Table 4 Average lipid content and biomass productivity from literature for microalgae grown in outdoor ponds and photobioreactors under nutrient-replete conditions

Species	Taxa	Media	References	Outdoor ponds			Outdoor PBR	Outdoor pond/laboratory			PBR/laboratory
				Average from literature				Calculated ratio of averages			
				Lipid content % dw	Biomass productivity g m^{-2} day^{-1}	Biomass productivity g L^{-1} day^{-1}	Biomass productivity g L^{-1} day^{-1}	Lipid content Ratio	Biomass productivity Ratio	Biomass productivity Ratio	Biomass productivity Ratio
Amphora	B	M	63	40	39			0.79	0.98		
Anabaena cylindrica	Cy	F	46			0.05					
Ankistrodesmus falcatus	C	F	63			0.18				0.38	
Chaetoceros muelleri	O	M	63	26	26	0.18		1.39		2.50	
Chlorella pyrenoidosa	C	F	38; 63		14		3.27				
Chlorella vulgaris	C	F	11; 55		16				1.49		
Cyclotella cryptica	O	M	63	24	27			1.35			
Dunaliella salina	Pr	S	47	35		0.30		1.80			
Isochrysis galbana	H	M	38; 63	22	28		0.96	0.90	2.44		6.13
Monodopsis subterranea	E	F	41; 57				0.99				5.18
Monoraphidium minutum	C	F	63			0.28					
Nannochloropsis	E	M	47; 61; 63	21	15		1.95	0.69			7.33
Nannochloropsis salina	E	M	63	16	25			0.58	1.76		
Phaeodactylum tricornutum	B	M	13; 38; 47			0.07	1.85			0.20	5.53
Porphyridium purpureum	R	M	38; 63			0.18	0.36			0.78	1.60
Scenedesmus obliquus	C	F	30		48						
Spirulina maxima	Cy	S	38				0.25				
Spirulina platensis	Cy	S	38; 47; 55		11	0.10	1.02		0.44		
Tetraselmis suecica	P	M	63	22	19			1.29	0.68		
Average				26	24	0.17	1.33	1.10	1.30	0.96	5.15

Blank indicates no information available. Ratios have been generated by dividing outdoor values by corresponding laboratory values in Table 3. Keys to taxa, media and references as in Table 3
PBR photobioreactors

[c]Key to references: 1 Adam (1997); 2 Ahmad and Hellebust (1990); 3 Apt and Behrens (1999); 4 Baker et al. (2007); 5 Becker (1994); 6 Ben-Amotz and Tornabene (1985); 7 Benider et al. (2001); 8 Beudeker and Tabita (1983); 9 Bhaud et al. (1991); 10 Bopp and Lettieri (2007); 11 Burlew (1953); 12 Butterwick et al. (2005); 13 Ceron-Garcia et al. (2000); 14 Chelf (1990); 15 Chisti (2007); 16 Coleman et al. (1988); 17 Collyer and Fogg (1954); 18 Constantopoulos and Bloch (1967); 19 Cook (1966); 20 Coombs et al. (1967); 21 De la Pena (2007); 22 Dempster and Sommerfield (1998); 23 Exley et al. (1993); 24 Ferguson et al. (1976); 25 Fisher et al. (1996); 26 Gatenby et al. (2003); 27 Goksan et al. (2007); 28 Goldman and Peavey (1979); 29 Greque de Morais et al. (2007); 30 Grobbelaar (2000); 31 Haury and Spiller (1981); 32 Hu and Gao (2003); 33 Illman et al. (2000); 34 Ishida et al. (2000); 35 Janssen et al. (2001); 36 Johansen et al. (1987); 37 Lee and Bazin (1991); 38 Lee (2001); 39 Li et al. (2008); 40 Liu et al. (2008); 41 Lu et al. (2001); 42 Maddux and Jones (1964); 43 Mansour et al. (2005); 44 Matsukawa et al. (2000); 45 McGinnis et al. (1997); 46 McKnight (1981); 47 Moheimani (2005); 48 Moheimani and Borowitzka(2006); 49 Moore (1975); 50 Mourente et al. (1990); 51 Nagle and Lemke (1990); 52 Ostgaard and Jensen(1982); 53 Parrish and Wangersky (1987); 54 Patil et al. (2007); 55 Piorreck et al. (1984); 56 Price et al. (1998); 57 Qiang et al. (1996); 58 Reitan et al. (1994); 59 Renaud et al. (1994); 60 Richardson et al. (1969); 61 Rodolfi et al. (2008); 62 Roessler (1990); 63 Sheehan et al. (1998); 64 Shehata and Kempner (1977); 65 Shifrin and Chisholm (1981); 66 Siron et al. (1989); 67 Sorokin and Krauss (1961); 68 Spoehr and Milner (1949); 69 Suen et al. (1987); 70 Taguchi et al. (1987); 71 Tomaselli et al. (1997); 72 Ugwu et al. (2007); 73 Vieira Costa et al. (2002); 74 Xu et al. (2006)