

Table S4 Comparison of fluxes distribution in the central carbon metabolism among experimental method and seven predictive methods in the ATPase over-expression mutant strain (ATPase)

Reactions	Measured	HPCOF	E-Fmin	*GIMME	*E-Flux	*IMAT	*Lee	*FBA
ACKr	-16.8	-8.2	0.8728	0.7689	-18.8407	3	0	0.0001
ACONTa	5.1	0.58	7.5083	11.1898	0.6357	25.2628	10.5934	0.0008
ACONTb	5.1	0.58	7.5083	11.1898	0.6357	25.2628	10.5934	0.0008
AKGDH	4.3	0.02	5.8929	9.7666	0	22.2628	10.5934	0.0006
CS	5.1	0.64	7.5083	11.1898	0.6357	25.2628	10.5934	0.0008
ENO	27.2	27.5	22.3597	24.2742	14.225	16.2628	10.5934	0.0022
EX_ac(e)	16.69	9	0	0	19.1563	0	0	0
Ec_biomass	0.58	0.0001	1.5023	1.3235	0.5432	0	0	0.0002
FBA	13.5	10.4	11.6265	9.206	4.7751	9.6423	5.2967	0.0012
FUM	4.3	-1.02	7.4563	11.144	0.6169	28.2628	16.1266	0.0007
G6PDH2r	5.1	1.5	8.0161	4.8105	10.3748	9.9347	10.3238	0.0008
GAPD	28.3	28.3	24.9356	26.472	15.157	25.2628	10.5934	0.0025
GLCptspp	15.6	15.2	15.6	15.6205	12.2289	14.2628	10.5934	0.0016
GND	5.1	0.64	8.0161	4.8105	0	8.9347	10.3238	0.0008
ICDHyr	5.1	0.4	7.5083	11.1898	0.5841	24.2628	10.5934	0.0008

MDH	4.4	-1.1	7.4563	11.1449	-5.2798	27.2628	7.0411	0.0007
ME1	0	0.04	0	0	0	0	0	0
NADTRHD	6	0.09	0	0	0	1	11.3375	0
PDH	23.3	21.2	12.4283	15.3821	0	15.2628	0	0.0012
PFK	13.5	10.4	11.6265	9.206	4.7751	9.6423	5.2967	0.0012
PGI	10.5	14.1	7.5839	10.8101	1.8541	5.6858	5.2967	0.0008
PGK	-28.3	-28.3	-24.9356	-26.472	-15.157	-25.2628	-10.5934	-0.0025
PGL	5.1	1.5	8.0161	4.8105	10.3748	9.9347	10.3238	0.0008
PGM	-27.2	-27.5	-22.3597	-24.2742	-14.225	-16.2628	-10.5934	-0.0022
PPC	6.5	2.4	4.4472	3.9169	1.556	3	0	0.0004
PPCK	4.8	0.05	0	0	0	1	0	0
PTAr	16.8	8.2	-0.8728	-0.7689	18.8407	-3	0	-0.0001
PYK	9.4	6.4	1.0954	0	0	1	0	0.0001
RPE	3	-0.32	4.1845	2.1854	-0.4193	3.9565	0	0.0004
RPI	-2.1	-0.96	-3.7718	-2.5724	-0.3976	-4.9782	-10.3238	-0.0004
SUCDi	4.3	0.001	5.8939	9.7705	6.4225	27.2628	19.1826	0.0006
SUCOAS	-4.3	-0.68	-5.1043	-9.0719	0.2851	-22.2628	-10.5934	-1.56

TALA	1.6	-0.01	2.3717	1.3389	-0.1086	1.9782	0	0.0002
TKT1	1.6	-0.11	2.3717	1.3389	-0.1086	1.9782	0	0.0002
TKT2	1.4	-0.21	1.8129	0.8466	-0.3107	1.9782	0	0.0002
TPI	13.5	12.8	11.4142	12.6835	0.2884	9.6423	5.2967	0.0011

* Results are taken from the reference 14.