

TABLE 4. Effect of different carbon sources and substrate limitations on composition and volumes of cells grown at different temperatures^a

Carbon source	Growth-limiting nutrient	Temp	Component ^b				Cell volume (μ ²)
			RNA	Protein	Amino acid pool	Acid-soluble UV-absorbing compounds ^c	
Glucose	Glucose ^d	30	68	344	5.6	0.10	38.5
		20	79	333	7.3	0.14	38.0
	Ammonia ^e	30	43	186	0.6	0.07	22.4
		20	43	256	1.0	0.11	22.4
	Ammonia ^f (low phosphate)	30	56	219	3.7	0.09	22.2
		20	92	353	8.2	0.12	29.2
	Phosphate ^g	30	98	234	7.4	0.17	20.1
		20	131	357	10.4	0.37	41.4
Glycerol	Glycerol ^h	30	83	286	5.7	0.11	12.7
		20	88	258	5.2	0.16	13.6
	Ammonia ⁱ	30	55	162	3.1	0.19	13.3
		20	68	147	2.4	0.22	12.7

^a Cultures were grown in a chemostat at a dilution rate of 0.1 hr⁻¹.

^b Contents except acid-soluble UV-absorbing compounds are expressed as micrograms per milligram (dry weight) of cells. All values quoted are averages of duplicate determinations on at least two different cell crops.

^c Absorbancy at 260 nm of a 10-ml extract from 10 mg (dry weight) of cells.

^d Medium contained 2 g of glucose, 0.94 g of (NH₄)₂SO₄, and 1 g of KH₂PO₄ per liter.

^e Medium contained 10 g of glucose, 0.24 g of (NH₄)₂SO₄, and 1 g of KH₂PO₄ per liter.

^f Medium contained 10 g of glucose, 0.24 g of (NH₄)₂SO₄, and 336 mg of KH₂PO₄ per liter.

^g Medium contained 10 g of glucose, 0.24 g of (NH₄)₂SO₄, and 118 mg of KH₂PO₄ per liter.

^h Medium contained 2 g of glycerol, 0.94 g of (NH₄)₂SO₄, and 1 g of KH₂PO₄ per liter.

ⁱ Medium contained 10 g of glycerol, 0.24 g of (NH₄)₂SO₄, and 1 g of KH₂PO₄ per liter.