpG	SMD_1745
-	SMD_0424
-	SMD_1866
lexA	SMD_1677
-	SMD_1618
-	SMD_0832
-	SMD_2579
dusA	SMD_0259
psiF	SMD_1752
-	SMD_2883
-	SMD_2373
cgb	SMD_2554
-	SMD_4177
-	SMD_0882
tex	SMD_2599
-	SMD_2857
-	SMD_1815
-	SMD_0765
-	SMD_2644
-	SMD_3459
-	SMD_3755
-	SMD_4018
-	SMD_0101
sugE	SMD_0946
-	SMD_2711
gcp	SMD_0375
metC	SMD_0528
recN	SMD_1791
-	SMD_2177
-	SMD_2719
nahB	SMD_3618
-	SMD_3818
-	SMD_3849
-	SMD_0311
-	SMD_3423
-	SMD_1978
-	SMD_0519
-	SMD_1707
-	SMD_1917
-	SMD_2243
-	SMD_2561
-	SMD_0553
-	SMD_1706
-	SMD_1989
-	SMD_1272
-	SMD_2816
-	SMD_0228
-	SMD_1591
-	SMD_2485

-	SMD_1004
-	SMD_1934
-	SMD_3254
-	SMD_0634
-	SMD_4071
-	SMD_1357
-	SMD_3475
-	SMD_0169
-	SMD_2665
-	SMD_3007
-	SMD_0552
cydB	SMD_2856
dsbA	SMD_3593
-	SMD_1964
-	SMD_1404
hmgcL	SMD_1988
-	SMD_0301
-	SMD_3782
-	SMD_1710
-	SMD_0020
-	SMD_0036
-	SMD_0062
-	SMD_0080
-	SMD_0186
-	SMD_0361
-	SMD_0362
-	SMD_0411
-	SMD_0426
-	SMD_0469
-	SMD_0518
-	SMD_0538
-	SMD_0602
-	SMD_0625
-	SMD_0655
ppc	SMD_0666
-	SMD_0735
-	SMD_0762
-	SMD_0932
-	SMD_1147
-	SMD_1182
-	SMD_1484
-	SMD_1599
-	SMD_1602
-	SMD_1757
-	SMD_1818
-	SMD_1981
yagS	SMD_2184
-	SMD_2237
-	SMD_2255
-	SMD_2326
-	SMD_2446
-	SMD_2489

dnaE2	SMD_2563
-	SMD_2697
metB	SMD_3202
N	SMD_3273
GpU	SMD_3294
-	SMD_3815
-	SMD_3823
glnB3	SMD_3957
-	SMD_3974
-	SMD_3981
cbpD	SMD_4061
-	SMD_4078
cls2	SMD_4129
hflX	SMD_1674
-	SMD_0316
-	SMD_0520
-	SMD_1832
-	SMD_0561
-	SMD_0232
dnaJ	SMD_1795
-	SMD_0304
-	SMD_1660
-	SMD_1913
-	SMD_0270
-	SMD_1130
asnB2	SMD_2784
-	SMD_0403
-	SMD_1676
prpB	SMD_3182
-	SMD_0102
trxB	SMD_2112
xpsM	SMD_0588
-	SMD_3926
-	SMD_3632
lctD	SMD_2544
-	SMD_4110
-	SMD_2187
-	SMD_0335
-	SMD_1201
-	SMD_2473
-	SMD_3582
-	SMD_3758
-	SMD_3592
-	SMD_1739
dcp	SMD_0192
pfk	SMD_3490
trwI	SMD_2630
-	SMD_1424
glpD	SMD_3712
-	SMD_3966
nudF	SMD_0728
-	SMD_1704

ctpA	SMD_0351
-	SMD_3992
-	SMD_0823
-	SMD_2359
-	SMD_2919
-	SMD_3807
-	SMD_0231
-	SMD_1060
-	SMD_3184
pai2	SMD_2734
-	SMD_3342
-	SMD_2598
-	SMD_0423
pncB	SMD_0593
-	SMD_0196
-	SMD_0211
lrp	SMD_0482
-	SMD_1561
rluA2	SMD_1817
-	SMD_2230
-	SMD_2801
opuD2	SMD_3513
-	SMD_2137
-	SMD_2129
ssrS	SMD_3466
-	SMD_2752
-	SMD_0386
-	SMD_0672
-	SMD_1392
-	SMD_0524
ate1	SMD_1181
-	SMD_1407
minC	SMD_1168
-	SMD_3684
-	SMD_1007
-	SMD_1877
thrA	SMD_1939
-	SMD_3804
-	SMD_1057
-	SMD_2298
-	SMD_0261
kdsA	SMD_1652
fumC	SMD_2769
psd	SMD_3008
-	SMD_3398
nadE2	SMD_2145
pdhA	SMD_3930
hfq	SMD_1673
-	SMD_2254
-	SMD_0881
-	SMD_0751
-	SMD_3603

-	SMD_0131
xpsJ	SMD_0585
-	SMD_0950
-	SMD_1231
-	SMD_1340
phoU	SMD_1380
-	SMD_1702
-	SMD_1797
-	SMD_1821
lytT	SMD_2007
-	SMD_2292
-	SMD_2341
proP	SMD_2380
-	SMD_3201
-	SMD_3525
cioB	SMD_4108
-	SMD_4227
-	SMD_3945
-	SMD_0093
-	SMD_3177
-	SMD_0258
dinP	SMD_0494
murB	SMD_1914
-	SMD_3376
-	SMD_3872
-	SMD_3614
-	SMD_3882
-	SMD_1776
nagA	SMD_3612
-	SMD_2499
-	SMD_2647
mmsB	SMD_0233
-	SMD_0627
-	SMD_2953
nudC	SMD_3883
-	SMD_3861
-	SMD_3374
cysK	SMD_3397
lon	SMD_0872
-	SMD_1082
-	SMD_3666
-	SMD_0173
-	SMD_0032
glnG	SMD_0113
-	SMD_1695
-	SMD_1783
-	SMD_2344
-	SMD_3415
-	SMD_3422
-	SMD_3811
-	SMD_3888
-	SMD_4133

-	SMD_0303
yciL	SMD_2833
-	SMD_0229
arsC	SMD_0132
-	SMD_0468
kgdA	SMD_1725
fusA2	SMD_2125
-	SMD_3134
yidD	SMD_2881
-	SMD_1293
-	SMD_2540
gltB	SMD_0064
-	SMD_0657
agaS	SMD_4001
osmC	SMD_1086
-	SMD_3223
-	SMD_0445
recC	SMD_4211
-	SMD_1779
-	SMD_0495
-	SMD_2789
ppk	SMD_0850
-	SMD_2808
-	SMD_0257
pdhB	SMD_3931
-	SMD_1533
-	SMD_1846
-	SMD_2435
-	SMD_1935
-	SMD_0272
htpX	SMD_2894
-	SMD_3581
-	SMD_2110
-	SMD_2787
-	SMD_2222
-	SMD_2768
-	SMD_2100
edd	SMD_1726
-	SMD_1056
-	SMD_0388
-	SMD_2625
-	SMD_1705
-	SMD_0766
-	SMD_4174
pip	SMD_0722
cheR	SMD_2029
-	SMD_0410
tesA	SMD_0683
-	SMD_0892
-	SMD_0714
-	SMD_2624
-	SMD_3747

-	SMD_3172
pyrD	SMD_1915
-	SMD_0378
-	SMD_3092
-	SMD_1469
selD	SMD_3453
metH2	SMD_2753
zwf	SMD_1729
aroB	SMD_3189
-	SMD_3664
-	SMD_0049
-	SMD_0138
-	SMD_0150
-	SMD_0185
-	SMD_0466
-	SMD_0540
-	SMD_0578
-	SMD_0682
ubiF	SMD_0707
phoB2	SMD_0904
-	SMD_0947
-	SMD_0960
-	SMD_0969
qnrR	SMD_0997
-	SMD_1133
-	SMD_1157
-	SMD_1344
-	SMD_1481
copF	SMD_1487
copB	SMD_1490
copA	SMD_1491
-	SMD_1502
radC2	SMD_1514
-	SMD_1543
-	SMD_1576
-	SMD_1604
-	SMD_1607
smmG	SMD_1829
-	SMD_1875
-	SMD_1889
-	SMD_2026
-	SMD_2134
glnB2	SMD_2138
xylA	SMD_2239
-	SMD_2240
-	SMD_2248
-	SMD_2336
-	SMD_2337
-	SMD_2348
-	SMD_2369
-	SMD_2472
-	SMD_2509

-	SMD_2562
macA	SMD_2659
-	SMD_2746
-	SMD_2763
yjeF	SMD_2902
-	SMD_2925
-	SMD_3162
M	SMD_3274
-	SMD_3585
-	SMD_3610
-	SMD_3727
-	SMD_3742
cyoB2	SMD_3978
-	SMD_4000
-	SMD_4009
-	SMD_4194
-	SMD_0226
-	SMD_1234
-	SMD_2666
-	SMD_0302
-	SMD_0991
-	SMD_4077
-	SMD_1493
-	SMD_3120
guaA	SMD_1861
-	SMD_3169
-	SMD_0560
-	SMD_0156
sodC	SMD_0114
-	SMD_1580
-	SMD_1980
-	SMD_0860
cueR	SMD_1961
-	SMD_3631
smf	SMD_3779
-	SMD_3961
-	SMD_2272
hslO	SMD_3211
-	SMD_3343
-	SMD_3613
kdpB	SMD_0327
-	SMD_1876
-	SMD_2274
pyrC	SMD_2882
-	SMD_0884
-	SMD_1177
lpsI	SMD_0550
-	SMD_0401
-	SMD_0888
-	SMD_3998
ribE	SMD_0615
-	SMD_2762

-	SMD_2319
-	SMD_1761
ahpF	SMD_0719
-	SMD_0295
23SrRNA	SMD_0340
-	SMD_3079
23SrRNA	SMD_4179
-	SMD_0039
-	SMD_2793
-	SMD_3366
btuE	SMD_4218
-	SMD_0352
ctaD	SMD_0359
pntB	SMD_0737
-	SMD_0897
actP	SMD_1960
-	SMD_2400
-	SMD_2581
-	SMD_2940
tdcB	SMD_3519
-	SMD_3688
yhbH	SMD_1033
-	SMD_3407
sodC2	SMD_0115
-	SMD_4217
23SrRNA	SMD_0345
-	SMD_2920
-	SMD_1753
-	SMD_2548
-	SMD_3764
-	SMD_4214
-	SMD_1879
-	SMD_1294
-	SMD_0225
-	SMD_3057
-	SMD_0174
-	SMD_0025
-	SMD_0271
thrB	SMD_1940
-	SMD_0230
iroE2	SMD_3263
hmgA	SMD_3923
-	SMD_3799
-	SMD_2390
-	SMD_3809
-	SMD_2764
-	SMD_1128
-	SMD_3748
23SrRNA	SMD_4184
-	SMD_4193
-	SMD_3980
-	SMD_1532

-	SMD_0481
-	SMD_0828
-	SMD_0853
tRNA-Ser	SMD_0939
-	SMD_1175
-	SMD_1573
-	SMD_1777
-	SMD_1869
clpA	SMD_2106
-	SMD_2170
metE	SMD_2261
-	SMD_2388
-	SMD_2471
-	SMD_2927
-	SMD_3096
-	SMD_3337
-	SMD_3579
-	SMD_3761
ribA	SMD_3768
-	SMD_3810
-	SMD_3954
cyoA2	SMD_3979
-	SMD_4113
-	SMD_1531
-	SMD_3492
ahpC	SMD_0720
-	SMD_0999
-	SMD_3683
-	SMD_0606
-	SMD_3330
-	SMD_4064
recX	SMD_1679
-	SMD_3259
fadD	SMD_2017
ndh	SMD_3796
-	SMD_0155
-	SMD_0725
merP	SMD_1556
moaBC	SMD_2440
sixA	SMD_0092
mgtA	SMD_2331
-	SMD_0968
-	SMD_0467
glnB	SMD_0104
-	SMD_3714
selB	SMD_3451
-	SMD_0154
-	SMD_1508
-	SMD_0521
-	SMD_1985
-	SMD_2678
-	SMD_3924

trbP	SMD_2323
-	SMD_2995
-	SMD_4065
-	SMD_2578
bfr2	SMD_3890
pgl	SMD_1727
RRM1	SMD_0215
-	SMD_3341
C4.12	SMD_0130
radC	SMD_0319
citG	SMD_1148
-	SMD_1240
merA	SMD_1555
merT	SMD_1557
-	SMD_2021
-	SMD_2542
-	SMD_2785
-	SMD_3494
-	SMD_4002
-	SMD_4074
-	SMD_0734
bfr	SMD_3173
-	SMD_1000
-	SMD_1031
-	SMD_0914
-	SMD_1730
RRM2	SMD_0216
-	SMD_0462
-	SMD_1885
-	SMD_2275
-	SMD_2367
mdoB	SMD_3940
-	SMD_3988
glk	SMD_1728
-	SMD_0604
-	SMD_0089
-	SMD_3269
-	SMD_1032
-	SMD_1506
nrdF	SMD_2486
-	SMD_4212
-	SMD_2451
fdnG	SMD_3446
-	SMD_3788
-	SMD_0027
hsiU	SMD_3661
radA	SMD_1218
-	SMD_0073
-	SMD_0129
-	SMD_3864
gst	SMD_0824
-	SMD_4215

-	SMD_1030
-	SMD_0256
rseA	SMD_3131
-	SMD_2256
comM	SMD_3965
hisl	SMD_1953
-	SMD_2191
-	SMD_2597
-	SMD_2679
-	SMD_3710
sodA	SMD_2814
lhr	SMD_0075
-	SMD_3130
16SrRNA	SMD_0342
lpsJ	SMD_0551
-	SMD_4019
-	SMD_0594
-	SMD_3335
-	SMD_3196
dnaK	SMD_1794
recA	SMD_1678
-	SMD_0254
-	SMD_3756
-	SMD_0678
-	SMD_1884
-	SMD_2011
-	SMD_0065
-	SMD_0152
-	SMD_4205
-	SMD_1530
-	SMD_1781
ptrB	SMD_3668
-	SMD_2688
-	SMD_3615
glnA	SMD_0103
-	SMD_1507
-	SMD_3382
-	SMD_0066
-	SMD_0145
mls	SMD_0199
aceA	SMD_0200
kdpC	SMD_0326
-	SMD_0443
msrA	SMD_0505
-	SMD_0906
-	SMD_0907
-	SMD_0990
-	SMD_1099
gip	SMD_1109
-	SMD_1113
-	SMD_1114
-	SMD_1122

-	SMD_1135
-	SMD_1150
-	SMD_1161
-	SMD_1303
-	SMD_1343
-	SMD_1376
-	SMD_1377
-	SMD_1428
-	SMD_1482
smeV2	SMD_1504
-	SMD_1511
-	SMD_1516
-	SMD_1594
-	SMD_1613
-	SMD_1694
-	SMD_1756
-	SMD_1758
-	SMD_1759
-	SMD_1901
-	SMD_1932
-	SMD_1933
betB	SMD_2019
-	SMD_2066
-	SMD_2151
-	SMD_2155
-	SMD_2167
-	SMD_2201
-	SMD_2209
-	SMD_2214
-	SMD_2244
metR	SMD_2258
-	SMD_2269
-	SMD_2276
-	SMD_2283
-	SMD_2284
-	SMD_2302
-	SMD_2320
-	SMD_2342
smmA	SMD_2370
gspK	SMD_2412
-	SMD_2414
-	SMD_2415
-	SMD_2462
entA	SMD_2463
-	SMD_2506
-	SMD_2522
-	SMD_2552
-	SMD_2930
-	SMD_2931
-	SMD_3112
lys	SMD_3279
-	SMD_3569

-	SMD_3738
smeA	SMD_4023
-	SMD_4060
16SrRNA	SMD_4182
-	SMD_2576
rpoE	SMD_3132
-	SMD_3724
-	SMD_1883
-	SMD_1526
-	SMD_1770
-	SMD_0161
betA	SMD_2018
-	SMD_3094
adi	SMD_2577
-	SMD_2600
-	SMD_3887
-	SMD_1559
-	SMD_1888
blaI	SMD_3412
-	SMD_1527
-	SMD_1878
16SrRNA	SMD_4187
-	SMD_1848
hsIV	SMD_3662
-	SMD_2443
bhc	SMD_2918
-	SMD_4216
clpB	SMD_3336
gstA	SMD_1427
-	SMD_1152
-	SMD_3260
16SrRNA	SMD_0337
-	SMD_0045
-	SMD_1009
-	SMD_2393
fdhE	SMD_3449
acn	SMD_2022
groES	SMD_3814
-	SMD_3264
-	SMD_0404
-	SMD_3197
-	SMD_1029
-	SMD_2590
-	SMD_0452
-	SMD_0915
-	SMD_1110
ligC	SMD_3111
-	SMD_3302
fdnI	SMD_3448
-	SMD_1301
selA	SMD_3450
grpE	SMD_1793

nrdE	SMD_2487
-	SMD_0015
-	SMD_0021
-	SMD_0515
-	SMD_1153
-	SMD_1277
-	SMD_1509
-	SMD_1560
-	SMD_2211
-	SMD_3110
-	SMD_3217
-	SMD_1873
-	SMD_2541
-	SMD_1751
-	SMD_0522
-	SMD_0227
-	SMD_0480
-	SMD_3862
-	SMD_3971
-	SMD_1529
ptsI	SMD_1027
-	SMD_1847
-	SMD_2491
fadE	SMD_3216
groEL	SMD_3813
-	SMD_1363
-	SMD_1568
-	SMD_1609
-	SMD_2260
-	SMD_3261
msrA2	SMD_0715
-	SMD_2488
prfC	SMD_3679
-	SMD_3946
-	SMD_2330
-	SMD_0153
-	SMD_0273
-	SMD_2257
-	SMD_3215
-	SMD_0526
ptsH	SMD_1028
-	SMD_1149
-	SMD_1807
-	SMD_1528
-	SMD_3982
bfr3	SMD_1355
rtcB	SMD_4076
ku	SMD_0022
-	SMD_0193
-	SMD_0194
-	SMD_0360
-	SMD_0896

-	SMD_1112
-	SMD_1605
-	SMD_1608
-	SMD_1895
-	SMD_1897
-	SMD_2152
-	SMD_2196
-	SMD_2204
-	SMD_2263
-	SMD_2267
-	SMD_2278
-	SMD_2290
-	SMD_2328
mgtC	SMD_2332
-	SMD_2357
smmB	SMD_2371
-	SMD_2429
-	SMD_2500
R	SMD_3281
-	SMD_3570
-	SMD_3730
-	SMD_3983
-	SMD_4203
-	SMD_2689
-	SMD_0246
-	SMD_4204
rnpB	SMD_0632
-	SMD_0252
-	SMD_1117
-	SMD_1125
-	SMD_0394
msrB	SMD_0479
-	SMD_0249
betI	SMD_2020
-	SMD_4223
-	SMD_2221
-	SMD_3411
-	SMD_0250
-	SMD_0035
-	SMD_1151
-	SMD_2194
-	SMD_3277
rpoH	SMD_3850
-	SMD_0248
-	SMD_1126
-	SMD_3671
-	SMD_0247
-	SMD_0244
-	SMD_3015
-	SMD_1115
hutI	SMD_2690
-	SMD_0255

-	SMD_0577
-	SMD_1111
-	SMD_1610
-	SMD_1908
-	SMD_2926
-	SMD_3757
-	SMD_0251
-	SMD_3265
-	SMD_0172
-	SMD_1640
-	SMD_2667
-	SMD_3298
-	SMD_0253
-	SMD_2693
-	SMD_4075
-	SMD_3266
-	SMD_3267
-	SMD_1774
msuE	SMD_2259
-	SMD_2356
-	SMD_3017
-	SMD_3278
-	SMD_3018
-	SMD_2692
-	SMD_0245
-	SMD_1824
-	SMD_0236
tmRNA	SMD_1782
-	SMD_3016
-	SMD_1900
-	SMD_3019
-	SMD_0243
-	SMD_0242
-	SMD_3021
-	SMD_1116
-	SMD_2493
-	SMD_0238
-	SMD_1769
-	SMD_4233
-	SMD_0240
-	SMD_0237
-	SMD_0241
mdtI	SMD_2492
hutH	SMD_2691
arsR2	SMD_1494
-	SMD_0239
-	SMD_3020
-	SMD_3268
-	SMD_1768
tRNA-Ser	SMD_0963
smeU2	SMD_1766
smeX	SMD_1767

smeRv	SMD_1762
smeW	SMD_1765
smeV	SMD_1764
smeU1	SMD_1763
5SrRNA	SMD_0341
5SrRNA	SMD_0347
-	SMD_0415
msrB2	SMD_0507
-	SMD_0763
pimB	SMD_0847
-	SMD_0889
-	SMD_0901
-	SMD_0905
-	SMD_0919
virD4	SMD_0920
-	SMD_0921
trbB	SMD_0922
trbC	SMD_0923
trbD	SMD_0924
trbE	SMD_0925
trbL	SMD_0928
trbF	SMD_0929
-	SMD_0959
-	SMD_1136
-	SMD_1137
-	SMD_1512
-	SMD_1517
-	SMD_1520
-	SMD_1521
-	SMD_1524
-	SMD_1536
-	SMD_1537
-	SMD_1538
-	SMD_1539
-	SMD_1545
-	SMD_1546
-	SMD_1547
-	SMD_1548
-	SMD_1550
-	SMD_1551
-	SMD_1552
-	SMD_1562
-	SMD_1563
-	SMD_1569
-	SMD_1571
-	SMD_1572
-	SMD_1601
B	SMD_1606
-	SMD_1611
-	SMD_1686
-	SMD_1687
-	SMD_1892

ssuE	SMD_1893
-	SMD_2153
-	SMD_2159
-	SMD_2171
-	SMD_2203
-	SMD_2207
-	SMD_2215
-	SMD_2216
-	SMD_2264
-	SMD_2266
-	SMD_2280
-	SMD_2285
-	SMD_2286
-	SMD_2287
-	SMD_2291
-	SMD_2295
-	SMD_2296
-	SMD_2310
-	SMD_2360
-	SMD_2361
copD2	SMD_2365
exbB2	SMD_2398
pstS2	SMD_2406
gspD	SMD_2409
gspM	SMD_2410
gspL	SMD_2411
-	SMD_2417
-	SMD_2418
-	SMD_2448
-	SMD_2502
-	SMD_2503
-	SMD_2504
-	SMD_2507
-	SMD_2508
-	SMD_2514
-	SMD_2520
-	SMD_2521
-	SMD_2526
-	SMD_2582
-	SMD_2777
X	SMD_3276
-	SMD_3280
V	SMD_3287
cbIA	SMD_3436
-	SMD_3538
-	SMD_3750
-	SMD_3831
-	SMD_3865
-	SMD_3866
5SrRNA	SMD_4178
5SrRNA	SMD_4183

Product	MBS301
Mg /citrate complex transporter	21
phosphate-specific outer membrane porin OprP Pyrophosphate-specific	30
Phe tRNA	17
acetoacetyl-CoA reductase	24
Val tRNA	9
hypothetical protein	1
Lys tRNA	66
hypothetical protein	2
-	2
3-demethylubiquinone-9 3-methyltransferase	6
hypothetical protein	1
Zinc-regulated outer membrane receptor	2
response regulator receiver protein	3
phosphodiesterase/alkaline phosphatase D	1
ABC transporter ATP-binding protein	1
hypothetical protein	12
Iron(III) dicitrate transport protein FecA	20
hypothetical protein	2
hypothetical protein	2
flagellar biosynthesis protein FliO	15
HxIR family transcriptional regulator	4
Leu tRNA	22
OMR family iron-siderophore receptor precursor	20
hypothetical protein	9
Phe tRNA	218
Met tRNA	134
glucose-1-phosphate thymidyltransferase	3
-	14
hypothetical protein	1
flagellar biosynthesis protein FlhA	7
hypothetical protein	2
General stress protein	1
hypothetical protein	1
-	9
glycogen synthase	1
hypothetical protein	3
hypothetical protein	3
hypothetical protein	1
Xaa tRNA	126
Outer membrane vitamin B12 receptor BtuB	10
Ala tRNA	21
hypothetical protein	4
integral membrane protein	7
iron-regulated membrane protein Iron-uptake factor PiuB	10
flagellar M-ring protein FliF	23
multidrug ABC transporter permease	13
TonB-dependent receptor Outer membrane receptor for ferrienteroche	9
NAD(P)H dehydrogenase, quinone family	6
hypothetical protein	3
OMR family iron-siderophore receptor precursor	8
Asp tRNA	63

hypothetical protein	18
hypothetical protein	5
IroE protein	15
Sigma factor, ECF subfamily	10
Gln tRNA	10
flagellar motor switch protein FliG	38
inner membrane protein	7
Leu tRNA	9
ArsR family transcriptional regulator	9
hypothetical protein	20
Pro tRNA	31
flagellar basal-body rod modification protein FlgD	47
TonB-dependent receptor Outer membrane receptor for ferrienteroche	2
flagellar motor switch protein FliM	32
Universal stress protein family	2
flagellar biosynthesis protein FliL	33
hypothetical protein	19
2-hydroxy-3-keto-5-methylthiopentenyl-1-phosphatephosphatase rela	217
Lys tRNA	11
flagellar hook-basal body complex protein FliE	47
LysR family transcriptional regulator	9
merR family transcriptional regulator	7
iron receptor	10
hypothetical protein	5
Iron siderophore sensor protein	5
Asp tRNA	421
transmembrane protein	13
Val tRNA	23
His tRNA	304
flagellar protein FlgJ	24
flagellar basal-body rod protein FlgF	52
Gly tRNA	186
flagellar L-ring protein FlgH	27
TonB-dependent receptor	4
UDP-N-acetylglucosamine 2-epimerase	9
ferrichrome-iron receptor	147
methyl-accepting chemotaxis protein I (serine chemoreceptor protein)	60
hypothetical protein	20
phosphatidate cytidyltransferase	117
hypothetical protein	145
flagellar biosynthesis protein FliH	22
Asp tRNA	474
cytoplasmic protein	6
hypothetical protein	12
flagellar hook-length control protein FliK	13
pili assembly chaperone: Bacterial pili assembly chaperone	304
Oxidoreductase	7
ribosomal-protein-S18p-alanine acetyltransferase	37
hypothetical protein	15
hypothetical protein	15
hemin transport protein	8
hypothetical protein	26

flagellar motor switch protein FliN	35
Pro tRNA	103
Met tRNA	179
cAMP-binding proteins-catabolite gene activator and regulatory subunit	21
drug/metabolite transporter (DMT) superfamily permease	137
Pro tRNA	106
1-deoxy-D-xylulose 5-phosphate reductoisomerase	83
phage-related tail protein	24
Bacterioferritin-associated ferredoxin	109
flagellum-specific ATP synthase FliI	25
hypothetical protein	27
outer membrane receptor proteins, mostly Fe transport	18
iron uptake protein	23
histone protein	393
LuxR family transcriptional regulator	33
flagellar hook-associated protein FlgL	38
Arg tRNA	39
Leu tRNA	107
flagellar basal-body rod protein FlgG	57
ISSmaD3 transposase A	3
Arsenic resistance protein ArsH	7
Cobalt/zinc/cadmium efflux RND transporter, membrane fusion protein	7
heavy metal RND efflux outer membrane protein, CzcC family	4
LuxR family two component transcriptional regulator	1
hypothetical protein	2
major facilitator family transporter	2
transporter	1
hypothetical protein	3
hypothetical protein	5
outer membrane hemin receptor	11
hypothetical protein	4
type IV secretory pathway, VirD2 components (relaxase)	1
Conjugative transfer protein TrbG	1
SAF domain	1
hypothetical protein	21
hypothetical protein	9
hypothetical protein	1
Thiol-disulfide isomerase and thioredoxins	2
dicarboxylate carrier protein	1
multidrug ABC transporter permease	16
iron uptake protein	6
aldehyde dehydrogenase	1
hypothetical protein	1
hypothetical protein	1
flagellar biosynthesis protein FliR	6
flagellar assembly protein FliH	29
Amine oxidase, flavin-containing	1
Fatty acid desaturase	1
hypothetical protein	2
endonuclease	1
RebB protein	1
hypothetical protein	2

lipoprotein	1
ABC-type antimicrobial peptide transport system,permease componen	2
hypothetical protein	1
malto-oligosyltrehalose trehalohydrolase	1
Isochorismate synthase	7
flp pilus assembly protein TadB	1
Amidases related to nicotinamidase	1
major facilitator superfamily permease	3
ankyrin	2
biofilm PGA synthesis deacetylase PgaB	1
hypothetical protein	1
hypothetical protein	27
MFS transporter	12
3-oxoacyl-ACP reductase	4
phage tail completion protein	1
hypothetical protein	4
Lys tRNA	12
hypothetical protein	1
hypothetical protein	9
ABC transporter permease	1
ABC transporter permease	2
ISStmaD3 transposase (fusion ORF A and B)	2
hypothetical protein	2
hypothetical protein	1
RND efflux system, inner membrane transporter	3
Trp tRNA	1318
Ile tRNA	690
undecaprenyl pyrophosphate synthetase	126
hypothetical protein	73
hypothetical protein	42
flagellar basal-body rod protein FlgB	36
C4-dicarboxylate transport protein	17
4-hydroxythreonine-4-phosphate dehydrogenase	49
Ferredoxin	30
flagellar basal-body rod protein FlgC	42
hypothetical protein	25
integration host factor subunit beta	166
Trehalose-6-phosphate phosphatase	11
Small-conductance mechanosensitive channel	20
3-oxoacyl-ACP reductase	20
RND efflux system, inner membrane transporter CmeB	56
Leu tRNA	9
hypothetical protein	9
drug/metabolite transporter (DMT) superfamily permease	98
TonB-dependent receptor	34
hypothetical protein	16
hypothetical protein	8
ABC transporter involved in cytochrome c biogenesis, CcmB subunit	29
chemotaxis response regulator containing a CheY-like receiver domain	29
-	107
integral membrane protein	21
BLUF domain containing protein	7

hypothetical protein	7
hypothetical protein	7
hypothetical protein	70
Ile tRNA	475
Gly tRNA	342
flagellar biosynthesis protein FlhB	6
Non-heme chloroperoxidase	6
multicopper oxidase	6
Copper resistance protein B	6
-	6
fimbrial adhesin	223
inosine-uridine preferring nucleoside hydrolase	97
hypothetical protein	187
outer membrane usher protein	186
hypothetical protein	16
membrane fusion protein of RND family multidrug efflux pump	16
Leu tRNA	1239
malate:quinone oxidoreductase	15
flagellar biosynthesis protein FliQ	15
hypothetical protein	10
hypothetical protein	25
flavoredoxin	5
hypothetical protein	20
Met tRNA	1040
50S ribosomal protein L13	2421
ribosome recycling factor	518
glyoxalase	19
TonB-dependent receptor	14
Gly tRNA	176
flagellar hook protein FlgE	73
Putrescine transport system permease protein PotH (TC 3.A.1.11.2)	50
Holliday junction DNA helicase RuvA	59
hypothetical protein	9
hypothetical protein	9
30S ribosomal protein S9	1675
multidrug resistance protein D	13
DegT/DnrJ/EryC1/StrS aminotransferase	47
membrane fusion protein of RND family multidrug efflux pump	111
Fimbrial protein precursor	1730
RND multidrug efflux transporter Acriflavin resistance protein	17
Na(+) H(+) antiporter subunit C	29
ferrous iron transport protein	95
hypothetical protein	174
transglycosylase associated protein	105
preprotein translocase subunit SecE (TC 3.A.5.1.1)	989
iron-regulated membrane protein	8
flagellar protein FliJ	24
integral membrane protein	52
chloride channel protein	12
TonB-dependent receptor	4
phage-related tail protein	4
Exodeoxyribonuclease VII small subunit	180

Asp tRNA	1396
hypothetical protein	53
flagellar hook-associated protein FliD	87
ATP synthase subunit B	847
integral membrane protein	15
flagellar P-ring protein FlgI	30
hypothetical protein	90
flagellar hook-associated protein FlgK	51
Signal transduction histidine kinase	29
hypothetical protein	141
hypothetical protein	18
heat shock protein YegD	18
hypothetical protein	86
type IV fimbrial biogenesis protein PilW	25
wall associated protein	25
hypothetical protein	50
mesenchymal stem cell protein DSCD75	7
3-oxoacyl-ACP reductase	7
hypothetical protein	28
hypothetical protein	7
4Fe-4S ferredoxin	83
Ala tRNA	526
transcription antitermination protein NusG	701
transketolase	228
TonB-dependent receptor	157
hypothetical protein	10
Arg tRNA	50
FMN-dependent NADH-azoreductase	13
hypothetical protein	13
macrolide-specific efflux protein MacA	16
hypothetical protein	96
hypothetical protein	19
polysaccharide deacetylase	63
hypothetical protein	50
ABC transporter ATP-binding protein	56
hypothetical protein	107
hypothetical protein	131
methionine ABC transporter ATP-binding protein	3
hypothetical protein	3
hypothetical protein	12
ISStmaD3 transposase A	12
Histidinol-phosphatase	15
hypothetical protein	3
hypothetical protein	3
two-component system protein	3
hypothetical protein	12
two component sensor	24
hypothetical protein	12
Baseplate assembly protein J	12
phage tail length tape-measure protein	6
hypothetical protein	6
Rod shape-determining protein RodA	9

hypothetical protein	3
Secreted and surface protein containing fasciclin-like repeats	6
TonB-dependent receptor	3
Kup system potassium uptake protein	47
3-oxoacyl-ACP reductase	387
methionine ABC transporter permease	38
two-component system sensor protein	35
hypothetical protein	67
Putative RNA 2'-O-ribose methyltransferase mtfA	58
pilus biogenesis protein	23
GNAT family acetyltransferase	143
flagellar basal-body P-ring formation protein FlgA	20
Xylanase	20
flagellar motor protein	34
hypothetical protein	180
hypothetical protein	14
Response regulators consisting of a CheY-like receiver domain and a v	145
type IV pilus assembly protein PilF	103
type IV fimbrial biogenesis protein FimT	11
hypothetical protein	38
sulfur deprivation response regulator	50
phosphate transport system permease protein PstC (TC 3.A.1.7.1)	21
twitching motility protein PilH	63
hypothetical protein	21
adenylosuccinate synthetase	225
quinone oxidoreductase	26
peptidyl-Asp metalloendopeptidase	28
sugar kinase	122
Tyr tRNA	2096
hypothetical protein	5
outer membrane protein	40
LysR family transcriptional regulator	5
histidinol-phosphate aminotransferase	10
ABC transporter permease	5
ABC transporter substrate-binding protein	5
two-component response regulator	40
biphenyl-2,3-diol 1,2-dioxygenase	15
leucine dehydrogenase	65
phosphatidate cytidyltransferase	30
Polysaccharide deacetylase, caspase activity	20
type IV fimbrial biogenesis protein PilV	42
hypothetical protein	37
Ile tRNA	564
Na(+) H(+) antiporter subunit D	27
hypothetical protein	54
Cys tRNA	17
tRNA (Guanine37-N1)-methyltransferase	162
Asn tRNA	12
hypothetical protein	12
membrane-associated zinc metalloprotease	79
transcription termination protein NusA	395
RNA polymerase sigma factor for flagellar operon	62

Zinc transporter ZupT	31
hypothetical protein	38
hypothetical protein	38
NADH-ubiquinone oxidoreductase subunit I	465
glyoxylate reductase	118
Orotidine 5'-phosphate decarboxylase	134
hypothetical protein	82
ATP-dependent DNA ligase	7
hypothetical protein	35
hypothetical protein	63
oxidoreductase	35
two-component system sensor protein	21
RND efflux system, outer membrane lipoprotein	7
hypothetical protein	23
hypothetical protein	110
Thr tRNA	3723
GTP-binding protein TypA/BipA	512
Histone acetyltransferase HPA2 and related acetyltransferases	25
Crossover junction endodeoxyribonuclease RuvC	109
hypothetical protein	34
Ile tRNA	854
ribonuclease BN	27
peptidoglycan lipid II flippase MurJ	36
Ser/Thr and Tyr protein phosphatase (dual specificity)	9
DeoR family transcriptional regulator	9
methylglyoxal reductase, acetol producing	18
hypothetical protein	94
ATP synthase subunit delta	539
magnesium and cobalt transport protein CorA	49
biosynthetic arginine decarboxylase	118
ArsR family transcriptional regulator	20
hypothetical protein	91
ribosomal RNA large subunit methyltransferase N	223
carboxypeptidase C (cathepsin A)	22
RND efflux transporter	22
leucyl-tRNA synthetase	235
Ser tRNA	92
hypothetical protein	35
nucleoside diphosphate kinase	826
transcriptional regulator	13
CcsA-like protein	39
23S rRNA (Uracil-5-)-methyltransferase RumA	78
DNA-binding protein	56
type IV pilus assembly protein PilZ	73
asparagine synthetase	133
alpha,alpha-trehalose-phosphate synthase	15
hypothetical protein	173
FOG: TPR repeat	113
NADH-ubiquinone oxidoreductase subunit J	481
iron-regulated membrane protein	17
choline-sulfatase	36
asparagine synthetase	19

hydrolase	19
DnaJ related chaperone	38
-	65
hypothetical protein	90
hypothetical protein	23
hypothetical protein	415
two-component system sensor protein	29
RND efflux system, outer membrane lipoprotein,NodT family	87
Ile tRNA	109
NADH-ubiquinone oxidoreductase subunit C	510
S-adenosylhomocysteine deaminase	119
hypothetical protein	98
type IV fimbrial assembly, ATPase PilB	49
hypothetical protein	51
subtilisin-like serine proteases	65
16S rRNA processing protein RimM	375
Signal peptidase I	183
hypothetical protein	10
protein YjbJ	6
Ser/Thr protein phosphatase family protein,UDP-2,3-diacylglucosamin	2
hypothetical protein	4
Signal transduction histidine kinase	6
outer membrane protein CC_0351 precursor	6
LysR family transcriptional regulator	2
type II secretion system protein	4
Optional hypothetical component of the B12 transporter BtuN	16
major facilitator superfamily permease	2
Six-hairpin glycosidase-like protein	4
maltose transporter MalT	2
alginate lyase precursor	4
23S rRNA (guanine-N-2-)-methyltransferase RmlL	54
N-acetyltransferase GCN5	36
transport protein	2
transcriptional regulator	2
diguanylate cyclase	2
hypothetical protein	2
CTP:molybdopterin cytidyltransferase	2
xanthine dehydrogenase accessory factor	4
hypothetical protein	2
D-xylose proton-symporter XylE	2
hypothetical protein	4
Copper resistance protein C precursor	4
Copper-sensing two-component system response regulator CusR	6
heavy metal RND efflux outer membrane protein,CzcC family	4
General secretion pathway protein H	2
1,4-alpha-glucan (glycogen) branching enzyme,GH-13-type	2
Sterol desaturase	4
merR family transcriptional regulator	6
hypothetical protein	8
cardiolipin synthase	22
hypothetical protein	6
hypothetical protein	4

phage tail sheath monomer	2
major tail tube protein	2
hypothetical protein	8
TonB-dependent receptor	4
glyoxalase	18
hypothetical protein	12
Na(+) H(+) antiporter subunit E	36
Oxidoreductase	2
cytochrome O ubiquinol oxidase subunit IV	6
hypothetical protein	2
hypothetical protein	8
Cytochrome bd2, subunit I	6
hypothetical protein	2
glyoxalase	83
transporter	75
segregation and condensation protein A	57
NADH-ubiquinone oxidoreductase subunit K	597
type IV pilus biogenesis protein PilM	51
hypothetical protein	47
Aminotransferase, class III	517
outer membrane protein	35
30S ribosomal protein S20	1408
Putrescine transport system permease protein PotI (TC 3.A.1.11.2)	58
TonB-dependent receptor	1150
dicarboxylate transport protein	27
protein-tyrosine-phosphatase	25
Leu tRNA	25
hypothetical protein	121
hypothetical protein	48
hypothetical protein	69
glutathione peroxidase	46
hypothetical protein	44
triosephosphate isomerase	151
O-antigen acetylase	42
ADA regulatory protein / Methylated-DNA--protein-cysteine methyltra	21
type IV pilin PilA	511
Ala tRNA	544
N-acetylmuramoyl-L-alanine amidase	113
beta N-acetyl-glucosaminidase	79
TonB-dependent receptor	139
aquaporin	107
Unsaturated fatty acid biosynthesis repressor FabR, TetR family	58
di-/tripeptide transporter	43
protein YcgL	127
Similar to phosphoglycolate phosphatase,clustered with ubiquinone bic	56
Gly tRNA	400
3-ketoacyl-CoA thiolase	93
Ferredoxin--NADP() reductase	199
diguanylate cyclase	26
hypothetical protein	13
NADH ubiquinone oxidoreductase subunit A	706
Gly tRNA	2934

hemolysin related protein	24
hypothetical protein	24
lipid A biosynthesis lauroyl acyltransferase	83
short-chain alcohol dehydrogenase	245
type IV fimbrial biogenesis protein PilY1	46
30S ribosomal protein S4	4042
heavy metal RND efflux outer membrane protein,CzcC family	11
Phosphoribosylformimino-5-aminoimidazole carboxamide ribotide isom	11
sugar ABC transporter, sugar permease protein 1 USSDB1C	22
proton/glutamate symport protein Sodium/glutamate symport protein	33
hypothetical protein	11
chemotaxis protein	44
NADH-ubiquinone oxidoreductase subunit B	537
hypothetical protein	210
transcriptional regulator	107
hypothetical protein	29
1-acyl-sn-glycerol-3-phosphate acyltransferase	58
DNA-binding response regulator	38
penicillin-binding protein 2 (PBP-2)	38
Arg tRNA	170
TPR repeat containing exported protein Putative periplasmic protein cc	425
50S m3Psi1915 methyltransferase RlmH	56
4-hydroxybenzoyl-CoA thioesterase	56
tRNA (guanine46-N7-)-methyltransferase	121
SAM-dependent methyltransferase	27
lipoprotein	9
ribonuclease HII	63
TetR family transcriptional regulator	9
-	9
phosphoethanolamine transferase EptA specific for the 1 phosphate gr	18
hypothetical protein	9
hypothetical protein	9
hypothetical protein	36
hypothetical protein	9
LysR family transcriptional regulator	34
hypothetical protein	25
DNA-directed RNA polymerase subunit alpha	2700
metal-dependent hydrolase	25
LPS-assembly lipoprotein RlpB precursor (Rare lipoprotein B)	185
twitching motility protein	32
ThiJ/PfpI family protein	32
dienelactone hydrolase family protein	16
chemotaxis response-phosphatase CheZ	112
Tricarboxylate transport transcriptional regulator TctD	48
hypothetical protein	32
quaternary ammonium compound-resistance protein sugE	126
methionine ABC transporter ATP-binding protein	39
cytochrome O ubiquinol oxidase subunit II	799
50S ribosomal protein L6	3272
flagellar motor rotation protein MotB	37
FMN oxidoreductase	51
acetyl-coenzyme A carboxyl transferase subunit alpha	302

Cell division protein BolA	107
hypothetical protein	7
hypothetical protein	14
hypothetical protein	7
hypothetical protein	21
AsnC family transcriptional regulator	14
hypothetical protein	14
HxlR family transcriptional regulator	7
Sensory box histidine kinase/response regulator	14
hypothetical protein	35
NADH-ubiquinone oxidoreductase subunit D	648
3-oxoacyl-[acyl-carrier-protein] synthase,KASIII	377
hypothetical protein	33
DNA primase	78
Iron-sulfur cluster-binding protein	26
hypothetical protein	52
TetR family transcriptional regulator	19
nitrogen regulation protein NR(I)	19
hypothetical protein	19
type IV pilus biogenesis protein PilP	38
tRNA(Cytosine32)-2-thiocytidine synthetase	107
arabinose 5-phosphate isomerase	62
inositol-1-monophosphatase	167
twitching motility protein PilG	232
Na-driven multidrug efflux pump	12
RND efflux system, outer membrane lipoprotein CmeC	12
flagellar biosynthesis protein FlIP	24
Sensor histidine kinase	12
30S ribosomal protein S16	2050
Val tRNA	2206
hypothetical protein	29
GTP-binding protein EngA	173
hypothetical protein	176
glucoamylase	22
beta-lactamase	164
flagellar synthesis regulator FleN	71
hypothetical protein	27
hypothetical protein	27
metallopeptidase	207
two-component hybrid sensor and regulator	52
3-hydroxydecanoyl-ACP dehydratase	62
Ala tRNA	881
glutaredoxin	82
Arg tRNA	172
ribosome maturation factor RimP	344
trypsin	10
two-component system regulatory protein	15
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	5
cysteine desulfurase	75
TonB-dependent receptor	5
TonB-dependent receptor	5
ABC transporter ATP-binding protein	5

LysR family transcriptional regulator	5
transport protein	35
tRNA(Ile)-lysine synthetase	20
Histidine kinase/response regulator hybrid protein	35
type IV fimbriae expression regulatory protein PilR	75
biopolymer transport protein ExbD/TolR	5
hypothetical protein	15
-	20
translation initiation inhibitor, yjgF family	5
chorismate synthase	123
benzene 1,2-dioxygenase, ferredoxin protein	78
hypothetical protein	66
hypothetical protein	33
chemotaxis regulator-transmits chemoreceptor signals to flagellar mo	184
PTS system phosphoenolpyruvate-protein phosphotransferase	46
queuosine biosynthesis radical SAM protein QueE	69
Regulatory protein CysB	23
Oxidoreductase	41
phosphate-specific outer membrane porin OprP Pyrophosphate-specific	59
tRNA uridine 5-carboxymethylaminomethyl modification protein GidA	77
GTP-binding and nucleic acid-binding protein YchF	239
integrase	18
MltA-interacting protein	18
NLP/P60 family protein	36
hypothetical protein	18
hypothetical protein	49
HlyD family secretion protein	44
methyl-accepting chemotaxis protein	44
proton/glutamate symport protein Sodium/glutamate symport protein	83
Na()/H() antiporter	13
Imidazole glycerol phosphate synthase amidotransferase subunit	13
Thioredoxin	39
AraC family transcriptional regulator	13
Histidine kinase/response regulator hybrid protein	13
ribosomal large subunit pseudouridine synthase E	39
Outer membrane vitamin B12 receptor BtuB	81
hypothetical protein	34
hypothetical protein	118
N-acetyltransferase GCN5	42
hypothetical protein	105
nisin-resistance protein	21
hypothetical protein	84
hypothetical protein	50
hypothetical protein	29
Cell division protein FtsQ	156
FOG: TPR repeat, SEL1 subfamily	45
cytochrome O ubiquinol oxidase subunit I	895
hypothetical protein	274
beta-lactamase related protein	56
L-Proline/Glycine betaine transporter ProP	16
Thr tRNA	16
Mlr3171 protein	8

acetolactate synthase small subunit	8
hypothetical protein	32
1-acyl-sn-glycerol-3-phosphate acyltransferase	16
transcriptional regulator AraC/XylS family, with a AraC_E_bind effecto	8
ATP synthase subunit alpha	1285
Putrescine transport ATP-binding protein PotG (TC 3.A.1.11.2)	99
Ethidium bromide-methyl viologen resistance protein EmrE	67
Oligopeptide transporter	89
hypothetical protein	173
Holliday junction resolvase	57
Epimerase/dehydratase protein	95
DNA gyrase subunit A	359
adenylate cyclase	30
Ala tRNA	694
dipeptidyl-peptidase	82
RNA polymerase sigma factor RpoD	484
tRNA pseudouridine synthase A	74
dipeptidyl carboxypeptidase Dcp	288
uridylate kinase	217
S-adenosylmethionine synthetase	239
carbamoyl-phosphate synthase large subunit	239
proline-rich protein	11
glycine cleavage system transcriptional activator	11
HxlR family transcriptional regulator	22
nudix hydrolase family protein PA3470	33
30S ribosomal protein S18	2633
Plasmid replication/partition related protein	83
hypothetical protein	36
GTP-binding protein Obg	236
TetR family transcriptional regulator	78
Rod shape-determining protein MreC	53
Hydrolase, alpha/beta fold family protein, in hypothetical gene cluster	70
protein crcB	14
Zn-dependent protease with chaperone function	28
3-oxoacyl-ACP reductase	76
hypothetical protein	31
Ferric siderophore transport system, periplasmic binding protein TonB	31
glycosyl transferase	48
2-keto-3-deoxy-D-arabino-heptulosonate-7-phosphate synthase I alpt	99
Arsenate reductase	17
hypothetical protein	17
DNA binding 3-demethylubiquinone-9 3-methyltransferase domain-cor	17
30S ribosomal protein S21	2296
ATP synthase subunit A	547
50S ribosomal protein L9	1730
D-alanine--D-alanine ligase	194
3-phenylpropionic acid transporter	20
dipeptidyl carboxypeptidase	120
Methylthioribose-1-phosphate isomerase	123
amino acid transporter	43
Thr tRNA	112
sodium/alanine symporter family protein	46

hypothetical protein	582
ribosomal protein S12p Asp88 methylthiotransferase	107
pseudouridylate synthase	58
translation elongation factor LepA	241
peptidyl-tRNA hydrolase	212
hypothetical protein	61
outer membrane lipoprotein	105
hydrolase	35
hypothetical protein	248
nitrilotriacetate monooxygenase component B	38
nucleoprotein/polynucleotide-associated enzyme	190
adenine-specific methylase	190
nucleoside 5-triphosphatase RdgB (dHATP, dITP,XTP-specific)	85
NADH-ubiquinone oxidoreductase subunit H	671
4-hydroxybenzoyl-CoA thioesterase	131
hypothetical protein	27
hypothetical protein	6
3-oxoacyl-ACP synthase	294
ISStmaD3 transposase B	3
ABC-type transport system involved in resistance to organic solvents,	66
hypothetical protein	15
TonB-dependent receptor	18
type II/IV secretion system secretin RcpA/CpaC,associated with Flp pil	3
hypothetical protein	33
ABC transporter ATP-binding protein	9
hypothetical protein	45
inner membrane protein	27
sensor protein	18
arsenical-resistance protein ACR3	9
pyruvate/2-oxoglutarate dehydrogenase complex,dihydrolipoamide ac	3
Cobalt-zinc-cadmium resistance protein CzcD	45
cysteine desulfurase	72
Site-specific DNA methylase-like	3
LuxR family transcriptional regulator	3
inner membrane protein	3
flagellar motor rotation protein MotA	63
hypothetical protein	33
periplasmic aromatic aldehyde oxidoreductase,iron-sulfur subunit Yag ⁻	6
BLUF domain containing protein	3
transporter	3
glycogen debranching enzyme	3
4-alpha-glucanotransferase	3
sulfite reductase [NADPH] flavoprotein alpha-component	3
transporter	6
ECF subfamily RNA polymerase sigma-70 factor	3
NAD(P)H oxidoreductase YRKL	6
hypothetical protein	6
hypothetical protein	3
biofilm PGA outer membrane secretin PgaA	3
acetylglutamate kinase	48
tRNA:Cm32/Um32 methyltransferase	69
preQ0 transporter	33

hypothetical protein	15
hypothetical protein	12
hypothetical protein	27
ribosomal RNA small subunit methyltransferase B	84
chemotaxis protein	3
ISStmaD3 transposase A	3
cytochrome oxidase biogenesis protein Sco1/SenC/PrrC copper metallo	3
TonB-dependent receptor	3
sensory histidine kinase	12
AraC family transcriptional regulator	9
ABC-type Na efflux pump, permease component	21
hydrolase	45
30S ribosomal protein S7	3140
acetyl-coenzyme A carboxyl transferase subunit beta	311
protein-export membrane protein SecD (TC 3.A.5.1.1)	275
TetR family transcriptional regulator	179
50S ribosomal protein L18	2253
ADP compounds hydrolase NudE	155
cytochrome c-type biogenesis protein CcmC, putative heme lyase for C	76
rRNA small subunit methyltransferase, glucose inhibited division prote	70
ribonuclease E	204
chemotaxis protein	67
hypothetical protein	64
30S ribosomal protein S6	2526
type IV pilus biogenesis protein PilO	58
nucleoside permease NupC	107
hypothetical protein	52
hypothetical protein	52
COG1399 protein, clustered with ribosomal protein L32p	488
alpha-2-macroglobulin	43
peptide chain release factor 3	129
3'(2'),5'-bisphosphate nucleotidase	126
UDP-N-acetylmuramoylalanine--D-glutamate ligase	83
ribonuclease P protein component	200
Ala tRNA	1486
hypothetical protein	37
Iron-sulfur cluster assembly protein SufD	71
hypothetical protein	71
methionyl-tRNA formyltransferase	71
major cold shock protein	349
Oar protein	711
hypothetical protein	65
hypothetical protein	31
hydrolase	109
dipeptidyl aminopeptidases/acylaminoacyl-peptidases	53
lipid A biosynthesis lauroyl acyltransferase	53
NADH-ubiquinone oxidoreductase subunit F	868
prolyl oligopeptidase	122
Amino acid transporters	72
DNA mismatch repair protein MutS	47
cell division protein FtsI	116
50S ribosomal protein L20	2838

ATP-dependent DNA helicase Rep	66
hypothetical protein	44
AraC family transcriptional regulator	22
transcriptional regulator TetR	66
hypothetical protein	66
acid phosphatase	170
hypothetical protein	60
hypothetical protein	149
low-affinity inorganic phosphate transporter	222
phenylalanyl-tRNA synthetase subunit beta	54
CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase	143
50S ribosomal protein L19	1624
hypothetical protein	32
marR family transcriptional regulator	16
cell division trigger factor	463
phosphopantetheine adenylyltransferase	184
external DNA catabolism protein	84
Exodeoxyribonuclease III	165
transcription termination factor Rho	411
Exodeoxyribonuclease III protein AmpN	81
DNA polymerase III subunit delta'	81
hypothetical protein	159
30S ribosomal protein S8	3015
soluble lytic murein transglycosylase	13
signal transduction protein with EFhand domain	13
Pro tRNA	13
amidohydrolase	13
Na(+) H(+) antiporter subunit A Na(+) H(+) antiporter subunit B	26
Outer membrane protein assembly factor YaeT precursor	329
malonyl CoA-acyl carrier protein transacylase	303
ATP synthase subunit epsilon	795
phosphoglucosamine mutase	216
translation elongation factor P	708
ribonuclease III	141
phenylalanine-4-hydroxylase	384
glucans biosynthesis glucosyltransferase H	23
hypothetical protein	23
CBSS-498211.3.peg.1514: hypothetical protein	115
GTPase and tRNA-U34 5-formylation enzyme TrmE	23
phenylalanyl-tRNA synthetase subunit alpha	132
hypothetical protein	33
cytosolic long-chain acyl-CoA thioester hydrolase family protein	86
chromosome (plasmid) partitioning protein ParB / Stage 0 sporulation	169
nucleotide sugar epimerase	63
transcriptional repressor, Blal/MecI family	10
D-alanyl-D-alanine dipeptidase	10
ribosomal RNA small subunit methyltransferase D	40
two-component system sensor protein	10
class I and II aminotransferase	100
hypothetical protein	30
Sec tRNA	60
CDP-diacylglycerol--glycerol-3-phosphate 3-phosphatidyltransferase	30

L-sorbose dehydrogenase	10
hypothetical protein	10
5'-nucleotidase	221
octaprenyl-diphosphate synthase	114
3-dehydroquinate dehydratase	151
hypothetical protein	64
FKBP-type peptidyl-prolyl cis-trans isomerase SlyD	428
lipoprotein signal peptidase	145
transporter	54
Aspartate racemase	27
FKBP-type peptidyl-prolyl cis-trans isomerase FkpA	517
tRNA-i(6)A37 methylthiotransferase	88
Rod shape-determining protein RodA	61
phosphoribosylanthranilate isomerase	78
type IV pili signal transduction protein Pili	34
acetyltransferase	17
Rod shape-determining protein MreD	51
3-oxoacyl-[acyl-carrier-protein] synthase, KASIII in hypothetical gene	317
Ala tRNA	687
PicB, ORFX, ORFP, ORFB, ORFA, Idh gene	65
tripartite multidrug resistance system inner membrane protein	48
membrane-bound lytic murein transglycosylase	24
nodulin 21-like protein	24
hypothetical protein	378
periplasmic divalent cation tolerance protein cutA	55
50S ribosomal protein L35	3615
S-adenosylmethionine decarboxylase	935
replicative DNA helicase	114
3-oxoacyl-ACP synthase	347
pro-zeta-carotene desaturase, polycopene producing	59
Thiamin biosynthesis lipoprotein ApbE	80
response regulator	174
Rrf2-linked NADH-flavin reductase	7
UDP-N-acetylglucosamine--N-acetylmuramyl- (pentapeptide) pyrophosphatase	112
hypothetical protein	7
periplasmic aromatic aldehyde oxidoreductase, molybdenum binding subunit	7
short-chain dehydrogenase	7
manganese transport protein MntH	63
two-component system sensor protein	7
Sodium/alanine symporter	14
hypothetical protein	7
hypothetical protein	21
integration host factor subunit alpha	639
Signal recognition particle receptor protein FtsY (=alpha subunit) (TC)	81
nicotinamidase	67
exopolyphosphatase	67
chromosomal replication initiator protein DnaA	173
LuxR family DNA-binding response regulator	96
merR family transcriptional regulator	239
multimodular transpeptidase-transglycosylase	75
chromosome (plasmid) partitioning protein ParA / Sporulation initiation factor	186
phosphoserine phosphatase	79

twitching motility protein PilH	97
LysR family transcriptional regulator	18
hypothetical protein	18
nucleotidyl transferase	47
regulator PutR for proline utilization, GntR family	47
hypothetical protein	98
hypothetical protein	40
radical SAM protein	51
Na(+) H(+) antiporter subunit F	51
hypothetical protein	208
lipid-A-disaccharide synthase	179
50S ribosomal protein L1	3032
two-component system sensor protein	22
Na /H antiporter NhaD and related arsenite permeases	11
hypothetical protein	11
hypothetical protein	11
Arginine/ornithine antiporter ArcD	11
penicillin-insensitive transglycosylase	11
2-oxoglutarate dehydrogenase E1 component	576
hypothetical protein	48
50S ribosomal protein L31	1763
glutamate--cysteine ligase	74
DNA-binding protein Fis	152
hypothetical protein	52
hypothetical protein	26
MFS transporter	26
Ferric siderophore transport system, periplasmic binding protein TonB	747
Sensor histidine kinase	56
AMP nucleosidase	127
biotin carboxylase	550
queuosine biosynthesis protein QueC	90
ribonuclease PH	79
indolepyruvate ferredoxin oxidoreductase subunits alpha and beta	98
hypothetical protein	49
type IV fimbrial biogenesis protein PilX	49
RNA polymerase sigma-54 factor RpoN	49
transmembrane protein	49
acyl-CoA thioesterase II	87
N-acetyltransferase GCN5	53
NADH oxidase	46
Mn-dependent transcriptional regulator MntR	69
DNA topoisomerase I	127
8-amino-7-oxononanoate synthase	54
hypothetical protein	27
hypothetical protein	170
glyoxalase	116
cell division protein FtsW	167
heme O synthase, protoheme IX farnesyltransferase	101
lipid A export ATP-binding/permease MsbA	101
AraC family transcriptional regulator	74
Gfa-like protein	39
NAD(FAD)-utilizing dehydrogenases	39

sua5 YciO YrdC YwIC family protein	39
permease	82
phospho-N-acetylmuramoyl-pentapeptide-transferase	168
NADH-ubiquinone oxidoreductase subunit G	741
Arg tRNA	381
inner membrane protein translocase component YidC, long form	275
hypothetical protein	138
Ala tRNA	1207
acetyltransferase	111
PnuC-like transporter linked to homoserine kinase and OMR	8
two-component sensor histidine kinase	12
hypothetical protein	8
-	8
hypothetical protein	28
hypothetical protein	8
Conjugative transfer protein TrbI	4
hypothetical protein	4
hypothetical protein	4
drug/metabolite transporter permease	4
hypothetical protein	20
hypothetical protein	40
protein involved in beta-1,3-glucan synthesis	64
hypothetical protein	4
methylated-DNA--protein-cysteine methyltransferase	8
tripartite multidrug resistance system outer membrane protein	28
hypothetical protein	8
multidrug ABC transporter permease	24
Lysophospholipase L1 and related esterases	8
Threonine synthase	16
His repressor	12
beta-mannosidase	24
macrolide export ATP-binding/permease MacB	8
hypothetical protein	4
Sigma factor, ECF subfamily	12
NADH: flavin oxidoreductases, Old Yellow Enzyme family	8
hypothetical protein	12
hypothetical protein	44
hypothetical protein	4
M23/M37 family peptidase	4
biopolymer transport protein ExbD/ToIR	4
hypothetical protein	4
ABC transporter protein, ATP-binding component	4
biopolymer transport protein ExbD/ToIR	1528
GTP-binding protein EngB	165
NADH-ubiquinone oxidoreductase subunit L	749
Histone acetyltransferase HPA2 and related acetyltransferases	133
spermidine synthase	206
translation elongation factor Tu	3529
hypothetical protein	69
transcription-repair coupling factor	126
hypothetical protein	57
cold-shock DEAD-box protein A	330

Cell division transporter, ATP-binding protein FtsE (TC 3.A.5.1.1)	155
membrane fusion protein	45
hypothetical protein	41
NADH-ubiquinone oxidoreductase subunit E	821
signal transduction histidine kinase	66
hypothetical protein	298
translation elongation factor G	2219
hypothetical protein	79
ATP synthase subunit gamma	828
hypothetical protein	25
hypothetical protein	25
hypothetical protein	50
Oxidoreductase	50
glutamyl-tRNA reductase	71
Deoxyribonuclease TatD	67
Thiazole biosynthesis protein ThiG	193
hypothetical protein	42
hypothetical protein	126
Threonyl-tRNA synthetase	441
hypothetical protein	80
tRNA-guanine transglycosylase	80
3-ketoacyl-CoA thiolase	118
preprotein translocase subunit YajC (TC 3.A.5.1.1)	532
ATP synthase subunit C	2065
hypothetical protein	17
hypothetical protein	51
LysR family transcriptional regulator	17
Lysine 2,3-aminomutase	68
hypothetical protein	51
30S ribosomal protein S11	3755
3-oxoacyl-ACP synthase	64
acyl carrier protein (ACP1)	256
beta-ketoadipate enol-lactone hydrolase	30
Agmatine deiminase	73
D-mannose isomerase	142
arginyl-tRNA synthetase	237
carboxymuconolactone decarboxylase family protein	69
endonuclease V	39
hypothetical protein	65
Exodeoxyribonuclease I	52
glycine cleavage system transcriptional activator	13
hypothetical protein	13
type II secretory pathway, ATPase PulE/Tfp pilus assembly pathway, <i>P</i>	39
CoA transferase	165
GTP pyrophosphokinase	87
protein-export membrane protein SecF (TC 3.A.5.1.1)	423
Amino acid transporters	48
lipopolysaccharide core biosynthesis protein	83
protein YigP	123
two-component response regulator	22
phosphopantetheine-binding protein	22
RND efflux system, inner membrane transporter	260

Iron-uptake factor PiuC	53
FAD-binding protein	53
hypothetical protein	84
4-hydroxy-3-methylbut-2-enyl diphosphate reductase	204
ribonucleotide reductase transcriptional regulator NrdR	138
cell division protein MraZ	334
ATP-dependent Clp protease proteolytic subunit	383
Holliday junction DNA helicase RuvB	121
transamidase GatB domain-containing protein	247
ferrichrome-iron receptor	9
hypothetical protein	18
two-component response regulator CreB	18
hypothetical protein	9
hypothetical protein	36
response regulator	18
hypoxanthine-guanine phosphoribosyltransferase	198
hypothetical protein	18
Response regulator BaeR	9
proline dehydrogenase	212
cytochrome O ubiquinol oxidase subunit III	859
segregation and condensation protein B	100
hypothetical protein	32
Copper resistance protein C precursor	32
Uroporphyrinogen III decarboxylase	87
dTDP-4-dehydrorhamnose reductase	252
hypothetical protein	55
DNA ligase	55
acetylornithine deacetylase	78
hypothetical protein	124
PadR family transcriptional regulator	23
protein sirB1	69
lipase in cluster with Phosphatidate cytidyltransferase	23
RND efflux system, outer membrane lipoprotein	198
Iron-sulfur cluster assembly protein SufB	60
High-affinity iron permease	65
biofilm PGA synthesis auxiliary protein PgaD	14
acyl-CoA dehydrogenase	14
hypothetical protein	14
hypothetical protein	42
-	140
hypothetical protein	61
30S ribosomal protein S10	6815
hypothetical protein	94
3-demethylubiquinone-9 3-methyltransferase	94
30S ribosomal protein S13	3385
hypothetical protein	589
ISStmaD2 Transposase A	33
Iron-sulfur cluster assembly ATPase protein SufC	99
Topoisomerase IV subunit B	189
hypothetical protein	71
thymidine kinase	76
dTDP-glucose 4,6-dehydratase	456

Phosphoribosylglycinamide formyltransferase 2	38
hypothetical protein	38
hypothetical protein	38
chromosome partition protein smc	57
phenylalanyl-tRNA synthetase subunit beta	133
Short chain fatty acids transporter	38
Sensor histidine kinase	19
aspartyl-tRNA synthetase	219
carbamoyl-phosphate synthase small subunit	243
ribonuclease T	148
hypothetical protein	43
hypothetical protein	43
hypothetical protein	168
Potassium efflux system KefA protein / Small-conductance mechanose	24
hypothetical protein	72
phnB protein	29
type IV pilus assembly protein PilE	58
hypothetical protein	87
ribokinase	189
beta-lactamase	34
hypothetical protein	180
ABC transporter ATP-binding protein	132
hypothetical protein	44
UDP-N-acetylmuramoylalanyl-D-glutamate--2,6-diaminopimelate ligase	152
ABC transporter involved in cytochrome c biogenesis, ATPase component	54
NADH-ubiquinone oxidoreductase subunit M	562
hydrolase	148
stringent starvation protein B	198
DNA polymerase III subunit delta	114
acyl carrier protein	4039
autotransporter	10
drug efflux protein	5
hypothetical protein	35
twitching motility protein PilT	50
D-lactate dehydrogenase	20
MFS permease	5
histidinol dehydrogenase	15
heme ABC transporter, permease protein HmuU	5
hypothetical protein	10
hypothetical protein	5
Arsenate reductase	35
ribonuclease D	65
Cob(I)alamin adenosyltransferase	70
hypothetical protein	5
Rubredoxin	95
N-hydroxyarylamine O-acetyltransferase, putative	10
hypothetical protein	15
translation elongation factor Tu	3314
outer membrane protein	5125
protein-L-isoaspartate O-methyltransferase	131
transmembrane protein	66
hydrolase	209

homoserine O-acetyltransferase	92
Ubiquinone biosynthesis monooxygenase UbiB	133
glyoxalase/bleomycin resistance protein/dioxygenase precursor	41
UDP-N-acetylmuramate--L-alanine ligase	241
guanylate kinase	113
ribosomal large subunit pseudouridine synthase C	72
hypothetical protein	93
transcriptional activator cadC	93
hypothetical protein	31
hypothetical protein	57
LysE family transporter	197
50S ribosomal protein L3	5642
ribosyl nicotinamide transporter, PnuC-like	26
Ferrous iron transport protein B	78
alpha helix protein	156
AmpG permease	63
Lactoylglutathione lyase and related lyases	21
cellular communication/signal transduction	21
50S ribosomal protein L32	1528
transcription termination protein NusB	285
Rhodanese domaincontaining protein	95
hypothetical protein	16
superfamily I DNA/RNA helicase protein	32
hypothetical protein	32
Homoserine/homoserine lactone efflux protein	32
sulfate transporter, CysZ-type	96
ABC transporter ATP-binding protein	347
hypothetical protein	171
type IV pilus biogenesis protein PilQ	43
2-keto-3-deoxy-D-arabino-heptulosonate-7-phosphate synthase II	70
LacI family transcriptional regulator	81
TonB-dependent receptor	38
hypothetical protein	38
type IV fimbrial biogenesis protein FimT	87
glucose-1-phosphate thymidyltransferase	464
tetraacyldisaccharide 4'-kinase	82
type I restriction-modification system,DNA-methyltransferase subunit	115
two-component system regulatory protein	11
hypothetical protein	165
preprotein translocase secY subunit (TC 3.A.5.1.1)	662
DNA polymerase III subunit chi	160
DNA polymerase III subunit beta	271
metallopeptidase	177
UDP-glucose dehydrogenase	511
carbon storage regulator	530
tRNA pseudouridine 13 synthase	67
oxidoreductase	45
LacI family transcriptional regulator	107
Aspartate-semialdehyde dehydrogenase	198
Iron-sulfur cluster regulator IscR	34
hypothetical protein	17
hypothetical protein	17

hypothetical protein	51
hypothetical protein	17
AraC family transcriptional regulator	17
hypothetical protein	119
transcriptional regulator	108
succinyl-CoA ligase subunit alpha	1815
biotin synthesis protein bioC	40
nucleoside triphosphate pyrophosphohydrolase MazG	103
(3R)-hydroxymyristoyl-ACP dehydratase	435
methyl parathion hydrolase	23
50S ribosomal protein L10	6367
UDP-N-acetylmuramoylalanyl-D-glutamyl-2,6-diaminopimelate--D-ala	127
hypothetical protein	52
1-deoxy-D-xylulose-5-phosphate synthase	191
ABC transporter ATP-binding protein USSDB6B	58
Phosphoribosylformylglycinamidase synthetase subunit	174
isoleucyl-tRNA synthetase	174
hypothetical protein	29
flagellar biosynthesis protein FliS	151
phospholipid-binding protein	157
dihydropteroate synthase	64
hypothetical protein	99
cell division protein FtsL	134
endonuclease III	35
hypothetical protein	35
methylenetetrahydrofolate dehydrogenase (NADP)	76
N-acetylglutamate synthase	41
hypothetical protein	47
ISStmaD2 Transposase B	153
protein-glutamate methyltransferase	53
YrbA protein	177
hypothetical protein	142
adenine phosphoribosyltransferase	107
tRNA (5-methyl aminomethyl-2-thiouridylate)-methyltransferase	119
hypothetical protein	250
bacteriophage N4 adsorption protein B	6
YbaK family protein	48
marR family transcriptional regulator	12
Aminoglycoside 3'-phosphotransferase	12
two-component response regulator	6
beta-lactamase	36
peptidoglycan binding protein	54
glutathione S-transferase	6
hypothetical protein	18
hypothetical protein	502
thymidine phosphorylase	103
7,8-dihydro-8-oxoguanine-triphosphatase	79
cytidine and deoxycytidylate deaminase family protein	73
Outer membrane protein Imp, required for envelope biogenesis / Orga	177
Fructose-bisphosphate aldolase class I	776
translation initiation factor 1	569
hypothetical protein	153

seryl-tRNA synthetase	184
biotin synthesis protein bioH	37
ribosomal small subunit pseudouridine synthase A	130
Cell division protein FtsJ / Ribosomal RNA large subunit methyltransferase	192
Septum formation protein Maf	31
hypothetical protein	31
integral membrane protein TerC	149
DnaA-like protein	81
transcriptional regulator lysR family	25
hypothetical protein	100
acriflavin resistance plasma membrane protein	25
acyl carrier protein (ACP2)	225
1-acyl-sn-glycerol-3-phosphate acyltransferase	144
Oligopeptide transporter	157
50S ribosomal protein L23	5931
DNA-binding protein	145
hypothetical protein	215
porphobilinogen synthase	215
LysR family transcriptional regulator	38
leucyl/phenylalanyl-tRNA--protein transferase	19
50S ribosomal protein L22	5670
General secretion pathway protein G	51
glycyl-tRNA synthetase subunit beta	185
hypothetical protein	109
glycyl-tRNA synthetase subunit alpha	206
Adenylosuccinate lyase	161
NADPH dependent preQ0 reductase	110
tmRNA-binding protein SmpB	149
General secretion pathway protein D / Type II secretion outer membrane	39
transcriptional regulatory protein ompR	13
Sensor histidine kinase PrrB (RegB)	78
L-serine dehydratase	169
hypothetical protein	13
Iron siderophore receptor protein	13
ABC-type Na transport system, ATPase component	26
hypothetical protein	229
hypothetical protein	144
pyridoxine 5'-phosphate synthase	59
hypothetical protein	223
ankyrin-like protein	92
Ferric uptake regulation protein FUR	296
Nonspecific acid phosphatase precursor	79
two-component hybrid sensor and regulator	79
3'-to-5' oligoribonuclease	112
lipoprotein	178
hypothetical protein	33
response regulator	99
hypothetical protein	33
Deoxycytidine triphosphate deaminase	192
chitinase	20
hypothetical protein	67
transmembrane protein	47

TetR family transcriptional regulator	94
hypothetical protein	168
asparaginyl-tRNA synthetase	398
cardiolipin synthetase	27
hypothetical protein	54
linoleoyl-CoA desaturase (delta(6)-desaturase)	270
Glu tRNA	1350
succinate dehydrogenase hydrophobic membrane anchor protein	534
DNA-directed RNA polymerase subunit beta	976
heme A synthase, cytochrome oxidase biogenesis protein Cox15-CtaA	95
hypothetical protein	238
dienelactone hydrolase family	34
monofunctional biosynthetic peptidoglycan transglycosylase	34
Polymyxin resistance protein ArnT, undecaprenyl phosphate-alpha-L-A	34
diguanylate cyclase	41
50S ribosomal protein L15	4138
5'-methylthioadenosine phosphorylase	103
dephospho-CoA kinase	55
biopolymer transport protein ExbD/ToIR	2104
hypothetical protein	173
50S ribosomal protein L11	4200
hypothetical protein	63
hypothetical protein	7
deoxyuridine 5'-triphosphate nucleotidohydrolase	119
LuxR family two component transcriptional regulator	7
type I restriction-modification system,specificity subunit S	119
acetyltransferase	14
Copper chaperone	42
heme ABC transporter, cell surface heme and hemoprotein receptor H	7
heavy metal RND efflux outer membrane protein,CzcC family	7
Pass1-like protein	7
hypothetical protein	7
Guanosine-3',5'-bis(Diphosphate) 3'-pyrophosphohydrolase	14
two-component system regulatory protein	91
hypothetical protein	35
hypothetical protein	35
chloride channel	7
1,2-dihydroxy-3-keto-5-methylthiopentene dioxygenase	134
biopolymer transport protein ExbD/ToIR	106
Poly(Hydroxyalcanoate) granule associated protein	64
response regulator	107
hypothetical protein	100
DNA polymerase III subunit alpha	137
Outer membrane lipoprotein omp16	2157
ISStmaD2 Transposase B	65
30S ribosomal protein S15	1416
hypothetical protein	87
2-nitropropane dioxygenase	29
Coproporphyrinogen III oxidase, aerobic	58
chaperone protein hscC (Hsc62)	58
Na(+) H(+) antiporter subunit G	51
glycerol-3-phosphate acyltransferase	146

ribosomal RNA small subunit methyltransferase C	73
anhydro-N-acetylmuramic acid kinase	44
sensor histidine kinase	22
hypothetical protein	22
transcriptional regulator RstA	22
50S ribosomal protein L17	1731
decarboxylase	148
sensor histidine kinase	37
DNA helicase IV	37
ECF subfamily RNA polymerase sigma-70 factor	15
integral membrane sensor domain	15
hypothetical protein	30
Secretory lipase precursor	15
NADH-ubiquinone oxidoreductase subunit N	518
bis(5'-nucleosyl)-tetrphosphatase	158
quinone oxidoreductase	53
glucans biosynthesis protein D precursor	91
50S ribosomal protein L4	5718
outer membrane protein	114
2-C-methyl-D-erythritol 2,4-cyclo diphosphate synthase	99
ATP synthase subunit beta	1457
CDP-diacylglycerol--serine O-phosphatidyltransferase	207
hypothetical protein	23
beta-carotene ketolase	23
S-adenosylmethionine--tRNA ribosyltransferase-isomerase	54
NAD synthetase	116
30S ribosomal protein S5	3638
hypothetical protein	31
poly(3-hydroxybutyrate) depolymerase	70
periplasmic thiol:disulfide oxidoreductase DsbB,required for DsbA reox	109
30S ribosomal protein S19	7660
AAA ATPase	110
hypothetical protein	118
succinyl-CoA synthetase subunit alpha	79
transcriptional regulator lacI family	158
homoserine kinase type II,PnuC-associated, THI-regulated branch	24
cytochrome C	40
amino acid permease	16
flagellar motor rotation protein MotB	72
hypothetical protein	48
macrolide export ATP-binding/permease MacB	8
XRE family transcriptional regulator	24
chromosome partitioning protein	32
tRNA pseudouridine synthase B	80
alkaline phosphatase	80
hypothetical protein	48
RNA polymerase ECF-type sigma factor	8
2-hydroxychromene-2-carboxylate isomerase	8
sec-independent protein translocase protein TatC	380
hypothetical protein	89
tripartite multidrug resistance system membrane fusion protein	49
O-methyltransferase	41

tRNA-specific adenosine-34 deaminase	41
Histidine kinase	74
Large-conductance mechanosensitive channel	148
RpfN protein	33
hypothetical protein	33
DNA-directed RNA polymerase subunit omega	421
GTP-binding protein Era	298
TIORF34 protein	58
hypothetical protein	58
acyl-CoA dehydrogenase	166
hypothetical protein	25
hypothetical protein	25
cytochrome O ubiquinol oxidase subunit IV	667
glutaredoxin-related protein	160
riboflavin kinase	118
Gly tRNA	178
phosphoserine phosphatase	136
Val tRNA	418
survival protein SurA precursor (Peptidyl-prolyl cis-trans isomerase Su	445
Isocitrate dehydrogenase [NAD]	636
phosphoesterase	43
hypothetical protein	43
translation elongation factor Ts	1686
TonB family protein	52
hypothetical protein	26
hypothetical protein	104
major facilitator superfamily (MFS_1) transporter	113
TldE/PmbA family protein, Actinobacterial subgroup	88
type IV fimbrial assembly protein PilC	97
integral membrane rhomboid family serine protease MJ0610.1	115
Thiamine-monophosphate kinase	80
30S ribosomal protein S3	5896
type I secretion outer membrane protein, TolC precursor	481
-	476
transcriptional regulator	9
inner membrane protein	9
hypothetical protein	27
ISStmaD3 transposase B	9
glutathione-regulated potassium-efflux system protein KefB	18
hypothetical protein	9
HrpX related protein	27
hypothetical protein	9
phosphoglycolate phosphatase	117
methyl-accepting chemotaxis protein I (serine chemoreceptor protein)	27
dolichol-phosphate mannosyltransferase	99
hypothetical protein	54
succinyl-CoA ligase subunit beta	2168
Cobalt-zinc-cadmium resistance protein CzcD	100
protein YceG like	55
hypothetical protein	156
LuxR family two component transcriptional regulator	46
Cell division protein FtsB	405

hypothetical protein	324
hypothetical protein	139
Signal recognition particle, subunit Ffh SRP54 (TC 3.A.5.1.1)	204
diacylglycerol kinase	84
AraC family transcriptional regulator	28
hypothetical protein	28
dTDP-4-dehydrorhamnose 3,5-epimerase	516
ribosomal large subunit pseudouridine synthase B	170
hypothetical protein	85
hypothetical protein	19
hypothetical protein	19
excinuclease ABC subunit A	19
TetR family transcriptional regulator	19
UDP-2,3-diacetylglucosamine hydrolase	173
hypothetical protein	173
glycosyltransferase	212
hypothetical protein	357
peptidyl-prolyl cis-trans isomerase	29
hypothetical protein	29
chemotaxis protein CheV	68
Gln tRNA	439
hypothetical protein	49
kynurenine 3-monooxygenase	49
NADPH:quinone oxidoreductase	59
membrane fusion protein of RND family multidrug efflux pump	178
peptide deformylase	229
hypothetical protein	10
TolA protein	30
autolysin sensor kinase	10
ribose-phosphate pyrophosphokinase	340
major facilitator superfamily protein TcrA	20
permease often clustered with de novo purine synthesis	110
hypothetical protein	20
Imidazole glycerol phosphate synthase cyclase subunit	20
periplasmic iron-binding protein	20
glutathione S-transferase	40
4'-phosphopantetheinyl transferase	40
pyruvate dehydrogenase E1 component	821
hypothetical protein	81
argininosuccinate lyase	61
metallopeptidase	183
50S ribosomal protein L33	1796
Zinc uptake regulation protein ZUR	206
Exodeoxyribonuclease VII large subunit	62
flagellar motor rotation protein MotA	73
inosine-5'-monophosphate dehydrogenase	450
ABC transporter ATP-binding protein	21
cytochrome c heme lyase subunit CcmF	42
hypothetical protein	63
ribosome-binding factor A	180
hypothetical protein	170
phosphate starvation-inducible ATPase PhoH with RNA binding motif	117

50S ribosomal protein L7/L12	6671
aspartate 1-decarboxylase	447
cysteinyl-tRNA synthetase	149
50S ribosomal protein L28	5167
hypothetical protein	75
A/G-specific adenine glycosylase	43
aconitate hydratase 2	377
TonB protein	54
alpha-ribazole-5'-phosphate phosphatase	119
hypothetical protein	65
hypothetical protein	22
sensor histidine kinase	11
RNA polymerase sigma factor	11
hypothetical protein	55
glutathione S-transferase	33
transport ATP-binding protein CydC	88
hypothetical protein	44
hypothetical protein	44
Colicin I receptor precursor	11
acyl-CoA synthetase, AMP-(fatty) acid ligase / (3R)-hydroxymyristoyl-	88
acyl-[acyl-carrier-protein]--UDP-N-acetylglucosamine O-acyltransferase	288
3-oxoacyl-ACP synthase	67
phbF	123
phosphoglucomutase	247
peptidyl-prolyl cis-trans isomerase ppiD	236
hypothetical protein	45
hypothetical protein	45
3-oxoacyl-ACP synthase	45
alkylphosphonate utilization operon protein PhnA	349
30S ribosomal protein S1	4067
hypothetical protein	34
acetyl-CoA carboxylase biotin carboxyl carrier protein	613
hypothetical protein	57
aspartate carbamoyltransferase	137
interferon-induced transmembrane protein	743
30S ribosomal protein S12	2885
Pantothenate kinase type III, CoaX-like	69
Osmosensitive K channel histidine kinase KdpD	23
aminomethyltransferase (glycine cleavage system T protein)	219
50S ribosomal protein L2	5342
Phosphoribosylformylglycinamidine cyclo-ligase	186
Cob(I)alamin adenosyltransferase PduO	70
50S ribosomal protein L16	6254
heat shock protein YciM	153
hypothetical protein	377
7,8-dihydro-8-oxoguanine-triphosphatase	59
hypothetical protein	130
ABC-type transport system involved in resistance to organic solvents,	48
transcriptional regulator, PbsX family	192
hypothetical protein	12
CDP-diacylglycerol pyrophosphatase	48
hypothetical protein	12

phosphoglycerate kinase	168
hypothetical protein	12
4-hydroxybenzoate polyprenyltransferase	72
Outer membrane protein YfgL, lipoprotein component of the protein as	349
motA/TolQ/ExbB proton channel family protein	2756
hypothetical protein	206
nitroreductase	73
D-3-phosphoglycerate dehydrogenase	73
hypothetical protein	61
peptide chain release factor 2 programmed frameshift-containing	490
gamma-glutamyl phosphate reductase	37
RND efflux system, inner membrane transporter CmeB	260
Poly(A) polymerase	161
protein export cytoplasm chaperone protein (SecB, maintains protein	786
hypothetical protein	163
translation initiation factor 2	627
glutathione S-transferase	63
ATP-dependent RNA helicase RhlB	252
hypothetical protein	38
magnesium transporter	38
outer membrane protein	9582
quinolinate phosphoribosyltransferase	154
hypothetical protein	90
translation initiation inhibitor, yjgF family	348
outer membrane protein	168
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	13
mannose-1-phosphate guanylyltransferase	182
dipeptidyl aminopeptidases/acylaminoacyl-peptidases	78
Ubiquinol-cytochrome C reductase iron-sulfur subunit	91
Streptomycin 3''-kinase	26
hypothetical protein	26
DNA binding protein HpkR	26
2-C-methyl-D-erythritol 4-phosphate cytidyltransferase	144
HlyD family secretion protein	92
RarD protein, chloramphenicol sensitive	53
2-amino-4-hydroxy-6-hydroxymethylidihydropteridine pyrophosphokin	93
hypothetical protein	40
glutathione-dependent thiol reductase	134
protein phosphatase	54
hypothetical protein	27
glutathione S-transferase	27
inner membrane protein YjeT (clustered with HflC)	54
Potassium voltage-gated channel subfamily KQT	54
hypothetical protein	27
cell division protein	150
folM Alternative dihydrofolate reductase 1	41
tryptophanyl-tRNA synthetase	233
ComA operon protein 2	96
hypothetical protein	55
LuxR family two component transcriptional regulator	193
cell division protein FtsZ	360
NAD-dependent protein deacetylase	28

LysR family transcriptional regulator	14
hypothetical protein	56
ATP-dependent DNA helicase RecG	140
5-formyltetrahydrofolate cyclo-ligase	42
hypothetical protein	14
Anthranilate synthase, amidotransferase component	71
Adenosine (5')-pentaphospho-(5'')-adenosine pyrophosphohydrolase	128
50S m5C1962 methyltransferase RImI	400
Polyribonucleotide nucleotidyltransferase	1457
NAD(P) transhydrogenase subunit alpha	29
aldo-keto reductase	29
cytoplasmic copper homeostasis protein cutC	29
magnesium and cobalt efflux protein CorC	335
UDP-glucose 4-epimerase	467
YjeF protein	73
macrophage infectivity potentiator	921
50S ribosomal protein L21	3875
2,3-diketo-5-methylthiopentyl-1-phosphate enolase-phosphatase	147
dimethyladenosine transferase	118
hypothetical protein	30
hypothetical protein	60
hypothetical protein	15
glutamyl-Q-tRNA synthetase	30
hypothetical protein	15
phospholipase/carboxylesterase family protein	90
hypothetical protein	15
enolase	136
Lead, cadmium, zinc and mercury transporting ATPase	106
hypothetical protein	304
protein-L-isoaspartate O-methyltransferase	456
5'-3' exonuclease	61
lipoprotein B	183
biotin--protein ligase	107
response regulator	46
ATP-dependent RNA helicase RhIE	431
General secretion pathway protein K	31
rRNA small subunit methyltransferase I	62
High-affinity choline uptake protein BetT	31
multimodular transpeptidase-transglycosylase	78
UDP-3-O-[3-hydroxymyristoyl] glucosamine N-acyltransferase	219
50S ribosomal protein L27	2794
ABC transporter ATP-binding protein	332
Septum formation protein Maf	95
5,10-methylenetetrahydrofolate reductase	16
enoyl-CoA hydratase	32
hypothetical protein	80
protein co-occurring with transport systems (COG1739)	48
Lactate-responsive regulator LldR in Enterobacteria, GntR family	16
stress-responsive transcriptional regulator	32
phage-related capsid packaging protein	32
hypothetical protein	48
UDP-3-O-[3-hydroxymyristoyl] N-acetylglucosamine deacetylase	293

Response regulator receiver: Metal-dependent phosphohydrolase, HD s	49
cell division protein FtsX	98
tRNA pseudouridine synthase C	99
glutamate 5-kinase	33
carbon starvation protein A	33
N-acetylglucosamine kinase	33
hypothetical protein	83
TfoX C-terminal domain superfamily	100
ATP-dependent DNA helicase RecQ	100
50S ribosomal protein L30	5360
ATP-dependent helicase DinG/Rad3	84
isocitrate dehydrogenase	286
transcriptional regulator RstA	118
exopolysaccharide synthesis	135
Hydroxyacylglutathione hydrolase	220
2,3,4,5-tetrahydropyridine-2,6-dicarboxylate N-succinyltransferase	220
2-amino-3-ketobutyrate coenzyme A ligase	153
Copper metallochaperone, bacterial analog of Cox17 protein	51
hypothetical protein	17
hypothetical protein	102
TonB-dependent receptor	17
virulence protein	34
heme oxygenase HemO, associated with heme uptake	17
di-/tripeptide transporter	256
Cell division protein FtsA	205
Ubiquinone/menaquinone biosynthesis methyltransferase UbiE	376
valyl-tRNA synthetase	189
nicotinate-nucleotide adenyltransferase	86
glycerol-3-phosphate dehydrogenase [NAD(P)]	384
hypothetical protein	192
hypothetical protein	489
Cobalt-zinc-cadmium resistance protein	35
lytic enzyme	35
rifampin ADP-ribosyl transferase	35
metal-dependent hydrolase	123
TPR domain-containing protein	1080
O-antigen export system permease protein RfbD	303
IMP cyclohydrolase	125
4-hydroxy-2-ketovalerate aldolase	54
D-glycerate 3-kinase	36
hypothetical protein	18
flagellar biosynthesis protein FliC	199
N-acetyl-anhydromuramyl-L-alanine amidase	55
cytochrome c-type biogenesis protein CcmE, heme chaperone	55
HAD-superfamily hydrolase	92
hypothetical protein	480
glutathione peroxidase	74
Rare lipoprotein A	111
chemotaxis protein	94
DNA-directed RNA polymerase subunit beta'	1207
AsnC family transcriptional regulator	114
hypothetical protein	38

glucosamine--fructose-6-phosphate aminotransferase	171
phosphoenolpyruvate synthase	517
OmpA-like protein	251
tRNA dihydrouridine synthase B	59
3-hydroxydecanoyl-ACP dehydratase	433
6,7-dimethyl-8-ribityllumazine synthase	239
TonB-dependent receptor	120
ISStmaD1 Transposase B	20
hypothetical protein	20
oxidoreductase	40
transcriptional activator AmpR	20
hypothetical protein	20
aldehyde dehydrogenase	20
peptidase	142
tRNA pseudouridine synthase A	123
flavodoxin reductases (ferredoxin-NADPH reductases) family 1	330
membrane-bound lytic murein transglycosylase B precursor	227
hypothetical protein	21
RND efflux membrane fusion protein	21
Phosphoribosylaminoimidazole-succinocarboxamide synthase	64
5'-nucleotidase	43
hypothetical protein	1198
tryptophan synthase subunit beta	44
MltA-interacting MipA	22
ATP-dependent RNA helicase DbpA	90
glutamyl-tRNA synthetase	316
nucleoprotein/polynucleotide-associated enzyme	113
two-component system regulatory protein	68
Sensory/regulatory protein rpfC	68
membrane-associated phospholipid phosphatase	114
Rhodanese-related sulfurtransferase	457
PQQ-dependent oxidoreductase, gdhB family	46
glucose-1-phosphatase	23
transmembrane protein	46
DNA-binding protein HU-alpha	3364
uracil phosphoribosyltransferase	116
Xaa-Pro dipeptidase PepQ	94
hypothetical protein	47
hypothetical protein	260
phosphate ABC transporter, periplasmic phosphate-binding protein Pst	71
Histone acetyltransferase HPA2 and related acetyltransferases	24
2-polyprenyl-6-methoxyphenol hydroxylase and related FAD-dependent	24
phosphoglycolate phosphatase	145
hesA/MoeB/ThiF family protein	145
Ankyrin repeats containing protein	121
hypothetical protein	73
hypothetical protein	74
hypothetical protein	296
hypothetical protein	174
transporter	25
NAD(P) transhydrogenase subunit alpha	25
transcription elongation factor GreA	475

Serine protease	25
protein BatD	25
hypothetical protein	75
integral membrane protein	51
hypothetical protein	77
hypothetical protein	154
protein VirB9	206
hypothetical protein	26
YhfP protein	26
Leader peptidase (Prepilin peptidase)	130
alcohol dehydrogenase	52
hypothetical protein	393
succinate dehydrogenase cytochrome b-556 subunit	769
Diaminohydroxyphosphoribosylaminopyrimidine deaminase	81
ISStmaD4 Transposase	27
hypothetical protein	54
moxR-like ATPase	55
heme-regulated two-component response regulator	28
Lysyl-tRNA synthetase, class II	56
ABC transporter permease	56
inner membrane protein	28
sulfur acceptor protein SufE for iron-sulfur cluster assembly	113
inorganic pyrophosphatase	828
iojap protein ribosome-associated protein	417
ribose 5-phosphate isomerase A	149
CTP synthase	239
General secretion pathway protein I	30
Sensory box histidine kinase/response regulator	30
Aspartokinase	155
hypothetical protein	62
Oxidoreductase	31
NADP-dependent malic enzyme	531
Hydrolase, haloacid dehalogenase-like family	252
phosphotransferase related to Ser/Thr protein kinases	64
phosphate regulon transcriptional regulatory protein PhoB	66
drug/metabolite transporter permease	33
hypothetical protein	33
marR family transcriptional regulator	66
hypothetical protein	66
hypothetical protein	34
hypothetical protein	104
hypothetical protein	35
tRNA nucleotidyltransferase	70
50S ribosomal protein L5	9423
fimbrial protein	142
DNA mismatch repair protein MutL	107
pyridoxamine 5'-phosphate oxidase	107
Topoisomerase IV subunit A	251
hypothetical protein	36
dihydrofolate synthase	74
zinc metalloprotease	75
peptidyl-prolyl cis-trans isomerase	1013

hypothetical protein	38
autolysin sensor kinase	39
GTP cyclohydrolase I	354
Polysaccharide biosynthetic protein	120
FimV protein	121
50S ribosomal protein L29	8518
octaprenyl-diphosphate synthase	245
RNA polymerase sigma-70 factor	41
glutathione synthetase	83
type IV pilus biogenesis protein PilN	42
2-amino-4-hydroxy-6-hydroxymethyl-dihydropteridine pyrophosphokin	84
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	42
hypothetical protein	86
major facilitator superfamily permease	130
ISSmaD1 Transposase A	87
4-diphosphocytidyl-2-C-methyl-D-erythritol kinase	179
two-component system response regulator	45
hypothetical protein	91
glycosyltransferase	456
endonuclease	137
BLUF domain containing protein	46
diheme cytochrome c-553	417
TetR family transcriptional regulator	47
adenosylhomocysteinase	47
hypothetical protein	47
hypothetical protein	47
enolase	380
NAD kinase	48
membrane protein, exporter	48
hypothetical protein	49
ribonuclease BN	49
argininosuccinate synthase	147
hypothetical protein	150
Bore hole in peptidoglycan layer allowing type IV secretion complex α	154
hypothetical protein	52
anthranilate phosphoribosyltransferase	52
membrane protein hemolysin III	53
two-component system sensor protein	54
Histidine kinase/response regulator hybrid protein	110
FOG: TPR repeat	111
hypothetical protein	112
D-2-hydroxyacid dehydrogenase	56
HfIC protein	281
phenylalanine and histidine ammonia-lyase	57
hypothetical protein	230
hypothetical protein	173
hypothetical protein	58
ADP-heptose--lipooligosaccharide heptosyltransferase II	117
cytochrome c-type biogenesis protein CcmD,interacts with CcmCE	59
indole-3-glycerol phosphate synthase	121
N-acetylglucosamine kinase	63
Kynureninase	63

DedD protein	127
23S rRNA (guanosine-2'-O-)-methyltransferase rImB	129
phosphomannomutase	65
ribonuclease G	130
Aspartate aminotransferase	131
GNAT family acetyltransferase	67
histidyl-tRNA synthetase	204
preprotein translocase subunit SecG (TC 3.A.5.1.1)	481
hypothetical protein	72
Polyhydroxyalkanoic acid synthase	76
glucose-6-phosphate isomerase	232
hypothetical protein	156
ISStmaD2 Transposase A	79
chemotaxis regulator-transmits chemoreceptor signals to flagellar mo	238
twin-arginine translocation protein TatC	87
NAD-dependent glyceraldehyde-3-phosphate dehydrogenase	786
pyridoxal kinase	90
diadenosine tetraphosphate (Ap4A) hydrolase and other HIT family hy	90
Pseudouridylate synthase	91
TonB-dependent receptor	678
4Fe-4S ferredoxin	294
Thioredoxin	497
carD family transcriptional regulator	102
phosphopantothenoylcysteine decarboxylase	103
Arg tRNA	535
Glu tRNA	652
YaeQ protein	110
nudix-like NDP and NTP phosphohydrolase YmfB	221
shikimate kinase	116
inner membrane protein forms channel for type IV secretion of T-DNA	117
[protein-PII] uridylyltransferase	118
N-acetylglucosamine-1-phosphate uridylyltransferase	120
Phosphoribosylaminoimidazole carboxylase ATPase subunit	243
50S ribosomal protein L25	2766
3-hydroxyacyl-CoA dehydrogenase	140
Pantoate--beta-alanine ligase	172
Iron binding protein SufA for iron-sulfur cluster assembly	182
Amidophosphoribosyltransferase	188
Rod shape-determining protein MreB	206
1-hydroxy-2-methyl-2-(E)-butenyl 4-diphosphate synthase	260
-	0
hypothetical protein	0
5S ribosomal RNA	0
cytochrome oxidase biogenesis protein Surf1, facilitates heme A inserti	0
beta-lactamase class C and other penicillin binding proteins	0
hemolysin	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
glycosidases	0
Conjugative transfer protein TrbJ	0
hypothetical protein	0

hypothetical protein	0
-	0
quinolone resistance protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
PilL protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
polar amino acid ABC transporter ATPase	0
hypothetical protein	0
hypothetical protein	0
-	0
ATP-dependent DNA ligase	0
hypothetical protein	0
glycosyl transferase, group 2 family protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
DNA-3-methyladenine glycosylase II	0
Exodeoxyribonuclease III	0
F420-dependent glucose-6-phosphate dehydrogenase	0
chain A, Crystal Structure Of Thermotoga Maritima 1070	0
Small-conductance mechanosensitive channel	0
lipoprotein	0
Ferric siderophore transport system, periplasmic binding protein TonB	0
General secretion pathway protein I	0
hypothetical protein	0
hypothetical protein	0
flp/Fap pilin component	0
type II secretion system protein	0
AraC family transcriptional regulator	0
MgtC/SapB transporter	0
FecR protein	0
marR family transcriptional regulator	0
homoserine O-acetyltransferase	0
hypothetical protein	0
-	0
-	0
Fructose-1,6-bisphosphatase, type I	124
short-chain dehydrogenase	3
TldD family protein, Actinobacterial subgroup	62
partition protein	84
ISStmaD3 transposase B	3
uroporphyrinogen-III synthase	16
ABC-type multidrug efflux pump	2

Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	6
ATPase	117
-	6
ABC-type antimicrobial peptide transport system,permease componen	16
ABC-type antimicrobial peptide transport system,permease componen	8
membrane protein	73
Oar protein	6
beta-lactamase	5
preQ0 transporter	44
hypothetical protein	31
hypothetical protein	13
hypothetical protein	37
ISStmaD4 Transposase	12
metal chaperone, involved in Zn homeostasis, GTPase of COG0523 far	3
phnB protein	2
hypothetical protein	6
dipZ protein	1
queuosine biosynthesis protein QueD	147
Secreted protein containing N-terminal Zinc-dependent carboxypeptid:	10
chitinase	10
hypothetical protein	3
carboxypeptidase	27
LemA family protein	22
Optional hypothetical component of the B12 transporter BtuM	141
hypothetical protein	34
amidotransferase-related protein	40
2,4-dienoyl-CoA reductase	10
isochorismatase	5
plasmid stabilization protein	1
chromosome (plasmid) partitioning protein ParA	1
hypothetical protein	1
RND efflux system, outer membrane lipoprotein,NodT family	3
RND efflux membrane fusion protein	1
lipoprotein	1
type II/IV secretion system ATP hydrolase TadA/VirB11/CpaF, TadA su	1
hypothetical protein	2
hypothetical protein	1
moxR-like ATPase	53
thymidylate kinase	60
Redox-sensitive transcriptional activator SoxR	20
hypothetical protein	52
DNA-3-methyladenine glycosylase	55
RNA polymerase sigma-54 factor RpoN	89
lipopolysaccharide ABC transporter, ATP-binding protein LptB	180
hypothetical protein	84
hypothetical protein	45
phenazine biosynthesis protein PhzF	68
hypothetical protein	5
hypothetical protein	13
wall associated protein	10
Aminodeoxychorismate lyase	17
LysE family transporter	12

MFS transporter	12
hypothetical protein	19
Sigma-fimbriae tip adhesin	3
Sigma-fimbriae usher protein	1
macrolide-specific efflux protein MacA	9
winged helix family two component transcriptional regulator	82
diguanylate cyclase	25
phosphate transport ATP-binding protein PstB (TC 3.A.1.7.1)	20
hypothetical protein	53
Oxidoreductase	18
hydrolase of the metallo-beta-lactamase superfamily, clustered with K	6
Asl7591 protein	11
acetyltransferase	18
hypothetical protein	2
hypothetical protein	1
candidate type III effector Hop protein	2
type IV secretory pathway, VirD4 components	1
superfamily II DNA/RNA helicases, SNF2 family	1
Plasmid related protein	1
DNA topoisomerase III	3
hypothetical protein	1
hypothetical protein	1
chromosome partitioning ATPase in PFGI-1-like cluster, ParA-like	1
hypothetical protein	4
hypothetical protein	1
hypothetical protein	2
hypothetical protein	1
hypothetical protein	3
hypothetical protein	3
hypothetical protein	11
hypothetical protein	7
general stress protein	38
pyruvate dehydrogenase E1 component	2
TonB-dependent receptor	2
Deoxyribodipyrimidine photolyase	15
cytochrome P450	2
hypothetical protein	38
lysine decarboxylase family protein	85
transport protein	7
monooxygenase	3
nitrilotriacetate monooxygenase component A	4
N-acetyltransferase GCN5	1
Outer membrane protein romA	2
hypothetical protein	7
ATP phosphoribosyltransferase	12
hypothetical protein	67
TonB-dependent receptor	9
Methylthioribulose-1-phosphate dehydratase	78
3-oxoacyl-ACP reductase	17
hypothetical protein	12
Sensory box/GGDEF family protein	31
heme ABC transporter, ATPase component HmuV	7

hypothetical protein	10
Cobalt/zinc/cadmium efflux RND transporter,membrane fusion protein	9
Co/Zn/Cd efflux system membrane fusion protein	125
RNA polymerase sigma-70 factor	8
phage replication protein NMA0782	2
hypothetical protein	11
Zona occludens toxin	3
TetR family transcriptional regulator	10
manganese catalase	1
type 12 methyltransferase	2
zinc-type alcohol dehydrogenase-like protein ybdR	3
hypothetical protein	7
hypothetical protein	12
glucan 1,4-beta-glucosidase	2
beta-xylosidase	1
Sialic acid-specific 9-O-acetylcysteine aminohydrolase	1
alpha-glucuronidase	2
Tryptophan halogenase	6
6-aminohexanoate-dimer hydrolase	3
hypothetical protein	4
hypothetical protein	1
hypothetical protein	3
RebB protein	2
hypothetical protein	2
hypothetical protein	45
hypothetical protein	6
Trehalose synthase	1
proline iminopeptidase	34
hypothetical protein	6
hypothetical protein	45
L1 beta-lactamase	13
AraC family transcriptional regulator	11
hypothetical protein	5
polyketide cyclase	2
hypothetical protein	2
thioredoxin-like protein	4
AtsE	6
signal transduction histidine kinase	2
hypothetical protein	2
Iron siderophore receptor protein	2
Pirin	1
nicotinamidase family protein YcaC	5
Outer membrane receptor for ferric coprogen and ferric-rhodotorulic a	1
biopolymer transport protein ExbD/ToIR	1
hemolysin activation/secretion protein	1
hypothetical protein	8
General secretion pathway protein J	1
Filamentous hemagglutinin family outer membrane protein	2
General secretion pathway protein F	1
General secretion pathway protein E	1
General secretion pathway protein G	2
Sigma factor regulator VreR (cytoplasmic membrane-localized) of tran	6

branched-chain amino acid transport protein AzlC	10
malto-oligosyltrehalose synthase	1
abhydrolase, alpha/beta hydrolase fold	2
hypothetical protein	1
hypothetical protein	1
outer membrane protein	1
hypothetical protein	11
two-component system regulatory protein	31
diacylglycerol kinase	9
hypothetical protein	14
isochorismatase	19
2,3-dihydroxybenzoate-AMP ligase	12
pilus assembly protein	2
type II/IV secretion system ATP hydrolase TadA/VirB11/CpaF, TadA su	3
hypothetical protein	2
non-heme chloroperoxidase	4
membrane protein	1
cytosine deaminase	6
hypothetical protein	9
Lactoylglutathione lyase and related lyases	5
DSBA oxidoreductase	2
cyclase family protein	5
transcriptional regulator of pyridoxine metabolism	19
glutamine amidotransferase	34
hypothetical protein	25
TonB-dependent receptor	3
lipoprotein	3
methyl-accepting chemotaxis protein	10
2,4-dienoyl-CoA reductase	5
hypothetical protein	1
macrolide export ATP-binding/permease MacB	1
LysR family transcriptional regulator	93
phosphoserine aminotransferase	131
quinoprotein glucose dehydrogenase	2
hypothetical protein	78
hypothetical protein	153
glutathione S-transferase, unnamed subgroup	30
hypothetical protein	32
4-carboxymuconolactone decarboxylase	6
AraC family transcriptional regulator	10
hypothetical protein	56
biofilm PGA synthesis N-glycosyltransferase PgaC	2
Roadblock/LC7 family protein	2
prolyl oligopeptidase family protein	4
TldD protein	94
methionyl-tRNA synthetase	153
hypothetical protein	73
hypothetical protein	24
catalase	1
plasmid stabilization system	74
propionate catabolism operon regulatory protein PrpR	23
hypothetical protein	19

hypothetical protein	17
inosine-uridine preferring nucleoside hydrolase	6
hypothetical protein	37
phage terminase, ATPase subunit	1
phage capsid scaffolding protein	3
phage head completion-stabilization protein	1
phage baseplate assembly protein	1
L2 beta-lactamase	20
pyruvate oxidase	11
hypothetical protein	82
two-component sensor PilS	5
tRNA/rRNA methyltransferase	63
transmembrane protein	59
beta-lactamase	138
hypothetical protein	28
hypothetical protein	8
alpha-fimbriae usher protein	1
Xaa-Pro aminopeptidase	143
SAM-dependent methyltransferase	4
LysR family transcriptional regulator PA2877	9
hypothetical protein	30
tripartite multidrug resistance system outer membrane protein	3
hypothetical protein	2
FOG: GGDEF domain	4
AsnC family transcriptional regulator	15
hypothetical protein	28
hypothetical protein	2
glycerol kinase	29
TetR family transcriptional regulator	15
hypothetical protein	22
NAD(P)H dehydrogenase (quinone)	5
hypothetical protein	19
50S ribosomal protein L11 methyltransferase	83
KiIA-like protein	4
acriflavin resistance plasma membrane protein	20
hypothetical protein	25
Ubiquinone biosynthesis monooxygenase UbiB	6
lipoprotein	7
hypothetical protein	8
TonB-dependent receptor	4
extracellular serine protease	2
cytochrome O ubiquinol oxidase subunit III	5
hypothetical protein	12
hypothetical protein	18
hypothetical protein	67
glutathione-regulated potassium-efflux system protein KefB	32
twin-arginine translocation protein TatB	158
hypothetical protein	17
glutathione S-transferase-like protein	33
bifunctional protein: zinc-containing alcohol dehydrogenase quinone o	7
ATP-dependent Clp protease ATP-binding subunit ClpX	600
Cold shock protein CspD	1440

hypothetical protein	345
cystathionine beta-synthase	399
hypothetical protein	191
C4-type zinc finger protein, DksA/TraR family	355
translation initiation factor 3	2276
Response regulator protein	162
ribosomal large subunit pseudouridine synthase D	146
Citrate synthase (si)	1448
hypothetical protein	518
Thiol:disulfide interchange protein DsbC	128
shikimate 5-dehydrogenase	128
peptidase	127
Glu tRNA	118
50S ribosomal protein L14	7217
2-methylcitrate dehydratase	108
alpha/beta hydrolase	206
dipeptidase	99
hypothetical protein	97
Glutathione-regulated potassium-efflux system protein KefB	95
glycosyltransferase	89
integral membrane protein CcmA	89
two-component system regulatory protein	85
Ferric siderophore transport system, biopolymer transport protein Exb	163
UDP-N-acetylglucosamine 1-carboxyvinyltransferase	243
Adenosylmethionine-8-amino-7-oxononanoate aminotransferase	77
UTP--glucose-1-phosphate uridylyltransferase	303
protein export cytoplasm protein SecA ATPase RNA helicase (TC 3.A.5	301
hypothetical protein	150
hypothetical protein	74
ssDNA-specific exonuclease RecJ	74
Na-driven multidrug efflux pump	74
methyl-accepting chemotaxis protein	143
TonB-dependent receptor	70
hypothetical protein	70
CDP-diacylglycerol--serine O-phosphatidyltransferase	68
cytochrome C552	66
hypothetical protein	66
50S ribosomal protein L34	2321
alanyl dipeptidyl peptidase	185
cardiolipin synthase	61
tyrosyl-tRNA synthetase	179
transcription elongation factor GreB	59
acyltransferase	116
acyl-CoA hydrolase	57
N-acetyltransferase GCN5	57
dihydrolipoamide acetyltransferase component of pyruvate dehydroge	509
1-acyl-sn-glycerol-3-phosphate acyltransferase	56
endoribonuclease L-PSP	547
ATPase provides energy for both assembly of type IV secretion comple	218
translation elongation factor P-related protein	379
Pathogenicity-related protein	54
phosphoribosylaminoimidazole carboxylase catalytic subunit	320

rRNA small subunit methyltransferase H	213
proteins containing SET domain	158
D-alanyl-D-alanine carboxypeptidase	52
succinate dehydrogenase flavoprotein subunit	869
ECF subfamily RNA polymerase sigma-70 factor	51
fructokinase	102
Anthranilate synthase, aminase component	102
colicin V production protein	101
50S ribosomal protein L24	7609
tRNA delta(2)-isopentenylpyrophosphate transferase	50
ApaG protein	196
hypothetical protein	95
glycine dehydrogenase [decarboxylating] (glycine cleavage system P ₁)	189
Scaffold protein for [4Fe-4S] cluster assembly ApbC, MRP-like	139
lysyl-tRNA synthetase	370
cytochrome c heme lyase subunit CcmL	88
hypothetical protein	44
lipid A core-O-antigen ligase and related enzymes	132
2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase	132
ssDNA-binding protein	421
catalase	42
hypothetical protein	210
peptide chain release factor 1	83
hypothetical protein	82
hypothetical protein	41
GMP synthase	41
30S ribosomal protein S14p (S29e) ## Zinc-independent	6404
hypothetical protein	363
hypothetical protein	80
D-alanyl-D-alanine carboxypeptidase	319
hypothetical protein	39
Phosphoribosylglycinamide formyltransferase	39
glutathione reductase	39
hypothetical protein	113
N-succinyl-L,L-diaminopimelate desuccinylase	75
30S ribosomal protein S17	8903
hypothetical protein	37
membrane-bound lytic murein transglycosylase D	144
branched-chain amino acid aminotransferase	213
KlaB protein	71
hypothetical protein	211
hypothetical protein	35
hypothetical protein	35
3-isopropylmalate dehydrogenase	35
DNA gyrase subunit B	349
hypothetical protein	139
HflK protein	306
glycerophosphoryl diester phosphodiesterase	34
transglutaminase-like enzymes, putative cysteine proteases	135
hypothetical protein	67
signal transduction histidine kinase	134
chemotaxis protein	33

periplasmic aromatic amino acid aminotransferase beta precursor	33
UDP-N-acetylmuramate:L-alanyl-gamma-D-glutamyl-meso-diaminopir	131
tRNA (cytosine34-2'-O-)-methyltransferase	65
acyltransferase 3	195
GAF domain-containing proteins	227
dihydrofolate reductase	97
acetoacetyl-CoA reductase	97
lipolytic protein G-D-S-L	64
hypothetical protein	32
hypothetical protein	63
HNH endonuclease family protein	94
Octanoate-[acyl-carrier-protein]-protein-N-octanoyltransferase	311
Colicin I receptor	31
phosphoglycerate mutase	246
hypothetical protein	91
DNA-binding response regulator KdpE	30
transcriptional regulator	30
DNA recombination and repair protein RecO	59
NHL repeat protein	29
ATP dependent RNA helicase	58
component of the lipoprotein assembly complex (forms a complex with	112
pyruvate kinase	112
methionine aminopeptidase	497
LysR family transcriptional regulator YbhD	55
Valine--pyruvate aminotransferase	27
General secretion pathway protein N	27
ATP/GTP-binding protein	81
cytochrome c heme lyase subunit CcmH	54
tripartite multidrug resistance system outer membrane protein	27
TetR family transcriptional regulator	161
Leu tRNA	562
lipoate synthase	346
salt-induced outer membrane protein	266
lipopolysaccharide core biosynthesis glycosyl transferase	53
ABC transporter ATP-binding protein	26
Copper resistance protein D	26
hypothetical protein	26
ribosomal protein S6 glutaminyl transferase	26
Lysophospholipase L1 and related esterases	77
methyltransferase	51
extracellular protease precursor	25
bis(5'-nucleosyl)-tetrphosphatase	100
Lactoylglutathione lyase	150
Regulatory protein, RpfE type	149
nitroreductase	99
hypothetical protein	49
EpiH/GdmH-like protein	73
methylcrotonyl-CoA carboxylase biotin-containing subunit	216
dihydrolipoamide succinyltransferase component (E2) of 2-oxoglutarat	936
MFS transporter	24
ribonuclease HI	191
histone-like protein	1780

Ferrochelatase, protoheme ferro-lyase	93
LysR family transcriptional regulator YnfL	23
hypothetical protein	23
dehydrogenase	23
hypothetical protein	23
acetyl-CoA synthetase subunits alpha and beta	46
LysR family transcriptional regulator	23
hypothetical protein	366
protein YicC	91
cytidylate kinase	792
succinate-semialdehyde dehydrogenase [NAD]	45
nitrogen regulation protein NtrY	45
integrase	90
N-acetyl-anhydromuramyl-L-alanine amidase	111
hypothetical protein	44
ketol-acid reductoisomerase	22
histone-like nucleoid-structuring protein H-NS	88
D-tyrosyl-tRNA(Tyr) deacylase	44
carbonic anhydrase, family 3	109
hypothetical protein	87
TonB-dependent receptor	1192
5'-nucleotidase	65
Tol biopolymer transport system, TolR protein	194
AAA ATPase	43
3-deoxy-D-manno-octulosonic-acid transferase	43
cytosol aminopeptidase	279
penicillin acylase II	21
3-methyl-2-oxobutanoate hydroxymethyltransferase	210
Sensor histidine kinase	21
cell division protein ZipA	147
response regulator	21
lipoate regulatory protein YbeD	648
Voltage-gated potassium channel beta subunit	62
Para-aminobenzoate synthase, aminase component	41
transport ATP-binding protein CydD	101
hypothetical protein	40
ABC transporter ATP-binding protein	20
LysR-family transcriptional regulator clustered with PA0057	40
General secretion pathway protein E / Type II secretion cytoplasmic A	60
glycosyl transferases group 1:TPR repeat	40
FKBP-type peptidyl-prolyl cis-trans isomerase	40
hypothetical protein	40
phage-related integrase	20
hypothetical protein	296
gamma-glutamyltranspeptidase	138
hypothetical protein	39
phosphoglycerate mutase	117
hypothetical protein	39
dihydrodipicolinate synthase	194
hypothetical protein	155
NreB protein	19
drug/metabolite transporter permease	57

hypothetical protein	19
hypothetical protein	75
hypothetical protein	37
oxidoreductase	37
ketopantoic acid reductase	74
Putrescine ABC transporter putrescine-binding protein PotF (TC 3.A.1.	184
hypothetical protein	183
hypothetical protein	36
hypothetical protein	36
PHA synthase subunit	72
FOG: PAS/PAC domain	71
Cold shock protein CspA	3334
glycosyl transferase	88
hypothetical protein	123
excinuclease ABC subunit B	70
Histone acetyltransferase HPA2 and related acetyltransferases	70
Drug: proton antiporter	70
Positive regulator of CheA protein activity (CheW)	155
ToIA protein	155
DNA recombination-dependent growth factor C	274
twin-arginine translocation protein Tata	358
cytochrome c oxidase polypeptide II	17
TetR family transcriptional regulator	17
transcriptional (co)regulator CytR	17
prolyl oligopeptidase family protein	85
hypothetical protein	51
drug/metabolite transporter permease	68
phosphate transport system permease protein PstA (TC 3.A.1.7.1)	17
hypothetical protein	17
N-acetyl-gamma-glutamyl-phosphate reductase	51
hypothetical protein	85
Lysophospholipid acyltransferase	34
Outer membrane lipoprotein carrier protein LolA	185
Sensor protein PhoQ	100
ATPase provides energy for both assembly of type IV secretion comple	216
Fumarate and nitrate reduction regulatory protein	66
TonB-dependent receptor Outer membrane receptor for ferrienteroche	66
interferon-induced transmembrane protein	344
Pterin-4-alpha-carbinolamine dehydratase	180
acetyltransferase	32
membrane-bound lytic murein transglycosylase A precursor	48
potassium-transporting ATPase subunit A	16
hypothetical protein	16
lytic enzyme	32
hypothetical protein	32
hypothetical protein	16
DNA-binding response regulator	16
5-Enolpyruvylshikimate-3-phosphate synthase	63
chemotaxis protein CheD	47
phospholipase A1 precursor	78
Virulence factor mviM	77
type IV secretion system protein VirD4	77

excinuclease ABC subunit A	138
lipoprotein NlpD	244
peptidase	137
Site-specific tyrosine recombinase	91
hypothetical protein	15
MFS permease protein	15
two-component response regulator CreC	15
D-xylose proton-symporter XylE	15
ribosomal RNA small subunit methyltransferase E	90
hypothetical protein	88
dihydrodipicolinate reductase	88
exopolysaccharide synthesis	44
endonuclease/exonuclease/phosphatase family protein	146
TetR family transcriptional regulator	87
30S ribosomal protein S2	2602
prolyl-tRNA synthetase	245
glycine cleavage system H protein	864
DNA-binding protein H-NS	399
BarA-associated response regulator UvrY (= GacA = SirA)	141
MFS transporter	14
hypothetical protein	28
multidrug resistance efflux pump	28
integral membrane protein	14
Aminopeptidase N	237
4-hydroxybenzoyl-CoA thioesterase	223
LysR family transcriptional regulator YnfL	195
Hsp90xo protein	97
Outer membrane protein, probably efflux family protein	97
aminopeptidases	96
3-oxoacyl-ACP reductase	82
hypothetical protein	41
hypothetical protein	41
hypothetical protein	27
hypothetical protein	216
LysR family transcriptional regulator	27
C-di-GMP phosphodiesterase A	54
methylated-DNA-protein-cysteine S-methyltransferase related protein	27
hypothetical protein	27
dihydrolipoamide dehydrogenase of 2-oxoglutarate dehydrogenase	940
alanyl-tRNA synthetase	255
wall associated protein	40
sugar ABC transporter, sugar permease protein 2 USSDB1D	40
hypothetical protein	146
orotate phosphoribosyltransferase	393
hypothetical protein	52
hypothetical protein	26
LysR family transcriptional regulator	13
hypothetical protein	39
formate dehydrogenase O subunit beta	13
Outer membrane lipoprotein Blc	13
Fe(2+)/alpha-ketoglutarate-dependent dioxygenase LpxO	115
formamidopyrimidine-DNA glycosylase	51

membrane-bound lytic murein transglycosylase D	153
hemolysin-like protein	292
hypothetical protein	76
Ubiquinol--cytochrome c reductase, cytochrome B subunit	38
DedA protein	114
cytochrome c-type biogenesis protein CcmG/DsbE, thiol: disulfide oxidoreductase	151
hypothetical protein	88
transmembrane protein	88
Stringent starvation protein A	163
hypothetical protein	50
mercuric resistance operon regulatory protein	50
TldD family protein, Actinobacterial subgroup	99
hypothetical protein	49
Cell division topological specificity factor MinE	637
hypothetical protein	98
cytochrome c family protein	330
excinuclease ABC subunit C	61
phosphomethylpyrimidine kinase	61
Organic hydroperoxide resistance protein	73
hypothetical protein	8488
TetR family transcriptional regulator	97
cytosine deaminase	97
Arginase	144
ISStmaD4 Transposase	12
two-component response regulator	24
Lactoylglutathione lyase	12
LysR family transcriptional regulator YeiE	12
BLUF domain containing protein	12
molybdenum cofactor biosynthesis protein MoaA	36
membrane fusion protein of RND family multidrug efflux pump	204
hypothetical protein	12
hypothetical protein	228
alpha-fimbriae chaperone protein	12
hypothetical protein	72
Thiamin biosynthesis protein ThiC	12
hypothetical protein	312
hypothetical protein	24
RNA polymerase ECF-type sigma factor	12
toIB protein precursor, periplasmic protein involved in the tonB-independent system	309
nudix hydrolase YeaB	83
Hydrogen peroxide-inducible genes activator	59
glutathione S-transferase-like protein	118
Tryptophan 2,3-dioxygenase	59
Zn-dependent protease with chaperone function	153
hesB_IscA_SufA family iron binding protein	211
glutamate synthase [NADPH] large subunit	82
transport protein	35
hypothetical protein	70
chorismate mutase I	174
ISStmaD2 Transposase B	81
hypothetical protein	46
manganese superoxide dismutase	23

type I restriction-modification system, restriction subunit R	103
hypothetical protein	194
Small-conductance mechanosensitive channel	91
hypothetical protein	91
glycine cleavage system transcriptional antiactivator GcvR	267
S-(hydroxymethyl)glutathione dehydrogenase	133
hypothetical protein	11
type II secretion system protein-like protein	33
general stress protein	11
marR family transcriptional regulator	22
hypothetical protein	11
RpfF protein	33
beta-lactamase	22
fumarylacetoacetate (FAA) hydrolase	55
N-acetylglucosamine-regulated TonB-dependent outer membrane rece	55
ISStmaD1 Transposase B	22
hypothetical protein	22
chitin binding protein	11
succinate dehydrogenase iron-sulfur protein	797
hypothetical protein	130
Similarity with glutathionylspermidine synthase	368
adenosylhomocysteinase	1187
hypothetical protein	107
transcriptional regulator lysR family	32
hypothetical protein	32
Threonine efflux protein	32
hypothetical protein	202
L-asparaginase	254
50S ribosomal protein L36	2250
hypothetical protein	42
2-methylcitrate dehydratase	21
Osmotically inducible protein OsmY	21
integral membrane protein	21
3'-to-5' exoribonuclease RNase R	178
AraC family transcriptional regulator	31
inosine-uridine preferring nucleoside hydrolase	217
hypothetical protein	62
molybdopterin-guanine dinucleotide biosynthesis protein MobB	41
UDP-glucose 4-epimerase	41
permease	92
Threonine efflux protein	51
Thioredoxin	102
GTP pyrophosphokinase	102
hypothetical protein	51
hypothetical protein	61
hypothetical protein	254
glycosyltransferase	547
L-threonine 3-dehydrogenase	231
transcriptional regulator LiuX of leucine degradation pathway, AcrR far	30
hypothetical protein	10
3-deoxy-D-manno-octulosonic acid kinase	150
inner membrane protein CreD	10

hypothetical protein	10
amidohydrolase	20
AraC family transcriptional regulator	10
hypothetical protein	30
serine/threonine kinase	50
beta-lactamase	20
membrane proteins related to metalloendopeptidases	10
hypothetical protein	90
hypothetical protein	10
2-isopropylmalate synthase	10
ABC transporter permease	10
hypothetical protein	30
Phosphoribosylamine--glycine ligase	100
hypothetical protein	290
Hydrolase, alpha/beta hydrolase fold family	20
C-terminal domain of CinA type S Protein Implicated in DNA repair fun	119
hypothetical protein	109
ATP-dependent DNA helicase UvrD/PcrA	218
inner membrane protein forms channel for type IV secretion of T-DNA	178
deoxyribonuclease	89
hypothetical protein	89
LptA, protein essential for LPS transport across the periplasm	168
glutamate-1-semialdehyde aminotransferase	128
phosphate regulon sensor protein PhoR	49
PDZ domain family protein	39
Fatty acid desaturase	29
mannose transporter, GGP family	145
two-component system sensor protein	87
hypothetical protein	48
ISStmaD1 Transposase B	48
histidine kinase/response regulator hybrid protein	48
glutaryl-CoA dehydrogenase	76
D-lactate dehydrogenase	38
sensor signal transduction histidine kinase	19
LysR family transcriptional regulator	76
Glu tRNA	19
two-component system regulatory protein	57
N-ethylmaleimide reductase	19
biotin synthase	19
LysR family transcriptional regulator	19
transaldolase	227
prephenate dehydrogenase	66
SAM-dependent methyltransferase	141
dihydrolipoamide dehydrogenase of pyruvate dehydrogenase complex	376
3,4-dihydroxy-2-butanone 4-phosphate synthase	56
hypothetical protein	28
hypothetical protein	28
Regulator of nucleoside diphosphate kinase	251
excinuclease ATPase subunit	120
two-component system sensor protein	82
hypothetical protein	172
hypothetical protein	9

Ammonium transporter	9
ArsR family transcriptional regulator	18
cytochrome C5	45
polysaccharide deacetylase	27
hypothetical protein	27
polypeptide chain release factor methylase	54
hypothetical protein	18
4-amino-4-deoxy-L-arabinose transferase and related glycosyltransfer	63
autotransporter	9
DNA methylation and regulatory protein Ada	9
Sigma-fimbriae chaperone protein	9
hypothetical protein	54
hypothetical protein	9
FAD-binding monooxygenase	18
transcriptional regulator	18
AraC family transcriptional regulator	18
-	9
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	9
hypothetical protein	9
hypothetical protein	18
sulfur carrier protein ThiS	27
M23/M37 family peptidase	9
motA/TolQ/ExbB proton channel family protein	9
hypothetical protein	9
dihydroxy-acid dehydratase	36
LuxR family transcriptional regulator	134
hypothetical protein	89
two-component system sensor protein	53
TetR family transcriptional regulator	44
hypothetical protein	176
Aminopeptidase	88
hypothetical protein	114
tyrosine recombinase XerD	35
phytochrome, two-component sensor histidine kinase	35
hypothetical protein	105
hypothetical protein	323
GTPase related to EngC	113
Fumarate hydratase class I, aerobic	321
ATP-dependent Clp protease adaptor protein ClpS	199
aldose 1-epimerase	112
Mn2-dependent serine/threonine protein kinase	215
ABC transporter ATP-binding protein	43
ferredoxin II	86
hypothetical protein	43
L-asparaginase	60
Thioredoxin domain-containing protein EC-YbbN	77
hypothetical protein	111
hypothetical protein	34
hypothetical protein	34
formate dehydrogenase oxidoreductase protein	17
TetR family transcriptional regulator	34
hypothetical protein	51

NAD-specific glutamate dehydrogenase	771
Ferric siderophore transport system, periplasmic binding protein TonB	135
hypothetical protein	25
3-deoxy-manno-octulosonate cytidyltransferase	75
chemotaxis protein	25
hypothetical protein	25
hypothetical protein	58
hypothetical protein	58
-	504
DNA recombination and repair protein RecF	66
membrane-bound metallopeptidase	99
merR family transcriptional regulator	33
cytochrome c-type biogenesis protein DsbD,protein-disulfide reductase	49
Putative glycerophosphate (or ribitol phosphate) transferase relatede i	57
acriflavin resistance protein	8
membrane protein	8
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	8
Arsenate reductase	16
protein-disulfide isomerase	8
phospholipase C	16
chaperone protein hchA	8
ABC transporter ATP-binding protein	168
Tn5044 transposase	24
Ferric siderophore transport system, periplasmic binding protein TonB	8
phosphate-binding protein	56
hypothetical protein	24
cationic amino acid transporter	8
Autolysis response regulator LytR	48
uracil-DNA glycosylase	152
thymidylate synthase	189
hypothetical protein	63
hypothetical protein	63
Outer membrane lipoprotein SmpA, a component of the essential Yae1	385
cytochrome	55
hypothetical protein	611
LasA protein	47
Thiamin-phosphate pyrophosphorylase	47
hypothetical protein	86
General secretion pathway protein F / Type II secretory pathway, com	39
flagellar regulatory protein FleQ	70
hypothetical protein	31
export protein	54
methylcrotonyl-CoA carboxylase carboxyl transferase subunit	239
hypothetical protein	131
hypothetical protein	23
hypothetical protein	23
hypothetical protein	69
glutamate-ammonia-ligase adenylyltransferase	38
hypothetical protein	38
cysteine synthase B	114
folate-dependent protein for Fe/S cluster synthesis/repair in oxidative	91
hypothetical protein	53

hypothetical protein	90
heat-inducible transcription repressor HrcA	45
alcohol dehydrogenase	15
Trp repressor binding protein	52
N-acetylornithine carbamoyltransferase	89
glutaminyl-tRNA synthetase	207
nucleoside-diphosphate-sugar epimerases	59
DNA recombination protein RmuC	118
formate dehydrogenase subunit D	22
TetR family transcriptional regulator	51
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	160
Homolog of E. coli HemY protein	58
electron transfer flavoprotein subunit beta	377
5-methyltetrahydrofolate--homocysteine methyltransferase	29
glycosyltransferase	58
N-acetylglucosamine related transporter, NagX	29
dinG family ATP-dependent helicase YoaA	72
amino acid transporter	115
alpha-1,2-mannosidase	50
Na /H antiporter	57
hypothetical protein	148
beta-lactamase	7
hypothetical protein	7
nicotinamide-nucleotide adenylyltransferase,NadR family	21
hypothetical protein	161
autolysin sensor kinase	14
protease	7
ISStmaD1 Transposase B	21
hypothetical protein	14
phosphodiesterase/alkaline phosphatase D	7
Pirin	7
LysR family transcriptional regulator	35
Aminoglycoside N6'-acetyltransferase	7
hypothetical protein	7
hypothetical protein	7
hypothetical protein	21
hypothetical protein	28
hypothetical protein	42
hypothetical protein	112
transcriptional regulator	14
Serine/threonine protein kinase	14
sugar transport protein	7
hypothetical protein	97
dihydroneopterin aldolase	145
hypothetical protein	62
methionine aminopeptidase	48
sulfur carrier protein adenylyltransferase ThiF	41
chemotaxis protein	41
hypothetical protein	41
3-deoxy-D-manno-octulosonate 8-phosphate phosphatase	143
ribulose-phosphate 3-epimerase	143
General secretion pathway protein H	34

D-Lactate dehydrogenase	34
hypothetical protein	34
Oxidoreductase	34
hemolysin related protein	88
3-hydroxybutyryl-CoA dehydratase	81
lipoprotein signal peptidase	27
N-acetylglucosamine-6-phosphate deacetylase	27
hypothetical protein	403
nuclease	47
transcriptional regulator	40
2-methylcitrate synthase	333
ABC transporter ATP-binding protein	33
hypothetical protein	33
hypothetical protein	904
inner membrane protein forms channel for type IV secretion of T-DNA	625
tryptophan synthase subunit alpha	46
ATPase	92
FOG: CBS domain	98
serine hydroxymethyltransferase	463
hypothetical protein	39
hypothetical protein	13
ISShmaD1 Transposase A	39
copper amine oxidase N-terminal protein	13
phenol hydroxylase	168
hypothetical protein	71
alanine racemase	264
sensor kinase	45
hypothetical protein	45
acetyltransferase	45
cell division protein FtsK	122
hypothetical protein	32
Lead, cadmium, zinc and mercury transporting ATPase	32
dipeptidyl peptidase IV	128
cytochrome d ubiquinol oxidase subunit I	2213
Dna binding response regulator PrrA (RegA)	147
hypothetical protein	166
major pilus subunit of type IV secretion complex (VirB2)	1059
Septum site-determining protein MinD	662
hypothetical protein	260
D-alanine--D-alanine ligase	95
glycosyltransferase	19
hypothetical protein	57
molybdenum transport system permease protein ModB (TC 3.A.1.8.1)	38
sugar ABC transporter, periplasmic sugar-binding protein USSDB1B	38
hypothetical protein	38
hypothetical protein	19
N-carbamoylputrescine amidase	259
hypothetical protein	88
Na /H exchange protein	44
hypothetical protein	44
cyclic AMP receptor protein	490
acetoin utilization family protein	69

acyl-CoA synthetase (AMP-forming)/AMP-acid ligase/Peptide synthase	94
Recombination protein RecR	94
hypothetical protein	31
hypothetical protein	62
flagellar biosynthesis protein FliC	861
Coproporphyrinogen III oxidase,oxygen-independent	896
hypothetical protein	74
hypothetical protein	37
hypothetical protein	37
superoxide dismutase	74
hypothetical protein	37
PTS system fructose-specific transporter subunit IIB	37
flagellar biosynthesis protein FliC	775
Thiol: disulfide interchange protein DsbG precursor	178
hypothetical protein	300
hypothetical protein	55
electron transfer flavoprotein subunit alpha	348
peptidase B	268
endonuclease distantly related to archaeal Holliday junction resolvase	67
hypothetical protein	505
methylglyoxal synthase	54
hypothetical protein	18
3-beta hydroxysteroid dehydrogenase/isomerase family protein in hyp	84
Osmosensitive K channel histidine kinase KdpD	18
Cobalt-zinc-cadmium resistance protein CzcD	12
DNA binding 3-demethylubiquinone-9 3-methyltransferase domain-cor	6
hypothetical protein	6
maltodextrin glucosidase	12
cyclomaltodextrin glucanotransferase	6
hypothetical protein	24
hypothetical protein	72
hypothetical protein	6
Adenosylmethionine-8-amino-7-oxononanoate aminotransferase	6
signal peptide protein	12
ABC transporter	120
hypothetical protein	12
ribosomal-protein-S5p-alanine acetyltransferase	6
hypothetical protein	6
hypothetical protein	12
hypothetical protein	30
translation initiation inhibitor	24
enoyl-CoA hydratase	54
Pirin	24
hypothetical protein	144
DNA polymerase III subunits gamma and tau	179
hypothetical protein	143
aromatic-amino-acid aminotransferase	274
prolipoprotein diacylglyceryl transferase	125
short-chain dehydrogenase	77
OmpA domain-containing protein	130
transmembrane protein	59
Gfa-like protein	106

hypothetical protein	41
hypothetical protein	35
phenazine biosynthesis protein PhzF like	70
BatA (Bacteroides aerotolerance operon)	35
hypothetical protein	64
carbonic anhydrase	144
glutaryl-7-ACA acylase	23
glycine cleavage system transcriptional activator	23
hypothetical protein	23
glutamine synthetase	40
Cell division protein FtsH	280
hypothetical protein	40
hypothetical protein	74
hypothetical protein	74
N-acetyltransferase GCN5	91
RNA binding protein	290
2-octaprenyl-6-methoxyphenol hydroxylase	142
tonB-dependent receptor yncD precursor	17
ribosomal large subunit pseudouridine synthase A	34
hypothetical protein	68
magnesium transporter	17
hypothetical protein	62
acetylornithine aminotransferase	253
two-component system sensor protein	73
Outer membrane lipoprotein LolB precursor	146
DnaJ-class molecular chaperone CbpA	134
hypothetical protein	145
catalase	39
propionate--CoA ligase	78
LppC putative lipoprotein	122
TonB-dependent receptor	61
cyclopropane-fatty-acyl-phospholipid synthase	61
lipoprotein	72
hypothetical protein	83
Signal peptidase I	22
glyoxalase	11
hypothetical protein	11
methylglutaconyl-CoA hydratase	55
LuxR family two component transcriptional regulator	11
Siderophore-interacting protein	11
acetylxylin esterase	66
hypothetical protein	11
DNA polymerase III subunit epsilon	55
hypothetical protein	11
benzoate transport protein	22
chloromuconate cycloisomerase	38
ribonuclease	38
dihydrolipoamide acyltransferase component of branched-chain alpha-	314
6-phosphogluconate dehydrogenase	92
periplasmic thiol:disulfide interchange protein DsbA	227
hypothetical protein	27
hypothetical protein	54

acetyl-CoA synthetase	183
primosomal protein N' (replication factor Y)-superfamily II helicase	102
hypothetical protein	48
drug/metabolite transporter permease	16
chromate transport protein ChrA	16
molybdenum cofactor biosynthesis protein MoaE	32
L-lactate permease	16
3-isopropylmalate dehydratase large subunit	16
glutaredoxin-like protein	384
hypothetical protein	16
hypothetical protein	69
hypothetical protein	53
3-hydroxyanthranilate 3,4-dioxygenase	90
hypothetical protein	37
chemotaxis protein cheA	100
aspartate/tyrosine/aromatic aminotransferase	100
malate dehydrogenase	1219
glutamate synthase small subunit	21
ISStmaD1 Transposase B	21
General secretion pathway protein L	42
membrane-fusion protein	21
molybdenum transport ATP-binding protein ModC (TC 3.A.1.8.1)	21
TldE/PmbA protein	42
hypothetical protein	21
exodeoxyribonuclease V subunit alpha	42
hypothetical protein	131
pyrroline-5-carboxylate reductase	68
universal stress protein	1415
hypothetical protein	73
sal operon transcriptional repressor	26
gamma-glutamyltranspeptidase	26
long-chain fatty acid transport protein	301
hypothetical protein	57
short-chain dehydrogenase	57
hypothetical protein	31
alkaline phosphodiesterase I	118
hypothetical protein	92
hypothetical protein	398
hypothetical protein	51
hypothetical protein	102
DNA polymerase III subunit epsilon	214
sulfur carrier protein ThiS	107
hypothetical protein	56
inner membrane protein	76
hypothetical protein	81
protease IV	167
ISStmaD1 Transposase A	50
Co/Zn/Cd efflux system membrane fusion protein	5
hypothetical protein	20
hypothetical protein	40
LysR family transcriptional regulator	10
D-serine/D-alanine/glycine transporter	30

hypothetical protein	15
ATP-binding component of a transport system and adhesin protein	5
hypothetical protein	30
PadR family transcriptional regulator	15
phosphate ABC transporter, periplasmic phosphate-binding protein Pst	5
hypothetical protein	15
short-chain dehydrogenase/reductase SDR	15
Spectinomycin phosphotransferase	45
acetolactate synthase	25
hypothetical protein	5
hypothetical protein	10
isochorismatase	10
LysR family transcriptional regulator	10
molybdenum ABC transporter, periplasmic molybdenum-binding prote	55
Ser tRNA	15
hypothetical protein	55
hypothetical protein	5
hypothetical protein	5
acetolactate synthase large subunit	10
3-isopropylmalate dehydratase small subunit	15
S-formylglutathione hydrolase	55
biopolymer transport protein ExbD/TolR	65
major facilitator superfamily permease	5
ABC transporter ATP-binding protein	5
membrane translocator	5
hypothetical protein	5
helicase PriA essential for oriC/DnaA-independent DNA replication	65
D-alanyl-D-alanine carboxypeptidase	25
diacylglycerol kinase catalytic domain	35
cysteine desulfurase	10
Tagatose-6-phosphate kinase AgaZ	10
Outer membrane protein W precursor	1698
hypothetical protein	139
formyltetrahydrofolate deformylase	134
peptide transport system permease protein sapC (TC 3.A.1.5.5)	197
ABC transporter, permease component YrbE	157
two-component system response regulator	225
Sodium/bile acid symporter family	44
alpha-1,2-mannosidase	83
ubiquinol cytochrome C oxidoreductase,cytochrome C1 subunit	39
D-amino acid dehydrogenase small subunit	285
phosphinothricin N-acetyltransferase	140
glutathione S-transferase	130
Fe(2 ⁻)-trafficking protein YggX	77
phage integrase family site-specific recombinase	48
hypothetical protein	24
LysR family transcriptional regulator	24
two component transcriptional regulator, winged helix family	43
cell wall-associated hydrolase	253
lipoprotein releasing system transmembrane protein LolC	167
hypothetical protein	81
hypothetical protein	81

beta-glucosidase	76
hypothetical protein	38
TonB-dependent receptor	19
Lactoylglutathione lyase and related lyases	19
hypothetical protein	19
motA/TolQ/ExbB proton channel family protein	237
Serine protease	90
Oxidoreductase	416
hypothetical protein	52
2-dehydropanoate 2-reductase	52
transcriptional regulator of maltose utilization, LacI family	33
transmembrane sensor	66
moxR family ATPase	47
hypothetical protein	42
glutamine amidotransferase	28
AraC family transcriptional regulator	14
hypothetical protein	14
pyrophosphate-energized proton pump	14
hypothetical protein	14
Negative regulator of flagellin synthesis FlgM	340
YgfY COG2938	167
two-component system regulatory protein	167
aldehyde dehydrogenase B	357
porphobilinogen deaminase	88
BLUF domain containing protein	508
hypothetical protein	23
diguanylate cyclase	23
aga operon transcriptional repressor	46
methyltransferase	124
hypothetical protein	78
acetyl-CoA hydrolase	55
hypothetical protein	87
molybdopterin biosynthesis protein MoeA	32
chemotaxis response regulator protein-glutamate methylesterase Che	41
hypothetical protein	50
diaminopimelate epimerase	259
ribosome-associated heat shock protein	59
adenylate kinase	558
isovaleryl-CoA dehydrogenase	263
-	68
type cbb3 cytochrome oxidase biogenesis protein CcoG, involved in Cu	145
heavy metal resistance transcriptional regulator Hmrr, MerR family	140
hypothetical protein	9
hypothetical protein	117
hypothetical protein	27
glyoxalase	9
Aha1 domain-containing protein	54
1-phosphofructokinase	45
phosphatase YieH	81
TonB-dependent receptor	9
transmembrane protein	9
ATP-dependent RNA helicase	45

exodeoxyribonuclease V subunit beta	63
tail-specific protease	206
DNA polymerase I	170
chaperone protein HtpG	143
hypothetical protein	125
hypothetical protein	116
SOS-response repressor and protease LexA	347
ADP-ribosylglycohydrolase family protein	120
hypothetical protein	253
hypothetical protein	554
tRNA dihydrouridine synthase A	124
PsiF repeat-containing protein	31
peptidase	84
hypothetical protein	22
beta-glucosidase	44
methyl-accepting chemotaxis protein I (serine chemoreceptor protein)	44
DNA-binding protein	145
transcription accessory protein	123
hypothetical protein	1010
hypothetical protein	79
cyanophycinase	35
MFS transporter	35
thymidine phosphorylase	83
hypothetical protein	61
Threonine dehydratase, catabolic	139
hypothetical protein	364
quaternary ammonium compound-resistance protein sugE	26
hypothetical protein	13
YgjD/Kae1/Qri7 family, required for threonylcarbamoyladenosine (t(6))	134
cystathionine gamma-lyase	271
DNA repair protein RecN	90
DNA mismatch repair	150
hypothetical protein	60
beta-hexosaminidase	30
cytochrome c-type biogenesis protein ResA	30
helix-turn-helix domain-containing protein	107
hypothetical protein	222
moxR-like ATPase in aerotolerance operon	111
hypothetical protein	179
fumarylacetoacetate hydrolase family protein	217
Thiol peroxidase, Bcp-type	187
hypothetical protein	119
peptide transport system permease protein sapC (TC 3.A.1.5.5)	17
recombinase A	17
membrane lipoprotein lipid attachment site containing protein USSDBt	72
ATPase related to phosphate starvation-inducible protein PhoH	165
Lactoylglutathione lyase and related lyases	55
hypothetical protein	342
hypothetical protein	80
transcriptional regulator	21
hypothetical protein	42
flavodoxin	21

Gfa-like protein	25
choloylglycine hydrolase	25
Non-specific DNA-binding protein Dps / Iron-binding ferritin-like antio	366
hypothetical protein	29
hypothetical protein	145
AraC family transcriptional regulator	33
Azurin	70
electron transfer flavoprotein-ubiquinone oxidoreductase	111
hemolysin related protein	37
cytochrome oxidase biogenesis protein Sco1/SenC/PrrC copper metall	49
alkylated DNA repair protein AlkB	102
cytochrome d ubiquinol oxidase subunit II	1145
periplasmic thiol:disulfide interchange protein DsbA	110
alpha-1,2-mannosidase	171
hemerythrin-like protein PA1673	801
Hydroxymethylglutaryl-CoA lyase	65
hypothetical protein	93
hypothetical protein	109
hypothetical protein	565
hypothetical protein	4
hypothetical protein	4
hypothetical protein	4
hypothetical protein	24
hypothetical protein	4
cytochrome oxidase biogenesis protein Cox11-CtaG, copper delivery to	4
cytochrome c oxidase polypeptide III	8
PadR family transcriptional regulator	20
Non-heme chloroperoxidase	4
LysR family transcriptional regulator	20
inosine-uridine preferring nucleoside hydrolase	4
ISStmaD3 transposase A	4
FOG: TPR repeat	4
O-antigen acetylase	4
alpha/beta hydrolase	4
phosphoenolpyruvate carboxylase	40
ECF sigma factor	12
Sensory box/GGDEF family protein	4
hypothetical protein	8
malonyl CoA acyl carrier protein transacylase	4
hypothetical protein	20
hypothetical protein	24
hypothetical protein	4
hypothetical protein	4
phytase	4
hypothetical protein	24
two-component response regulator	64
periplasmic aromatic aldehyde oxidoreductase,FAD binding subunit Ya	8
periplasmic beta-glucosidase	4
hypothetical protein	4
CFA/I fimbrial subunit C precursor	4
AraC family transcriptional regulator	12
TonB-dependent receptor	8

DNA polymerase III subunit alpha	8
hypothetical protein	4
cystathionine gamma-synthase	4
phage major capsid protein	4
phage-related tail protein	4
Extracellular ribonuclease precursor	8
hypothetical protein	12
nitrogen regulatory protein P-II	188
hypothetical protein	4
hypothetical protein	16
chitin binding protein	4
Rrf2 family transcriptional regulator	20
cardiolipin synthetase	16
GTP-binding protein HflX	263
Oxidoreductase	135
maleylacetoacetate isomerase	127
pheromone shutdown protein	127
hypothetical protein	210
3-hydroxyisobutyryl-CoA hydrolase	174
chaperone protein DnaJ	279
Trypsin-like serine proteases, typically periplasmic, contain C-terminal	157
hypothetical protein	51
integral membrane protein	51
ISStmaD1 Transposase A	39
hypothetical protein	39
asparagine synthetase	39
outer membrane protein	35
Ubiquinone biosynthesis monooxygenase UbiB	35
methylisocitrate lyase	155
undecaprenyl-diphosphatase	58
thioredoxin reductase	255
General secretion pathway protein M	27
hypothetical protein	27
hypothetical protein	77
L-lactate dehydrogenase	46
hypothetical protein	23
hypothetical protein	42
membrane proteins related to metalloendopeptidases	164
hypothetical protein	38
disulfide-isomerase	19
lyase	19
hypothetical protein	19
cytochrome c4	68
lipoprotein releasing system ATP-binding protein LolD	151
dipeptidyl carboxypeptidase Dcp	268
6-phosphofructokinase	64
integral inner membrane protein of type IV secretion complex (VirB6)	259
multidrug ABC transporter ATPase	15
Aerobic glycerol-3-phosphate dehydrogenase	15
hypothetical protein	15
ADP-ribose pyrophosphatase	112
transmembrane protein	41

carboxyl-terminal protease	190
hypothetical protein	67
hypothetical protein	78
LysR family transcriptional regulator	26
hypothetical protein	52
marR family transcriptional regulator	26
enoyl-CoA hydratase	241
hypothetical protein	63
transmembrane DoxX protein	63
transcriptional regulator protein Pai2	100
lipoprotein	37
hypothetical protein	48
hypothetical protein	59
Nicotinate phosphoribosyltransferase	151
major facilitator superfamily permease	11
integral membrane protein	22
AsnC family transcriptional regulator	44
hypothetical protein	11
Similar to ribosomal large subunit pseudouridine synthase A	11
Xylosidase/arabinoxidase	11
RNA polymerase ECF-type sigma factor	11
choline/carnitine/betaine transporter	22
sodium/calcium exchanger family protein	84
cointegrate resolution protein T	62
-	15828
ArsR family transcriptional regulator / Methyltransferase	91
transcriptional regulator	40
methyltransferase	69
Thiosulfate sulfurtransferase, rhodanese	69
outer membrane protein	214
Arginine-tRNA-protein transferase	29
sensor kinase	58
Septum site-determining protein MinC	308
inosine-5'-monophosphate dehydrogenase	188
MFS transporter	18
hypothetical protein	18
Aspartokinase	18
hypothetical protein	18
DNA uptake protein	5913
hypothetical protein	176
DNA-binding response regulator	567
2-Keto-3-deoxy-D-manno-octulosonate-8-phosphate synthase	283
class II fumarate hydratase	68
phosphatidylserine decarboxylase	75
Macro domain, possibly ADP-ribose binding module	107
NAD synthase (glutamine-hydrolysing)	89
branched-chain alpha-keto acid dehydrogenase, E1 component subunit	715
RNA-binding protein Hfq	454
hypothetical protein	46
hypothetical protein	152
hypothetical protein	127
lytic murein transglycosylase	81

arsenical-resistance protein ACR3	14
General secretion pathway protein J	21
type II/IV secretion system protein TadC, associated with Flp pilus asse	7
hypothetical protein	28
hypothetical protein	7
phosphate transport system regulatory protein PhoU	14
hypothetical protein	42
fosmidomycin resistance protein	7
hypothetical protein	35
regulatory protein	14
hypothetical protein	7
transmembrane protein	7
L-Proline/Glycine betaine transporter ProP	42
Homoserine dehydrogenase	7
dehydrogenase	14
Cytochrome bd2, subunit II	7
aldo-keto reductase	7
hypothetical protein	143
hypothetical protein	52
prpF protein	83
carboxypeptidase	159
DNA polymerase IV	38
UDP-N-acetylenolpyruvoylglucosamine reductase	124
phospholipase/lecithinase/hemolysin	251
N-acyl-L-amino acid amidohydrolase	55
LacI family transcriptional regulator	65
transmembrane protein	106
protein-S-isoprenylcysteine methyltransferase	41
N-acetylglucosamine-6-phosphate deacetylase	58
merR family transcriptional regulator	17
hypothetical protein	102
3-hydroxyisobutyrate dehydrogenase	132
membrane-bound metal-dependent hydrolases	27
hypothetical protein	27
NADH pyrophosphatase	172
hypothetical protein	91
colicin V secretion ABC transporter ATP-binding protein	101
cysteine synthase	37
ATP-dependent protease La	218
hypothetical protein	67
hypothetical protein	221
zinc protease	97
hypothetical protein	40
nitrogen regulation protein NR(I)	60
hypothetical protein	10
hypothetical protein	30
copper amine oxidase N-terminal protein	10
HigA protein (antitoxin to HigB)	80
hypothetical protein	60
beta-lactamase	20
two-component system regulatory protein	110
UDP-glucose:sterol glucosyltransferase	30

hypothetical protein	326
YciL protein	248
methylmalonate-semialdehyde dehydrogenase	585
Arsenate reductase	23
Sensory box/GGDEF family protein	23
4-Hydroxy-2-oxoglutarate aldolase) / 2-dehydro-3-deoxyphosphogluc	69
translation elongation factor G-related protein	23
Pirin-like protein	23
protein YidD	82
2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase	623
hypothetical protein	72
glutamate synthase [NADPH] large subunit	39
two-component response regulator	13
galactosamine-6-phosphate isomerase	13
Osmotically inducible protein	97
histone H1	545
Lytic transglycosylase	29
exodeoxyribonuclease V subunit gamma	74
ISStmaD1 Transposase A	119
metallo-beta-lactamase superfamily protein PA0057	16
hypothetical protein	147
polyphosphate kinase	51
hypothetical protein	204
hypothetical protein	258
branched-chain alpha-keto acid dehydrogenase, E1 component subuni	570
DNA repair ATPase	35
3-ketoacyl-CoA thiolase	149
hypothetical protein	41
hypothetical protein	63
transcriptional regulator	22
protease htpX	176
hypothetical protein	113
hypothetical protein	69
GNAT family acetyltransferase	69
Tiorf68 protein	50
hypothetical protein	106
hypothetical protein	143
phosphogluconate dehydratase	59
succinyl-diaminopimelate desuccinylase	369
hypothetical protein	31
hypothetical protein	99
hypothetical protein	133
Isoaspartyl aminopeptidase	34
hypothetical protein	238
proline iminopeptidase	281
chemotaxis protein methyltransferase CheR	37
iron-chelator utilization protein	40
Arylesterase precursor	40
y4eB gene in pNGR234a	40
hypothetical protein	163
hypothetical protein	126
hypothetical protein	404

peroxiredoxin	52
dihydroorotate dehydrogenase	107
Small-conductance mechanosensitive channel	113
hypothetical protein	177
Low molecular weight protein tyrosine phosphatase	67
Selenide,water dikinase	70
5-methyltetrahydrofolate--homocysteine methyltransferase	73
glucose-6-phosphate 1-dehydrogenase	106
3-dehydroquinate synthase	133
hypothetical protein	268
wall associated protein	30
membrane-bound lytic murein transglycosylase	27
hypothetical protein	12
glycosyltransferase	3
hypothetical protein	3
ISStmaD1 Transposase A	42
outer membrane protein	3
ABC transporter permease	12
2-octaprenyl-3-methyl-6-methoxy-1,4-benzoquinol hydroxylase	135
winged helix family two component transcriptional regulator	15
autotransporter protein	3
hypothetical protein	3
transglutaminase-like enzymes, putative cysteine proteases	18
DeoR family transcriptional regulator SmQnrR	27
hypothetical protein	3
LysR family transcriptional regulator	9
Sigma-fimbriae tip adhesin	6
ISStmaD5 transposase A	6
Lead, cadmium, zinc and mercury transporting ATPase	9
Copper resistance protein B	9
multicopper oxidase	9
plasmid stabilization protein	3
DNA repair protein RadC	3
hypothetical protein	3
transcriptional regulator	12
phage terminase, large subunit	3
peptidase S14, ClpP	3
Co/Zn/Cd efflux system membrane fusion protein	6
carboxylesterase	12
hypothetical protein	33
hemolysin related protein	15
hypothetical protein	39
nitrogen regulatory protein P-II	159
Xylose isomerase	6
Xylulose kinase	3
phosphate-specific outer membrane porin OprP Pyrophosphate-specific	3
hypothetical protein	6
transporter family protein	6
macrophage infectivity potentiator-related protein	6
short-chain type dehydrogenase/reductase	3
GNAT family acetyltransferase	9
type II/IV secretion system secretin RcpA/CpaC,associated with Flp pil	3

DNA polymerase-like protein PA0670	12
macrolide-specific efflux protein MacA	3
Plectin 1	24
GntR family transcriptional regulator	60
ATPase	75
LuxR family two component transcriptional regulator	12
ErfK/YbiS/YcfS/YnhG family protein	3
phage terminase, endonuclease subunit	3
LysR family transcriptional regulator	18
hypothetical protein	3
peptidase S41	6
two-component response regulator	3
cytochrome O ubiquinol oxidase subunit I	6
maltodextrin glucosidase	3
Competence protein F	3
hypothetical protein	3
nicotinamide-nucleotide adenylyltransferase,NadM family	143
hypothetical protein	89
hypothetical protein	68
hypothetical protein	180
hypothetical protein	59
thioredoxin reductase	53
heavy metal sensor histidine kinase	47
2-hydroxychromene-2-carboxylate isomerase/DsbA-like thioredoxin d	88
GMP synthase	230
alcohol dehydrogenase	32
hypothetical protein	90
Aspartate aminotransferase	153
superoxide dismutase	225
ISStmaD2 Transposase A	49
Signal transduction histidine kinase	49
nitrilotriacetate monooxygenase component B	23
HTH-type transcriptional regulator cueR	23
hypothetical protein	23
Rossmann fold nucleotide-binding protein Smf	23
hypothetical protein	23
hypothetical protein	60
33 kDa chaperonin (Heat shock protein 33) (HSP33)	80
ferric enterobactin receptor	20
glucosamine-6-phosphate deaminase [isomerizing],alternative	73
potassium-transporting ATPase subunit B	14
carboxylesterase	14
AraC family transcriptional regulator	14
dihydroorotase	182
hypothetical protein	151
hypothetical protein	39
succinyl-CoA: 3-ketoacid-coenzyme A transferase subunit A	255
hypothetical protein	36
hypothetical protein	22
oxidoreductase, Gfo/Idh/MocA family protein	22
riboflavin synthase subunit alpha	96
hypothetical protein	82

TetR family transcriptional regulator	30
outer membrane protein	349
alkyl hydroperoxide reductase protein F	87
cytochrome B561	38
23S ribosomal RNA	95
hypothetical protein	133
23S ribosomal RNA	95
hypothetical protein	27
peptidoglycan-associated outer membrane lipoprotein	324
ISStmaD1 Transposase B	54
glutathione peroxidase	318
hypothetical protein	43
cytochrome c oxidase polypeptide I	8
NAD(P) transhydrogenase subunit beta	16
Plasmid replication initiator protein	8
Lead, cadmium, zinc and mercury transporting ATPase	16
hypothetical protein	8
redoxin domain-containing protein	16
hypothetical protein	8
Threonine dehydratase	8
ABC transporter ATP-binding protein	8
ribosome hibernation protein YhbH	660
Outer membrane protein W precursor	6024
superoxide dismutase	256
lipoprotein	289
23S ribosomal RNA	99
acyl-CoA dehydrogenase	99
ArsR family transcriptional regulator	26
3-oxoacyl-ACP reductase	13
hypothetical protein	13
ABC transporter, periplasmic component YrbD	283
ArsR family transcriptional regulator	44
hypothetical protein	331
nicotinamide phosphoribosyltransferase	31
Ferric siderophore transport system, periplasmic binding protein TonB	31
hypothetical protein	219
alcohol dehydrogenase	5636
hypothetical protein	54
Homoserine kinase	18
branched-chain acyl-CoA dehydrogenase	410
IroE protein	41
homogentisate 1,2-dioxygenase	197
endonuclease containing a URI domain	23
LysR family transcriptional regulator	28
DNA-binding response regulator	28
multidrug ABC transporter ATPase	89
hypothetical protein	33
hypothetical protein	66
23S ribosomal RNA	99
membrane-bound lytic murein transglycosylase B precursor	81
GntR family transcriptional regulator domain / Aspartate aminotransferase	48
hypothetical protein	93

hypothetical protein	40
bifunctional protein: zinc-containing alcohol dehydrogenase quinone o	50
protease	60
Ser tRNA	5
hypothetical protein	20
protein with ParB-like nuclease domain in PFGI-1-like cluster	5
hypothetical protein	100
ThiJ/PfpI family protein	5
ATP-dependent Clp protease ATP-binding subunit ClpA	140
histidine kinase	40
5-methyltetrahydropteroyltriglutamate/homocysteine S-methyltransfe	20
Iron siderophore sensor protein	10
Coenzyme F420-dependent N5,N10-methylene tetrahydromethanopte	10
ATP/GTP-binding protein	5
hypothetical protein	5
hypothetical protein	20
transcriptional regulator	35
ISStmaD1 Transposase A	30
3,4-dihydroxy-2-butanone 4-phosphate synthase	60
hypothetical protein	5
ISStmaD3 transposase B	5
cytochrome O ubiquinol oxidase subunit II	5
hypothetical protein	40
hypothetical protein	122
hypothetical protein	77
alkyl hydroperoxide reductase protein C	1239
hypothetical protein	47
Lactoylglutathione lyase and related lyases	136
hypothetical protein	217
TonB-dependent receptor	32
multidrug ABC transporter ATPase	214
Regulatory protein RecX	269
N-acetyltransferase GCN5	44
long-chain-fatty-acid--CoA ligase	178
NADH dehydrogenase	56
glyoxalase	17
Regulatory protein, LysR:LysR,substrate-binding	17
periplasmic mercury(2) binding protein	17
bifunctional Molybdenum cofactor biosynthesis protein MoaC / Molybde	34
phosphohistidine phosphatase SixA	97
Mg(2) transport ATPase, P-type	29
Starvation lipoprotein Slp	186
metallopeptidase	205
nitrogen regulatory protein P-II	12
methionine ABC transporter substrate-binding protein	230
Selenocysteine-specific translation elongation factor	31
AraC family transcriptional regulator	50
hypothetical protein	69
Domain often clustered or fused with uracil-DNA glycosylase / Uracil-C	19
hypothetical protein	363
Ferric siderophore transport system, periplasmic binding protein TonB	45
4-hydroxyphenylpyruvate dioxygenase	395

TrbP protein	26
hypothetical protein	26
ABC transporter permease	241
amino acid permease	460
Bacterioferritin	379
6-phosphogluconolactonase	87
ribonucleotide reductase subunit alpha	785
hypothetical protein	61
-	7
DNA repair protein RadC	7
Triphosphoribosyl-dephospho-CoA synthetase	7
methyl-accepting chemotaxis protein I (serine chemoreceptor protein)	7
mercuric ion reductase	7
mercuric transport protein, MerT	7
High-affinity choline uptake protein BetT	21
hypothetical protein	140
branched-chain alpha-keto acid dehydrogenase, E1 component subunit	7
Ferric siderophore transport system, periplasmic binding protein TonB	7
ROK domain containing protein	14
Oxidoreductase	106
hypothetical protein	23
Bacterioferritin	71
GntR family transcriptional regulator domain / Aspartate aminotransferase	16
HPr kinase/phosphorylase	80
sensory histidine kinase in two-component regulatory system with Omr	41
multiple sugar ABC transporter ATP-binding protein	75
ribonucleotide reductase of class Ia (aerobic),beta subunit	742
hypothetical protein	18
dehydrogenase	18
glycine cleavage system transcriptional activator	18
hypothetical protein	9
phosphoglycerol transferase I	9
hypothetical protein	9
glucokinase	119
xanthine/uracil/thiamine/ascorbate permease family protein	74
hypothetical protein	65
hypothetical protein	206
PTS system nitrogen-specific transporter subunit transporter subunit I	134
integrase	80
ribonucleotide reductase of class Ia (aerobic),beta subunit	20
ABC transporter, ATP-binding protein YrbF	449
hypothetical protein	42
formate dehydrogenase O subunit alpha	42
hypothetical protein	11
cysteine dioxygenase type I	46
ATP-dependent hsl protease ATP-binding subunit HslU	239
DNA repair protein RadA	102
hypothetical protein	13
hypothetical protein	26
hypothetical protein	13
glutathione S-transferase	149
ABC transporter, auxiliary component YrbC	582

ATP-binding protein	86
hypothetical protein	58
Sigma factor RpoE negative regulatory protein RseA	58
beta-lactamase class C and other penicillin binding proteins	15
MG(2) Chelatase family protein / ComM-related protein	15
Phosphoribosyl-AMP cyclohydrolase) / Phosphoribosyl-ATP pyrophosph	17
AraC family transcriptional regulator	17
hypothetical protein	68
Ferric siderophore transport system, periplasmic binding protein TonB	68
G: T/U mismatch-specific uracil/thymine DNA-glycosylase	17
manganese superoxide dismutase	1356
ATP-dependent RNA helicase	40
Serine protease MucD/AlgY associated with sigma factor RpoE	145
16S ribosomal RNA	63
succinyl-CoA: 3-ketoacid-coenzyme A transferase subunit B	279
hypothetical protein	226
hypothetical protein	215
hypothetical protein	148
cytochrome B561	25
chaperone protein DnaK	919
recombinase A	1040
hypothetical protein	58
translation initiation inhibitor,yjgFfamily	29
hemin uptake protein	60
67 kDa myosin-crossreactive streptococcal antigen	68
succinate-semialdehyde dehydrogenase [NAD]	35
hypothetical protein	183
hypothetical protein	148
fusaric acid resistance protein	37
hypothetical protein	203
integrase	47
protease II	100
Histidine utilization repressor	57
N-acetyl-D-glucosamine permease	69
glutamine synthetase	77
hypothetical protein	113
hypothetical protein	349
DNA topoisomerase IB (poxvirus type)	2
hypothetical protein	14
malate synthase	6
Isocitrate lyase	8
potassium-transporting ATPase subunit C	14
hypothetical protein	2
peptide methionine sulfoxide reductase MsrA	2
hypothetical protein	2
hypothetical protein	2
hypothetical protein	54
maltodextrin glucosidase	2
Hydroxypyruvate isomerase	10
hypothetical protein	12
sugar phosphate isomerases/epimerases	14
hypothetical protein	6

hypothetical protein	4
malonate decarboxylase subunit gamma	22
hypothetical protein	6
hypothetical protein	4
Sigma-fimbriae chaperone protein	2
DoxX family protein	2
hypothetical protein	2
DeoR family transcriptional regulator	16
ISStmaD5 transposase B	6
RND multidrug efflux membrane fusion protein	2
hypothetical protein	2
type IV secretory pathway, VirB4 components	2
hypothetical protein	2
hypothetical protein	2
hypothetical protein	4
TonB-dependent receptor	4
hypothetical protein	2
inorganic pyrophosphatase	2
hypothetical protein	4
transmembrane protein	8
hypothetical protein	14
betaine aldehyde dehydrogenase	64
hypothetical protein	2
Outer membrane lipoprotein	2
S-adenosyl-L-methionine dependent methyltransferase	2
peripheral-type benzodiazepine receptor	4
protein yciF	4
cheY-like receiver	2
LmbE-like protein	2
TonB-dependent receptor	4
transcriptional activator MetR	40
endonuclease	4
hypothetical protein	2
Large exoproteins involved in heme utilization or adhesion	2
bacteriocin resistance protein	2
cation transport protein	2
ferrichrome-iron receptor	6
hypothetical protein	6
Cobalt-zinc-cadmium resistance protein CzcA Cation efflux system pro	2
General secretion pathway protein K	2
hypothetical protein	2
hypothetical protein	2
hypothetical protein	6
2,3-dihydro-2,3-dihydroxybenzoate dehydrogenase	8
prepilin peptidase transmembrane protein	2
exoenzymes regulatory protein AepA precursor	2
major facilitator superfamily protein	4
hypothetical protein	8
hypothetical protein	12
helicase domain-containing protein	4
Lytic enzyme	2
tripartite multidrug resistance system membrane fusion protein	2

ABC transporter ATP-binding protein	4
membrane fusion protein of RND family multidrug efflux pump	4
hypothetical protein	4
16S ribosomal RNA	78
Cobalt-zinc-cadmium resistance protein	121
RNA polymerase sigma factor RpoE	184
hypothetical protein	364
Sortase and related acyltransferases	103
excisionase domain-containing protein	407
hypothetical protein	31
hypothetical protein	240
choline dehydrogenase	54
hypothetical protein	27
Lysine decarboxylase 2, constitutive	372
hypothetical protein	237
transmembrane protein	46
hypothetical protein	21
hypothetical protein	21
transcriptional repressor, Blal/MecI family	21
hypothetical protein	222
hypothetical protein	36
16S ribosomal RNA	72
transcriptional regulator for fatty acid degradation FadQ, TetR family	70
ATP-dependent protease HsIV	194
hypothetical protein	15
Outer membrane lipoprotein Blc	15
hypothetical protein	270
clpB protein	197
glutathione S-transferase	13
malonate decarboxylase delta subunit	37
hypothetical protein	107
16S ribosomal RNA	90
Sel1-like repeat	77
short chain dehydrogenase	11
OsmC-like protein	11
formate dehydrogenase formation protein FdhE	66
aconitate hydratase	166
heat shock protein 60 family co-chaperone GroES	2659
esterase	98
hypothetical protein	58
signal peptide protein	58
PTS system mannose-specific transporter subunit IIA	540
AttT protein	74
hypothetical protein	9
hypothetical protein	18
glucose-methanol-choline (GMC) oxidoreductase:NAD binding site	9
ATP-dependent DNA ligase	9
hypothetical protein	9
formate dehydrogenase O subunit gamma	18
RecF protein	104
L-seryl-tRNA(Sec) selenium transferase	52
heat shock protein GrpE	469

ribonucleotide reductase subunit alpha	30
radical SAM protein	109
hypothetical protein	7
TonB-dependent receptor	14
malonate decarboxylase subunit alpha	42
hypothetical protein	7
hypothetical protein	14
hypothetical protein	21
BLUF domain containing protein	7
mRNA 3-end processing factor	7
hypothetical protein	7
D-beta-hydroxybutyrate dehydrogenase	47
hypothetical protein	609
Zn-dependent hydrolases, including glyoxylases	163
biotin synthase related domain containing protein	45
RpoH suppressor	38
hypothetical protein	76
Isocitrate dehydrogenase kinase/phosphatase	12
hypothetical protein	12
hypothetical protein	183
PTS system phosphoenolpyruvate-protein phosphotransferase	159
enoyl-CoA hydratase	231
Lactoylglutathione lyase and related lyases	234
acyl-CoA dehydrogenase	47
heat shock protein 60 family chaperone GroEL	4709
transcriptional regulator	10
Single-stranded DNA-binding protein in PFGI-1-like cluster	5
phage capsid and scaffold	5
hypothetical protein	15
hypothetical protein	10
peptide methionine sulfoxide reductase MsrA	138
oxidoreductase SMc00968	38
oligopeptidase A	71
hypothetical protein	33
hypothetical protein	46
hypothetical protein	1740
hypothetical protein	13
5,10-methylenetetrahydrofolate reductase	26
hydrolase	13
hypothetical protein	306
phosphocarrier protein, nitrogen regulation associated	597
Phosphoribosyl-dephospho-CoA transferase	8
acetylornithine aminotransferase	222
AAA ATPase	274
Thiol-disulfide isomerase and thioredoxins	11
Bacterioferritin	379
protein RtcB	91
Ku domain-containing protein	3
3-dehydroquinate dehydratase	3
hypothetical protein	3
hypothetical protein	3
hypothetical protein	3

multi-domain-containing protein	9
hypothetical protein	3
RecA/RadA recombinase	3
luciferase family protein YtmO, in cluster with L-cystine ABC transport	3
peptidase M20D, amidohydrolase	3
cyclopropane-fatty-acyl-phospholipid synthase-like protein, clusters w	3
oxidoreductase	3
BLUF domain containing protein	3
hypothetical protein	3
ABC transporter ATP-binding protein	3
hypothetical protein	3
RebB protein	6
hypothetical protein	3
Mg(2) transport ATPase protein C	9
zinc-binding protein	3
hypothetical protein	3
Aerotaxis sensor receptor protein	3
methyltransferase	9
phage tail protein	3
tripartite multidrug resistance system inner membrane protein	3
General stress protein	6
GntR family transcriptional regulator domain / Aspartate aminotransfe	6
marR family transcriptional regulator	36
formiminoglutamic iminohydrolase	43
hypothetical protein	53
hypothetical protein	53
-	99436
phage tail fiber protein	57
inosose isomerase	38
hypothetical protein	19
hypothetical protein	42
peptide methionine sulfoxide reductase MsrB	55
phage minor tail protein	46
HTH-type transcriptional regulator BetI	63
transcriptional regulator	10
hypothetical protein	44
Ferric siderophore transport system, periplasmic binding protein TonB	41
phage tail assembly protein	48
hypothetical protein	7
malonate decarboxylase subunit beta	28
hypothetical protein	7
hypothetical protein	7
RNA polymerase sigma factor RpoH	1002
carbohydrate-binding, CenC-like	54
ArsR family transcriptional regulator	18
hypothetical protein	44
mu-like phage tail fiber protein	59
deduced tail fiber protein	89
phage tail fiber protein	41
oxidoreductase domain-containing protein	15
Imidazolonepropionase	68
sulfate permease	39

outer membrane protein	4
hypothetical protein	8
hypothetical protein	4
major facilitator superfamily permease	8
hypothetical protein	4
hypothetical protein	40
phage tail assembly protein I	71
hypothetical protein	117
hypothetical protein	13
Luciferase-like	80
hypothetical protein	9
hypothetical protein	9
hypothetical protein	68
urocanate hydratase	65
membrane protease subunit	215
prophage LambdaSo, lysozyme	186
hypothetical protein	239
cytochrome P450	10
FMN reductase	10
ABC transporter ATP-binding protein	5
phage protein	80
hypothetical protein	5
hypothetical protein	77
N-formylglutamate deformylase	47
deduced tail fiber protein	65
membrane protein YeiH	22
hypothetical protein	196
-	130664
hypothetical protein	47
periplasmic binding protein	6
hypothetical protein	103
hypothetical protein	129
minor tail protein	148
hypothetical protein	242
nucleoside permease NupG	13
Spermidine export protein mdtJ	297
phage protein	216
hypothetical protein	21
integral membrane protein	121
hypothetical protein	345
hypothetical protein	214
phage protein	151
Spermidine export protein mdtI	298
histidine ammonia-lyase	132
ArsR family transcriptional regulator	8
hypothetical protein	419
hypothetical protein	266
hypothetical protein	162
hypothetical protein	52
Ser tRNA	79
short-chain dehydrogenase/reductase	240
RND efflux system, outer membrane lipoprotein CmeC	185

LysR family transcriptional regulator	475
RND efflux system, inner membrane transporter CmeB	263
RND efflux system, membrane fusion protein CmeA	1120
short chain dehydrogenase	598
5S ribosomal RNA	0
5S ribosomal RNA	0
hypothetical protein	1
peptide methionine sulfoxide reductase MsrB	1
Signal transduction histidine kinase	1
glycosyltransferase	0
hypothetical protein	0
type IV secretory pathway, protease TraF	1
PE-PGRS FAMILY PROTEIN	6
lipoprotein	1
type IV secretion system protein VirD4	1
CopG domain-containing protein	0
Conjugative transfer protein TrbB	0
Conjugative transfer protein TrbC	0
Conjugative transfer protein TrbD	1
Conjugative transfer protein TrbE	1
Conjugative transfer protein TrbL	1
Conjugative transfer protein TrbF	2
hypothetical protein	0
DoxX family protein	0
signal peptide protein	1
hypothetical protein	0
lipoprotein	2
hypothetical protein	0
hypothetical protein	0
hypothetical protein	2
hypothetical protein	0
Soluble lytic murein transglycosylase and related regulatory proteins (0
hypothetical protein	1
methyl-accepting chemotaxis protein	0
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
Plasmid-related protein	0
hypothetical protein	1
periplasmic protein TonB, links inner and outer membranes	1
hypothetical protein	0
hypothetical protein	0
hypothetical protein	0
integrase regulator R	1
hypothetical protein	0
hypothetical protein	2
hypothetical protein	4
phage capsid and scaffold	3
hypothetical protein	1
ECF sigma factor	2
FecR protein	1
TonB-dependent receptor	0

FMN reductase	0
hypothetical protein	1
hypothetical protein	0
hypothetical protein	1
cytoplasmic protein (Fragment)	1
protein yciE	1
acyl-CoA dehydrogenase/oxidase domain-containing protein	0
hypothetical protein	0
hypothetical protein	3
hypothetical protein	1
nitrogen regulation protein NR(I)	1
hypothetical protein	0
hypothetical protein	1
RebB protein	3
hypothetical protein	2
hypothetical protein	2
hypothetical protein	1
Oxidoreductase	0
methylglyoxal reductase, acetol producing	3
luciferase-like monooxygenase	2
Copper resistance protein D	1
motA/ToIQ/ExbB proton channel family protein	0
phosphate-binding DING protein (related to PstS)	1
General secretion pathway protein D	1
General secretion pathway protein M	1
General secretion pathway protein L	0
extracytoplasmic function	1
outer membrane receptor proteins, mostly Fe transport	0
hypothetical protein	0
Outer membrane protein A precursor	0
hypothetical protein	0
AraC family transcriptional regulator	1
flp pilus assembly protein TadG	1
flp pilus assembly protein RcpC/CpaB	1
flp pilus assembly protein TadD, contains TPR repeats	1
MFS transporter	1
hypothetical protein	1
hypothetical protein	1
AraC family transcriptional regulator	1
hypothetical protein	1
phage-related tail protein	2
signal peptide	1
baseplate assembly protein V	1
alpha-fimbriae major subunit	1
hypothetical protein	0
inner membrane protein YqjF	1
hypothetical protein	1
Roadblock/LC7	3
ATP/GTP-binding protein	2
5S ribosomal RNA	0
5S ribosomal RNA	2

D457 (Wt)	FoldChange	MFC real
167	0,1257485	-7,952381
211	0,14218009	-7,0333333
112	0,15178571	-6,5882353
155	0,15483871	-6,4583333
47	0,19148936	-5,2222222
5	0,2	-5
307	0,21498371	-4,6515152
9	0,22222222	-4,5
9	0,22222222	-4,5
25	0,24	-4,1666667
4	0,25	-4
8	0,25	-4
12	0,25	-4
4	0,25	-4
4	0,25	-4
47	0,25531915	-3,9166667
77	0,25974026	-3,85
7	0,28571429	-3,5
7	0,28571429	-3,5
52	0,28846154	-3,4666667
13	0,30769231	-3,25
71	0,30985915	-3,2272727
63	0,31746032	-3,15
28	0,32142857	-3,1111111
662	0,32930514	-3,0366972
404	0,33168317	-3,0149254
9	0,33333333	-3
42	0,33333333	-3
3	0,33333333	-3
21	0,33333333	-3
6	0,33333333	-3
3	0,33333333	-3
3	0,33333333	-3
27	0,33333333	-3
3	0,33333333	-3
9	0,33333333	-3
9	0,33333333	-3
3	0,33333333	-3
377	0,33421751	-2,9920635
29	0,34482759	-2,9
59	0,3559322	-2,8095238
11	0,36363636	-2,75
19	0,36842105	-2,7142857
27	0,37037037	-2,7
62	0,37096774	-2,6956522
35	0,37142857	-2,6923077
24	0,375	-2,6666667
16	0,375	-2,6666667
8	0,375	-2,6666667
21	0,38095238	-2,625
165	0,38181818	-2,6190476

47	0,38297872	-2,6111111
13	0,38461538	-2,6
39	0,38461538	-2,6
26	0,38461538	-2,6
26	0,38461538	-2,6
98	0,3877551	-2,5789474
18	0,38888889	-2,5714286
23	0,39130435	-2,5555556
23	0,39130435	-2,5555556
51	0,39215686	-2,55
78	0,3974359	-2,516129
118	0,39830508	-2,5106383
5	0,4	-2,5
80	0,4	-2,5
5	0,4	-2,5
82	0,40243902	-2,4848485
47	0,40425532	-2,4736842
534	0,40636704	-2,4608295
27	0,40740741	-2,4545455
115	0,40869565	-2,4468085
22	0,40909091	-2,4444444
17	0,41176471	-2,4285714
24	0,41666667	-2,4
12	0,41666667	-2,4
12	0,41666667	-2,4
1010	0,41683168	-2,3990499
31	0,41935484	-2,3846154
54	0,42592593	-2,3478261
709	0,42877292	-2,3322368
55	0,43636364	-2,2916667
119	0,43697479	-2,2884615
425	0,43764706	-2,2849462
61	0,44262295	-2,2592593
9	0,44444444	-2,25
20	0,45	-2,2222222
326	0,45092025	-2,2176871
132	0,45454545	-2,2
44	0,45454545	-2,2
256	0,45703125	-2,1880342
317	0,45741325	-2,1862069
48	0,45833333	-2,1818182
1028	0,46108949	-2,1687764
13	0,46153846	-2,1666667
26	0,46153846	-2,1666667
28	0,46428571	-2,1538462
653	0,46554364	-2,1480263
15	0,46666667	-2,1428571
79	0,46835443	-2,1351351
32	0,46875	-2,1333333
32	0,46875	-2,1333333
17	0,47058824	-2,125
55	0,47272727	-2,1153846

74	0,47297297	-2,1142857
217	0,47465438	-2,1067961
376	0,47606383	-2,1005587
44	0,47727273	-2,0952381
287	0,47735192	-2,0948905
221	0,47963801	-2,0849057
173	0,47976879	-2,0843373
50	0,48	-2,0833333
227	0,48017621	-2,0825688
52	0,48076923	-2,08
56	0,48214286	-2,0740741
37	0,48648649	-2,0555556
47	0,4893617	-2,0434783
798	0,4924812	-2,0305344
67	0,49253731	-2,030303
77	0,49350649	-2,0263158
79	0,49367089	-2,025641
216	0,49537037	-2,0186916
115	0,49565217	-2,0175439
6	0,5	-2
14	0,5	-2
14	0,5	-2
8	0,5	-2
2	0,5	-2
4	0,5	-2
4	0,5	-2
2	0,5	-2
6	0,5	-2
10	0,5	-2
22	0,5	-2
8	0,5	-2
2	0,5	-2
2	0,5	-2
2	0,5	-2
42	0,5	-2
18	0,5	-2
2	0,5	-2
4	0,5	-2
2	0,5	-2
32	0,5	-2
12	0,5	-2
2	0,5	-2
2	0,5	-2
2	0,5	-2
12	0,5	-2
58	0,5	-2
2	0,5	-2
2	0,5	-2
4	0,5	-2
2	0,5	-2
2	0,5	-2
4	0,5	-2

2	0,5	-2
4	0,5	-2
2	0,5	-2
2	0,5	-2
14	0,5	-2
2	0,5	-2
2	0,5	-2
6	0,5	-2
4	0,5	-2
2	0,5	-2
2	0,5	-2
54	0,5	-2
24	0,5	-2
8	0,5	-2
2	0,5	-2
8	0,5	-2
24	0,5	-2
2	0,5	-2
18	0,5	-2
2	0,5	-2
4	0,5	-2
4	0,5	-2
4	0,5	-2
2	0,5	-2
6	0,5	-2
2611	0,50478744	-1,9810319
1358	0,50810015	-1,9681159
247	0,51012146	-1,9603175
143	0,51048951	-1,9589041
82	0,51219512	-1,952381
70	0,51428571	-1,9444444
33	0,51515152	-1,9411765
95	0,51578947	-1,9387755
58	0,51724138	-1,9333333
81	0,51851852	-1,9285714
48	0,52083333	-1,92
318	0,52201258	-1,9156627
21	0,52380952	-1,9090909
38	0,52631579	-1,9
38	0,52631579	-1,9
106	0,52830189	-1,8928571
17	0,52941176	-1,8888889
17	0,52941176	-1,8888889
185	0,52972973	-1,8877551
64	0,53125	-1,8823529
30	0,53333333	-1,875
15	0,53333333	-1,875
54	0,53703704	-1,862069
54	0,53703704	-1,862069
199	0,53768844	-1,8598131
39	0,53846154	-1,8571429
13	0,53846154	-1,8571429

13	0,53846154	-1,8571429
13	0,53846154	-1,8571429
130	0,53846154	-1,8571429
879	0,5403868	-1,8505263
627	0,54545455	-1,8333333
11	0,54545455	-1,8333333
11	0,54545455	-1,8333333
11	0,54545455	-1,8333333
11	0,54545455	-1,8333333
11	0,54545455	-1,8333333
408	0,54656863	-1,8295964
177	0,5480226	-1,8247423
341	0,5483871	-1,8235294
338	0,55029586	-1,8172043
29	0,55172414	-1,8125
29	0,55172414	-1,8125
2237	0,55386679	-1,8054883
27	0,55555556	-1,8
27	0,55555556	-1,8
18	0,55555556	-1,8
45	0,55555556	-1,8
9	0,55555556	-1,8
36	0,55555556	-1,8
1869	0,5564473	-1,7971154
4345	0,55719217	-1,7947129
928	0,55818966	-1,7915058
34	0,55882353	-1,7894737
25	0,56	-1,7857143
314	0,56050955	-1,7840909
130	0,56153846	-1,7808219
89	0,56179775	-1,78
105	0,56190476	-1,779661
16	0,5625	-1,7777778
16	0,5625	-1,7777778
2969	0,56416302	-1,7725373
23	0,56521739	-1,7692308
83	0,56626506	-1,7659574
196	0,56632653	-1,7657658
3053	0,56665575	-1,7647399
30	0,56666667	-1,7647059
51	0,56862745	-1,7586207
167	0,56886228	-1,7578947
305	0,5704918	-1,7528736
184	0,57065217	-1,752381
1733	0,57068667	-1,752275
14	0,57142857	-1,75
42	0,57142857	-1,75
91	0,57142857	-1,75
21	0,57142857	-1,75
7	0,57142857	-1,75
7	0,57142857	-1,75
314	0,57324841	-1,7444444

2430	0,5744856	-1,7406877
92	0,57608696	-1,7358491
151	0,57615894	-1,7356322
1469	0,57658271	-1,7343566
26	0,57692308	-1,7333333
52	0,57692308	-1,7333333
156	0,57692308	-1,7333333
88	0,57954545	-1,7254902
50	0,58	-1,7241379
243	0,58024691	-1,7234043
31	0,58064516	-1,7222222
31	0,58064516	-1,7222222
148	0,58108108	-1,7209302
43	0,58139535	-1,72
43	0,58139535	-1,72
86	0,58139535	-1,72
12	0,58333333	-1,7142857
12	0,58333333	-1,7142857
48	0,58333333	-1,7142857
12	0,58333333	-1,7142857
142	0,58450704	-1,7108434
899	0,58509455	-1,7091255
1195	0,58661088	-1,7047076
388	0,58762887	-1,7017544
267	0,58801498	-1,7006369
17	0,58823529	-1,7
85	0,58823529	-1,7
22	0,59090909	-1,6923077
22	0,59090909	-1,6923077
27	0,59259259	-1,6875
162	0,59259259	-1,6875
32	0,59375	-1,6842105
106	0,59433962	-1,6825397
84	0,5952381	-1,68
94	0,59574468	-1,6785714
179	0,59776536	-1,6728972
219	0,59817352	-1,6717557
5	0,6	-1,6666667
5	0,6	-1,6666667
20	0,6	-1,6666667
20	0,6	-1,6666667
25	0,6	-1,6666667
5	0,6	-1,6666667
5	0,6	-1,6666667
5	0,6	-1,6666667
20	0,6	-1,6666667
40	0,6	-1,6666667
20	0,6	-1,6666667
20	0,6	-1,6666667
10	0,6	-1,6666667
10	0,6	-1,6666667
15	0,6	-1,6666667

5	0,6	-1,6666667
10	0,6	-1,6666667
5	0,6	-1,6666667
78	0,6025641	-1,6595745
642	0,60280374	-1,6589147
63	0,6031746	-1,6578947
58	0,60344828	-1,6571429
111	0,6036036	-1,6567164
96	0,60416667	-1,6551724
38	0,60526316	-1,6521739
236	0,6059322	-1,6503497
33	0,60606061	-1,65
33	0,60606061	-1,65
56	0,60714286	-1,6470588
296	0,60810811	-1,6444444
23	0,60869565	-1,6428571
238	0,6092437	-1,6413793
169	0,60946746	-1,6407767
18	0,61111111	-1,6363636
62	0,61290323	-1,6315789
81	0,61728395	-1,62
34	0,61764706	-1,6190476
102	0,61764706	-1,6190476
34	0,61764706	-1,6190476
364	0,61813187	-1,6177778
42	0,61904762	-1,6153846
45	0,62222222	-1,6071429
196	0,62244898	-1,6065574
3357	0,62436699	-1,6016221
8	0,625	-1,6
64	0,625	-1,6
8	0,625	-1,6
16	0,625	-1,6
8	0,625	-1,6
8	0,625	-1,6
64	0,625	-1,6
24	0,625	-1,6
104	0,625	-1,6
48	0,625	-1,6
32	0,625	-1,6
67	0,62686567	-1,5952381
59	0,62711864	-1,5945946
899	0,62736374	-1,5939716
43	0,62790698	-1,5925926
86	0,62790698	-1,5925926
27	0,62962963	-1,5882353
257	0,63035019	-1,5864198
19	0,63157895	-1,5833333
19	0,63157895	-1,5833333
125	0,632	-1,5822785
625	0,632	-1,5822785
98	0,63265306	-1,5806452

49	0,63265306	-1,5806452
60	0,63333333	-1,5789474
60	0,63333333	-1,5789474
733	0,63437926	-1,5763441
186	0,6344086	-1,5762712
211	0,63507109	-1,5746269
129	0,63565891	-1,5731707
11	0,63636364	-1,5714286
55	0,63636364	-1,5714286
99	0,63636364	-1,5714286
55	0,63636364	-1,5714286
33	0,63636364	-1,5714286
11	0,63636364	-1,5714286
36	0,63888889	-1,5652174
172	0,63953488	-1,5636364
5813	0,64046104	-1,5613752
799	0,640801	-1,5605469
39	0,64102564	-1,56
170	0,64117647	-1,559633
53	0,64150943	-1,5588235
1330	0,64210526	-1,557377
42	0,64285714	-1,5555556
56	0,64285714	-1,5555556
14	0,64285714	-1,5555556
14	0,64285714	-1,5555556
28	0,64285714	-1,5555556
146	0,64383562	-1,5531915
837	0,64396655	-1,5528757
76	0,64473684	-1,5510204
183	0,64480874	-1,5508475
31	0,64516129	-1,55
141	0,64539007	-1,5494505
345	0,64637681	-1,5470852
34	0,64705882	-1,5454545
34	0,64705882	-1,5454545
363	0,64738292	-1,5446809
142	0,64788732	-1,5434783
54	0,64814815	-1,5428571
1272	0,64937107	-1,5399516
20	0,65	-1,5384615
60	0,65	-1,5384615
120	0,65	-1,5384615
86	0,65116279	-1,5357143
112	0,65178571	-1,5342466
204	0,65196078	-1,5338346
23	0,65217391	-1,5333333
265	0,65283019	-1,5317919
173	0,65317919	-1,5309735
736	0,65353261	-1,5301455
26	0,65384615	-1,5294118
55	0,65454545	-1,5277778
29	0,65517241	-1,5263158

29	0,65517241	-1,5263158
58	0,65517241	-1,5263158
99	0,65656566	-1,5230769
137	0,65693431	-1,5222222
35	0,65714286	-1,5217391
631	0,65768621	-1,5204819
44	0,65909091	-1,5172414
132	0,65909091	-1,5172414
165	0,66060606	-1,5137615
772	0,66062176	-1,5137255
180	0,66111111	-1,512605
148	0,66216216	-1,5102041
74	0,66216216	-1,5102041
77	0,66233766	-1,5098039
98	0,66326531	-1,5076923
564	0,66489362	-1,504
275	0,66545455	-1,5027322
15	0,66666667	-1,5
9	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
9	0,66666667	-1,5
9	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
24	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
81	0,66666667	-1,5
54	0,66666667	-1,5
3	0,66666667	-1,5
3	0,66666667	-1,5
3	0,66666667	-1,5
3	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
3	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
6	0,66666667	-1,5
9	0,66666667	-1,5
6	0,66666667	-1,5
3	0,66666667	-1,5
3	0,66666667	-1,5
6	0,66666667	-1,5
9	0,66666667	-1,5
12	0,66666667	-1,5
33	0,66666667	-1,5
9	0,66666667	-1,5
6	0,66666667	-1,5

3	0,66666667	-1,5
3	0,66666667	-1,5
12	0,66666667	-1,5
6	0,66666667	-1,5
27	0,66666667	-1,5
18	0,66666667	-1,5
54	0,66666667	-1,5
3	0,66666667	-1,5
9	0,66666667	-1,5
3	0,66666667	-1,5
12	0,66666667	-1,5
9	0,66666667	-1,5
3	0,66666667	-1,5
124	0,66935484	-1,4939759
112	0,66964286	-1,4933333
85	0,67058824	-1,4912281
890	0,67078652	-1,4907873
76	0,67105263	-1,4901961
70	0,67142857	-1,4893617
770	0,67142857	-1,4893617
52	0,67307692	-1,4857143
2090	0,67368421	-1,484375
86	0,6744186	-1,4827586
1705	0,6744868	-1,4826087
40	0,675	-1,4814815
37	0,67567568	-1,48
37	0,67567568	-1,48
179	0,67597765	-1,4793388
71	0,67605634	-1,4791667
102	0,67647059	-1,4782609
68	0,67647059	-1,4782609
65	0,67692308	-1,4772727
223	0,67713004	-1,4768212
62	0,67741935	-1,4761905
31	0,67741935	-1,4761905
752	0,67952128	-1,4716243
800	0,68	-1,4705882
166	0,68072289	-1,4690265
116	0,68103448	-1,4683544
204	0,68137255	-1,4676259
157	0,68152866	-1,4672897
85	0,68235294	-1,4655172
63	0,68253968	-1,4651163
186	0,6827957	-1,4645669
82	0,68292683	-1,4642857
585	0,68376068	-1,4625
136	0,68382353	-1,4623656
291	0,6838488	-1,4623116
38	0,68421053	-1,4615385
19	0,68421053	-1,4615385
1031	0,68477207	-1,4603399
4280	0,68551402	-1,4587594

35	0,68571429	-1,4583333
35	0,68571429	-1,4583333
121	0,68595041	-1,4578313
357	0,68627451	-1,4571429
67	0,68656716	-1,4565217
5887	0,68659759	-1,4564572
16	0,6875	-1,4545455
16	0,6875	-1,4545455
32	0,6875	-1,4545455
48	0,6875	-1,4545455
16	0,6875	-1,4545455
64	0,6875	-1,4545455
780	0,68846154	-1,452514
305	0,68852459	-1,452381
155	0,69032258	-1,4485981
42	0,69047619	-1,4482759
84	0,69047619	-1,4482759
55	0,69090909	-1,4473684
55	0,69090909	-1,4473684
246	0,69105691	-1,4470588
615	0,69105691	-1,4470588
81	0,69135802	-1,4464286
81	0,69135802	-1,4464286
175	0,69142857	-1,446281
39	0,69230769	-1,4444444
13	0,69230769	-1,4444444
91	0,69230769	-1,4444444
13	0,69230769	-1,4444444
13	0,69230769	-1,4444444
26	0,69230769	-1,4444444
13	0,69230769	-1,4444444
13	0,69230769	-1,4444444
52	0,69230769	-1,4444444
13	0,69230769	-1,4444444
49	0,69387755	-1,4411765
36	0,69444444	-1,44
3888	0,69444444	-1,44
36	0,69444444	-1,44
266	0,69548872	-1,4378378
46	0,69565217	-1,4375
46	0,69565217	-1,4375
23	0,69565217	-1,4375
161	0,69565217	-1,4375
69	0,69565217	-1,4375
46	0,69565217	-1,4375
181	0,6961326	-1,4365079
56	0,69642857	-1,4358974
1147	0,69659983	-1,4355444
4692	0,6973572	-1,4339853
53	0,69811321	-1,4324324
73	0,69863014	-1,4313725
432	0,69907407	-1,4304636

153	0,69934641	-1,4299065
10	0,7	-1,4285714
20	0,7	-1,4285714
10	0,7	-1,4285714
30	0,7	-1,4285714
20	0,7	-1,4285714
20	0,7	-1,4285714
10	0,7	-1,4285714
20	0,7	-1,4285714
50	0,7	-1,4285714
925	0,70054054	-1,4274691
538	0,70074349	-1,4270557
47	0,70212766	-1,4242424
111	0,7027027	-1,4230769
37	0,7027027	-1,4230769
74	0,7027027	-1,4230769
27	0,7037037	-1,4210526
27	0,7037037	-1,4210526
27	0,7037037	-1,4210526
54	0,7037037	-1,4210526
152	0,70394737	-1,4205607
88	0,70454545	-1,4193548
237	0,70464135	-1,4191617
329	0,70516717	-1,4181034
17	0,70588235	-1,4166667
17	0,70588235	-1,4166667
34	0,70588235	-1,4166667
17	0,70588235	-1,4166667
2899	0,70714039	-1,4141463
3119	0,70727797	-1,4138713
41	0,70731707	-1,4137931
244	0,70901639	-1,4104046
248	0,70967742	-1,4090909
31	0,70967742	-1,4090909
231	0,70995671	-1,4085366
100	0,71	-1,4084507
38	0,71052632	-1,4074074
38	0,71052632	-1,4074074
291	0,71134021	-1,4057971
73	0,71232877	-1,4038462
87	0,71264368	-1,4032258
1236	0,71278317	-1,4029512
115	0,71304348	-1,402439
241	0,71369295	-1,4011628
482	0,71369295	-1,4011628
14	0,71428571	-1,4
21	0,71428571	-1,4
7	0,71428571	-1,4
105	0,71428571	-1,4
7	0,71428571	-1,4
7	0,71428571	-1,4
7	0,71428571	-1,4

7	0,71428571	-1,4
49	0,71428571	-1,4
28	0,71428571	-1,4
49	0,71428571	-1,4
105	0,71428571	-1,4
7	0,71428571	-1,4
21	0,71428571	-1,4
28	0,71428571	-1,4
7	0,71428571	-1,4
172	0,71511628	-1,398374
109	0,71559633	-1,3974359
92	0,7173913	-1,3939394
46	0,7173913	-1,3939394
256	0,71875	-1,3913043
64	0,71875	-1,3913043
96	0,71875	-1,3913043
32	0,71875	-1,3913043
57	0,71929825	-1,3902439
82	0,7195122	-1,3898305
107	0,71962617	-1,3896104
332	0,71987952	-1,3891213
25	0,72	-1,3888889
25	0,72	-1,3888889
50	0,72	-1,3888889
25	0,72	-1,3888889
68	0,72058824	-1,3877551
61	0,72131148	-1,3863636
61	0,72131148	-1,3863636
115	0,72173913	-1,3855422
18	0,72222222	-1,3846154
18	0,72222222	-1,3846154
54	0,72222222	-1,3846154
18	0,72222222	-1,3846154
18	0,72222222	-1,3846154
54	0,72222222	-1,3846154
112	0,72321429	-1,382716
47	0,72340426	-1,3823529
163	0,72392638	-1,3813559
58	0,72413793	-1,3809524
145	0,72413793	-1,3809524
29	0,72413793	-1,3809524
116	0,72413793	-1,3809524
69	0,72463768	-1,38
40	0,725	-1,3793103
215	0,7255814	-1,3782051
62	0,72580645	-1,3777778
1232	0,72646104	-1,3765363
377	0,72679045	-1,3759124
77	0,72727273	-1,375
22	0,72727273	-1,375
22	0,72727273	-1,375
11	0,72727273	-1,375

11	0,72727273	-1,375
44	0,72727273	-1,375
22	0,72727273	-1,375
11	0,72727273	-1,375
1766	0,72763307	-1,3743191
136	0,72794118	-1,3737374
92	0,72826087	-1,3731343
122	0,7295082	-1,3707865
237	0,72995781	-1,3699422
78	0,73076923	-1,3684211
130	0,73076923	-1,3684211
491	0,7311609	-1,367688
41	0,73170732	-1,3666667
948	0,73206751	-1,3659942
112	0,73214286	-1,3658537
661	0,7322239	-1,3657025
101	0,73267327	-1,3648649
393	0,73282443	-1,3645833
296	0,73310811	-1,3640553
326	0,73312883	-1,3640167
326	0,73312883	-1,3640167
15	0,73333333	-1,3636364
15	0,73333333	-1,3636364
30	0,73333333	-1,3636364
45	0,73333333	-1,3636364
3585	0,73444909	-1,3615648
113	0,73451327	-1,3614458
49	0,73469388	-1,3611111
321	0,73520249	-1,3601695
106	0,73584906	-1,3589744
72	0,73611111	-1,3584906
95	0,73684211	-1,3571429
19	0,73684211	-1,3571429
38	0,73684211	-1,3571429
103	0,73786408	-1,3552632
42	0,73809524	-1,3548387
42	0,73809524	-1,3548387
65	0,73846154	-1,3541667
134	0,73880597	-1,3535354
23	0,73913043	-1,3529412
23	0,73913043	-1,3529412
23	0,73913043	-1,3529412
3106	0,73921442	-1,3527875
739	0,74018945	-1,3510055
2337	0,7402653	-1,3508671
262	0,74045802	-1,3505155
27	0,74074074	-1,35
162	0,74074074	-1,35
166	0,74096386	-1,3495935
58	0,74137931	-1,3488372
151	0,74172185	-1,3482143
62	0,74193548	-1,3478261

784	0,74234694	-1,347079
144	0,74305556	-1,3457944
78	0,74358974	-1,3448276
324	0,74382716	-1,3443983
285	0,74385965	-1,3443396
82	0,74390244	-1,3442623
141	0,74468085	-1,3428571
47	0,74468085	-1,3428571
333	0,74474474	-1,3427419
51	0,74509804	-1,3421053
255	0,74509804	-1,3421053
255	0,74509804	-1,3421053
114	0,74561404	-1,3411765
898	0,74721604	-1,338301
175	0,74857143	-1,3358779
36	0,75	-1,3333333
8	0,75	-1,3333333
392	0,75	-1,3333333
4	0,75	-1,3333333
88	0,75	-1,3333333
20	0,75	-1,3333333
24	0,75	-1,3333333
4	0,75	-1,3333333
44	0,75	-1,3333333
12	0,75	-1,3333333
60	0,75	-1,3333333
36	0,75	-1,3333333
24	0,75	-1,3333333
12	0,75	-1,3333333
4	0,75	-1,3333333
60	0,75	-1,3333333
96	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
84	0,75	-1,3333333
44	0,75	-1,3333333
8	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
8	0,75	-1,3333333
4	0,75	-1,3333333
8	0,75	-1,3333333
8	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
64	0,75	-1,3333333
92	0,75	-1,3333333
44	0,75	-1,3333333

20	0,75	-1,3333333
16	0,75	-1,3333333
36	0,75	-1,3333333
112	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
4	0,75	-1,3333333
16	0,75	-1,3333333
12	0,75	-1,3333333
28	0,75	-1,3333333
60	0,75	-1,3333333
4185	0,75029869	-1,3328025
414	0,75120773	-1,3311897
366	0,75136612	-1,3309091
238	0,75210084	-1,3296089
2995	0,75225376	-1,3293387
206	0,75242718	-1,3290323
101	0,75247525	-1,3289474
93	0,75268817	-1,3285714
271	0,75276753	-1,3284314
89	0,75280899	-1,3283582
85	0,75294118	-1,328125
3354	0,75313059	-1,327791
77	0,75324675	-1,3275862
142	0,75352113	-1,3271028
69	0,75362319	-1,3269231
69	0,75362319	-1,3269231
647	0,75425039	-1,3258197
57	0,75438596	-1,3255814
171	0,75438596	-1,3255814
167	0,75449102	-1,3253968
110	0,75454545	-1,3253012
265	0,75471698	-1,325
1968	0,7550813	-1,3243607
49	0,75510204	-1,3243243
94	0,75531915	-1,3239437
94	0,75531915	-1,3239437
94	0,75531915	-1,3239437
462	0,75541126	-1,3237822
941	0,75557917	-1,323488
86	0,75581395	-1,3230769
41	0,75609756	-1,3225806
144	0,75694444	-1,3211009
70	0,75714286	-1,3207547
70	0,75714286	-1,3207547
1146	0,7574171	-1,3202765
161	0,75776398	-1,3196721
95	0,75789474	-1,3194444
62	0,75806452	-1,3191489
153	0,75816993	-1,3189655
3743	0,75821534	-1,3188865

87	0,75862069	-1,3181818
58	0,75862069	-1,3181818
29	0,75862069	-1,3181818
87	0,75862069	-1,3181818
87	0,75862069	-1,3181818
224	0,75892857	-1,3176471
79	0,75949367	-1,3166667
196	0,76020408	-1,3154362
292	0,76027397	-1,3153153
71	0,76056338	-1,3148148
188	0,7606383	-1,3146853
2132	0,76172608	-1,3128079
42	0,76190476	-1,3125
21	0,76190476	-1,3125
607	0,76276771	-1,3110151
241	0,76348548	-1,3097826
110	0,76363636	-1,3095238
216	0,76388889	-1,3090909
538	0,76394052	-1,3090024
106	0,76415094	-1,308642
106	0,76415094	-1,308642
208	0,76442308	-1,3081761
3944	0,76445233	-1,308126
17	0,76470588	-1,3076923
17	0,76470588	-1,3076923
17	0,76470588	-1,3076923
17	0,76470588	-1,3076923
34	0,76470588	-1,3076923
430	0,76511628	-1,3069909
396	0,76515152	-1,3069307
1039	0,76515881	-1,3069182
282	0,76595745	-1,3055556
924	0,76623377	-1,3050847
184	0,76630435	-1,3049645
501	0,76646707	-1,3046875
30	0,76666667	-1,3043478
30	0,76666667	-1,3043478
150	0,76666667	-1,3043478
30	0,76666667	-1,3043478
172	0,76744186	-1,3030303
43	0,76744186	-1,3030303
112	0,76785714	-1,3023256
220	0,76818182	-1,3017751
82	0,76829268	-1,3015873
13	0,76923077	-1,3
13	0,76923077	-1,3
52	0,76923077	-1,3
13	0,76923077	-1,3
130	0,76923077	-1,3
39	0,76923077	-1,3
78	0,76923077	-1,3
39	0,76923077	-1,3

13	0,76923077	-1,3
13	0,76923077	-1,3
287	0,77003484	-1,2986425
148	0,77027027	-1,2982456
196	0,77040816	-1,2980132
83	0,77108434	-1,296875
555	0,77117117	-1,296729
188	0,7712766	-1,2965517
70	0,77142857	-1,2962963
35	0,77142857	-1,2962963
670	0,77164179	-1,2959381
114	0,77192982	-1,2954545
79	0,7721519	-1,295082
101	0,77227723	-1,2948718
44	0,77272727	-1,2941176
22	0,77272727	-1,2941176
66	0,77272727	-1,2941176
410	0,77317073	-1,2933754
888	0,77364865	-1,2925764
84	0,77380952	-1,2923077
62	0,77419355	-1,2916667
31	0,77419355	-1,2916667
31	0,77419355	-1,2916667
488	0,77459016	-1,2910053
71	0,77464789	-1,2909091
4663	0,77525198	-1,2899032
1206	0,77529022	-1,2898396
147	0,7755102	-1,2894737
447	0,77628635	-1,2881844
76	0,77631579	-1,2881356
103	0,77669903	-1,2875
224	0,77678571	-1,2873563
9	0,77777778	-1,2857143
144	0,77777778	-1,2857143
9	0,77777778	-1,2857143
9	0,77777778	-1,2857143
9	0,77777778	-1,2857143
81	0,77777778	-1,2857143
9	0,77777778	-1,2857143
18	0,77777778	-1,2857143
9	0,77777778	-1,2857143
27	0,77777778	-1,2857143
821	0,77831912	-1,28482
104	0,77884615	-1,2839506
86	0,77906977	-1,2835821
86	0,77906977	-1,2835821
222	0,77927928	-1,283237
123	0,7804878	-1,28125
306	0,78104575	-1,2803347
96	0,78125	-1,28
238	0,78151261	-1,2795699
101	0,78217822	-1,278481

124	0,78225806	-1,2783505
23	0,7826087	-1,2777778
23	0,7826087	-1,2777778
60	0,78333333	-1,2765957
60	0,78333333	-1,2765957
125	0,784	-1,2755102
51	0,78431373	-1,275
65	0,78461538	-1,2745098
65	0,78461538	-1,2745098
265	0,78490566	-1,2740385
228	0,78508772	-1,273743
3860	0,78549223	-1,2730871
28	0,78571429	-1,2727273
14	0,78571429	-1,2727273
14	0,78571429	-1,2727273
14	0,78571429	-1,2727273
14	0,78571429	-1,2727273
14	0,78571429	-1,2727273
733	0,78581173	-1,2725694
61	0,78688525	-1,2708333
2240	0,78705357	-1,2705615
94	0,78723404	-1,2702703
193	0,78756477	-1,2697368
66	0,78787879	-1,2692308
33	0,78787879	-1,2692308
33	0,78787879	-1,2692308
948	0,78797468	-1,2690763
71	0,78873239	-1,2678571
161	0,78881988	-1,2677165
697	0,78909613	-1,2672727
114	0,78947368	-1,2666667
100	0,79	-1,2658228
124	0,79032258	-1,2653061
62	0,79032258	-1,2653061
62	0,79032258	-1,2653061
62	0,79032258	-1,2653061
62	0,79032258	-1,2653061
110	0,79090909	-1,2643678
67	0,79104478	-1,2641509
58	0,79310345	-1,2608696
87	0,79310345	-1,2608696
160	0,79375	-1,2598425
68	0,79411765	-1,2592593
34	0,79411765	-1,2592593
214	0,79439252	-1,2588235
146	0,79452055	-1,2586207
210	0,7952381	-1,257485
127	0,79527559	-1,2574257
127	0,79527559	-1,2574257
93	0,79569892	-1,2567568
49	0,79591837	-1,2564103
49	0,79591837	-1,2564103

49	0,79591837	-1,2564103
103	0,79611165	-1,2560976
211	0,79620853	-1,2559524
930	0,79677419	-1,2550607
478	0,79707113	-1,2545932
345	0,79710145	-1,2545455
173	0,79768786	-1,2536232
1512	0,79828042	-1,2526926
139	0,79856115	-1,2522523
10	0,8	-1,25
15	0,8	-1,25
10	0,8	-1,25
10	0,8	-1,25
35	0,8	-1,25
10	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
25	0,8	-1,25
50	0,8	-1,25
80	0,8	-1,25
5	0,8	-1,25
10	0,8	-1,25
35	0,8	-1,25
10	0,8	-1,25
30	0,8	-1,25
10	0,8	-1,25
20	0,8	-1,25
15	0,8	-1,25
30	0,8	-1,25
10	0,8	-1,25
5	0,8	-1,25
15	0,8	-1,25
10	0,8	-1,25
15	0,8	-1,25
55	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
5	0,8	-1,25
1909	0,80041907	-1,2493455
206	0,80097087	-1,2484848
935	0,80106952	-1,2483311
166	0,80120482	-1,2481203
257	0,80155642	-1,2475728
4401	0,80186321	-1,2470955
86	0,80232558	-1,2463768
157	0,80254777	-1,2460317
71	0,8028169	-1,245614
411	0,80291971	-1,2454545

193	0,80310881	-1,2451613
56	0,80357143	-1,2444444
51	0,80392157	-1,2439024
1021	0,80411361	-1,2436054
82	0,80487805	-1,2424242
370	0,80540541	-1,2416107
2755	0,80544465	-1,2415502
98	0,80612245	-1,2405063
1027	0,80623174	-1,2403382
31	0,80645161	-1,24
31	0,80645161	-1,24
62	0,80645161	-1,24
62	0,80645161	-1,24
88	0,80681818	-1,2394366
83	0,80722892	-1,238806
239	0,80753138	-1,238342
52	0,80769231	-1,2380952
156	0,80769231	-1,2380952
546	0,80769231	-1,2380952
99	0,80808081	-1,2375
99	0,80808081	-1,2375
146	0,80821918	-1,2372881
658	0,80851064	-1,2368421
2552	0,80916928	-1,2358354
21	0,80952381	-1,2352941
63	0,80952381	-1,2352941
21	0,80952381	-1,2352941
84	0,80952381	-1,2352941
63	0,80952381	-1,2352941
4636	0,80996549	-1,2346205
79	0,81012658	-1,234375
316	0,81012658	-1,234375
37	0,81081081	-1,2333333
90	0,81111111	-1,2328767
175	0,81142857	-1,2323944
292	0,81164384	-1,2320675
85	0,81176471	-1,2318841
48	0,8125	-1,2307692
80	0,8125	-1,2307692
64	0,8125	-1,2307692
16	0,8125	-1,2307692
16	0,8125	-1,2307692
48	0,8125	-1,2307692
203	0,81280788	-1,230303
107	0,81308411	-1,2298851
520	0,81346154	-1,2293144
59	0,81355932	-1,2291667
102	0,81372549	-1,2289157
151	0,81456954	-1,2276423
27	0,81481481	-1,2272727
27	0,81481481	-1,2272727
319	0,81504702	-1,2269231

65	0,81538462	-1,2264151
65	0,81538462	-1,2264151
103	0,81553398	-1,2261905
250	0,816	-1,2254902
169	0,81656805	-1,2246377
409	0,81662592	-1,2245509
469	0,81663113	-1,2245431
148	0,81756757	-1,2231405
302	0,81788079	-1,2226721
11	0,81818182	-1,2222222
22	0,81818182	-1,2222222
22	0,81818182	-1,2222222
11	0,81818182	-1,2222222
44	0,81818182	-1,2222222
22	0,81818182	-1,2222222
242	0,81818182	-1,2222222
22	0,81818182	-1,2222222
11	0,81818182	-1,2222222
259	0,81853282	-1,2216981
1049	0,81887512	-1,2211874
122	0,81967213	-1,22
39	0,82051282	-1,21875
39	0,82051282	-1,21875
106	0,82075472	-1,2183908
307	0,82084691	-1,218254
67	0,82089552	-1,2181818
67	0,82089552	-1,2181818
95	0,82105263	-1,2179487
151	0,82119205	-1,2177419
28	0,82142857	-1,2173913
84	0,82142857	-1,2173913
28	0,82142857	-1,2173913
241	0,82157676	-1,2171717
73	0,82191781	-1,2166667
79	0,82278481	-1,2153846
17	0,82352941	-1,2142857
17	0,82352941	-1,2142857
17	0,82352941	-1,2142857
51	0,82352941	-1,2142857
170	0,82352941	-1,2142857
74	0,82432432	-1,2131148
8266	0,82446165	-1,2129127
114	0,8245614	-1,212766
114	0,8245614	-1,212766
4105	0,82460414	-1,2127031
714	0,82492997	-1,2122241
40	0,825	-1,2121212
120	0,825	-1,2121212
229	0,82532751	-1,2116402
86	0,8255814	-1,2112676
92	0,82608696	-1,2105263
552	0,82608696	-1,2105263

46	0,82608696	-1,2105263
46	0,82608696	-1,2105263
46	0,82608696	-1,2105263
69	0,82608696	-1,2105263
161	0,82608696	-1,2105263
46	0,82608696	-1,2105263
23	0,82608696	-1,2105263
265	0,82641509	-1,2100457
294	0,82653061	-1,2098765
179	0,82681564	-1,2094595
52	0,82692308	-1,2093023
52	0,82692308	-1,2093023
203	0,82758621	-1,2083333
29	0,82758621	-1,2083333
87	0,82758621	-1,2083333
35	0,82857143	-1,2068966
70	0,82857143	-1,2068966
105	0,82857143	-1,2068966
228	0,82894737	-1,2063492
41	0,82926829	-1,2058824
217	0,82949309	-1,2055556
159	0,83018868	-1,2045455
53	0,83018868	-1,2045455
183	0,83060109	-1,2039474
65	0,83076923	-1,2037037
676	0,83136095	-1,202847
178	0,83146067	-1,2027027
238	0,83193277	-1,2020202
137	0,83211679	-1,2017544
4851	0,83261183	-1,2010399
12	0,83333333	-1,2
6	0,83333333	-1,2
42	0,83333333	-1,2
60	0,83333333	-1,2
24	0,83333333	-1,2
6	0,83333333	-1,2
18	0,83333333	-1,2
6	0,83333333	-1,2
12	0,83333333	-1,2
6	0,83333333	-1,2
42	0,83333333	-1,2
78	0,83333333	-1,2
84	0,83333333	-1,2
6	0,83333333	-1,2
114	0,83333333	-1,2
12	0,83333333	-1,2
18	0,83333333	-1,2
3975	0,83371069	-1,1994568
6146	0,83387569	-1,1992195
157	0,8343949	-1,1984733
79	0,83544304	-1,1969697
250	0,836	-1,1961722

110	0,83636364	-1,1956522
159	0,83647799	-1,1954887
49	0,83673469	-1,195122
288	0,83680556	-1,1950207
135	0,83703704	-1,1946903
86	0,8372093	-1,1944444
111	0,83783784	-1,1935484
111	0,83783784	-1,1935484
37	0,83783784	-1,1935484
68	0,83823529	-1,1929825
235	0,83829787	-1,1928934
6730	0,83833581	-1,1928394
31	0,83870968	-1,1923077
93	0,83870968	-1,1923077
186	0,83870968	-1,1923077
75	0,84	-1,1904762
25	0,84	-1,1904762
25	0,84	-1,1904762
1819	0,84002199	-1,190445
339	0,84070796	-1,1894737
113	0,84070796	-1,1894737
19	0,84210526	-1,1875
38	0,84210526	-1,1875
38	0,84210526	-1,1875
38	0,84210526	-1,1875
114	0,84210526	-1,1875
412	0,84223301	-1,1873199
203	0,84236453	-1,1871345
51	0,84313725	-1,1860465
83	0,84337349	-1,1857143
96	0,84375	-1,1851852
45	0,84444444	-1,1842105
45	0,84444444	-1,1842105
103	0,84466019	-1,183908
549	0,84517304	-1,1831897
97	0,84536082	-1,1829268
136	0,84558824	-1,1826087
13	0,84615385	-1,1818182
195	0,84615385	-1,1818182
782	0,84654731	-1,1812689
189	0,84656085	-1,18125
320	0,846875	-1,1808118
209	0,84688995	-1,180791
603	0,84742952	-1,1800391
625	0,848	-1,1792453
79	0,84810127	-1,1791045
53	0,8490566	-1,1777778
126	0,84920635	-1,1775701
233	0,84978541	-1,1767677
40	0,85	-1,1764706
20	0,85	-1,1764706
20	0,85	-1,1764706

60	0,85	-1,1764706
20	0,85	-1,1764706
20	0,85	-1,1764706
140	0,85	-1,1764706
127	0,8503937	-1,1759259
2133	0,85091421	-1,1752066
47	0,85106383	-1,175
121	0,85123967	-1,1747573
511	0,85127202	-1,1747126
27	0,85185185	-1,173913
7472	0,85211456	-1,1735511
149	0,85234899	-1,1732283
61	0,85245902	-1,1730769
224	0,85267857	-1,1727749
68	0,85294118	-1,1724138
204	0,85294118	-1,1724138
204	0,85294118	-1,1724138
34	0,85294118	-1,1724138
177	0,85310734	-1,1721854
184	0,85326087	-1,1719745
75	0,85333333	-1,171875
116	0,85344828	-1,1717172
157	0,85350318	-1,1716418
41	0,85365854	-1,1714286
41	0,85365854	-1,1714286
89	0,85393258	-1,1710526
48	0,85416667	-1,1707317
55	0,85454545	-1,1702128
179	0,8547486	-1,1699346
62	0,85483871	-1,1698113
207	0,85507246	-1,1694915
166	0,85542169	-1,1690141
125	0,856	-1,1682243
139	0,85611511	-1,1680672
292	0,85616438	-1,168
7	0,85714286	-1,1666667
56	0,85714286	-1,1666667
14	0,85714286	-1,1666667
14	0,85714286	-1,1666667
7	0,85714286	-1,1666667
42	0,85714286	-1,1666667
63	0,85714286	-1,1666667
7	0,85714286	-1,1666667
21	0,85714286	-1,1666667
585	0,85811966	-1,1653386
120	0,85833333	-1,1650485
92	0,85869565	-1,164557
85	0,85882353	-1,1643836
206	0,8592233	-1,1638418
903	0,8593577	-1,1636598
662	0,85951662	-1,1634446
178	0,85955056	-1,1633987

214	0,85981308	-1,1630435
43	0,86046512	-1,1621622
151	0,86092715	-1,1615385
223	0,86098655	-1,1614583
36	0,86111111	-1,1612903
36	0,86111111	-1,1612903
173	0,86127168	-1,1610738
94	0,86170213	-1,1604938
29	0,86206897	-1,16
116	0,86206897	-1,16
29	0,86206897	-1,16
261	0,86206897	-1,16
167	0,86227545	-1,1597222
182	0,86263736	-1,1592357
6874	0,86281641	-1,1589951
168	0,86309524	-1,1586207
249	0,86345382	-1,1581395
249	0,86345382	-1,1581395
44	0,86363636	-1,1578947
22	0,86363636	-1,1578947
6561	0,86419753	-1,1571429
59	0,86440678	-1,1568627
214	0,86448598	-1,1567568
126	0,86507937	-1,1559633
238	0,86554622	-1,1553398
186	0,8655914	-1,1552795
127	0,86614173	-1,1545455
172	0,86627907	-1,1543624
45	0,86666667	-1,1538462
15	0,86666667	-1,1538462
90	0,86666667	-1,1538462
195	0,86666667	-1,1538462
15	0,86666667	-1,1538462
15	0,86666667	-1,1538462
30	0,86666667	-1,1538462
264	0,86742424	-1,1528384
166	0,86746988	-1,1527778
68	0,86764706	-1,1525424
257	0,86770428	-1,1524664
106	0,86792453	-1,1521739
341	0,86803519	-1,152027
91	0,86813187	-1,1518987
91	0,86813187	-1,1518987
129	0,86821705	-1,1517857
205	0,86829268	-1,1516854
38	0,86842105	-1,1515152
114	0,86842105	-1,1515152
38	0,86842105	-1,1515152
221	0,86877828	-1,1510417
23	0,86956522	-1,15
77	0,87012987	-1,1492537
54	0,87037037	-1,1489362

108	0,87037037	-1,1489362
193	0,87046632	-1,1488095
457	0,87089716	-1,1482412
31	0,87096774	-1,1481481
62	0,87096774	-1,1481481
310	0,87096774	-1,1481481
1550	0,87096774	-1,1481481
613	0,87112561	-1,1479401
1120	0,87142857	-1,147541
109	0,87155963	-1,1473684
273	0,87179487	-1,1470588
39	0,87179487	-1,1470588
39	0,87179487	-1,1470588
39	0,87179487	-1,1470588
47	0,87234043	-1,1463415
4741	0,87281164	-1,1457226
118	0,87288136	-1,1456311
63	0,87301587	-1,1454545
2409	0,87339145	-1,144962
198	0,87373737	-1,1445087
4805	0,87408949	-1,1440476
72	0,875	-1,1428571
8	0,875	-1,1428571
136	0,875	-1,1428571
8	0,875	-1,1428571
136	0,875	-1,1428571
16	0,875	-1,1428571
48	0,875	-1,1428571
8	0,875	-1,1428571
8	0,875	-1,1428571
8	0,875	-1,1428571
8	0,875	-1,1428571
16	0,875	-1,1428571
104	0,875	-1,1428571
40	0,875	-1,1428571
40	0,875	-1,1428571
8	0,875	-1,1428571
153	0,87581699	-1,141791
121	0,87603306	-1,1415094
73	0,87671233	-1,140625
122	0,87704918	-1,1401869
114	0,87719298	-1,14
156	0,87820513	-1,1386861
2456	0,87825733	-1,1386185
74	0,87837838	-1,1384615
1612	0,87841191	-1,1384181
99	0,87878788	-1,137931
33	0,87878788	-1,137931
66	0,87878788	-1,137931
66	0,87878788	-1,137931
58	0,87931034	-1,1372549
166	0,87951807	-1,1369863

83	0,87951807	-1,1369863
50	0,88	-1,1363636
25	0,88	-1,1363636
25	0,88	-1,1363636
25	0,88	-1,1363636
1966	0,88046796	-1,1357597
168	0,88095238	-1,1351351
42	0,88095238	-1,1351351
42	0,88095238	-1,1351351
17	0,88235294	-1,1333333
17	0,88235294	-1,1333333
34	0,88235294	-1,1333333
17	0,88235294	-1,1333333
587	0,88245315	-1,1332046
179	0,88268156	-1,1329114
60	0,88333333	-1,1320755
103	0,88349515	-1,1318681
6472	0,88349815	-1,1318643
129	0,88372093	-1,1315789
112	0,88392857	-1,1313131
1648	0,88410194	-1,1310913
234	0,88461538	-1,1304348
26	0,88461538	-1,1304348
26	0,88461538	-1,1304348
61	0,8852459	-1,1296296
131	0,88549618	-1,1293103
4108	0,88558909	-1,1291919
35	0,88571429	-1,1290323
79	0,88607595	-1,1285714
123	0,88617886	-1,1284404
8638	0,88677935	-1,1276762
124	0,88709677	-1,1272727
133	0,88721805	-1,1271186
89	0,88764045	-1,1265823
178	0,88764045	-1,1265823
27	0,88888889	-1,125
45	0,88888889	-1,125
18	0,88888889	-1,125
81	0,88888889	-1,125
54	0,88888889	-1,125
9	0,88888889	-1,125
27	0,88888889	-1,125
36	0,88888889	-1,125
90	0,88888889	-1,125
90	0,88888889	-1,125
54	0,88888889	-1,125
9	0,88888889	-1,125
9	0,88888889	-1,125
427	0,88992974	-1,1236842
100	0,89	-1,1235955
55	0,89090909	-1,122449
46	0,89130435	-1,1219512

46	0,89130435	-1,1219512
83	0,89156627	-1,1216216
166	0,89156627	-1,1216216
37	0,89189189	-1,1212121
37	0,89189189	-1,1212121
472	0,89194915	-1,1211401
334	0,89221557	-1,1208054
65	0,89230769	-1,1206897
65	0,89230769	-1,1206897
186	0,89247312	-1,1204819
28	0,89285714	-1,12
28	0,89285714	-1,12
747	0,89290495	-1,11994
179	0,89385475	-1,11875
132	0,89393939	-1,1186441
199	0,89447236	-1,1179775
152	0,89473684	-1,1176471
467	0,89507495	-1,1172249
497	0,89537223	-1,1168539
710	0,89577465	-1,1163522
48	0,89583333	-1,1162791
48	0,89583333	-1,1162791
1882	0,89585547	-1,1162515
58	0,89655172	-1,1153846
29	0,89655172	-1,1153846
116	0,89655172	-1,1153846
126	0,8968254	-1,1150442
98	0,89795918	-1,1136364
108	0,89814815	-1,1134021
128	0,8984375	-1,1130435
89	0,8988764	-1,1125
6559	0,89891752	-1,1124491
535	0,89906542	-1,1122661
529	0,89981096	-1,1113445
10	0,9	-1,1111111
10	0,9	-1,1111111
30	0,9	-1,1111111
10	0,9	-1,1111111
20	0,9	-1,1111111
10	0,9	-1,1111111
30	0,9	-1,1111111
10	0,9	-1,1111111
130	0,9	-1,1111111
30	0,9	-1,1111111
110	0,9	-1,1111111
60	0,9	-1,1111111
2407	0,90070627	-1,1102399
111	0,9009009	-1,11
61	0,90163934	-1,1090909
173	0,9017341	-1,1089744
51	0,90196078	-1,1086957
449	0,90200445	-1,108642

359	0,90250696	-1,1080247
154	0,9025974	-1,1079137
226	0,90265487	-1,1078431
93	0,90322581	-1,1071429
31	0,90322581	-1,1071429
31	0,90322581	-1,1071429
571	0,90367776	-1,1065891
188	0,90425532	-1,1058824
94	0,90425532	-1,1058824
21	0,9047619	-1,1052632
21	0,9047619	-1,1052632
21	0,9047619	-1,1052632
21	0,9047619	-1,1052632
191	0,90575916	-1,1040462
191	0,90575916	-1,1040462
234	0,90598291	-1,1037736
394	0,90609137	-1,1036415
32	0,90625	-1,1034483
32	0,90625	-1,1034483
75	0,90666667	-1,1029412
484	0,90702479	-1,1025057
54	0,90740741	-1,1020408
54	0,90740741	-1,1020408
65	0,90769231	-1,1016949
196	0,90816327	-1,1011236
252	0,90873016	-1,1004367
11	0,90909091	-1,1
33	0,90909091	-1,1
11	0,90909091	-1,1
374	0,90909091	-1,1
22	0,90909091	-1,1
121	0,90909091	-1,1
22	0,90909091	-1,1
22	0,90909091	-1,1
22	0,90909091	-1,1
44	0,90909091	-1,1
44	0,90909091	-1,1
903	0,90919158	-1,0998782
89	0,91011236	-1,0987654
67	0,91044776	-1,0983607
201	0,91044776	-1,0983607
1972	0,91075051	-1,0979955
226	0,91150442	-1,0970874
68	0,91176471	-1,0967742
80	0,9125	-1,0958904
493	0,9127789	-1,0955556
23	0,91304348	-1,0952381
46	0,91304348	-1,0952381
69	0,91304348	-1,0952381
197	0,91370558	-1,0944444
186	0,91397849	-1,0941176
128	0,9140625	-1,0940171

7298	0,91408605	-1,0939889
489	0,91411043	-1,0939597
163	0,91411043	-1,0939597
5651	0,91435144	-1,0936714
82	0,91463415	-1,0933333
47	0,91489362	-1,0930233
412	0,91504854	-1,0928382
59	0,91525424	-1,0925926
130	0,91538462	-1,092437
71	0,91549296	-1,0923077
24	0,91666667	-1,0909091
12	0,91666667	-1,0909091
12	0,91666667	-1,0909091
60	0,91666667	-1,0909091
36	0,91666667	-1,0909091
96	0,91666667	-1,0909091
48	0,91666667	-1,0909091
48	0,91666667	-1,0909091
12	0,91666667	-1,0909091
96	0,91666667	-1,0909091
314	0,91719745	-1,0902778
73	0,91780822	-1,0895522
134	0,91791045	-1,0894309
269	0,91821561	-1,0890688
257	0,91828794	-1,0889831
49	0,91836735	-1,0888889
49	0,91836735	-1,0888889
49	0,91836735	-1,0888889
380	0,91842105	-1,0888252
4427	0,91868082	-1,0885173
37	0,91891892	-1,0882353
667	0,91904048	-1,0880914
62	0,91935484	-1,0877193
149	0,91946309	-1,0875912
808	0,91955446	-1,0874832
3137	0,91966847	-1,0873484
75	0,92	-1,0869565
25	0,92	-1,0869565
238	0,92016807	-1,086758
5802	0,92071699	-1,0861101
202	0,92079208	-1,0860215
76	0,92105263	-1,0857143
6786	0,9216033	-1,0850656
166	0,92168675	-1,0849673
409	0,92176039	-1,0848806
64	0,921875	-1,0847458
141	0,92198582	-1,0846154
52	0,92307692	-1,0833333
208	0,92307692	-1,0833333
13	0,92307692	-1,0833333
52	0,92307692	-1,0833333
13	0,92307692	-1,0833333

182	0,92307692	-1,0833333
13	0,92307692	-1,0833333
78	0,92307692	-1,0833333
378	0,92328042	-1,0830946
2984	0,92359249	-1,0827286
223	0,92376682	-1,0825243
79	0,92405063	-1,0821918
79	0,92405063	-1,0821918
66	0,92424242	-1,0819672
530	0,9245283	-1,0816327
40	0,925	-1,0810811
281	0,9252669	-1,0807692
174	0,92528736	-1,0807453
849	0,92579505	-1,0801527
176	0,92613636	-1,0797546
677	0,92614476	-1,0797448
68	0,92647059	-1,0793651
272	0,92647059	-1,0793651
41	0,92682927	-1,0789474
41	0,92682927	-1,0789474
10335	0,92714078	-1,0785848
166	0,92771084	-1,0779221
97	0,92783505	-1,0777778
375	0,928	-1,0775862
181	0,9281768	-1,077381
14	0,92857143	-1,0769231
196	0,92857143	-1,0769231
84	0,92857143	-1,0769231
98	0,92857143	-1,0769231
28	0,92857143	-1,0769231
28	0,92857143	-1,0769231
28	0,92857143	-1,0769231
155	0,92903226	-1,0763889
99	0,92929293	-1,076087
57	0,92982456	-1,0754717
100	0,93	-1,0752688
43	0,93023256	-1,075
144	0,93055556	-1,0746269
58	0,93103448	-1,0740741
29	0,93103448	-1,0740741
29	0,93103448	-1,0740741
58	0,93103448	-1,0740741
58	0,93103448	-1,0740741
29	0,93103448	-1,0740741
161	0,93167702	-1,0733333
44	0,93181818	-1,0731707
250	0,932	-1,0729614
103	0,93203883	-1,0729167
59	0,93220339	-1,0727273
207	0,93236715	-1,0725389
386	0,93264249	-1,0722222
30	0,93333333	-1,0714286

15	0,93333333	-1,0714286
60	0,93333333	-1,0714286
150	0,93333333	-1,0714286
45	0,93333333	-1,0714286
15	0,93333333	-1,0714286
76	0,93421053	-1,0704225
137	0,93430657	-1,0703125
428	0,93457944	-1,07
1558	0,9351733	-1,0693205
31	0,93548387	-1,0689655
31	0,93548387	-1,0689655
31	0,93548387	-1,0689655
358	0,93575419	-1,0686567
499	0,93587174	-1,0685225
78	0,93589744	-1,0684932
984	0,93597561	-1,0684039
4139	0,93621648	-1,068129
157	0,93630573	-1,0680272
126	0,93650794	-1,0677966
32	0,9375	-1,0666667
64	0,9375	-1,0666667
16	0,9375	-1,0666667
32	0,9375	-1,0666667
16	0,9375	-1,0666667
96	0,9375	-1,0666667
16	0,9375	-1,0666667
145	0,93793103	-1,0661765
113	0,9380531	-1,0660377
324	0,9382716	-1,0657895
486	0,9382716	-1,0657895
65	0,93846154	-1,0655738
195	0,93846154	-1,0655738
114	0,93859649	-1,0654206
49	0,93877551	-1,0652174
459	0,93899782	-1,0649652
33	0,93939394	-1,0645161
66	0,93939394	-1,0645161
33	0,93939394	-1,0645161
83	0,93975904	-1,0641026
233	0,93991416	-1,0639269
2971	0,9404241	-1,06335
353	0,94050992	-1,063253
101	0,94059406	-1,0631579
17	0,94117647	-1,0625
34	0,94117647	-1,0625
85	0,94117647	-1,0625
51	0,94117647	-1,0625
17	0,94117647	-1,0625
34	0,94117647	-1,0625
34	0,94117647	-1,0625
51	0,94117647	-1,0625
311	0,94212219	-1,0614334

52	0,94230769	-1,0612245
104	0,94230769	-1,0612245
105	0,94285714	-1,0606061
35	0,94285714	-1,0606061
35	0,94285714	-1,0606061
35	0,94285714	-1,0606061
88	0,94318182	-1,060241
106	0,94339623	-1,06
106	0,94339623	-1,06
5680	0,94366197	-1,0597015
89	0,94382022	-1,0595238
303	0,94389439	-1,0594406
125	0,944	-1,059322
143	0,94405594	-1,0592593
233	0,94420601	-1,0590909
233	0,94420601	-1,0590909
162	0,94444444	-1,0588235
54	0,94444444	-1,0588235
18	0,94444444	-1,0588235
108	0,94444444	-1,0588235
18	0,94444444	-1,0588235
36	0,94444444	-1,0588235
18	0,94444444	-1,0588235
271	0,94464945	-1,0585938
217	0,94470046	-1,0585366
398	0,94472362	-1,0585106
200	0,945	-1,0582011
91	0,94505495	-1,0581395
406	0,94581281	-1,0572917
203	0,94581281	-1,0572917
517	0,94584139	-1,0572597
37	0,94594595	-1,0571429
37	0,94594595	-1,0571429
37	0,94594595	-1,0571429
130	0,94615385	-1,0569106
1141	0,94653812	-1,0564815
320	0,946875	-1,0561056
132	0,9469697	-1,056
57	0,94736842	-1,0555556
38	0,94736842	-1,0555556
19	0,94736842	-1,0555556
210	0,94761905	-1,0552764
58	0,94827586	-1,0545455
58	0,94827586	-1,0545455
97	0,94845361	-1,0543478
506	0,9486166	-1,0541667
78	0,94871795	-1,0540541
117	0,94871795	-1,0540541
99	0,94949495	-1,0531915
1271	0,94964595	-1,053024
120	0,95	-1,0526316
40	0,95	-1,0526316

180	0,95	-1,0526316
544	0,95036765	-1,0522244
264	0,95075758	-1,0517928
62	0,9516129	-1,0508475
455	0,95164835	-1,0508083
251	0,95219124	-1,0502092
126	0,95238095	-1,05
21	0,95238095	-1,05
21	0,95238095	-1,05
42	0,95238095	-1,05
21	0,95238095	-1,05
21	0,95238095	-1,05
21	0,95238095	-1,05
149	0,95302013	-1,0492958
129	0,95348837	-1,0487805
346	0,95375723	-1,0484848
238	0,95378151	-1,0484581
22	0,95454545	-1,047619
22	0,95454545	-1,047619
67	0,95522388	-1,046875
45	0,95555556	-1,0465116
1253	0,95610535	-1,0459098
46	0,95652174	-1,0454545
23	0,95652174	-1,0454545
94	0,95744681	-1,0444444
330	0,95757576	-1,0443038
118	0,95762712	-1,0442478
71	0,95774648	-1,0441176
71	0,95774648	-1,0441176
119	0,95798319	-1,0438596
477	0,95807128	-1,0437637
48	0,95833333	-1,0434783
24	0,95833333	-1,0434783
48	0,95833333	-1,0434783
3509	0,95867769	-1,0431034
121	0,95867769	-1,0431034
98	0,95918367	-1,0425532
49	0,95918367	-1,0425532
271	0,95940959	-1,0423077
74	0,95945946	-1,0422535
25	0,96	-1,0416667
25	0,96	-1,0416667
151	0,9602649	-1,0413793
151	0,9602649	-1,0413793
126	0,96031746	-1,0413223
76	0,96052632	-1,0410959
77	0,96103896	-1,0405405
308	0,96103896	-1,0405405
181	0,96132597	-1,0402299
26	0,96153846	-1,04
26	0,96153846	-1,04
494	0,96153846	-1,04

26	0,96153846	-1,04
26	0,96153846	-1,04
78	0,96153846	-1,04
53	0,96226415	-1,0392157
80	0,9625	-1,038961
160	0,9625	-1,038961
214	0,96261682	-1,038835
27	0,96296296	-1,0384615
27	0,96296296	-1,0384615
135	0,96296296	-1,0384615
54	0,96296296	-1,0384615
408	0,96323529	-1,0381679
798	0,96365915	-1,0377113
84	0,96428571	-1,037037
28	0,96428571	-1,037037
56	0,96428571	-1,037037
57	0,96491228	-1,0363636
29	0,96551724	-1,0357143
58	0,96551724	-1,0357143
58	0,96551724	-1,0357143
29	0,96551724	-1,0357143
117	0,96581197	-1,0353982
856	0,96728972	-1,0338164
431	0,9675174	-1,0335731
154	0,96753247	-1,033557
247	0,96761134	-1,0334728
31	0,96774194	-1,0333333
31	0,96774194	-1,0333333
160	0,96875	-1,0322581
64	0,96875	-1,0322581
32	0,96875	-1,0322581
548	0,9689781	-1,0320151
260	0,96923077	-1,031746
66	0,96969697	-1,03125
68	0,97058824	-1,030303
34	0,97058824	-1,030303
34	0,97058824	-1,030303
68	0,97058824	-1,030303
68	0,97058824	-1,030303
35	0,97142857	-1,0294118
107	0,97196262	-1,0288462
36	0,97222222	-1,0285714
72	0,97222222	-1,0285714
9689	0,97254619	-1,0282288
146	0,97260274	-1,028169
110	0,97272727	-1,0280374
110	0,97272727	-1,0280374
258	0,97286822	-1,0278884
37	0,97297297	-1,0277778
76	0,97368421	-1,027027
77	0,97402597	-1,0266667
1040	0,97403846	-1,0266535

39	0,97435897	-1,0263158
40	0,975	-1,025641
363	0,97520661	-1,0254237
123	0,97560976	-1,025
124	0,97580645	-1,0247934
8727	0,97605133	-1,0245363
251	0,97609562	-1,0244898
42	0,97619048	-1,0243902
85	0,97647059	-1,0240964
43	0,97674419	-1,0238095
86	0,97674419	-1,0238095
43	0,97674419	-1,0238095
88	0,97727273	-1,0232558
133	0,97744361	-1,0230769
89	0,97752809	-1,0229885
183	0,97814208	-1,0223464
46	0,97826087	-1,0222222
93	0,97849462	-1,021978
466	0,97854077	-1,0219298
140	0,97857143	-1,0218978
47	0,9787234	-1,0217391
426	0,97887324	-1,0215827
48	0,97916667	-1,0212766
48	0,97916667	-1,0212766
48	0,97916667	-1,0212766
48	0,97916667	-1,0212766
388	0,97938144	-1,0210526
49	0,97959184	-1,0208333
49	0,97959184	-1,0208333
50	0,98	-1,0204082
50	0,98	-1,0204082
150	0,98	-1,0204082
153	0,98039216	-1,02
157	0,98089172	-1,0194805
53	0,98113208	-1,0192308
53	0,98113208	-1,0192308
54	0,98148148	-1,0188679
55	0,98181818	-1,0185185
112	0,98214286	-1,0181818
113	0,98230088	-1,018018
114	0,98245614	-1,0178571
57	0,98245614	-1,0178571
286	0,98251748	-1,0177936
58	0,98275862	-1,0175439
234	0,98290598	-1,0173913
176	0,98295455	-1,017341
59	0,98305085	-1,0172414
119	0,98319328	-1,017094
60	0,98333333	-1,0169492
123	0,98373984	-1,0165289
64	0,984375	-1,015873
64	0,984375	-1,015873

129	0,98449612	-1,015748
131	0,98473282	-1,0155039
66	0,98484848	-1,0153846
132	0,98484848	-1,0153846
133	0,98496241	-1,0152672
68	0,98529412	-1,0149254
207	0,98550725	-1,0147059
488	0,98565574	-1,014553
73	0,98630137	-1,0138889
77	0,98701299	-1,0131579
235	0,98723404	-1,012931
158	0,98734177	-1,0128205
80	0,9875	-1,0126582
241	0,98755187	-1,012605
88	0,98863636	-1,0114943
795	0,98867925	-1,0114504
91	0,98901099	-1,0111111
91	0,98901099	-1,0111111
92	0,98913043	-1,010989
685	0,98978102	-1,0103245
297	0,98989899	-1,0102041
502	0,99003984	-1,0100604
103	0,99029126	-1,0098039
104	0,99038462	-1,0097087
540	0,99074074	-1,0093458
658	0,99088146	-1,0092025
111	0,99099099	-1,0090909
223	0,99103139	-1,0090498
117	0,99145299	-1,0086207
118	0,99152542	-1,008547
119	0,99159664	-1,0084746
121	0,99173554	-1,0083333
245	0,99183673	-1,0082305
2787	0,99246502	-1,0075922
141	0,9929078	-1,0071429
173	0,99421965	-1,005814
183	0,99453552	-1,0054945
189	0,99470899	-1,0053191
207	0,99516908	-1,0048544
261	0,99616858	-1,0038462
3	0	0
2	0	0
2	0	0
2	0	0
1	0	0
1	0	0
5	0	0
1	0	0
1	0	0
1	0	0
1	0	0
2	0	0

2	0	0
3	0	0
76	0	0
1	0	0
1	0	0
1	0	0
1	0	0
1	0	0
2	0	0
2	0	0
1	0	0
1	0	0
3	0	0
1	0	0
3	0	0
1	0	0
1	0	0
1	0	0
1	0	0
3	0	0
1	0	0
1	0	0
1	0	0
1	0	0
3	0	0
2	0	0
1	0	0
1	0	0
1	0	0
3	0	0
2	0	0
2	0	0
3	0	0
1	0	0
1	0	0
2	0	0
1	0	0
3	0	0
3	0	0
2	0	0
1	0	0
2	0	0
3	0	0
6	0	0
124	1	1
3	1	1
62	1	1
84	1	1
3	1	1
16	1	1
2	1	1

6	1	1
117	1	1
6	1	1
16	1	1
8	1	1
73	1	1
6	1	1
5	1	1
44	1	1
31	1	1
13	1	1
37	1	1
12	1	1
3	1	1
2	1	1
6	1	1
1	1	1
147	1	1
10	1	1
10	1	1
3	1	1
27	1	1
22	1	1
141	1	1
34	1	1
40	1	1
10	1	1
5	1	1
1	1	1
1	1	1
1	1	1
3	1	1
1	1	1
1	1	1
2	1	1
1	1	1
53	1	1
60	1	1
20	1	1
52	1	1
55	1	1
89	1	1
180	1	1
84	1	1
45	1	1
68	1	1
5	1	1
13	1	1
10	1	1
17	1	1
12	1	1

12	1	1
19	1	1
3	1	1
1	1	1
9	1	1
82	1	1
25	1	1
20	1	1
53	1	1
18	1	1
6	1	1
11	1	1
18	1	1
2	1	1
1	1	1
2	1	1
1	1	1
1	1	1
1	1	1
3	1	1
1	1	1
1	1	1
1	1	1
4	1	1
1	1	1
2	1	1
1	1	1
3	1	1
3	1	1
11	1	1
7	1	1
38	1	1
2	1	1
2	1	1
15	1	1
2	1	1
38	1	1
85	1	1
7	1	1
3	1	1
4	1	1
1	1	1
2	1	1
7	1	1
12	1	1
67	1	1
9	1	1
78	1	1
17	1	1
12	1	1
31	1	1
7	1	1

10	1	1
9	1	1
125	1	1
8	1	1
2	1	1
11	1	1
3	1	1
10	1	1
1	1	1
2	1	1
3	1	1
7	1	1
12	1	1
2	1	1
1	1	1
1	1	1
2	1	1
6	1	1
3	1	1
4	1	1
1	1	1
3	1	1
2	1	1
2	1	1
45	1	1
6	1	1
1	1	1
34	1	1
6	1	1
45	1	1
13	1	1
11	1	1
5	1	1
2	1	1
2	1	1
4	1	1
6	1	1
2	1	1
2	1	1
2	1	1
1	1	1
5	1	1
1	1	1
1	1	1
1	1	1
8	1	1
1	1	1
2	1	1
1	1	1
1	1	1
2	1	1
6	1	1

10	1	1
1	1	1
2	1	1
1	1	1
1	1	1
1	1	1
11	1	1
31	1	1
9	1	1
14	1	1
19	1	1
12	1	1
2	1	1
3	1	1
2	1	1
4	1	1
1	1	1
6	1	1
9	1	1
5	1	1
2	1	1
5	1	1
19	1	1
34	1	1
25	1	1
3	1	1
3	1	1
10	1	1
5	1	1
1	1	1
1	1	1
93	1	1
131	1	1
2	1	1
78	1	1
153	1	1
30	1	1
32	1	1
6	1	1
10	1	1
56	1	1
2	1	1
2	1	1
4	1	1
94	1	1
153	1	1
73	1	1
24	1	1
1	1	1
74	1	1
23	1	1
19	1	1

17	1	1
6	1	1
37	1	1
1	1	1
3	1	1
1	1	1
1	1	1
20	1	1
11	1	1
82	1	1
5	1	1
63	1	1
59	1	1
138	1	1
28	1	1
8	1	1
1	1	1
143	1	1
4	1	1
9	1	1
30	1	1
3	1	1
2	1	1
4	1	1
15	1	1
28	1	1
2	1	1
29	1	1
15	1	1
22	1	1
5	1	1
19	1	1
83	1	1
4	1	1
20	1	1
25	1	1
6	1	1
7	1	1
8	1	1
4	1	1
2	1	1
5	1	1
12	1	1
18	1	1
67	1	1
32	1	1
158	1	1
17	1	1
33	1	1
7	1	1
599	1,00166945	1,00166945
1437	1,00208768	1,00208768

344	1,00290698	1,00290698
397	1,00503778	1,00503778
190	1,00526316	1,00526316
353	1,00566572	1,00566572
2262	1,00618921	1,00618921
161	1,00621118	1,00621118
145	1,00689655	1,00689655
1437	1,00765484	1,00765484
514	1,0077821	1,0077821
127	1,00787402	1,00787402
127	1,00787402	1,00787402
126	1,00793651	1,00793651
117	1,00854701	1,00854701
7153	1,00894729	1,00894729
107	1,00934579	1,00934579
204	1,00980392	1,00980392
98	1,01020408	1,01020408
96	1,01041667	1,01041667
94	1,0106383	1,0106383
88	1,01136364	1,01136364
88	1,01136364	1,01136364
84	1,01190476	1,01190476
161	1,01242236	1,01242236
240	1,0125	1,0125
76	1,01315789	1,01315789
299	1,01337793	1,01337793
297	1,01346801	1,01346801
148	1,01351351	1,01351351
73	1,01369863	1,01369863
73	1,01369863	1,01369863
73	1,01369863	1,01369863
141	1,0141844	1,0141844
69	1,01449275	1,01449275
69	1,01449275	1,01449275
67	1,01492537	1,01492537
65	1,01538462	1,01538462
65	1,01538462	1,01538462
2285	1,01575492	1,01575492
182	1,01648352	1,01648352
60	1,01666667	1,01666667
176	1,01704545	1,01704545
58	1,01724138	1,01724138
114	1,01754386	1,01754386
56	1,01785714	1,01785714
56	1,01785714	1,01785714
500	1,018	1,018
55	1,01818182	1,01818182
537	1,01862197	1,01862197
214	1,01869159	1,01869159
372	1,0188172	1,0188172
53	1,01886792	1,01886792
314	1,01910828	1,01910828

209	1,01913876	1,01913876
155	1,01935484	1,01935484
51	1,01960784	1,01960784
852	1,01995305	1,01995305
50	1,02	1,02
100	1,02	1,02
100	1,02	1,02
99	1,02020202	1,02020202
7457	1,02038353	1,02038353
49	1,02040816	1,02040816
192	1,02083333	1,02083333
93	1,02150538	1,02150538
185	1,02162162	1,02162162
136	1,02205882	1,02205882
362	1,02209945	1,02209945
86	1,02325581	1,02325581
43	1,02325581	1,02325581
129	1,02325581	1,02325581
129	1,02325581	1,02325581
411	1,0243309	1,0243309
41	1,02439024	1,02439024
205	1,02439024	1,02439024
81	1,02469136	1,02469136
80	1,025	1,025
40	1,025	1,025
40	1,025	1,025
6247	1,02513206	1,02513206
354	1,02542373	1,02542373
78	1,02564103	1,02564103
311	1,02572347	1,02572347
38	1,02631579	1,02631579
38	1,02631579	1,02631579
38	1,02631579	1,02631579
110	1,02727273	1,02727273
73	1,02739726	1,02739726
8663	1,02770403	1,02770403
36	1,02777778	1,02777778
140	1,02857143	1,02857143
207	1,02898551	1,02898551
69	1,02898551	1,02898551
205	1,02926829	1,02926829
34	1,02941176	1,02941176
34	1,02941176	1,02941176
34	1,02941176	1,02941176
339	1,02949853	1,02949853
135	1,02962963	1,02962963
297	1,03030303	1,03030303
33	1,03030303	1,03030303
131	1,03053435	1,03053435
65	1,03076923	1,03076923
130	1,03076923	1,03076923
32	1,03125	1,03125

32	1,03125	1,03125
127	1,03149606	1,03149606
63	1,03174603	1,03174603
189	1,03174603	1,03174603
220	1,03181818	1,03181818
94	1,03191489	1,03191489
94	1,03191489	1,03191489
62	1,03225806	1,03225806
31	1,03225806	1,03225806
61	1,03278689	1,03278689
91	1,03296703	1,03296703
301	1,03322259	1,03322259
30	1,03333333	1,03333333
238	1,03361345	1,03361345
88	1,03409091	1,03409091
29	1,03448276	1,03448276
29	1,03448276	1,03448276
57	1,03508772	1,03508772
28	1,03571429	1,03571429
56	1,03571429	1,03571429
108	1,03703704	1,03703704
108	1,03703704	1,03703704
479	1,03757829	1,03757829
53	1,03773585	1,03773585
26	1,03846154	1,03846154
26	1,03846154	1,03846154
78	1,03846154	1,03846154
52	1,03846154	1,03846154
26	1,03846154	1,03846154
155	1,03870968	1,03870968
541	1,03881701	1,03881701
333	1,03903904	1,03903904
256	1,0390625	1,0390625
51	1,03921569	1,03921569
25	1,04	1,04
25	1,04	1,04
25	1,04	1,04
25	1,04	1,04
74	1,04054054	1,04054054
49	1,04081633	1,04081633
24	1,04166667	1,04166667
96	1,04166667	1,04166667
144	1,04166667	1,04166667
143	1,04195804	1,04195804
95	1,04210526	1,04210526
47	1,04255319	1,04255319
70	1,04285714	1,04285714
207	1,04347826	1,04347826
897	1,04347826	1,04347826
23	1,04347826	1,04347826
183	1,04371585	1,04371585
1704	1,04460094	1,04460094

89	1,04494382	1,04494382
22	1,04545455	1,04545455
22	1,04545455	1,04545455
22	1,04545455	1,04545455
22	1,04545455	1,04545455
44	1,04545455	1,04545455
22	1,04545455	1,04545455
350	1,04571429	1,04571429
87	1,04597701	1,04597701
757	1,04623514	1,04623514
43	1,04651163	1,04651163
43	1,04651163	1,04651163
86	1,04651163	1,04651163
106	1,04716981	1,04716981
42	1,04761905	1,04761905
21	1,04761905	1,04761905
84	1,04761905	1,04761905
42	1,04761905	1,04761905
104	1,04807692	1,04807692
83	1,04819277	1,04819277
1137	1,04837291	1,04837291
62	1,0483871	1,0483871
185	1,04864865	1,04864865
41	1,04878049	1,04878049
41	1,04878049	1,04878049
266	1,04887218	1,04887218
20	1,05	1,05
200	1,05	1,05
20	1,05	1,05
140	1,05	1,05
20	1,05	1,05
617	1,05024311	1,05024311
59	1,05084746	1,05084746
39	1,05128205	1,05128205
96	1,05208333	1,05208333
38	1,05263158	1,05263158
19	1,05263158	1,05263158
38	1,05263158	1,05263158
57	1,05263158	1,05263158
38	1,05263158	1,05263158
38	1,05263158	1,05263158
38	1,05263158	1,05263158
38	1,05263158	1,05263158
19	1,05263158	1,05263158
281	1,05338078	1,05338078
131	1,05343511	1,05343511
37	1,05405405	1,05405405
111	1,05405405	1,05405405
37	1,05405405	1,05405405
184	1,05434783	1,05434783
147	1,05442177	1,05442177
18	1,05555556	1,05555556
54	1,05555556	1,05555556

18	1,05555556	1,05555556
71	1,05633803	1,05633803
35	1,05714286	1,05714286
35	1,05714286	1,05714286
70	1,05714286	1,05714286
174	1,05747126	1,05747126
173	1,05780347	1,05780347
34	1,05882353	1,05882353
34	1,05882353	1,05882353
68	1,05882353	1,05882353
67	1,05970149	1,05970149
3145	1,06009539	1,06009539
83	1,06024096	1,06024096
116	1,06034483	1,06034483
66	1,06060606	1,06060606
66	1,06060606	1,06060606
66	1,06060606	1,06060606
146	1,06164384	1,06164384
146	1,06164384	1,06164384
258	1,0620155	1,0620155
337	1,06231454	1,06231454
16	1,0625	1,0625
16	1,0625	1,0625
16	1,0625	1,0625
80	1,0625	1,0625
48	1,0625	1,0625
64	1,0625	1,0625
16	1,0625	1,0625
16	1,0625	1,0625
48	1,0625	1,0625
80	1,0625	1,0625
32	1,0625	1,0625
174	1,06321839	1,06321839
94	1,06382979	1,06382979
203	1,06403941	1,06403941
62	1,06451613	1,06451613
62	1,06451613	1,06451613
323	1,06501548	1,06501548
169	1,06508876	1,06508876
30	1,06666667	1,06666667
45	1,06666667	1,06666667
15	1,06666667	1,06666667
15	1,06666667	1,06666667
30	1,06666667	1,06666667
30	1,06666667	1,06666667
15	1,06666667	1,06666667
15	1,06666667	1,06666667
59	1,06779661	1,06779661
44	1,06818182	1,06818182
73	1,06849315	1,06849315
72	1,06944444	1,06944444
72	1,06944444	1,06944444

129	1,06976744	1,06976744
228	1,07017544	1,07017544
128	1,0703125	1,0703125
85	1,07058824	1,07058824
14	1,07142857	1,07142857
14	1,07142857	1,07142857
14	1,07142857	1,07142857
14	1,07142857	1,07142857
84	1,07142857	1,07142857
82	1,07317073	1,07317073
82	1,07317073	1,07317073
41	1,07317073	1,07317073
136	1,07352941	1,07352941
81	1,07407407	1,07407407
2422	1,07431874	1,07431874
228	1,0745614	1,0745614
804	1,07462687	1,07462687
371	1,0754717	1,0754717
131	1,07633588	1,07633588
13	1,07692308	1,07692308
26	1,07692308	1,07692308
26	1,07692308	1,07692308
13	1,07692308	1,07692308
220	1,07727273	1,07727273
207	1,07729469	1,07729469
181	1,07734807	1,07734807
90	1,07777778	1,07777778
90	1,07777778	1,07777778
89	1,07865169	1,07865169
76	1,07894737	1,07894737
38	1,07894737	1,07894737
38	1,07894737	1,07894737
25	1,08	1,08
200	1,08	1,08
25	1,08	1,08
50	1,08	1,08
25	1,08	1,08
25	1,08	1,08
870	1,08045977	1,08045977
236	1,08050847	1,08050847
37	1,08108108	1,08108108
37	1,08108108	1,08108108
135	1,08148148	1,08148148
363	1,08264463	1,08264463
48	1,08333333	1,08333333
24	1,08333333	1,08333333
12	1,08333333	1,08333333
36	1,08333333	1,08333333
12	1,08333333	1,08333333
12	1,08333333	1,08333333
106	1,08490566	1,08490566
47	1,08510638	1,08510638

141	1,08510638	1,08510638
269	1,08550186	1,08550186
70	1,08571429	1,08571429
35	1,08571429	1,08571429
105	1,08571429	1,08571429
139	1,08633094	1,08633094
81	1,08641975	1,08641975
81	1,08641975	1,08641975
150	1,08666667	1,08666667
46	1,08695652	1,08695652
46	1,08695652	1,08695652
91	1,08791209	1,08791209
45	1,08888889	1,08888889
585	1,08888889	1,08888889
90	1,08888889	1,08888889
303	1,08910891	1,08910891
56	1,08928571	1,08928571
56	1,08928571	1,08928571
67	1,08955224	1,08955224
7790	1,08960205	1,08960205
89	1,08988764	1,08988764
89	1,08988764	1,08988764
132	1,09090909	1,09090909
11	1,09090909	1,09090909
22	1,09090909	1,09090909
11	1,09090909	1,09090909
11	1,09090909	1,09090909
11	1,09090909	1,09090909
33	1,09090909	1,09090909
187	1,09090909	1,09090909
11	1,09090909	1,09090909
209	1,09090909	1,09090909
11	1,09090909	1,09090909
66	1,09090909	1,09090909
11	1,09090909	1,09090909
286	1,09090909	1,09090909
22	1,09090909	1,09090909
11	1,09090909	1,09090909
283	1,09187279	1,09187279
76	1,09210526	1,09210526
54	1,09259259	1,09259259
108	1,09259259	1,09259259
54	1,09259259	1,09259259
140	1,09285714	1,09285714
193	1,09326425	1,09326425
75	1,09333333	1,09333333
32	1,09375	1,09375
64	1,09375	1,09375
159	1,09433962	1,09433962
74	1,09459459	1,09459459
42	1,0952381	1,0952381
21	1,0952381	1,0952381

94	1,09574468	1,09574468
177	1,0960452	1,0960452
83	1,09638554	1,09638554
83	1,09638554	1,09638554
243	1,09876543	1,09876543
121	1,09917355	1,09917355
10	1,1	1,1
30	1,1	1,1
10	1,1	1,1
20	1,1	1,1
10	1,1	1,1
30	1,1	1,1
20	1,1	1,1
50	1,1	1,1
50	1,1	1,1
20	1,1	1,1
20	1,1	1,1
10	1,1	1,1
724	1,10082873	1,10082873
118	1,10169492	1,10169492
334	1,10179641	1,10179641
1077	1,10213556	1,10213556
97	1,10309278	1,10309278
29	1,10344828	1,10344828
29	1,10344828	1,10344828
29	1,10344828	1,10344828
183	1,10382514	1,10382514
230	1,10434783	1,10434783
2037	1,10456554	1,10456554
38	1,10526316	1,10526316
19	1,10526316	1,10526316
19	1,10526316	1,10526316
19	1,10526316	1,10526316
161	1,10559006	1,10559006
28	1,10714286	1,10714286
196	1,10714286	1,10714286
56	1,10714286	1,10714286
37	1,10810811	1,10810811
37	1,10810811	1,10810811
83	1,10843373	1,10843373
46	1,10869565	1,10869565
92	1,10869565	1,10869565
92	1,10869565	1,10869565
46	1,10869565	1,10869565
55	1,10909091	1,10909091
229	1,10917031	1,10917031
493	1,10953347	1,10953347
208	1,11057692	1,11057692
27	1,11111111	1,11111111
9	1,11111111	1,11111111
135	1,11111111	1,11111111
9	1,11111111	1,11111111

9	1,11111111	1,11111111
18	1,11111111	1,11111111
9	1,11111111	1,11111111
27	1,11111111	1,11111111
45	1,11111111	1,11111111
18	1,11111111	1,11111111
9	1,11111111	1,11111111
81	1,11111111	1,11111111
9	1,11111111	1,11111111
9	1,11111111	1,11111111
9	1,11111111	1,11111111
27	1,11111111	1,11111111
90	1,11111111	1,11111111
261	1,11111111	1,11111111
18	1,11111111	1,11111111
107	1,11214953	1,11214953
98	1,1122449	1,1122449
196	1,1122449	1,1122449
160	1,1125	1,1125
80	1,1125	1,1125
80	1,1125	1,1125
151	1,11258278	1,11258278
115	1,11304348	1,11304348
44	1,11363636	1,11363636
35	1,11428571	1,11428571
26	1,11538462	1,11538462
130	1,11538462	1,11538462
78	1,11538462	1,11538462
43	1,11627907	1,11627907
43	1,11627907	1,11627907
43	1,11627907	1,11627907
68	1,11764706	1,11764706
34	1,11764706	1,11764706
17	1,11764706	1,11764706
68	1,11764706	1,11764706
17	1,11764706	1,11764706
51	1,11764706	1,11764706
17	1,11764706	1,11764706
17	1,11764706	1,11764706
17	1,11764706	1,11764706
203	1,1182266	1,1182266
59	1,11864407	1,11864407
126	1,11904762	1,11904762
336	1,11904762	1,11904762
50	1,12	1,12
25	1,12	1,12
25	1,12	1,12
224	1,12053571	1,12053571
107	1,12149533	1,12149533
73	1,12328767	1,12328767
153	1,12418301	1,12418301
8	1,125	1,125

8	1,125	1,125
16	1,125	1,125
40	1,125	1,125
24	1,125	1,125
24	1,125	1,125
48	1,125	1,125
16	1,125	1,125
56	1,125	1,125
8	1,125	1,125
8	1,125	1,125
8	1,125	1,125
48	1,125	1,125
8	1,125	1,125
16	1,125	1,125
16	1,125	1,125
16	1,125	1,125
8	1,125	1,125
8	1,125	1,125
8	1,125	1,125
16	1,125	1,125
24	1,125	1,125
8	1,125	1,125
8	1,125	1,125
8	1,125	1,125
32	1,125	1,125
119	1,12605042	1,12605042
79	1,12658228	1,12658228
47	1,12765957	1,12765957
39	1,12820513	1,12820513
156	1,12820513	1,12820513
78	1,12820513	1,12820513
101	1,12871287	1,12871287
31	1,12903226	1,12903226
31	1,12903226	1,12903226
93	1,12903226	1,12903226
286	1,12937063	1,12937063
100	1,13	1,13
284	1,13028169	1,13028169
176	1,13068182	1,13068182
99	1,13131313	1,13131313
190	1,13157895	1,13157895
38	1,13157895	1,13157895
76	1,13157895	1,13157895
38	1,13157895	1,13157895
53	1,13207547	1,13207547
68	1,13235294	1,13235294
98	1,13265306	1,13265306
30	1,13333333	1,13333333
30	1,13333333	1,13333333
15	1,13333333	1,13333333
30	1,13333333	1,13333333
45	1,13333333	1,13333333

680 1,13382353 1,13382353
119 1,13445378 1,13445378
22 1,13636364 1,13636364
66 1,13636364 1,13636364
22 1,13636364 1,13636364
22 1,13636364 1,13636364
51 1,1372549 1,1372549
51 1,1372549 1,1372549
443 1,13769752 1,13769752
58 1,13793103 1,13793103
87 1,13793103 1,13793103
29 1,13793103 1,13793103
43 1,13953488 1,13953488
50 1,14 1,14
7 1,14285714 1,14285714
7 1,14285714 1,14285714
7 1,14285714 1,14285714
14 1,14285714 1,14285714
7 1,14285714 1,14285714
14 1,14285714 1,14285714
7 1,14285714 1,14285714
147 1,14285714 1,14285714
21 1,14285714 1,14285714
7 1,14285714 1,14285714
49 1,14285714 1,14285714
21 1,14285714 1,14285714
7 1,14285714 1,14285714
42 1,14285714 1,14285714
133 1,14285714 1,14285714
165 1,14545455 1,14545455
55 1,14545455 1,14545455
55 1,14545455 1,14545455
336 1,14583333 1,14583333
48 1,14583333 1,14583333
533 1,14634146 1,14634146
41 1,14634146 1,14634146
41 1,14634146 1,14634146
75 1,14666667 1,14666667
34 1,14705882 1,14705882
61 1,14754098 1,14754098
27 1,14814815 1,14814815
47 1,14893617 1,14893617
208 1,14903846 1,14903846
114 1,14912281 1,14912281
20 1,15 1,15
20 1,15 1,15
60 1,15 1,15
33 1,15151515 1,15151515
33 1,15151515 1,15151515
99 1,15151515 1,15151515
79 1,15189873 1,15189873
46 1,15217391 1,15217391

78	1,15384615	1,15384615
39	1,15384615	1,15384615
13	1,15384615	1,15384615
45	1,15555556	1,15555556
77	1,15584416	1,15584416
179	1,15642458	1,15642458
51	1,15686275	1,15686275
102	1,15686275	1,15686275
19	1,15789474	1,15789474
44	1,15909091	1,15909091
138	1,15942029	1,15942029
50	1,16	1,16
325	1,16	1,16
25	1,16	1,16
50	1,16	1,16
25	1,16	1,16
62	1,16129032	1,16129032
99	1,16161616	1,16161616
43	1,1627907	1,1627907
49	1,16326531	1,16326531
127	1,16535433	1,16535433
6	1,16666667	1,16666667
6	1,16666667	1,16666667
18	1,16666667	1,16666667
138	1,16666667	1,16666667
12	1,16666667	1,16666667
6	1,16666667	1,16666667
18	1,16666667	1,16666667
12	1,16666667	1,16666667
6	1,16666667	1,16666667
6	1,16666667	1,16666667
6	1,16666667	1,16666667
30	1,16666667	1,16666667
6	1,16666667	1,16666667
6	1,16666667	1,16666667
6	1,16666667	1,16666667
18	1,16666667	1,16666667
24	1,16666667	1,16666667
36	1,16666667	1,16666667
96	1,16666667	1,16666667
12	1,16666667	1,16666667
12	1,16666667	1,16666667
6	1,16666667	1,16666667
83	1,1686747	1,1686747
124	1,16935484	1,16935484
53	1,16981132	1,16981132
41	1,17073171	1,17073171
35	1,17142857	1,17142857
35	1,17142857	1,17142857
35	1,17142857	1,17142857
122	1,17213115	1,17213115
122	1,17213115	1,17213115
29	1,17241379	1,17241379

29	1,17241379	1,17241379
29	1,17241379	1,17241379
29	1,17241379	1,17241379
75	1,17333333	1,17333333
69	1,17391304	1,17391304
23	1,17391304	1,17391304
23	1,17391304	1,17391304
343	1,17492711	1,17492711
40	1,175	1,175
34	1,17647059	1,17647059
283	1,17667845	1,17667845
28	1,17857143	1,17857143
28	1,17857143	1,17857143
767	1,17861799	1,17861799
530	1,17924528	1,17924528
39	1,17948718	1,17948718
78	1,17948718	1,17948718
83	1,18072289	1,18072289
392	1,18112245	1,18112245
33	1,18181818	1,18181818
11	1,18181818	1,18181818
33	1,18181818	1,18181818
11	1,18181818	1,18181818
142	1,18309859	1,18309859
60	1,18333333	1,18333333
223	1,1838565	1,1838565
38	1,18421053	1,18421053
38	1,18421053	1,18421053
38	1,18421053	1,18421053
103	1,18446602	1,18446602
27	1,18518519	1,18518519
27	1,18518519	1,18518519
108	1,18518519	1,18518519
1867	1,18532405	1,18532405
124	1,18548387	1,18548387
140	1,18571429	1,18571429
893	1,18589026	1,18589026
558	1,18637993	1,18637993
219	1,18721461	1,18721461
80	1,1875	1,1875
16	1,1875	1,1875
48	1,1875	1,1875
32	1,1875	1,1875
32	1,1875	1,1875
32	1,1875	1,1875
16	1,1875	1,1875
218	1,18807339	1,18807339
74	1,18918919	1,18918919
37	1,18918919	1,18918919
37	1,18918919	1,18918919
412	1,18932039	1,18932039
58	1,18965517	1,18965517

79	1,18987342	1,18987342
79	1,18987342	1,18987342
26	1,19230769	1,19230769
52	1,19230769	1,19230769
722	1,19252078	1,19252078
751	1,1930759	1,1930759
62	1,19354839	1,19354839
31	1,19354839	1,19354839
31	1,19354839	1,19354839
62	1,19354839	1,19354839
31	1,19354839	1,19354839
31	1,19354839	1,19354839
649	1,19414484	1,19414484
149	1,19463087	1,19463087
251	1,19521912	1,19521912
46	1,19565217	1,19565217
291	1,19587629	1,19587629
224	1,19642857	1,19642857
56	1,19642857	1,19642857
421	1,19952494	1,19952494
45	1,2	1,2
15	1,2	1,2
70	1,2	1,2
15	1,2	1,2
10	1,2	1,2
5	1,2	1,2
5	1,2	1,2
10	1,2	1,2
5	1,2	1,2
20	1,2	1,2
60	1,2	1,2
5	1,2	1,2
5	1,2	1,2
10	1,2	1,2
100	1,2	1,2
10	1,2	1,2
5	1,2	1,2
5	1,2	1,2
10	1,2	1,2
25	1,2	1,2
20	1,2	1,2
45	1,2	1,2
20	1,2	1,2
120	1,2	1,2
149	1,20134228	1,20134228
119	1,20168067	1,20168067
228	1,20175439	1,20175439
104	1,20192308	1,20192308
64	1,203125	1,203125
108	1,2037037	1,2037037
49	1,20408163	1,20408163
88	1,20454545	1,20454545

34	1,20588235	1,20588235
29	1,20689655	1,20689655
58	1,20689655	1,20689655
29	1,20689655	1,20689655
53	1,20754717	1,20754717
119	1,21008403	1,21008403
19	1,21052632	1,21052632
19	1,21052632	1,21052632
19	1,21052632	1,21052632
33	1,21212121	1,21212121
231	1,21212121	1,21212121
33	1,21212121	1,21212121
61	1,21311475	1,21311475
61	1,21311475	1,21311475
75	1,21333333	1,21333333
239	1,21338912	1,21338912
117	1,21367521	1,21367521
14	1,21428571	1,21428571
28	1,21428571	1,21428571
56	1,21428571	1,21428571
14	1,21428571	1,21428571
51	1,21568627	1,21568627
208	1,21634615	1,21634615
60	1,21666667	1,21666667
120	1,21666667	1,21666667
110	1,21818182	1,21818182
119	1,21848739	1,21848739
32	1,21875	1,21875
64	1,21875	1,21875
100	1,22	1,22
50	1,22	1,22
50	1,22	1,22
59	1,22033898	1,22033898
68	1,22058824	1,22058824
18	1,22222222	1,22222222
9	1,22222222	1,22222222
9	1,22222222	1,22222222
45	1,22222222	1,22222222
9	1,22222222	1,22222222
9	1,22222222	1,22222222
54	1,22222222	1,22222222
9	1,22222222	1,22222222
45	1,22222222	1,22222222
9	1,22222222	1,22222222
18	1,22222222	1,22222222
31	1,22580645	1,22580645
31	1,22580645	1,22580645
256	1,2265625	1,2265625
75	1,22666667	1,22666667
185	1,22702703	1,22702703
22	1,22727273	1,22727273
44	1,22727273	1,22727273

149	1,22818792	1,22818792
83	1,22891566	1,22891566
39	1,23076923	1,23076923
13	1,23076923	1,23076923
13	1,23076923	1,23076923
26	1,23076923	1,23076923
13	1,23076923	1,23076923
13	1,23076923	1,23076923
312	1,23076923	1,23076923
13	1,23076923	1,23076923
56	1,23214286	1,23214286
43	1,23255814	1,23255814
73	1,23287671	1,23287671
30	1,23333333	1,23333333
81	1,2345679	1,2345679
81	1,2345679	1,2345679
987	1,23505572	1,23505572
17	1,23529412	1,23529412
17	1,23529412	1,23529412
34	1,23529412	1,23529412
17	1,23529412	1,23529412
17	1,23529412	1,23529412
34	1,23529412	1,23529412
17	1,23529412	1,23529412
34	1,23529412	1,23529412
106	1,23584906	1,23584906
55	1,23636364	1,23636364
1144	1,23688811	1,23688811
59	1,23728814	1,23728814
21	1,23809524	1,23809524
21	1,23809524	1,23809524
243	1,23868313	1,23868313
46	1,23913043	1,23913043
46	1,23913043	1,23913043
25	1,24	1,24
95	1,24210526	1,24210526
74	1,24324324	1,24324324
320	1,24375	1,24375
41	1,24390244	1,24390244
82	1,24390244	1,24390244
172	1,24418605	1,24418605
86	1,24418605	1,24418605
45	1,24444444	1,24444444
61	1,24590164	1,24590164
65	1,24615385	1,24615385
134	1,24626866	1,24626866
40	1,25	1,25
4	1,25	1,25
16	1,25	1,25
32	1,25	1,25
8	1,25	1,25
24	1,25	1,25

12	1,25	1,25
4	1,25	1,25
24	1,25	1,25
12	1,25	1,25
4	1,25	1,25
12	1,25	1,25
12	1,25	1,25
36	1,25	1,25
20	1,25	1,25
4	1,25	1,25
8	1,25	1,25
8	1,25	1,25
8	1,25	1,25
44	1,25	1,25
12	1,25	1,25
44	1,25	1,25
4	1,25	1,25
4	1,25	1,25
8	1,25	1,25
12	1,25	1,25
44	1,25	1,25
52	1,25	1,25
4	1,25	1,25
4	1,25	1,25
4	1,25	1,25
4	1,25	1,25
52	1,25	1,25
20	1,25	1,25
28	1,25	1,25
8	1,25	1,25
8	1,25	1,25
1357	1,25128961	1,25128961
111	1,25225225	1,25225225
107	1,25233645	1,25233645
157	1,25477707	1,25477707
125	1,256	1,256
179	1,25698324	1,25698324
35	1,25714286	1,25714286
66	1,25757576	1,25757576
31	1,25806452	1,25806452
226	1,26106195	1,26106195
111	1,26126126	1,26126126
103	1,26213592	1,26213592
61	1,26229508	1,26229508
38	1,26315789	1,26315789
19	1,26315789	1,26315789
19	1,26315789	1,26315789
34	1,26470588	1,26470588
200	1,265	1,265
132	1,26515152	1,26515152
64	1,265625	1,265625
64	1,265625	1,265625

60 1,26666667 1,26666667
30 1,26666667 1,26666667
15 1,26666667 1,26666667
15 1,26666667 1,26666667
15 1,26666667 1,26666667
187 1,26737968 1,26737968
71 1,26760563 1,26760563
328 1,26829268 1,26829268
41 1,26829268 1,26829268
41 1,26829268 1,26829268
26 1,26923077 1,26923077
52 1,26923077 1,26923077
37 1,27027027 1,27027027
33 1,27272727 1,27272727
22 1,27272727 1,27272727
11 1,27272727 1,27272727
11 1,27272727 1,27272727
11 1,27272727 1,27272727
11 1,27272727 1,27272727
267 1,27340824 1,27340824
131 1,27480916 1,27480916
131 1,27480916 1,27480916
280 1,275 1,275
69 1,27536232 1,27536232
398 1,27638191 1,27638191
18 1,27777778 1,27777778
18 1,27777778 1,27777778
36 1,27777778 1,27777778
97 1,27835052 1,27835052
61 1,27868852 1,27868852
43 1,27906977 1,27906977
68 1,27941176 1,27941176
25 1,28 1,28
32 1,28125 1,28125
39 1,28205128 1,28205128
202 1,28217822 1,28217822
46 1,2826087 1,2826087
435 1,28275862 1,28275862
205 1,28292683 1,28292683
53 1,28301887 1,28301887
113 1,28318584 1,28318584
109 1,28440367 1,28440367
7 1,28571429 1,28571429
91 1,28571429 1,28571429
21 1,28571429 1,28571429
7 1,28571429 1,28571429
42 1,28571429 1,28571429
35 1,28571429 1,28571429
63 1,28571429 1,28571429
7 1,28571429 1,28571429
7 1,28571429 1,28571429
35 1,28571429 1,28571429

49	1,28571429	1,28571429
160	1,2875	1,2875
132	1,28787879	1,28787879
111	1,28828829	1,28828829
97	1,28865979	1,28865979
90	1,28888889	1,28888889
269	1,28996283	1,28996283
93	1,29032258	1,29032258
196	1,29081633	1,29081633
429	1,29137529	1,29137529
96	1,29166667	1,29166667
24	1,29166667	1,29166667
65	1,29230769	1,29230769
17	1,29411765	1,29411765
34	1,29411765	1,29411765
34	1,29411765	1,29411765
112	1,29464286	1,29464286
95	1,29473684	1,29473684
780	1,29487179	1,29487179
61	1,29508197	1,29508197
27	1,2962963	1,2962963
27	1,2962963	1,2962963
64	1,296875	1,296875
47	1,29787234	1,29787234
107	1,29906542	1,29906542
280	1,3	1,3
20	1,3	1,3
10	1,3	1,3
103	1,30097087	1,30097087
208	1,30288462	1,30288462
69	1,30434783	1,30434783
115	1,30434783	1,30434783
46	1,30434783	1,30434783
23	1,30434783	1,30434783
23	1,30434783	1,30434783
82	1,30487805	1,30487805
170	1,30588235	1,30588235
85	1,30588235	1,30588235
137	1,30656934	1,30656934
166	1,30722892	1,30722892
143	1,30769231	1,30769231
91	1,30769231	1,30769231
13	1,30769231	1,30769231
13	1,30769231	1,30769231
55	1,30909091	1,30909091
126	1,30952381	1,30952381
42	1,30952381	1,30952381
261	1,31034483	1,31034483
61	1,31147541	1,31147541
16	1,3125	1,3125
32	1,3125	1,3125
16	1,3125	1,3125

19 1,31578947 1,31578947
19 1,31578947 1,31578947
278 1,31654676 1,31654676
22 1,31818182 1,31818182
110 1,31818182 1,31818182
25 1,32 1,32
53 1,32075472 1,32075472
84 1,32142857 1,32142857
28 1,32142857 1,32142857
37 1,32432432 1,32432432
77 1,32467532 1,32467532
864 1,32523148 1,32523148
83 1,3253012 1,3253012
129 1,3255814 1,3255814
604 1,32615894 1,32615894
49 1,32653061 1,32653061
70 1,32857143 1,32857143
82 1,32926829 1,32926829
424 1,33254717 1,33254717
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
18 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
6 1,33333333 1,33333333
15 1,33333333 1,33333333
3 1,33333333 1,33333333
15 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
30 1,33333333 1,33333333
9 1,33333333 1,33333333
3 1,33333333 1,33333333
6 1,33333333 1,33333333
3 1,33333333 1,33333333
15 1,33333333 1,33333333
18 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
18 1,33333333 1,33333333
48 1,33333333 1,33333333
6 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
9 1,33333333 1,33333333
6 1,33333333 1,33333333

6 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
3 1,33333333 1,33333333
6 1,33333333 1,33333333
9 1,33333333 1,33333333
141 1,33333333 1,33333333
3 1,33333333 1,33333333
12 1,33333333 1,33333333
3 1,33333333 1,33333333
15 1,33333333 1,33333333
12 1,33333333 1,33333333
197 1,33502538 1,33502538
101 1,33663366 1,33663366
95 1,33684211 1,33684211
95 1,33684211 1,33684211
157 1,33757962 1,33757962
130 1,33846154 1,33846154
208 1,34134615 1,34134615
117 1,34188034 1,34188034
38 1,34210526 1,34210526
38 1,34210526 1,34210526
29 1,34482759 1,34482759
29 1,34482759 1,34482759
29 1,34482759 1,34482759
26 1,34615385 1,34615385
26 1,34615385 1,34615385
115 1,34782609 1,34782609
43 1,34883721 1,34883721
189 1,34920635 1,34920635
20 1,35 1,35
20 1,35 1,35
57 1,35087719 1,35087719
34 1,35294118 1,35294118
17 1,35294118 1,35294118
31 1,35483871 1,35483871
121 1,3553719 1,3553719
28 1,35714286 1,35714286
14 1,35714286 1,35714286
14 1,35714286 1,35714286
14 1,35714286 1,35714286
50 1,36 1,36
111 1,36036036 1,36036036
197 1,36040609 1,36040609
47 1,36170213 1,36170213
190 1,36315789 1,36315789
11 1,36363636 1,36363636
11 1,36363636 1,36363636
11 1,36363636 1,36363636
82 1,36585366 1,36585366
30 1,36666667 1,36666667

139	1,36690647	1,36690647
49	1,36734694	1,36734694
57	1,36842105	1,36842105
19	1,36842105	1,36842105
38	1,36842105	1,36842105
19	1,36842105	1,36842105
176	1,36931818	1,36931818
46	1,36956522	1,36956522
46	1,36956522	1,36956522
73	1,36986301	1,36986301
27	1,37037037	1,37037037
35	1,37142857	1,37142857
43	1,37209302	1,37209302
110	1,37272727	1,37272727
8	1,375	1,375
16	1,375	1,375
32	1,375	1,375
8	1,375	1,375
8	1,375	1,375
8	1,375	1,375
8	1,375	1,375
16	1,375	1,375
61	1,37704918	1,37704918
45	1,37777778	1,37777778
11482	1,37850549	1,37850549
66	1,37878788	1,37878788
29	1,37931034	1,37931034
50	1,38	1,38
50	1,38	1,38
155	1,38064516	1,38064516
21	1,38095238	1,38095238
42	1,38095238	1,38095238
223	1,38116592	1,38116592
136	1,38235294	1,38235294
13	1,38461538	1,38461538
13	1,38461538	1,38461538
13	1,38461538	1,38461538
13	1,38461538	1,38461538
4269	1,3851019	1,3851019
127	1,38582677	1,38582677
409	1,38630807	1,38630807
204	1,3872549	1,3872549
49	1,3877551	1,3877551
54	1,38888889	1,38888889
77	1,38961039	1,38961039
64	1,390625	1,390625
514	1,39105058	1,39105058
326	1,39263804	1,39263804
33	1,39393939	1,39393939
109	1,39449541	1,39449541
91	1,3956044	1,3956044
58	1,39655172	1,39655172

10	1,4	1,4
15	1,4	1,4
5	1,4	1,4
20	1,4	1,4
5	1,4	1,4
10	1,4	1,4
30	1,4	1,4
5	1,4	1,4
25	1,4	1,4
10	1,4	1,4
5	1,4	1,4
5	1,4	1,4
30	1,4	1,4
5	1,4	1,4
10	1,4	1,4
5	1,4	1,4
5	1,4	1,4
102	1,40196078	1,40196078
37	1,40540541	1,40540541
59	1,40677966	1,40677966
113	1,40707965	1,40707965
27	1,40740741	1,40740741
88	1,40909091	1,40909091
178	1,41011236	1,41011236
39	1,41025641	1,41025641
46	1,41304348	1,41304348
75	1,41333333	1,41333333
29	1,4137931	1,4137931
41	1,41463415	1,41463415
12	1,41666667	1,41666667
72	1,41666667	1,41666667
93	1,41935484	1,41935484
19	1,42105263	1,42105263
19	1,42105263	1,42105263
121	1,4214876	1,4214876
64	1,421875	1,421875
71	1,42253521	1,42253521
26	1,42307692	1,42307692
153	1,4248366	1,4248366
47	1,42553191	1,42553191
155	1,42580645	1,42580645
68	1,42647059	1,42647059
28	1,42857143	1,42857143
42	1,42857143	1,42857143
7	1,42857143	1,42857143
21	1,42857143	1,42857143
7	1,42857143	1,42857143
56	1,42857143	1,42857143
42	1,42857143	1,42857143
14	1,42857143	1,42857143
77	1,42857143	1,42857143
21	1,42857143	1,42857143

228	1,42982456	1,42982456
173	1,43352601	1,43352601
407	1,43734644	1,43734644
16	1,4375	1,4375
16	1,4375	1,4375
48	1,4375	1,4375
16	1,4375	1,4375
16	1,4375	1,4375
57	1,43859649	1,43859649
433	1,43879908	1,43879908
50	1,44	1,44
27	1,44444444	1,44444444
9	1,44444444	1,44444444
9	1,44444444	1,44444444
67	1,44776119	1,44776119
376	1,44946809	1,44946809
20	1,45	1,45
51	1,45098039	1,45098039
82	1,45121951	1,45121951
11	1,45454545	1,45454545
101	1,45544554	1,45544554
35	1,45714286	1,45714286
140	1,45714286	1,45714286
177	1,45762712	1,45762712
391	1,45780051	1,45780051
24	1,45833333	1,45833333
102	1,46078431	1,46078431
28	1,46428571	1,46428571
43	1,46511628	1,46511628
15	1,46666667	1,46666667
120	1,46666667	1,46666667
77	1,46753247	1,46753247
47	1,46808511	1,46808511
47	1,46808511	1,46808511
34	1,47058824	1,47058824
72	1,47222222	1,47222222
97	1,4742268	1,4742268
40	1,475	1,475
250	1,476	1,476
21	1,47619048	1,47619048
67	1,47761194	1,47761194
90	1,47777778	1,47777778
23	1,47826087	1,47826087
161	1,47826087	1,47826087
190	1,47894737	1,47894737
25	1,48	1,48
27	1,48148148	1,48148148
27	1,48148148	1,48148148
27	1,48148148	1,48148148
110	1,48181818	1,48181818
85	1,48235294	1,48235294
272	1,48529412	1,48529412

35	1,48571429	1,48571429
72	1,48611111	1,48611111
76	1,48684211	1,48684211
119	1,48739496	1,48739496
45	1,48888889	1,48888889
47	1,4893617	1,4893617
49	1,48979592	1,48979592
71	1,49295775	1,49295775
89	1,49438202	1,49438202
179	1,4972067	1,4972067
20	1,5	1,5
18	1,5	1,5
8	1,5	1,5
2	1,5	1,5
2	1,5	1,5
28	1,5	1,5
2	1,5	1,5
8	1,5	1,5
90	1,5	1,5
10	1,5	1,5
2	1,5	1,5
2	1,5	1,5
12	1,5	1,5
18	1,5	1,5
2	1,5	1,5
6	1,5	1,5
4	1,5	1,5
4	1,5	1,5
6	1,5	1,5
6	1,5	1,5
6	1,5	1,5
2	1,5	1,5
2	1,5	1,5
2	1,5	1,5
8	1,5	1,5
2	1,5	1,5
2	1,5	1,5
4	1,5	1,5
8	1,5	1,5
22	1,5	1,5
10	1,5	1,5
26	1,5	1,5
106	1,5	1,5
4	1,5	1,5
2	1,5	1,5
2	1,5	1,5
4	1,5	1,5
4	1,5	1,5
4	1,5	1,5
2	1,5	1,5
6	1,5	1,5
2	1,5	1,5

8	1,5	1,5
2	1,5	1,5
16	1,5	1,5
40	1,5	1,5
50	1,5	1,5
8	1,5	1,5
2	1,5	1,5
2	1,5	1,5
12	1,5	1,5
2	1,5	1,5
4	1,5	1,5
2	1,5	1,5
4	1,5	1,5
2	1,5	1,5
2	1,5	1,5
2	1,5	1,5
95	1,50526316	1,50526316
59	1,50847458	1,50847458
45	1,51111111	1,51111111
119	1,51260504	1,51260504
39	1,51282051	1,51282051
35	1,51428571	1,51428571
31	1,51612903	1,51612903
58	1,51724138	1,51724138
151	1,52317881	1,52317881
21	1,52380952	1,52380952
59	1,52542373	1,52542373
100	1,53	1,53
147	1,53061224	1,53061224
32	1,53125	1,53125
32	1,53125	1,53125
15	1,53333333	1,53333333
15	1,53333333	1,53333333
15	1,53333333	1,53333333
15	1,53333333	1,53333333
15	1,53333333	1,53333333
39	1,53846154	1,53846154
52	1,53846154	1,53846154
13	1,53846154	1,53846154
47	1,55319149	1,55319149
9	1,55555556	1,55555556
9	1,55555556	1,55555556
9	1,55555556	1,55555556
117	1,55555556	1,55555556
97	1,55670103	1,55670103
25	1,56	1,56
163	1,56441718	1,56441718
23	1,56521739	1,56521739
14	1,57142857	1,57142857
14	1,57142857	1,57142857
61	1,57377049	1,57377049
52	1,57692308	1,57692308

19	1,57894737	1,57894737
221	1,57918552	1,57918552
55	1,58181818	1,58181818
24	1,58333333	1,58333333
60	1,58333333	1,58333333
84	1,58333333	1,58333333
60	1,58333333	1,58333333
17	1,58823529	1,58823529
204	1,58823529	1,58823529
34	1,58823529	1,58823529
200	1,59	1,59
27	1,59259259	1,59259259
5	1,6	1,6
10	1,6	1,6
5	1,6	1,6
10	1,6	1,6
5	1,6	1,6
10	1,6	1,6
5	1,6	1,6
5	1,6	1,6
5	1,6	1,6
411	1,60583942	1,60583942
3746	1,60811532	1,60811532
159	1,61006289	1,61006289
179	1,61452514	1,61452514
61	1,62295082	1,62295082
61	1,62295082	1,62295082
16	1,625	1,625
8	1,625	1,625
8	1,625	1,625
174	1,62643678	1,62643678
27	1,62962963	1,62962963
203	1,63054187	1,63054187
19	1,63157895	1,63157895
19	1,63157895	1,63157895
134	1,63432836	1,63432836
3446	1,63551944	1,63551944
33	1,63636364	1,63636364
11	1,63636364	1,63636364
250	1,64	1,64
25	1,64	1,64
120	1,64166667	1,64166667
14	1,64285714	1,64285714
17	1,64705882	1,64705882
17	1,64705882	1,64705882
54	1,64814815	1,64814815
20	1,65	1,65
40	1,65	1,65
60	1,65	1,65
49	1,65306122	1,65306122
29	1,65517241	1,65517241
56	1,66071429	1,66071429

24 1,66666667 1,66666667
30 1,66666667 1,66666667
36 1,66666667 1,66666667
3 1,66666667 1,66666667
12 1,66666667 1,66666667
3 1,66666667 1,66666667
60 1,66666667 1,66666667
3 1,66666667 1,66666667
84 1,66666667 1,66666667
24 1,66666667 1,66666667
12 1,66666667 1,66666667
6 1,66666667 1,66666667
6 1,66666667 1,66666667
3 1,66666667 1,66666667
3 1,66666667 1,66666667
12 1,66666667 1,66666667
21 1,66666667 1,66666667
18 1,66666667 1,66666667
36 1,66666667 1,66666667
3 1,66666667 1,66666667
3 1,66666667 1,66666667
3 1,66666667 1,66666667
24 1,66666667 1,66666667
73 1,67123288 1,67123288
46 1,67391304 1,67391304
739 1,67658999 1,67658999
28 1,67857143 1,67857143
81 1,67901235 1,67901235
129 1,68217054 1,68217054
19 1,68421053 1,68421053
127 1,68503937 1,68503937
159 1,6918239 1,6918239
26 1,69230769 1,69230769
105 1,6952381 1,6952381
33 1,6969697 1,6969697
10 1,7 1,7
10 1,7 1,7
10 1,7 1,7
20 1,7 1,7
57 1,70175439 1,70175439
17 1,70588235 1,70588235
109 1,70642202 1,70642202
120 1,70833333 1,70833333
7 1,71428571 1,71428571
134 1,71641791 1,71641791
18 1,72222222 1,72222222
29 1,72413793 1,72413793
40 1,725 1,725
11 1,72727273 1,72727273
210 1,72857143 1,72857143
26 1,73076923 1,73076923
228 1,73245614 1,73245614

15	1,73333333	1,73333333
15	1,73333333	1,73333333
139	1,73381295	1,73381295
265	1,73584906	1,73584906
218	1,73853211	1,73853211
50	1,74	1,74
451	1,7405765	1,7405765
35	1,74285714	1,74285714
4	1,75	1,75
4	1,75	1,75
4	1,75	1,75
4	1,75	1,75
4	1,75	1,75
4	1,75	1,75
12	1,75	1,75
80	1,75	1,75
4	1,75	1,75
4	1,75	1,75
8	1,75	1,75
60	1,76666667	1,76666667
13	1,76923077	1,76923077
40	1,775	1,775
9	1,77777778	1,77777778
45	1,77777778	1,77777778
23	1,7826087	1,7826087
42	1,78571429	1,78571429
414	1,79227053	1,79227053
10	1,8	1,8
10	1,8	1,8
10	1,8	1,8
5	1,8	1,8
5	1,8	1,8
5	1,8	1,8
66	1,8030303	1,8030303
41	1,80487805	1,80487805
36	1,80555556	1,80555556
114	1,80701754	1,80701754
74	1,81081081	1,81081081
44	1,81818182	1,81818182
11	1,81818182	1,81818182
246	1,82520325	1,82520325
23	1,82608696	1,82608696
23	1,82608696	1,82608696
6	1,83333333	1,83333333
25	1,84	1,84
129	1,85271318	1,85271318
55	1,85454545	1,85454545
7	1,85714286	1,85714286
14	1,85714286	1,85714286
7	1,85714286	1,85714286
80	1,8625	1,8625
312	1,86538462	1,86538462

46	1,86956522	1,86956522
31	1,87096774	1,87096774
31	1,87096774	1,87096774
8	1,875	1,875
8	1,875	1,875
9	1,88888889	1,88888889
9	1,88888889	1,88888889
36	1,88888889	1,88888889
36	1,88888889	1,88888889
9	1,88888889	1,88888889
713	1,90182328	1,90182328
21	1,9047619	1,9047619
76	1,90789474	1,90789474
33	1,90909091	1,90909091
146	1,9109589	1,9109589
118	1,91525424	1,91525424
112	1,91964286	1,91964286
77	1,92207792	1,92207792
13	1,92307692	1,92307692
477	1,92662474	1,92662474
539	1,92949907	1,92949907
30	1,93333333	1,93333333
15	1,93333333	1,93333333
31	1,93548387	1,93548387
35	1,94285714	1,94285714
18	1,94444444	1,94444444
94	1,94680851	1,94680851
76	1,94736842	1,94736842
19	1,94736842	1,94736842
104	1,95192308	1,95192308
24	1,95833333	1,95833333
51	1,96078431	1,96078431
29	1,96551724	1,96551724
35	1,97142857	1,97142857
39	1,97435897	1,97435897
57	1,98245614	1,98245614
175	1,99428571	1,99428571
1	2	2
7	2	2
3	2	2
4	2	2
7	2	2
1	2	2
1	2	2
1	2	2
1	2	2
27	2	2
1	2	2
5	2	2
6	2	2
7	2	2
3	2	2

2	2	2
11	2	2
3	2	2
2	2	2
1	2	2
1	2	2
1	2	2
8	2	2
3	2	2
1	2	2
1	2	2
1	2	2
1	2	2
1	2	2
2	2	2
2	2	2
1	2	2
1	2	2
2	2	2
4	2	2
7	2	2
32	2	2
1	2	2
1	2	2
1	2	2
2	2	2
2	2	2
1	2	2
1	2	2
2	2	2
20	2	2
2	2	2
1	2	2
1	2	2
1	2	2
1	2	2
3	2	2
3	2	2
1	2	2
1	2	2
1	2	2
1	2	2
3	2	2
4	2	2
1	2	2
1	2	2
2	2	2
4	2	2
6	2	2
2	2	2
1	2	2
1	2	2

2	2	2
2	2	2
2	2	2
39	2	2
60	2,01666667	2,01666667
90	2,04444444	2,04444444
178	2,04494382	2,04494382
50	2,06	2,06
197	2,06598985	2,06598985
15	2,06666667	2,06666667
116	2,06896552	2,06896552
26	2,07692308	2,07692308
13	2,07692308	2,07692308
179	2,07821229	2,07821229
114	2,07894737	2,07894737
22	2,09090909	2,09090909
10	2,1	2,1
10	2,1	2,1
10	2,1	2,1
105	2,11428571	2,11428571
17	2,11764706	2,11764706
34	2,11764706	2,11764706
33	2,12121212	2,12121212
91	2,13186813	2,13186813
7	2,14285714	2,14285714
7	2,14285714	2,14285714
126	2,14285714	2,14285714
91	2,16483516	2,16483516
6	2,16666667	2,16666667
17	2,17647059	2,17647059
49	2,18367347	2,18367347
41	2,19512195	2,19512195
35	2,2	2,2
5	2,2	2,2
5	2,2	2,2
30	2,2	2,2
75	2,21333333	2,21333333
1198	2,21953255	2,21953255
44	2,22727273	2,22727273
26	2,23076923	2,23076923
26	2,23076923	2,23076923
242	2,23140496	2,23140496
33	2,24242424	2,24242424
4	2,25	2,25
8	2,25	2,25
4	2,25	2,25
4	2,25	2,25
4	2,25	2,25
8	2,25	2,25
46	2,26086957	2,26086957
23	2,26086957	2,26086957
205	2,28780488	2,28780488

13	2,30769231	2,30769231
47	2,31914894	2,31914894
3	2,33333333	2,33333333
6	2,33333333	2,33333333
18	2,33333333	2,33333333
3	2,33333333	2,33333333
6	2,33333333	2,33333333
9	2,33333333	2,33333333
3	2,33333333	2,33333333
3	2,33333333	2,33333333
3	2,33333333	2,33333333
20	2,35	2,35
259	2,35135135	2,35135135
69	2,36231884	2,36231884
19	2,36842105	2,36842105
16	2,375	2,375
32	2,375	2,375
5	2,4	2,4
5	2,4	2,4
76	2,40789474	2,40789474
66	2,40909091	2,40909091
94	2,45744681	2,45744681
95	2,46315789	2,46315789
19	2,47368421	2,47368421
1894	2,48627244	2,48627244
4	2,5	2,5
2	2,5	2,5
2	2,5	2,5
6	2,5	2,5
4	2,5	2,5
55	2,50909091	2,50909091
15	2,53333333	2,53333333
28	2,53571429	2,53571429
13	2,53846154	2,53846154
18	2,55555556	2,55555556
676	2,5739645	2,5739645
5	2,6	2,6
10	2,6	2,6
5	2,6	2,6
115	2,66086957	2,66086957
224	2,66517857	2,66517857
3	2,66666667	2,66666667
83	2,6746988	2,6746988
100	2,74	2,74
4	2,75	2,75
137	2,76642336	2,76642336
32	2,84375	2,84375
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3

3	3	3
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3
1	3	3
2	3	3
1	3	3
3	3	3
1	3	3
1	3	3
1	3	3
3	3	3
1	3	3
1	3	3
2	3	3
2	3	3
12	3	3
14	3,07142857	3,07142857
17	3,11764706	3,11764706
17	3,11764706	3,11764706
31686	3,13816828	3,13816828
18	3,16666667	3,16666667
12	3,16666667	3,16666667
6	3,16666667	3,16666667
13	3,23076923	3,23076923
17	3,23529412	3,23529412
14	3,28571429	3,28571429
19	3,31578947	3,31578947
3	3,33333333	3,33333333
13	3,38461538	3,38461538
12	3,41666667	3,41666667
14	3,42857143	3,42857143
2	3,5	3,5
8	3,5	3,5
2	3,5	3,5
2	3,5	3,5
286	3,5034965	3,5034965
15	3,6	3,6
5	3,6	3,6
12	3,66666667	3,66666667
16	3,6875	3,6875
24	3,70833333	3,70833333
11	3,72727273	3,72727273
4	3,75	3,75
18	3,77777778	3,77777778
10	3,9	3,9

1	4	4
2	4	4
1	4	4
2	4	4
1	4	4
10	4	4
17	4,17647059	4,17647059
28	4,17857143	4,17857143
3	4,33333333	4,33333333
18	4,44444444	4,44444444
2	4,5	4,5
2	4,5	4,5
15	4,53333333	4,53333333
14	4,64285714	4,64285714
45	4,77777778	4,77777778
38	4,89473684	4,89473684
48	4,97916667	4,97916667
2	5	5
2	5	5
1	5	5
16	5	5
1	5	5
15	5,13333333	5,13333333
9	5,22222222	5,22222222
12	5,41666667	5,41666667
4	5,5	5,5
34	5,76470588	5,76470588
22591	5,78389624	5,78389624
8	5,875	5,875
1	6	6
17	6,05882353	6,05882353
21	6,14285714	6,14285714
24	6,16666667	6,16666667
38	6,36842105	6,36842105
2	6,5	6,5
45	6,6	6,6
32	6,75	6,75
3	7	7
17	7,11764706	7,11764706
48	7,1875	7,1875
29	7,37931034	7,37931034
20	7,55	7,55
39	7,64102564	7,64102564
17	7,76470588	7,76470588
1	8	8
48	8,72916667	8,72916667
30	8,86666667	8,86666667
17	9,52941176	9,52941176
5	10,4	10,4
6	13,1666667	13,1666667
14	17,1428571	17,1428571
8	23,125	23,125

