

Sample Preparation for Mass Analysis

1. Solvent

Please provide the solubility information of a solid sample.
Please indicate the solvent composition if the sample is in solution.

Solvent recommended:

- ESI-MS

Acetonitrile (HPLC), Methanol (HPLC), Water (HPLC)

Typically used solvents: 50% Acetonitrile in H₂O with 0.1% formic acid (or acetic acid)
50% Methanol in H₂O with 0.1% formic acid (or acetic acid)

DO NOT use Trifluoroacetic acid (TFA) for ESI-MS sample

- MALDI-MS

Acetonitrile (HPLC), Methanol (HPLC)

Typically used solvent: 50% Acetonitrile in H₂O with 0.1% TFA

Solvents to avoid for both ESI-MS and MALDI-MS: DMSO, DMF

2. Sample complexity

Please indicate how complex your sample is. Pure samples always give better signal. Multiple component samples will compete for charges in the ionization process. Impurities such as **polymers (eg. PEG's)** and **detergents** etc. may obscure the desired peaks entirely.

3. Sample concentration

Please provide the concentration information. Minimum concentration and amount needed are listed below. If you do not have sufficient amount of sample, please contact us.

	ESI-MS	MALDI-MS
Concentration	50 pMol/ μ L	50 pMol/ μ L
Volume	20 μ L	10 μ L

4. Salts

Keep salt concentration as low as possible. In case it is necessary, use ammonium salts instead of sodium or potassium.

- ESI-MS

Less than 1mM salts is preferred. Sometimes up to 10 mM ammonium salt is acceptable.

- MALDI-TOF

Less than 10 mM salts is preferred. More tolerant of salt contamination than ESI-MS

5. Detergents

Presence of detergents can significantly reduce or even totally eliminate the protein/peptide signal. Our requirement for all samples is that the detergent concentration must be <0.01% (w/v) for the following detergents if required for solubilization:- SDS, CHAPS, Triton X-100, glucosides. If other detergents are used please discuss with us before submitting samples.