

TONGA_2019

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Notes:

1 Filters extracted in 100% methanol, disrupted by sonication and clarified by filtration (GF/F Whatman). Extraction time lasted 2 hours.

2 Analysis by HPLC was carried out the same day. Instrument: HPLC 1200

3 undetected pigments are represented by "LOD" (Limit of detection, see Note 7)

4 The analytical procedure is described in:

Ras J, Uitz, J, and H. Claustre (2008). Spatial variability of phytoplankton pigment distributions in the Subtropical South Pacific Ocean: comparison between in situ and modelled data. Biogeosciences, 5, 353-369

5 Detection of carotenoids and chlorophylls c and b: 450 nm, chlorophyll a and derivatives: 676 nm, bchl a : 770 nm.

6 Performance metrics:

Précision d'injection Tchla : 0.2%	Précision Etalonnage : 0.35%
Justesse Tchla (SeaHARRE-6): 3.72%	Justesse d'étalonnage : 0.45%
Précision de temps de rétention : 0.02%	

7 Limits of detection : calculated in ng per injection and as the concentrations corresponding to a signal:noise ratio of 3 and for a filtered volume of 1 L.

8 Tchla concentrations checked against CTD fluorescence signal

9 Analyst: Celine Dimier and Marie-Laure CROS

10 Quality control evaluation of the peak QA=1 = "good"

QA=2 = "acceptable"

QA=3 = "questionnable"

Titles	Description	Units	detection wavelength (nm)	LOD ng/inj	LOD for 1 L filtered (in mg.m-3)
Date_of_analysis	UTC	dd/mm/yyyy			
Cruise					
station					
Latitude		degrees decimal			
Longitude		degrees decimal			
Sampling_date_UTC	UTC				
Sampling_time_UTC	UTC				
Rosette type					
Sample_code					
CTD_cast					
Depth_m	Sampling depth	metres			
Niskin_Bottle					
Filtered_Vol_L	Filtered volume	Litres			
Chlorophyll_c3		mg per cubic metre	450	0.013	0.0002
Chlc3-QA	quality control evaluation	1, 2 or 3			
Chlorophyll_c1+c2	sum of chlorophyll c1 and c2	mg per cubic metre	450	0.015	0.0002
Chlc2-QA	quality control evaluation	1, 2 or 3			
Chlorophyllide_a	Chlda + Chlda-like	mg per cubic metre	667	0.021	0.0003
Chlda-QA	quality control evaluation	1, 2 or 3			
Peridinin	Peridinin	mg per cubic metre	450	0.006	0.0001
Peri-QA	quality control evaluation	1, 2 or 3			
Phaeophorbid_a	Phda + Phda-like	mg per cubic metre	667	0.012	0.0002
Phda-QA	quality control evaluation	1, 2 or 3			
19-Butanoyloxyfucoxanthin	19'-Butanoyloxyfucoxanthin	mg per cubic metre	450	0.008	0.0001
But-QA	quality control evaluation	1, 2 or 3			
Fucoxanthin	Fucoxanthin	mg per cubic metre	450	0.008	0.0001
Fuco-QA	quality control evaluation	1, 2 or 3			
Neoxanthin	Neoxanthin	mg per cubic metre	450	0.008	0.0001

Neo-QA	quality control evaluation	1, 2 or 3			
19'-Hex-4-ketofucoxanthin	19'-Hex-4-ketofucoxanthin	mg per cubic metre	450	0.008	0.0001
Hex4K-QA	quality control evaluation	1, 2 or 3			
Prasinoxanthin	Prasinoxanthin	mg per cubic metre	450	0.008	0.0001
Pras-QA	quality control evaluation	1, 2 or 3			
Violaxanthin	Violaxanthin	mg per cubic metre	450	0.01	0.0001
Viola-QA	quality control evaluation	1, 2 or 3			
19-Hexanoyloxyfucoxanthin	19-Hexanoyloxyfucoxanthin	mg per cubic metre	450	0.008	0.0001
Hex-QA	quality control evaluation	1, 2 or 3			
Myxoxanthophyll	Myxoxanthophyll	mg per cubic metre	450	0.007	0.0001
Myxo-QA	quality control evaluation	1, 2 or 3			
Diadinoxanthin	Diadinoxanthin	mg per cubic metre	450	0.012	0.0002
Diadino-QA	quality control evaluation	1, 2 or 3			
Antheraxanthin	Antheraxanthin	mg per cubic metre	450	0.01	0.0001
Anthera-QA	quality control evaluation	1, 2 or 3			
Alloxanthin	Alloxanthin	mg per cubic metre	450	0.013	0.0002
Allo-QA	quality control evaluation	1, 2 or 3			
Diatoxanthin	Diatoxanthin	mg per cubic metre	450	0.013	0.0002
Diato-QA	quality control evaluation	1, 2 or 3			
Zeaxanthin	Zeaxanthin	mg per cubic metre	450	0.014	0.0002
Zea-QA	quality control evaluation	1, 2 or 3			
Lutein	Lutein	mg per cubic metre	450	0.011	0.0001
Lut-QA	quality control evaluation	1, 2 or 3			
Bacteriochlorophyll_a	Bacteriochlorophyll a	mg per cubic metre	770	0.017	0.0002
Bchl-a-QA	quality control evaluation	1, 2 or 3			
Divinyl_Chlorophyll_b	Divinyl Chlorophyll b	mg per cubic metre	450	0.003	0.0001
DVChl-b-QA	quality control evaluation	1, 2 or 4			
Chlorophyll_b	Chlorophyll b	mg per cubic metre	450	0.003	0.0001
Chl-b-QA	quality control evaluation	1, 2 or 5			
Total_Chlorophyll_b	DV Chl-b + Chl-b	mg per cubic metre	450	0.003	0.0001
TChl-b-QA	quality control evaluation	1, 2 or 3			
Divinyl_Chlorophyll_a	Divinyl Chlorophyll a	mg per cubic metre	667	0.015	0.0002
DVChl-a-QA	quality control evaluation	1, 2 or 3			
Chlorophyll_a	Chlorophyll a + allomers + epimers	mg per cubic metre	667	0.014	0.0002

Chla-QA	quality control evaluation	1, 2 or 3			
Total_Chlorophyll_a	Chla + DV Chla + Chlorophyllid a	mg per cubic metre	667	0.014	0.0002
Tchla-QA	quality control evaluation	1, 2 or 3			
Phaeophytin_a	Phytna + Phytna-like	mg per cubic metre	667	0.008	0.0001
Phytna-QA	quality control evaluation	1, 2 or 3			
Sum_carotenes	beta carotene + a-carotene	mg per cubic metre	450	0.012	0.0002
Tcar-QA	quality control evaluation	1, 2 or 3			
Observations					