

**Table S6**

Reference	Site	Depth	Sampling Date (YYYY-MM-DD)	Protein ( $\mu\text{g L}^{-1}$ )	Carbohydrate ( $\mu\text{g L}^{-1}$ )	Lipid ( $\mu\text{g L}^{-1}$ )	$\text{O}_2:\text{C}_{\text{rem}}$ (molar)	Notes
Mayzaud et al. (1989)	#1 (Bedford Basin, Canada)	2.5 m	1976-03-02	438.6	156.9	363.2	1.42	Read with GraphClick from Figure 3B.
			1976-03-05	648.9	348.5	406.2	1.39	
			1976-03-09	623.8	519.8	445.8	1.36	
			1976-03-11	499.1	634.4	382.0	1.31	
			1976-03-16	390.9	171.2	187.8	1.41	
			1976-03-23	323.6	448.7	202.2	1.30	
			1976-03-25	224.9	570.5	173.5	1.24	
			1976-03-30	194.2	338.5	132.3	1.28	
			1976-04-20	307.4	253.5	131.4	1.35	
			1976-05-18	226.9	418.3	190.5	1.28	
			1976-06-22	343.0	573.5	324.6	1.29	
			1976-07-13	466.2	187.6	180.5	1.41	
			1976-08-10	549.2	315.6	277.3	1.39	
			1976-08-31	465.2	232.9	148.6	1.40	
Navarro and Thompson (1995)	#2 (Logy Bay, Newfoundland)	6.0 m	1986-08-09	158.8	11.5	19.7	1.51	Read with Graph Click from Figures 6 and 7. Protein is calculated from total food – (carbohydrate + lipid) as the points are difficult to be read. Total food concentration is from Figure 7B. Sampling dates are also read with GraphClick.
			1986-09-09	126.4	11.0	20.2	1.50	
			1986-10-16	115.9	14.3	25.7	1.48	
			1986-11-09	135.1	14.2	26.1	1.49	
			1986-12-09	67.3	4.9	17.8	1.50	
			1987-01-20	93.6	10.9	17.4	1.49	
			1987-02-28	69.9	11.9	18.6	1.47	
			1987-03-25	51.2	11.0	16.5	1.45	
			1987-04-10	402.5	31.9	56.6	1.51	
			1987-04-14	468.0	118.4	74.1	1.45	
			1987-04-24	494.2	118.6	57.7	1.46	
			1987-05-14	442.3	36.8	70.1	1.50	

			1987-05-24	159.3	11.8	49.9	1.49	
			1987-06-22	215.7	25.2	23.1	1.50	
			1987-07-22	230.6	18.6	16.3	1.51	
			1987-08-12	174.3	12.6	26.9	1.51	
			1987-09-16	217.1	12.8	26.6	1.51	
			1987-10-15	137.5	7.4	20.6	1.51	
			1987-11-08	221.8	7.8	34.7	1.52	
			1987-12-05	147.6	9.7	24.0	1.51	
			1988-01-12	99.5	9.0	18.7	1.50	
			1988-02-03	123.2	16.4	15.9	1.49	
			1988-03-13	114.0	15.7	32.7	1.48	
			1988-03-20	121.0	33.4	25.0	1.44	
			1988-03-29	267.6	48.9	34.2	1.47	
			1988-04-06	282.8	44.5	35.2	1.48	
			1988-04-13	427.5	124.8	78.5	1.44	
			1988-04-22	339.3	91.1	68.3	1.45	
			1988-05-01	244.7	52.6	53.0	1.46	
			1988-05-19	162.8	15.5	43.0	1.49	
			1988-05-28	185.8	33.7	39.2	1.47	
			1988-06-23	175.8	28.1	46.7	1.47	
			1988-07-11	186.3	24.4	47.2	1.48	
Jo et al. (2017)	#3 (Southwestern East/Japan Sea)	Euphotic depth	2014-04	32.9	121.0	140.9	1.29	From Table 1. Monthly average at euphotic depth.
			2014-05	101.6	361.7	128.4	1.22	
			2014-06	26.8	209.7	57.1	1.16	
			2014-07	76.8	316.5	118.4	1.21	
			2014-08	170.5	152.1	42.9	1.33	
			2014-09	174.3	152.4	93.8	1.35	
			2014-10	51.7	174.5	74.5	1.23	
			2014-11	46.8	105.2	65.8	1.28	
Lee et al. (2017)	#4	Euphotic depth	2012-04	186.0	63.8	71.3	1.43	
			2012-06	98.4	132.3	224.3	1.35	

	(Gwangyang Bay, South Korea)		2012-08	103.8	151.5	230.7	1.34	From Table 1. Averaged over all stations and depths.
			2012-10	102.6	61.2	109.2	1.39	
			2013-01	169.4	197.4	118.5	1.32	
			2013-04	233.7	179.2	215.8	1.37	
Fichez (1991)	#5 (W. Mediterranean submarine cave)	10 m	1986-07-25	34.3	14.3	24.0	1.41	Read with GraphClick from Figure 3. Mean values across all 5 sites in the cave.
			1986-08-15	10.0	9.2	11.7	1.36	
			1986-09-04	12.4	11.0	10.7	1.35	
			1986-09-24	17.2	11.7	12.5	1.37	
			1986-10-10	13.3	8.1	11.7	1.38	
			1986-10-26	12.8	10.8	10.6	1.36	
			1986-12-02	17.0	4.7	6.7	1.44	
			1986-12-18	21.1	9.0	16.7	1.41	
			1987-02-07	12.4	14.0	12.7	1.33	
			1987-04-29	29.9	30.5	33.7	1.35	
			1987-05-21	33.7	27.7	44.7	1.37	
			1987-05-27	37.3	21.0	43.9	1.39	
			1987-07-08	42.0	25.3	39.9	1.39	
Danovaro et al. (1998)	#6 (Mediterranean seagrass system)	4 m	1991-01-17	133.4	97.0	94.1	1.37	Read with GraphClick from Figure 6.
			1991-02-20	89.1	48.2	143.5	1.39	
			1991-03-21	108.9	49.2	68.7	1.40	
			1991-04-08	82.1	97.4	180.2	1.35	
			1991-04-19	77.0	76.2	50.8	1.34	
			1991-05-08	94.0	56.2	112.0	1.39	
			1991-05-29	81.0	62.9	75.6	1.37	
			1991-06-28	94.6	70.0	101.4	1.37	
			1991-07-18	65.7	105.5	48.6	1.29	
			1991-08-05	65.6	55.9	56.5	1.36	
			1991-09-09	76.0	51.7	81.8	1.38	
			1991-11-02	73.6	104.3	104.1	1.32	
			1991-12-02	72.9	71.8	43.5	1.34	
			1991-12-23	21.8	58.3	58.5	1.29	

			1992-01-07	96.0	74.9	110.7	1.37	
Danovaro and Fabiano (1997)	#7 (Ligurian Sea, NW Mediterranean)	10 m	1991-01-17	108.0	76.2	56.1	1.37	Read with GraphClick from Figure 5.
			1991-02-20	110.2	57.9	113.9	1.39	
			1991-03-21	68.7	52.4	137.7	1.38	
			1991-04-08	100.6	129.5	98.3	1.32	
			1991-04-22	65.6	52.3	119.2	1.37	
			1991-05-08	75.4	37.0	89.3	1.40	
			1991-05-29	75.5	51.4	111.1	1.38	
			1991-06-28	81.3	60.6	97.0	1.37	
			1991-07-18	69.1	44.8	90.6	1.38	
			1991-08-01	27.9	23.1	31.8	1.36	
			1991-09-05	38.3	44.8	37.2	1.33	
			1991-10-31	31.9	46.2	35.1	1.31	
			1991-11-30	51.9	47.4	29.8	1.34	
			1991-12-23	47.7	34.1	16.3	1.36	
			1992-01-07	44.9	28.5	35.7	1.38	
Danovaro et al. (2000)	#8 (Cretan Sea)	Top 200 m	1994-08	36.4	64.0	18.0	1.26	From Table 1. Average over top 200 m.
			1995-02	40.9	49.6	20.5	1.31	
			1995-05	38.3	39.3	28.9	1.34	
			1995-09	39.3	64.2	31.5	1.29	
Navarro et al. (1993)	#9 (Yaldad Bay, Chile)	10 cm above the bottom	1990-04	554.1	98.4	52.0	1.48	Read with GraphClick from Figure 4.
			1990-06	584.9	101.1	101.8	1.47	
			1990-08	631.8	191.8	194.7	1.43	
			1990-10	634.7	95.8	49.0	1.49	
			1990-11	2224.8	504.8	102.6	1.47	
			1990-12	823.6	295.6	189.8	1.42	
			1991-01	961.7	244.3	217.7	1.45	
			1991-03	369.8	48.9	26.5	1.50	
			1991-04	683.1	112.5	79.2	1.48	
			1991-05	347.2	66.6	30.7	1.47	

			1991-06	414.7	38.0	51.1	1.50	
			1991-07	602.0	75.6	49.8	1.50	
Dhargalkar et al. (1996)	#10 (Princess Astrid Coast, Antarctica)	Top 100 m	1993-05	92.0	46.5	79.0	1.40	From Table 2. Average in top 100 m.
			1993-06	54.0	46.5	127.0	1.37	
			1993-07	130.0	98.0	154.0	1.37	
			1993-08	163.0	114.0	116.0	1.37	
			1993-09	29.0	88.0	35.0	1.23	
			1993-10	49.0	83.0	15.5	1.26	

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