Dataset name: **Nutrients: Phosphate, nitrate, nitrite, silicic acid**

|  |  |
| --- | --- |
| Parameters: | * **Phosphate concentration** * **Nitrate concentration** * **Nitrite concentration** * **Silicic acic concentration** |

PROJECT TITLE: **MOBYDICK**

Oceanographic cruise: **MOBYDICK**

Start date: **18/02/2018**

End date: **27/03/2018**

Project manager: **Bernard Quéguiner** [bernard.queguiner@mio.osupytheas.fr](mailto:bernard.queguiner@mio.osupytheas.fr)

Address: **Mediterranean Institute of Oceanolography**

**Institut Pytheas - Observatoire des Sciences de l'Univers**

**Bâtiment OCEANOMED, Campus de Luminy, case 901**

**F-13288 Marseille Cedex 09, France**

Chief scientist: **Ingrid Obernosterer** [ingrid.obernosterer@obs-banyuls.fr](mailto:ingrid.obernosterer@obs-banyuls.fr)

Address: **Laboratoire d’Océanographie Microbienne**

**Observatoire Océanologique de Banyuls sur mer**

**66650 Banyuls sur mer, France**

Geographic information: **Indian sector of the Southern Ocean**

Latitude: **49.5°S – 52.5°S**

Longitude: **67,0°E – 74.5°E**

Parameter supervisor: **Stéphane Blain**

LOMIC

Observatoire Océanologique de Banyuls sur mer

66650 Banyuls sur mer, France

+33 (0)4 68 88 73 44

[stephane.blain@obs-banyuls.fr](mailto:stephane.blain@obs-banyuls.fr)

Dataset contact: **Stéphane Blain**

LOMIC

Observatoire Océanologique de Banyuls sur mer

66650 Banyuls sur mer, France

+33 (0)4 68 88 73 44

[stephane.blain@obs-banyuls.fr](mailto:stephane.blain@obs-banyuls.fr)

# OPERATIONS

## Sampling device(s)

Water samples were obtained from rosette bottles.

## List of stations sampled

M1: CTD35 and 38; M3: CTD23 and 26; M4\_1: CTD13, 17 and 18; M4\_2: CTD42 and 44; M2\_1: CTD07; M2\_2: CTD29 and 30; M2\_3: CTD53; M3\_3: CTD60

# INSTRUMENTS

Instrument Type: **Segmented flow analyzer**

Manufacturer: **Bran+Luebbe**

Model: **AA3**

Instrument Features / Calibration: **N/A**

# DESCRIPTION of PARAMETERS

## Sampling details

Samples were collected in 125 mL HDPE bottles directly from the rosette bottles. The samples were then filtrated on 0.45 µm cellulose acetate filter and preserved with 100 µL HgCl2 (4g/l) in 20 mL vials, which were then stored in the dark at room temperature until analysis in the laboratory.

## Analytical procedure

For NO3–, NO2–, PO43– and H4SiO4, the preserved samples are analyzed in the laboratory with a segmented flow analyzer (Skalar) equipped with colorimetric detection using the classical methods described in Aminot & Kérouel (2007). The accuracy of the methods was assessed using reference material (Certipur, Merck). The precisions were in the range of 1–4 %, and the limit of detection was 0.02 μM for NO3– and NO2–, 0.03 μM for PO43– and 0.05 µM for H4SiO4 (Blain*et al.*, 2015).

## Units

* NO3–, NO2–, PO43– and H4SiO4 concentrations: µM

## Sensor precision

N/A

## Post-cruise data analysis/treatment required

N/A

## Estimated Date of Delivery

6 months after the cruise

# BIBLIOGRAPHY

Aminot A., Kérouel, R., 2007. *Dosage automatique des nutriments dans les eaux marines, méthodes en flux continu*, Ifremer (ed.), 188 pp.

Blain S., Capparos J., Guéneuguès A., Obernosterer I., Oriol L., 2015. Distributions and stoichiometry of dissolved nitrogen and phosphorus in the iron-fertilized region near Kerguelen (Southern Ocean). *Biogeosciences*, **12**, 623-635.

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