

**Table IV.** *Subcellular Content of Aspartate, Glutamate, 2-OG, and Malate*

Spinach plants were grown in a climatized chamber with a 9 h light/15 h dark cycle and leaves were stopped in liquid N<sub>2</sub> after 8.5 h light or 2 h dark. The leaves were subcellular fractionated as (8). The results are mean values from two independent experiments. The concentrations are calculated on the assumptions that the stromal, cytosolic and vacuolar volumes are 25, 20, and 150  $\mu\text{L}/\text{mg}$  Chl, respectively.

Assay	Stroma	Cytosol + Mitochondria	Vacuole
<i>mm</i>			
A. Light 8.5 h			
Glutamate	25.2	39.3	0.82
Aspartate	25.5	43.7	2.06
2-OG	0.16	0.58	0.025
Malate	3.0	1.0	26.7
OAA <sup>a</sup>	0.025	0.098	
B. Dark			
Glutamate	49.6	48.3	3.68
Aspartate	35.8	30.5	3.53
2-OG	0.39	0.70	0.065
Malate	1.0	1.0	26.7
OAA <sup>a</sup>	0.043	0.067	

<sup>a</sup> Calculated from GOT equilibrium ( $K = 6.61$ ).