**Method / Parameters:** Dissolved organic matter, carbon DOC, nitrogen and phosphorus DON&DOP

**Research Vessel** :

* **Pourquoi Pas?**
* ~~Thalassa~~

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**Brief description of protocol used during APERO** :

**Sampling tool needed: Niskin bottles**

**Volume of water needed 250-mL per depth (including washing)**

**Depths: as defined**

**Sampling frequency: as defined**

**Needs for MilliQ (volume, frequency): < 1l per day**

**Sampling protocol:**

**DOC : Filtration in calcinated glass ampoule (acidified with H2SO4) with a filtration system directly connected to the niskin bottles, sampling with gloves (also for all people sampling before!)**

**2 Samples per depth (duplicates)**

**kept at room temperature**

**DON&DOP : filtration in Teflon voal (20 ml exactly) with a filtration system directly connected to the niskin bottles, sampling with gloves (also for all people sampling before!) - immediate analyses (et oxidation) or freezing at -20°C**

**1 or 2 Samples per depth (duplicates)**

**Experimental location on board: ?**

Description of protocol:

**DOC**. Sample will be filtered (0.2µm) directly at the Niskin bottles and collected into precombusted glass ampoules, acidified to pH 2 with sulfuric acid (H2SO4) and analysed on board or after the cruise by high temperature catalytic oxidation(HTCO) on a Shimadzu TOC-L analyzer (Cauwet, 1999).

**DON&DOP**. Samples will be filtered (0.2µm) directly at the Niskin bottles and collected into Teflon Vials. They will be oxidized (persulfate wet-oxidation) and simultaneously analysed on board or frozen (if analysed later) on a Seal-Bran Luebbe autoanalyser according to Pujo-Pay and Raimbault (1994) and Pujo-Pay et al. (1997).

**Samples storage**:

Room temperature for DOC, immediate analyses or Freezer -20°C for DON&DOP

Fridge for reagents

**Data Processing**:

N/A

CF =

ID =

**Calibration**:

Calibration with standards (calibration curves)

**Uncertainties and quality control concerns:**

DON&DOP : Calibration and certified standard used

DOC: Typical analytical precision is ±0.1–0.5 (SD) or0.2–0.5% (CV). Consensus reference materials (https://hansell-lab.earth.miami.edu/consensus-reference-material/index.html) will be used to insure stable operating conditions.

**Data products originating with this method:**

Vertical profiles of DOC, DON and DOP

**Key method references:**

Cauwet, G.: Determination of dissolved organic carbon (DOC) andnitrogen (DON) by high temperature combustion, in: Methods ofseawater analysis, 3rd edn., edited by: Grashoff, K., Kremling,K., and Ehrhard, M., 600pp, 407–420, 1999.

Pujo-Pay, M. and Raimbault, P.: Improvement of the wet-oxydation procedure for simultaneous determination of particulate organic nitrogen and phosphorus collected on filters, Mar. Ecol.-Prog. Ser., 105, 203–207, 1994.

Pujo-Pay, M., Conan, P., and Raimbault, P.: Excretion of dissolved organic nitrogen by phytoplankton assessed by wet oxidation and N-15 tracer procedures, Mar. Ecol.-Prog. Ser., 153, 99–111, 1997.