TABLE 3 CO_2 produced by various metabolic reactions and refixed by RuBisCO[a]

Substrate	% of substrate converted to CO_2 (relative to amt of substrate consumed)		% of CO_2 refixed by Calvin cycle (relative to amt of substrate converted to CO_2)		Net CO_2 yield (% relative to amt of substrate consumed)	
	WT	NifA*	WT	NifA*	WT	NifA*
Fumarate[b]	40 ± 4	44 ± 4	21 ± 9	6 ± 1	32 ± 2	42 ± 2
Succinate	37 ± 3	40 ± 2	49 ± 7	30 ± 5	19 ± 2	28 ± 2
Acetate[c]	22 ± 2	23 ± 1	68 ± 11	13 ± 3	6 ± 1	18 ± 1
Butyrate-HCO_3^-	16 ± 1	15 ± 3	180 ± 16[e]	149 ± 36[e]	−16 ± 1[f]	−10 ± 3[f]
Butyrate[d]		23 ± 3		76 ± 17		6 ± 1

[a] Average values with 90% confidence intervals were derived from the fluxes shown in Fig. 1. Minor variations between CO_2 yields in Tables 2 and 3 are due to changes made by the fitting algorithm to find the most likely set of fluxes to explain all of the data.

[b] All values were calculated by grouping malate and fumarate as a single pool. This grouping results in different CO_2 yields between Tables 2 and 3, because the CO_2 yields in Table 2 were normalized to fumarate alone so that the amount of malate produced could also be reported. If fumarate and malate were grouped in Table 2, the CO_2 yields would be the same as those reported in Table 3.

[c] The acetate data were previously published (7).

[d] Wild-type cells do not grow without the $NaHCO_3$ supplement.

[e] One hundred percent of the butyrate converted to CO_2 was refixed along with CO_2 from the $NaHCO_3$ supplement.

[f] The negative values indicate that there was a net uptake of CO_2 from the $NaHCO_3$.