Table 1S. Changes in metabolite levels after incubation of *Arabidopsis* leaf discs in 5 mM DTT. Incubations were performed exactly as described in Fig. 1 before material was frozen in liquid nitrogen for metabolite analysis. Changes in metabolite levels were calculated as the ratio between DTT and buffer incubated samples. P-values were calculated using the student's t-test of the Microsoft-Excel software. Changes that are significantly different from the control (p-value below 0.05) are highlighted in bold. Ascorbate and dehydroascorbate data are indicative for the total ascorbate pool, but do not necessarily reflect *in-vivo* ascorbate/dehydroascorbate ratios, since the extraction method does not reliably conserve the moieties of this couple in their native form. Results are the mean ± SE (*n*=5).

	control			5 mM DTT			p-value
SUGARS							
arabinose	1,000	±	0,0111	1,2110	±	0,0117	**<0,0001**
erythritol	1,000	±	0,0094	1,2378	±	0,1176	**0,0489**
fructose	1,000	±	0,0226	1,1311	±	0,0211	**<0,0001**
fucose	1,000	±	0,1684	1,3568	±	0,0205	0,0855
galactose	1,000	±	0,0102	1,4900	±	0,0095	**<0,0001**
glucose	1,000	±	0,0336	1,0826	±	0,0296	0,0537
glycerol	1,000	±	0,0345	1,1798	±	0,0580	0,0578
isomaltose	1,000	±	0,0495	1,0867	±	0,0625	0,3685
maltitol	1,000	±	0,0620	1,0569	±	0,0634	0,5820
maltose	1,000	±	0,0481	1,0802	±	0,0966	0,5383
mannose	1,000	±	0,0380	1,1323	±	0,0266	**0,0320**
mannitol	1,000	±	0,0357	0,9491	±	0,0533	0,4700
myo-inositol	1,000	±	0,0088	1,0064	±	0,0040	0,5582
ononitol	1,000	±	0,0332	1,0313	±	0,0544	0,6706
raffinose	1,000	±	0,5163	1,0001	±	0,5427	0,9999
rhamnose	1,000	±	0,0331	0,9882	±	0,0282	0,8079
ribose	1,000	±	0,0155	1,9542	±	0,0239	**<0,0001**
sorbitol/galactitol	1,000	±	0,0520	0,8623	±	0,1360	0,3505
sucrose	1,000	±	0,0451	1,0587	±	0,1147	0,1330
trehalose	1,000	±	0,0248	0,9796	±	0,0241	0,5978
xylose	1,000	±	0,0175	1,1510	±	0,0144	**0,0020**
ORGANIC ACIDS							
aconitate	1,000	±	0,1092	0,8412	±	0,1921	0,4745
α -keto-glutarate	1,000	±	0,1687	0,8344	±	0,1809	0,5193
α -keto-gulonate	1,000	±	0,1175	0,9455	±	0,0879	0,7365
benzoate	1,000	±	0,0224	1,0922	±	0,0255	**0,0402**
c-caffeate	1,000	±	0,1225	1,1511	±	0,2115	0,6236
chlorogenate	1,000	±	0,1146	0,7503	±	0,1911	0,2426
citramalate	1,000	±	0,0252	1,0684	±	0,0173	0,0735
citrate	1,000	±	0,1160	0,9900	±	0,1096	0,9554
c-sinapate	1,000	±	0,0897	0,8283	±	0,1001	0,2283
dehydroascorbate	1,000	±	0,0685	1,2359	±	0,0520	**0,0448**
D-isoascorbate	1,000	±	0,1901	1,7155	±	0,1259	**0,0466**
fumarate	1,000	±	0,0200	1,0867	±	0,0211	**0,0262**
galactonate	1,000	±	0,0413	0,9931	±	0,0945	0,9521
galacturonate	1,000	±	0,0911	0,8998	±	0,1189	0,5295
g-aminobutyrate	1,000	±	0,1810	0,8629	±	0,1629	0,5968
gluconate	1,000	±	0,0185	0,8244	±	0,0859	0,0534
glycerate	1,000	±	0,0117	1,0216	±	0,0077	0,1929
gulonate	1,000	±	0,1748	0,9152	±	0,1687	0,4690
isocitrate	1,000	±	0,1463	0,8881	±	0,1313	0,5971
L-ascorbate	1,000	±	0,1128	1,8999	±	0,0937	**0,0030**
maleate	1,000	±	0,0689	1,0269	±	0,0742	0,8156
malate	1,000	±	0,0351	1,1257	±	0,0492	0,1108
nicotinate	1,000	±	0,2579	1,1269	±	0,3635	0,8157
phospate	1,000	±	0,1282	0,8578	±	0,1540	0,4969
pyroglutamate	1,000	±	0,0570	0,8662	±	0,0311	0,0813
pyruvate	1,000	±	0.2143	0.7321	±	0.1786	0,1786
quinate	1,000	±	0,2397	0,9786	±	0,1908	0,9500
shikimate	1,000	±	0,0244	1,1968	±	0,0433	**0,0105**
succinate	1,000	±	0,0112	1,0927	±	0,0068	**0,0001**
threonate	1,000	±	0,0309	0,7965	±	0,0400	**0,0019**
t-sinapate	1,000	±	0,1864	0,6911	±	0,2059	0,2568

AMINO ACIDS							
alanine	1,000	±	0,1522	2,0599	±	0,0759	**0,0013**
arginine	1,000	±	0,0666	2,2987	±	0,1302	**0,0031**
asparagine	1,000	±	0,1256	1,4950	±	0,0849	**0,0299**
aspartate	1,000	±	0,2874	0,8530	±	0,3684	0,7592
ß-alanine	1,000	±	0,1372	0,9381	±	0,1299	0,7647
cysteine	1,000	±	0,1044	1,3180	±	0,1531	0,2303
glutamate	1,000	±	0,5199	0,5200	±	0,7232	0,5101
glutamine	1,000	±	0,0917	1,0009	±	0,0607	0,9945
glycine	1,000	±	0,0672	0,9924	±	0,2592	0,9796
homocysteine	1,000	±	0,0731	1,3524	±	0,0777	**0,0307**
homoserine	1,000	±	0,0445	1,2558	±	0,0550	**0,0175**
isoleucine	1,000	±	0,0422	1,1922	±	0,0509	**0,0390**
leucine	1,000	±	0,0228	1,2414	±	0,0302	**0,0005**
lysine	1,000	±	0,1844	0,9822	±	0,0906	0.9383
methionine	1,000	±	0,2189	1,0456	±	0,1994	0,8932
N-acet-serine	1,000	±	0,0829	0,3587	±	0,2912	**0,0014**
noradrenalin	1,000	±	0,3188	0,6726	±	0,1381	0,3891
O-acet-serine	1,000	±	0,2816	0,3111	±	0,1349	**0,0417**
ornithine	1,000	±	0,0528	1,0381	±	0,0331	0,5925
phenylalanine	1,000	±	0,3964	0,9922	±	0,4534	0,9908
proline	1,000	±	0,0565	1,1988	±	0,0516	**0,0499**
putrescine	1,000	±	0,0719	0,8679	±	0,0568	0,1966
serine	1,000	±	0,0351	0,7000	±	0,0812	**0,0022**
spermidine	1,000	±	0,1504	0,8204	±	0,0583	0,3232
HO-proline	1,000	±	0,0460	0,8686	±	0,0179	**0,0332**
threonine	1,000	±	0,0465	1,0207	±	0,0403	0,7668
tryptophan	1,000	±	0,1325	0,9917	±	0,1498	0,9705
tyramine	1,000	±	0,0826	1,0656	±	0,0715	0,6059
tyrosine	1,000	±	0,4752	1,4619	±	0,2834	0,5188
uracil	1,000	±	0,1723	1,0755	±	0,2215	0,8194
valine	1,000	±	0,0188	1,0942	±	0,0212	**0,0163**
PHOSPHATE-ESTER							
fru-6-P	1,000	±	0,1041	0,5206	±	0,1547	**0,0077**
glc-6-P	1,000	±	0,1318	0,4426	±	0,2719	**0,0172**
glyceral-3-P	1,000	±	0,0495	0,9663	±	0,0566	0,6858
glyceric-3-P	1,000	±	0,0095	1,0663	±	0,0116	**0,0031**
myo-ino-1-P	1,000	±	0,3660	0,8149	±	0,3289	0,7173
P-*enol*pyruvate	1,000	±	0,1272	0,9000	±	0,1531	0,7100