Table S1

Group headers: **Fraction of energy export** spans AdK_x, ATP_x, CK_x. **CK fluxes, $CK_{net}=CK_x\cdot 2.25\ \mathrm{mM\cdot s^{-1}}$, $\mathrm{ATP+Cr}\ \xrightleftharpoons[CK_r]{CK_f}\ \mathrm{PCr+ADP}$** spans CK_f^i, CK_r^i, CK^o, CK_r^o, CK^t. **AdK fluxes, $AdK_{net}=AdK_x\cdot 2.25\ \mathrm{mM\cdot s^{-1}}$, $\mathrm{ATP+AMP}\ \xrightleftharpoons[AdK_r]{AdK_f}\ \mathrm{2\,ADP}$** spans AdK_f^i, AdK_r^i, AdK^o, AdK_r^o, AdK^t.

FD	Fig.	AdK_x	ATP_x	CK_x	CK_f^i mM·s⁻¹	CK_r^i mM·s⁻¹	CK^o mM·s⁻¹	CK_r^o mM·s⁻¹	CK^t mM·s⁻¹	AdK_f^i mM·s⁻¹	AdK_r^i mM·s⁻¹	AdK^o mM·s⁻¹	AdK_r^o mM·s⁻¹	AdK^t mM·s⁻¹
1	S1	0.05	0.45	0.5	1.12	0.0	4.88	6.0	6.0	0.944	1.06	AdK_r^i	AdK_f^i	2.0
	6,S2	0.05	0.45	0.5	1.12	0.0	4.88	6.0	6.0	$0.0\ldots0.944$ $\frac{AdK^t-AdK_{net}}{2.0}$	$0.112\ldots1.06$ $AdK_{net}+\frac{AdK^t-AdK_{net}}{2.0}$	AdK_r^i	AdK_f^i	**0.112…2.0**
	S3	0.05	0.45	0.5	1.12	0.0	4.88	6.0	6.0	**0.0…0.944**	$0.112\ldots1.06$ $AdK_{net}+\frac{AdK^t-AdK_{net}}{2.0}$	$2.0\ldots1.06$ $AdK^t-AdK_f^i$	$1.89\ldots0.944$ $AdK^t-AdK_{net}-AdK_f^i$	2.0
	7,S5	0.05	0.45	0.5	$1.12\ldots3.56$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots2.44$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**1.12…6.0**	0.944	1.06	AdK_r^i	AdK_f^i	2.0
	8,S6	0.05	**0.0…0.95**	$0.95\ldots0.0$ $1.0-ATP_x-AdK_x$	$2.14\ldots0.0$ CK_{net}	0.0	$3.86\ldots6.0$ CK^t-CK_{net}	6.0	6.0	0.944	1.06	AdK_r^i	AdK_f^i	2.0
2	S1	0.05	0.45	0.5	1.12	0.0	4.88	6.0	6.0	0.094	0.206	AdK_r^i	AdK_f^i	0.3
	S4	**0.0…0.05**	$0.5\ldots0.45$ $1.0-CK_x-AdK_x$	0.5	1.12	0.0	4.88	6.0	6.0	0.094	$0.094\ldots0.206$ $AdK_{net}+AdK_f^i$	AdK_r^i	AdK_f^i	$0.188\ldots0.3$ $AdK_f^i+AdK_f^o$
	7,S5	0.05	0.45	0.5	$1.12\ldots3.56$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots2.44$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**1.12…6.0**	0.094	0.206	AdK_r^i	AdK_f^i	0.3
	8,S6	0.05	**0.0…0.95**	$0.95\ldots0.0$ $1.0-ATP_x-AdK_x$	$2.14\ldots0.0$ CK_{net}	0.0	$3.86\ldots6.0$ CK^t-CK_{net}	6.0	6.0	0.094	0.206	AdK_r^i	AdK_f^i	0.3
3	S1	0.05	0.45	0.5	1.12	0.0	CK_r^i	CK_f^i	1.12	0.094	0.206	AdK_r^i	AdK_f^i	0.3
	6,S2	0.05	0.45	0.5	1.12	0.0	CK_r^i	CK_f^i	1.12	$0.0\ldots0.944$ $\frac{AdK^t-AdK_{net}}{2.0}$	$0.112\ldots1.06$ $AdK_{net}+\frac{AdK^t-AdK_{net}}{2.0}$	AdK_r^i	AdK_f^i	**0.112…2.0**
	S3	0.05	0.45	0.5	1.12	0.0	CK_r^i	CK_f^i	1.12	**0.0…0.094**	$0.112\ldots0.206$ $AdK_{net}+AdK_f^i$	$0.3\ldots0.206$ $AdK^t-AdK_f^i$	$0.188\ldots0.094$ $AdK^t-AdK_{net}-AdK_f^i$	0.3
	S4	**0.0…0.05**	$0.5\ldots0.45$ $1.0-CK_x-AdK_x$	0.5	1.12	0.0	CK_r^i	CK_f^i	1.12	0.094	$0.094\ldots0.206$ $AdK_{net}+AdK_f^i$	AdK_r^i	AdK_f^i	$0.188\ldots0.3$ $AdK_f^i+AdK_f^o$
	8,S6	0.05	**0.0…0.95**	$0.95\ldots0.0$ $1.0-ATP_x-AdK_x$	$2.14\ldots0.0$ CK_{net}	0.0	CK_r^i	CK_f^i	$2.14\ldots0.0$ $CK_f^i+CK^o$	0.094	0.206	AdK_r^i	AdK_f^i	0.3
4	S1	0.05	0.45	0.5	1.12	0.0	4.88	6.0	6.0	0.0	0.112	AdK_r^i	AdK_f^i	0.112
	S4	**0.0…0.05**	$0.5\ldots0.45$ $1.0-CK_x-AdK_x$	0.5	1.12	0.0	4.88	6.0	6.0	0.0	$0\ldots0.112$ $AdK_{net}+AdK_f^i$	AdK_r^i	AdK_f^i	$0.0\ldots0.112$ $AdK_f^i+AdK_f^o$
	7,S5	0.05	0.45	0.5	$1.12\ldots3.56$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots2.44$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**1.12…6.0**	0.0	0.112	AdK_r^i	AdK_f^i	0.112
	8,S6	0.05	**0.0…0.95**	$0.95\ldots0.0$ $1.0-ATP_x-AdK_x$	$2.14\ldots0.0$ CK_{net}	0.0	$3.86\ldots6.0$ CK^t-CK_{net}	6.0	6.0	0.0	0.112	AdK_r^i	AdK_f^i	0.112
5	S1	0.05	0.45	0.5	1.12	0.0	CK_r^i	CK_f^i	1.12	0.0	0.112	AdK_r^i	AdK_f^i	0.112
	S4	**0.0…0.05**	$0.5\ldots0.45$ $1.0-CK_x-AdK_x$	0.5	1.12	0.0	CK_r^i	CK_f^i	1.12	0.0	$0\ldots0.112$ $AdK_{net}+AdK_f^i$	AdK_r^i	AdK_f^i	$0.0\ldots0.112$ $AdK_f^i+AdK_f^o$
	8,S6	0.05	**0.0…0.95**	$0.95\ldots0.0$ $1.0-ATP_x-AdK_x$	$2.14\ldots0.0$ CK_{net}	0.0	CK_r^i	CK_f^i	$2.14\ldots0.0$ $CK_f^i+CK^o$	0.0	0.112	AdK_r^i	AdK_f^i	0.112
6	S1	0.0	0.5	0.5	1.12	0.0	4.88	6.0	6.0	0.15	0.15	AdK_r^i	AdK_f^i	0.3
	6,S2	0.0	0.5	0.5	1.12	0.0	4.88	6.0	6.0	$0.0\ldots1.0$ $\frac{AdK^t}{2.0}$	$0.0\ldots1.0$ $\frac{AdK^t}{2.0}$	AdK_r^i	AdK_f^i	**0.0…2.0**
	S3	0.0	0.5	0.5	1.12	0.0	4.88	6.0	6.0	**0.0…0.15**	AdK_f^i	$0.3\ldots0.15$ $AdK^t-AdK_f^i$	AdK^o	0.3
	7,S5	0.0	0.5	0.5	$1.12\ldots3.56$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots2.44$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**1.12…6.0**	0.15	0.15	AdK_r^i	AdK_f^i	0.3
7	S1	0.0	0.0	1.0	2.25	0.0	3.75	6.0	6.0	0.15	0.15	AdK_r^i	AdK_f^i	0.3
	6,S2	0.0	0.0	1.0	2.25	0.0	3.75	6.0	6.0	$0.0\ldots1.0$ $\frac{AdK^t}{2.0}$	$0.0\ldots1.0$ $\frac{AdK^t}{2.0}$	AdK_r^i	AdK_f^i	**0.0…2.0**
	S3	0.0	0.0	1.0	2.25	0.0	3.75	6.0	6.0	**0.0…0.15**	AdK_f^i	$0.3\ldots0.15$ $AdK^t-AdK_f^i$	AdK^o	0.3
	7,S5	0.0	0.0	1.0	$2.25\ldots4.12$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots1.89$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**2.25…6.0**	0.15	0.15	AdK_r^i	AdK_f^i	0.3
	8,S6	0.0	**0.0…1.0**	$1.0\ldots0.0$ $1.0-ATP_x$	$3.75\ldots0.0$ CK_{net}	0.0	$3.75\ldots6.0$ CK^t-CK_{net}	6.0	6.0	0.15	0.15	AdK_r^i	AdK_f^i	0.3
8	S1	0.05	0.0	0.95	2.14	0.0	3.86	6.0	6.0	0.094	0.206	AdK_r^i	AdK_f^i	0.3
	6,S2	0.05	0.0	0.95	2.14	0.0	3.86	6.0	6.0	$0.0\ldots0.944$ $\frac{AdK^t-AdK_{net}}{2.0}$	$0.112\ldots1.06$ $AdK_{net}+\frac{AdK^t-AdK_{net}}{2.0}$	AdK_r^i	AdK_f^i	**0.112…2.0**
	S3	0.05	0.0	0.95	2.14	0.0	3.86	6.0	6.0	**0.0…0.094**	$0.112\ldots0.206$ $AdK_{net}+AdK_f^i$	$0.3\ldots0.206$ $AdK^t-AdK_f^i$	$0.188\ldots0.094$ $AdK^t-AdK_{net}-AdK_f^i$	0.3
	S4	**0.0…0.05**	$0.05\ldots0.0$ $1.0-CK_x-AdK_x$	0.95	2.14	0.0	3.86	6.0	6.0	0.094	$0.094\ldots0.206$ $AdK_{net}+AdK_f^i$	AdK_r^i	AdK_f^i	$0.188\ldots0.3$ $AdK_f^i+AdK_f^o$
	7,S5	0.05	0.0	0.95	$2.14\ldots4.07$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots1.93$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**2.14…6.0**	0.094	0.206	AdK_r^i	AdK_f^i	0.3
9	S1	0.05	0.95	0.0	0.0	0.0	6.0	6.0	6.0	0.094	0.206	AdK_r^i	AdK_f^i	0.3
	6,S2	0.05	0.95	0.0	0.0	0.0	6.0	6.0	6.0	$0.0\ldots0.944$ $\frac{AdK^t-AdK_{net}}{2.0}$	$0.112\ldots1.06$ $AdK_{net}+\frac{AdK^t-AdK_{net}}{2.0}$	AdK_r^i	AdK_f^i	**0.112…2.0**
	S3	0.05	0.95	0.0	0.0	0.0	6.0	6.0	6.0	**0.0…0.094**	$0.112\ldots0.206$ $AdK_{net}+AdK_f^i$	$0.3\ldots0.206$ $AdK^t-AdK_f^i$	$0.188\ldots0.094$ $AdK^t-AdK_{net}-AdK_f^i$	0.3
	S4	**0.0…0.05**	$1.0\ldots0.95$ $1.0-CK_x-AdK_x$	0.0	0.0	0.0	6.0	6.0	6.0	0.094	$0.094\ldots0.206$ $AdK_{net}+AdK_f^i$	AdK_r^i	AdK_f^i	$0.188\ldots0.3$ $AdK_f^i+AdK_f^o$
	7,S5	0.05	0.95	0.0	$0.0\ldots3.0$ $CK_{net}+\frac{CK^t-CK_{net}}{2.0}$	$0.0\ldots3.0$ $\frac{CK^t-CK_{net}}{2.0}$	CK_r^i	CK_f^i	**0.0…6.0**	0.094	0.206	AdK_r^i	AdK_f^i	0.3