

ICAR-CIFA, SAIF

About ICAR-CIFA SAIF

The Sophisticated Analytical Instruments Facility (SAIF), is a portal developed on the web site of ICAR-CIFA. The purpose of establishing this portal is to provide data collection facility from sophisticated analytical equipment's to scientific community from different research and education institutes/universities for their advanced research with nominal charges.

Facilities Available

- **Atomic Absorption Spectrophotometer (AAS)**
- **Bioinformatics Data Analysis and Training Facility**
- **DNA Workstation**
- **Gas Chromatograph (GC)**
- **Gas Liquid Chromatograph (GLC)**

Atomic Absorption Spectrophotometer (AAS)

Instrument Details:

Model: Solar M-6

Make: ThermoFisher



Working Principle:

Atomic Absorption Spectroscopy (AAS) determines the concentrations of metals in liquid samples. It is a process involving the absorption by free atoms of an element of light at a wavelength specific to that element. Atomic absorption spectroscopy is a method for quantitative determination of metals present in sample. In their elemental form, metals will absorb ultraviolet (UV) light when they are excited by heat. Each metal has a characteristic wavelength that will be absorbed.

Applications:

- Analysis of trace elements in soil, water, fish samples, feed etc.

User Instructions:

If materials are given in raw form then about 50gm of sample is required and in case of dried or grinded sample the sample amount requirement is about 10gm. The sample is prepared through acid digestion and glass filtration process accordingly. For analysis of water sample the required amount is 100ml for each.

Contact us:



Contact: 91-674-2465421

E-mail ID: subhendu66@rediffmail.com

Atomic Absorption Spectrophotometer Charges Including GST:

Particulars	Industry	University	National Lab/R&D's	
Soil, water, fish samples, feed	Rs.500.00	Rs.500.00	Rs.500.00	Per sample

Additional Information

1. How many days before the user Scientist is to be contacted?

At least 2 weeks.

2. How the sample is to be prepared?

The sample preparation is done as per the method of Paul *et. al.* (2014). The mineral assay is to be done as per (AOAC, 2005) in Flame atomic absorption spectrophotometer (Thermo Fisher).

3. How many days are required to analyse the sample?

For acid digestion method, it takes 2-3days and 1 day for analysis in AAS.

4. Charges for sample analysis?

Charge for sample analysis with report is Rs 500.00; which includes the sample preparation also. The raw tissue sample of about 50-60 g is required. If the sample is dried and grinded then 10 g tissue sample is required.

5. How the data is stored?

After analysis the result is stored in the respective software (SOLAAR).

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Bioinformatics Data Analysis and Training Facility

Instrument Details:

Model: Z-HP-840 & Z-HP-420 Workstation

Make: HP



Applications:

- Bioinformatics data analysis using open software and CLC Genomics Workbench

User Instructions: Raw data is required. Analysis will be done by us.

Contact us:



Contact: 91-674-2465421

E-mail ID: pdas77@hotmail.com

Bioinformatics Facility Charges Including GST:

Particulars	Private Organisation	University	National Lab/R&D's	
Data QC and analysis per sample	20000	10000	15000	Per sample (5-10GB)
5 Days Training	10000	10000	10000	Faculties/Scientists
	7500	7500	7500	Students

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DNA Workstation

Instrument Details:

Model: QIAcube

Make: Qiagen



Working Principle:

Applications:

- Automated DNA /RNA isolation from different fish/animal tissues

User Instructions: NA

Contact us:



Contact: 91-674-2465421

E-mail ID: pdas77@hotmail.com

DNA Workstation Charges Including GST:

Particulars	Industry	University	National Lab/R&D's	
DNA isolation with QC	600	600	600	Per sample
RNA isolation with QC	800	800	800	Per sample

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Gas Chromatograph (GC)

Instrument Details:

Model: -

Make: Shimadzu



Working Principle:

Applications:

- Analysis of Fatty Acid profile of Fish tissue.

User Instructions:

Contact us:



Contact: 91-674-2465421

E-mail ID: knmohanta@gmail.com

Gas Chromatograph (GC) Charges Including GST:

Particulars	Industry	University	National Lab/R&D's	
Fatty acid analysis	3000	3000	3000	Per sample

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Gas Liquid Chromatograph (GC)

Instrument Details:

Model: Clarus 480

Make: Perkin-Elmer



Working Principle:

The principle in gas chromatography involves the separation of the components of the sample under test due to partition in between gaseous mobile phase and stationary liquid phase. The components partitioned into gas come out first while other comes later.

Gas chromatography runs on the principle of partition chromatography for separation of components. In terms of stationary and mobile phases it is categorized under *gas-liquid type of chromatography* i.e. stationary phase is a liquid layer supported over a stationary phase while the mobile phase is an inert and stable gas.

Applications:

- Analysis of Fatty Acid profile of Fish tissue.

User Instructions:

The raw tissue sample of about 50-60 g is required. If the sample is freeze dried then 20 g tissue sample is required.

Contact us:



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Gas Liquid Chromatograph (GC) Charges Including GST:

Particulars	Industry	University	National Lab/R&D's	
Fish tissue sample with sample preparation	Rs 3000	Rs 3000	Rs 3000	Per sample
Prepared tissue sample in FAME form	Rs1000	Rs1000	Rs 1000	Per sample

Additional Information

1. How many days before the user Scientist is to be contacted?

At least 3 weeks.

2. How the sample is to be prepared?

Pooled samples to be extracted for fatty acid analysis following the method of Folch *et al.*, (1957) using chloroform and methanol (2:1, v/v) solvent system that contained 0.01% butylated hydroxyl anisole as an antioxidant. Fatty acid methyl esters (FAMES) are prepared by the transmethylation with boron trifluoride (BF₃) in methanol from lipids fraction according to Metcalfe *et al.*, (1966).

3. How many days are required to analyse the sample?

For preparation of Fatty Acid Methyl Ester (FAME), it takes 2-3 days and 1 day for analysis in GC.

4. Charges for sample analysis?

Charge for sample analysis with report is Rs 3000.00; which includes the sample preparation also. The raw tissue sample of about 50-60 g is required. If the sample is freeze dried then 20 g tissue sample is required. If the sample is already processed as Fatty acid methyl ester form (FAME) then the charge would be Rs. 1000.00.

5. How the data is stored?

After analysis the chromatogram is stored in the software (TC Navigator) of the machine.

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