

# Requirements for BioSAXS Mail-in at SWING

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## Packaging

- Each sample has to be sent in an Eppendorf tube of 1.5mL.
  - A centrifugation step will be performed, unless otherwise specified
  - An OD<sub>280</sub> measurement step using the Nanodrop device will be performed
- SEC-SAXS specifications:
  - A 10X Buffer has to be sent: a minimum of 100mL (1X) for each buffer is necessary, more depending on the number of injections and column volumes (3 column volumes as extra volume). If the buffer is expensive only 50mL (1X) can be sent. A pH adjustment will be performed at Soleil using HCl or NaOH solutions for 10X buffer.
  - For an optimal signal-to-noise ratio, a sample concentration of up to 5 mg/mL is recommended.
- BATCH specifications:
  - Concentrations series have to be already packaged by the user.
  - Buffers have to be ready to use: no adjustment at Soleil will be done.
  - The volume of each buffer must be more than necessary (2 times more buffer volume than sample volume). Each macromolecule measurement series will be surrounded by a measurement of its associated buffer.
  - The volume of injection is 40µL by default.

## Timing

Please consider the information below to adjust the number of measurements you request within your session time.

- The first hour will be dedicated to set up the beamline and to prepare samples:
  - Beam Re-alignment if needed
  - Sample & buffer preparations
  - Columns connection with buffers equilibration
  - Water calibration to get intensities in absolute units (cm<sup>-1</sup>)
- Any change of SEC buffer takes 45min including column equilibration. This time can be used to perform SEC-SAXS measurements on the second circuit or BATCH measurements.
- A standard SEC-SAXS measurement takes 25min (5mL column, 0.3ml/min)
- Any standard BATCH measurement of buffer or sample (injection+cleaning+drying) takes 4 min.

## Samples Description

The **SampleSheet\_SAXS.xlsx** file must be filled in for each Eppendorf tube sent. The values in the table are just examples.

**An absorbance profile at 280nm from the last purification step must be included for each sample (SEC and BATCH).**

## Shipping

- **Please indicate the temperature at which you want SOLEIL to store your samples, with appropriate stickers clearly visible on the parcel(s). Be aware that the transportation temperature has its own sticker.**
- Please send your parcel(s) to the address below:

<Local contact name> (Aurélien Thureau or Javier Pérez)

Synchrotron SOLEIL

SWING Beamline <Project number>

L'Orme des Merisiers

Départementale 128

91190 Saint-AubinFrance

## Commitment

- The measurements will be performed within one day of the date of the scheduled session.
- No change of any sample will be done at Soleil, except pH adjustments for SEC buffers.
- The data processing will be done by the local contact. The final averaged SAXS curve and all individual SAXS curves will be provided as ASCII files as well as the elution profiles for SEC-SAXS experiments. The raw data will have to be retrieved using Globus File Manager (<https://www.globus.org/>).
- No warranty of success