**SeaBASS Checklist: Particulate Filter Pad Absorption**

Please fill out the Collection, Measurement, and Analysis sections. Answer below each number

Cruise & Experiment: EXPORTS, EXPORTSNP

**SAMPLE COLLECTION METHODS**

1) Were the samples collected on upcast or downcast?

UPCAST

2) Was Niskin Bottle emptied into a large carboy for subsampling or sampled directly from bottle?

YES

3) What was the vacuum pressure for filtration?

<5mmHg

4) Were blank filters collected? (Y/N)

YES

5) Were replicates collected? (Y/N) If so, how many?

YES, OCCASIONAL 3-5%

6) Were the samples measured fresh or frozen?

FRESH

7) In what type of container were the samples stored? (e.g., histoprep, foil, etc.)

NA

8) How were the samples preserved immediately after collection (e.g., Liquid nitrogen, dry ice)

NA

9) What were the long-term storage conditions and temperature?

NA

**SAMPLE MEASUREMENT METHODS**

\*\*Note it is recommended that OD with blank filter subtracted should range between 0.1 and 0.4 per the IOCCG Absorption Coefficient Protocol

1) List the instrument make, model and accessories:

CARY 300 UV-VIS w/ LABSPHERE, center mounted sample holder

2) List instrument calibration, performance tests and maintenance performed:

BASELINE, ZERO, BLANK SCANS

ROUTINE PERFORMANCE TEST (per manufacturer)

3) What was the method of measurement? (e.g., transmittance, transmittance-reflectance, inside sphere, etc.)

INSIDE SPHERE

4) List any references for your protocol:

NASA PROTOCOL

5) Provide filter pad scan settings

a. Wavelength range: 350 - 850

b. slit band width: 2

c. scan speed: 300

6) How were the blank filters measured?

BASELINE CORRECTED

7) Were air scans measured to monitor instrument stability?

BEFORE / AFTER SAMPLE SET

8) How many filter rotations were measured?

3, IF NOT UNIFORM

9) What was the extraction method? Include concentration. (e.g.,95% methanol, hypochlorite, etc.)

95% METHANOL AND HOT WATER IF PHYCOBILIC PIGMENTS

**DATA ANALYSIS METHODS**

1) Describe filter blank and air scan subtractions, where applicable

FILTER BLANKS USED TO EVALUATE UNCERTAINTY, ALWAYS LOW

2) Define scatter correction/null correction method (if using transmittance method)

IS- NO SCATTER CORRECTION

3) Define which beta amplification correction that was used, with citation

STRAMSKI et al. (2015)

Guidance for what to include in each data file

Data [fields](https://seabass.gsfc.nasa.gov/wiki/stdfields) in each file should include:

\*\*report any replicate filters separately

1. Averaged raw absorbance (without null correction) for abs\_ap & abs\_ad
2. Standard deviation of filter rotations for abs\_ap and abs\_ad (abs\_ap\_sd, abs\_ad\_sd)
3. Absorbance of blank filter subtracted from each sample (abs\_blank)
4. Standard deviation of multiple blank scans (abs\_blank\_sd)
5. Measured ap and ad coefficient (ap, ad)
6. *Modeled ad coefficient (“ad\_model”) Optional, and only if applicable, e.g., insufficient pigment extraction (also, document your computation method).*
7. aph coefficient (write computation method as a comment in the header)
8. *Total uncertainty computation (ap\_unc, ad\_unc) (optional but recommended)*

\*\*See Chapter 5.3.4 the Absorption Coefficient protocol document1 and model example files

[Metadata header](https://seabass.gsfc.nasa.gov/wiki/metadataheaders) information should include

1. /volfilt (L) volume filtered, e.g., /volfilt=ap:0.02
2. /area (m2) for filter pads, the area over which particles are collected onto the filter
3. /null\_correction (m-1) Only needed if null correction was applied to one or more abs coefficients. If so, report the value in the metadata headers (e.g., /null\_correction=ap:0.001,ad:0.005)

1Neeley, A.R., Mannino, A., Reynolds, R.A., Roesler, C., Rottgers, R., Stramski, D., Twardowski, M. and Zaneveld, J.R.V., 2018. Ocean Optics & Biogeochemistry Protocols for Satellite Ocean Colour Sensor Validation: Absorption Coefficient. *http://dx.doi.org/10.25607/OBP-119*