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# SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

INDIAN INSTITUTE OF TECHNOLOGY MADRAS





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### List of Charges How to Submit the Samples And Mode of Payment

### **HOW TO SUBMIT THE SAMPLES**

The samples should be submitted in the prescribed format indicating the information called for as well as your special requirement, if any. If you are sending them by mail, please enclose the payment along with the samples and address the same to:

The Head , Sophisticated Analytical Instrument Facility Indian Institute of Technology Madras, Chennai - 600 036.

Only on recipt of the payment along with the samples, they will be registered for analysis and taken up for measurement as per the seniority/queue of the users of the instrument concerned. As soon as the analysis is over, the spectra along with the receipt / bill will be sent to the users. While submitting samples for more than one analysis separate samples are to be sent for each.

### An Important notice

As per the guidelines of the Department of Science and Technology (DST), in all publications of research work, where in the analytical services of the SAIF have been made use of, the DST and the SAIF, IIT Madras shall be duly acknowledged. Kindly send us the publication reference (Journal name/volume number/names of the authors/date of issue of the publication etc) to us.

A <u>list of charges</u> for spectral measurements, as stipulated by the Department of Science & Technology, New Delhi, is annexed. A "Three Tier" Charge System is being followed. Please note that:

The charges mentioned are for analysis of samples received from users within India only.

For overseas users, please contact SAIF by Email directly.

Charges are subject to change periodically

### **Mode of Payment**

Please note the current policy on payment of analysis charges: Our current policy requires analysis that payment be received before the samples can be registered and analysis taken up. Please make sure that the payment is received along with the samples. Payments are to be made by either demand draft (DD) or Card swiping facility also available.

The DD must be drawn in favour of:
The Registrar, IIT Madras
payable at Chennai and must be sent along with samples and Registration form to:

The Head , Sophisticated Analytical Instrument Facility

Indian Institute of Technology Madras, Chennai - 600 036.

Please note that in the event the DD amount/payment received is more than the actual analyses charges incurred, it will NOT be possible to refund the excess amount paid. However, the excess amount may be adjusted against future analyses by the same user or another user from the same organization following a written request by Email or hard copy. The excess amount adjustment should be utilized before 31st March, the financial year ends.

List of charges with effect from 15<sup>th</sup> - JULY - 2017. The charges include GST

Please note that the testing charges now include a GST component of 18% which has been revised from 15% in accordance with Government of India instructions.

# **NEW** NEW Charge Calculator

SL.NO		Industries Large Scale Medium & SSI	National	Academic and Educational Institutions	SC & S' Candidates avai 10% discount	
	SPECTI	ROMETRY				
	FT-NMR spectrometer (Solution State) Extra charges for deuterated solvents	<sup>1</sup> H, <sup>19</sup> F, <sup>31</sup> P, <sup>27</sup> AI, <sup>11</sup> B & DEPT	₹. 3500/-per Measurement	₹. 2100/-per Measurement	. ₹700/- per Measurement	. ₹630/- per Measurement
		<sup>13</sup> C	₹. 5000/-per Measurement	₹. 3000/-per Measurement	₹. 1000/- per Measurement	₹. 900/- per Measurement
		<sup>77</sup> Se, <sup>125</sup> Te, <sup>95</sup> Mo, <sup>29</sup> Si	₹. 5000/- per Measurement	₹. 3000/-per Measurement	₹. 1000/- per Measurement	₹. 900/- per Measurement
		VT - HT	₹. 3500/-per Measurement	₹. 2100/-per Measurement	₹. 700/- per Measurement	₹. 630/- per Measurement
1.		VT - LT	₹. 5000/-per Measurement	₹. 3000/-per Measurement	₹. 1000/- per Measurement	₹. 900/- per Measurement
		2D: COSY, HSQC	₹. 5000/- per Measurement	₹. 3000/-per Measurement	₹. 1000/- per Measurement	₹. 900/- per Measurement
		2D: DQFCOSY, HMBC, TOCSY	₹. 6000/-per Measurement	₹. 3600/-per Measurement	₹. 1200/- per Measurement	₹. 1080/- per Measurement
		2D:NOESY/ROESY	₹. 11500/- per Measurement	₹. 6900/-per Measurement	₹.2300/-per Measurement	₹.2070/-per Measurement
		Solvent Charges:- CDCI <sub>3</sub>	₹. 500/-per Measurement	₹. 300/-per Measurement	₹. 100/-per Measurement	₹. 90/-per Measurement
		Solvent Charges:- METHANOI - D4	₹. 3500/-per Measurement	₹. 2100/-per Measurement	₹. 700/-per Measurement	₹. 630/-per Measurement
		Solvent Charges:- DMSO, BENZENE, D2O, ACETONE etc.	₹. 1000/-per Measurement	₹. 600/-per Measurement	₹. 200/-per Measurement	₹. 180/-per Measurement
2.	FT-NMR spectrometer (Solid State)		₹. 10000/-per Measurement per hour ₹. 5000/- for additional hour	₹. 6000/-per Measurement per hour ₹. 3000/- for additional hour	₹. 2000/-per Measurement per hour ₹. 1000/- for additional hour	₹. 1800/-per Measurement per hour ₹. 900/- for additional hour
		ESR Spe	ctrometer			
	Microwave Measurement requency Temperature	Nature of Feasible/		Measu	remnet Charges	

# Sophisticated Analytical Instrument Facility

				Feasible	1			
			Powder	Y				
		Room Temperature	Solution/Liquid	Υ	₹. 2500/-per	₹. 1500/-per	₹. 500/- per	₹. 450/- per
	ESR Microwave Frequency X Band		Crystal/Pellet/Thin Film	Y	Measurement	Measurement	Measurement	Measurement
		Liquid Nitrogen	Powder	Y				<b>3</b> 000/
		Temperature(77.3K)	Solution/Liquid	Y	₹. 3750/-per Measurement	₹. 2250/-per Measurement	₹. 750/- per Measurement	₹. 680/- per Measurement
			Crystal/Pellet/Thin Film	Y	Wicasarcinchi	ivieasurement		Weasurement
		Variable Temperature	Powder	Y		₹. 2250/-per Measurement	₹. 750/- per Measurement	₹. 680/- per Measurement
			Solution/Liquid	N	₹. 3750/-per			
		(100K-298K)	Crystal/Pellet/Thin Film	Υ	Measurement			
		Room Temperature	Powder	Y	Rate not fixed			
3.	ESR Microwave Frequency X Band ENDOR	Liquid Nitrogen Temperature	Solution/Liquid					
		Variable Temperature	Crystal/Pellet/Thin Film	Y	₹. 10000/-per Measurement	₹. 6000/-per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
	ESR Microwave Frequency Q Band		Powder	Υ				Measurement  ₹. 2250/- per Measurement
		Room Temperature	Solution/Liquid	Υ	₹. 12500/-per	₹. 7500/-per	₹. 2500/- per	
			Crystal/Pellet/Thin Film	Υ	Measurement	Measurement	Measurement	
		Limited Mitters was	Powder	N				
		Liquid Nitrogen Temperature(77.3K)	Solution/Liquid	N	Nil	Nil	Nil	Nil
		, , , ,	Crystal/Pellet/Thin Film	N				Measurement  Nil  ₹. 2700/- per
		Variable	Powder	Υ				
		Temperature	Solution/Liquid		₹. 15000/-per Measurement	₹. 9000/-per Measurement	₹. 3000/- per Measurement	₹. 2700/- per Measurement
		(100K-298K)	Crystal/Pellet/Thin Film	Υ				
4.	ICP-OES for analysis per sample including standardization for first elements			element	₹. 2390/-per Measurement for every addtional elements ₹. 470/-; sample Digestion charges extra	₹. 1090/- per Measurement For every additional elements ₹. 220/-; Sample Digestion charges extra	₹. 370/- per Measurement for every additional element ₹.80/-; sample Digestion charges extra	Measurement for every additional element ₹.70/-sample Digestion charges extra
	LIFE TIME	LIFE TIME SYSTEM		iment	₹. 2250/- per Measurement	₹. 1350/- per Measurement	₹. 450/- per Measurement	₹. 410/- per Measurement
5.	(Please click submitting	the link before the samples for	*Quenching s	tudies	₹. 10000/- per Measurement	₹. 6000/- per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
	specialized measurements)		*FRET		₹. 10000/- per Measurement	₹. 6000/- per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
6	IIV VIE NID	anaatramatar	UV-VIS or	nly	₹. 2000/- per Measurement	₹. 1200/- per Measurement	₹. 400/- per Measurement	₹. 360/- per Measurement
6.	UV-VIS-NIR spectrometer		UV-VIS-N	IR	₹. 2500/- per Measurement	₹. 1500/- per Measurement	₹. 500/- per Measurement	₹. 450/- per Measurement

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7.	Fluorescence spectrometer	Excitation/emission Spectrum	₹. 2000/- per Measurement	₹. 1200/- per Measurement	₹. 400/- per Measurement	₹. 360/- per Measurement
	submitting the samples for specialized measurements)	Synchronous Scanning	₹. 4000/- per Measurement	₹. 2400/- per Measurement	₹. 800/- per Measurement	₹. 720/- per Measurement
		Excitation-Emission Matrix	₹. 5000/- per Measurement	₹. 3000/- per Measurement	₹. 1000/- per Measurement	₹. 900/- per Measurement
		*Quantum yield measurement(for liquid sample only)	₹. 10000/- per Measurement	₹. 6000/- per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
		*Quenching studies	₹. 10000/- per Measurement	₹. 6000/- per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
		*Solvatochormism studies	₹. 10000/- per Measurement	₹. 6000/- per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
		*FRET study	₹. 7500/- per Measurement	₹. 4500/- per Measurement	₹. 1500/- per Measurement	₹. 1350/- per Measurement
	FT-RAMAN spectrometer		₹. 1940/-per Measurement [Included Preparation charges]	₹. 870/-per Measurement [Included Preparation charges]	₹. 360/- per Measurement [Included Preparation charges]	₹. 330/- per Measurement [Included Preparation charges
	ATR-IR spectrometer per spectrum per sample		₹. 1940/- per Measurement [Included Preparation charges]	₹. 870/- per Measurement [Included Preparation charges]	₹. 360/-per Measurement [Included Preparation charges]	₹. 330/-per Measurement [Included Preparation charges
	1	CRYSTALI	OGRAPHY			
	Single crystal X-Ray Diffractometer (XRD) For structure determination charges are extra. (Pl. contact the operator)	Cell Parameters	₹. 2750/- per Measurement	₹. 1610/- per Measurement	₹. 550/- per Measurement	₹. 500/- per Measurement
0.		Cell Parameter and Crystal Structure Data Base Check	₹. 3750/- per Measurement	₹. 2250/- per Measurement	₹. 750/- per Measurement	₹. 680/- per Measurement
		Data Collection	₹. 14150/- per Measurement	₹. 8440/- per Measurement	₹. 2830/- per Measurement	₹. 2550/- per Measurement
		Data Structure*	₹. 23000/- per Measurement	₹. 13820/- per Measurement	₹. 4580/- per Measurement	₹. 4130/- per Measurement
		Data at low temperature	₹. 18300/- per Measurement	₹. 10470/- per Measurement	₹. 3660/- per Measurement	₹. 3230/- per Measurement
		Data & structure at low tempurature	₹. 27000/- per Measurement	₹. 15820/- per Measurement	₹. 5420/- per Measurement	₹. 4880/- per Measurement
		Structure solution only(SC- XRD DATA SHOULD BE PROVIDED)	₹. 8750/- per Measurement	₹. 5250/- per Measurement	₹. 1750/- per Measurement	₹. 1580/- per Measurement
		IMA	GING			
		SEM Image	₹. 5940/- per Measurement	₹. 2670/- per Measurement	₹. 900/- per Measurement	₹. 810/- per Measurement
1.	FEI Quanta FEG 200-High Resolution Scanning	SEM Image + EDS (EDAX)	₹. 8860/- per Measurement	₹. 3960/- per Measurement	₹. 1320/- per Measurement	₹. 1190/- per Measurement
	Electron Microscope (SEM)	SEM Image + EDAX + Mapping	₹. 12000/- per Measurement	₹. 6000/- per Measurement	₹. 2000/- per Measurement	₹. 1800/- per Measurement
		SEM Image + EDAX + WDS(Not Working)	₹. 10680/-per Measurement	₹. 4820/- per Measurement	₹. 1600/- per Measurement	₹. 1440/- per Measurement
		MAGNE	TOMETRY			
2.	Vibrating Sample Magnetometer (VSM)	RT (up to ± 1.5T)	₹. 6000/- per Measurement	₹. 3600/- per Measurement	₹. 1200/- per Measurement	₹. 1080/- per Measurement
	(Revised Charges)	RT (up to ± 2.5T)	₹. 9000/- per Measurement	₹. 5400/- per Measurement	₹. 1800/- per Measurement	₹. 1620/- per Measurement
		Low Temp	₹. 15000/- per Measurement + ₹. 9000/- for every extra M-H	₹. 9000/- per Measurement + ₹. 5400/- for every extra M-	M-T at any fixed magnetic field (or) M-H at any one fixed	M-T at any fixed magnetic field (or) M-H at any one fixed
			measurement	H H	Low temp @ ₹.	Low temp @ ₹.

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		iisticated Analytical Ilistidii	ione i domey			
			(up to ± 1.5T) and ₹.12000/- for every extra M-H measurements (up to ± 2.5T)	measurement (up to ± 1.5T) and ₹.7200/- for every extra M-H measurements (up to ± 2.5T)	3000/-per Measurement + ₹. 1800/- for every extra M-H measurement(up to ± 1.5T) and ₹ .2400/- for every extra M-H measurements (up to ± 2.5T)	2700/-per Measurement + ₹. 1620/- for every extra M-H measurement(up to ± 1.5T) and ₹2160/- for every extra M-H measurements (up to ± 2.5T)
		High Temp#	₹. 21000/- per Measurement + ₹. 12000/- for every M-H measurement.	₹.12600/- per Measurement + ₹. 7200/- for every M-H measurement.	High temp @ ₹. 4200/- per Measurement + ₹.	M-T at any one fixed magnetic field (or) M-H at any one fixed High temp @₹. 3780/- per Measurement +₹. 2160/- for every M-H measurement.
		THERMAL	ANALYSIS			
	DSC (The charges specified to a standard heating rate 10°k/min) per measurement	High Temp RT to 400°C	Heating only ₹. 3250/- Heating and Cooling ₹. 4500/-	Heating only Rs. 1950/- Heating and Cooling ₹. 2700/-	Heating only ₹. 650/- Heating and Cooling ₹. 900/-	Heating only ₹. 590/- Heating and Cooling ₹. 810/-
13.		Low Temp -100°C to 25°C	Heating only ₹. 4000/- Heating and Cooling ₹ .5000/-	Heating only ₹. 2400/- Heating and Cooling ₹. 3000/-	Heating only ₹.  800/- Heating and Cooling ₹. 1000/-	Heating only ₹. 720/- Heating and Cooling ₹. 900/-
		C <sub>p</sub> (Specific heat capacity Measurement) 35°C to 400°C	₹. 9000/- per Measurement	₹. 5400/- per Measurement	₹. 1800/- per Measurement	₹. 1620/- per Measurement
14.	TG – DSC (These charges correspond to a standard heating rate 10°k/min)	Temp RT to 1400°C	₹. 6500/- per Measurement	₹. 3900/- per Measurement	₹.1300/- per Measurement	₹.1170/- per Measurement
		ELEMENTA	L ANALYSIS			
		CS744	₹. 5000/- per Sample	₹. 3000/- per Sample	₹. 1000/- per Sample	₹. 900/- per Sample
15.	CHNSO ANALYSER	ONH836	₹. 5000/- per Sample	₹. 3000/- per Sample	₹. 1000/- per Sample	₹. 900/- per Sample
13.		Truspec Micro CHNS Module	₹. 7500/- per Sample	₹. 4500/- per Sample	₹. 1500/- per Sample	₹. 1350/- per Sample
		628 Oxygen Module	₹. 7500/- per Sample	₹. 4500/- per Sample	₹. 1500/- per Sample	₹. 1350/- per Sample
		CHROMAT	OGRAPHY			
16.	GC-MS (Single Quad)	GC-MS	₹. 4000/- per Measurement	₹. 2400/- per Measurement	₹. 800/- per Measurement	₹. 720/- per Measurement
L	, , , ,	GC-MS with NIST Library search	₹. 5000/- per Measurement	₹. 3000/- per Measurement	₹. 1000/- per Measurement	₹. 900/- per Measurement
17.	LC-QTOF-HRMS	MS (ESI mode)	₹. 4000/- per Sample	₹. 2400/- per Sample		₹. 720/- per Sample
		MS (ESCi mode)	₹. 6000/- per Sample	₹. 3600/- per Sample	₹. 1200/- per Sample	₹. 1080/- per Sample
		MS (ASAP mode)	₹. 7500/- per Sample	₹. 4500/- per Sample	₹. 1500/- per Sample	₹. 1350/- per Sample
		HR-MS (ESI)	₹. 6000/- per Sample	₹. 3600/- per Sample	₹. 1200/- per Sample	₹. 1080/- per Sample
		HR-MS (ESCi)	₹. 8000/- per Sample	₹. 4800/- per Sample	₹. 1600/- per Sample	₹. 1440/- per Sample
		MS/MS	₹. 7500/- per each Mass	₹. 4500/- per each Mass	₹. 1500/- per each Mass	₹. 1350/- per each Mass
		UPLC-Fast DDA	₹. 6000/- per	₹. 3600/- per	₹. 1200/- per	₹. 1080/- per

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		Sample	Sample	Sample	Sample
	UPLC-MS	₹. 8000/- per Sample	₹. 4800/- per Sample	₹. 1600/- per Sample	₹. 1440/- per Sample
	MS <sup>E</sup>	₹. 8000/- per Sample	₹. 4800/- per Sample	₹. 1600/- per Sample	₹. 1440/- per Sample
	TOF-MRM	₹. 8000/- per Sample	₹. 4800/- per Sample	₹. 1600/- per Sample	₹. 1440/- per Sample

# Maximum 60 points includes 5K interval @ Tc -50 to Tc +50 for High temperature M-T measurement.

### **Data & Structure**

\* "These are the minimum charges. Additional charges may be levied depending on the nature and complexity of the problem. Please contact SAIF Office Dr. P. K. Sudhadevi in this connection. "

\* Quantum Yield, quenching and solvatochromism and FRET studies can only be done in solution state. The user should check the solubility of sample in different solvents and same should be informed to the operator through the reg. form. For quenching studies the user should supply the quencher solutions with known concentration.

For FRET studies your sample should contain an electron rich (donor) species and electron deficient (acceptor) unit in such a way that emission from the donor and absorption from the acceptor overlap considerably.

For specialized measurements like FRET and quenching studies, please contact 044-2257-5926/5939 or mail to sdevi'at'iitm.ac.in or varam'at'iitm.ac.in before submitting the samples. The charge mentioned for FRET studies is for checking absorption and emission of donor and acceptor only. Extra charges may be levied depending on the analysis.

\* User should first submit for steady state Fluorescence quenching studies before submitting for lifetime measurements or they have to provide information about steady state Fluorescence quenching analysis. For specialized measurements like FRET and quenching studies, please contact 044-2257-5926/5939 or mail to sdevi@iitm.ac.in or varam@iitm.ac.in before submitting the samples

## Microwave digestion charges for ICP-OES:

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Minimum charges per sample: ₹. 450/-
Similar samples (up to 5 samples): ₹. 562/-
(6 - 10 samples): ₹. 810/-
(10 - 16 samples): ₹. 2250/-
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If the samples are of different types, each sample will be charged separately

### Additional Charges may be levied for:

Samples requiring special processing prior to measurement (subject to availability)

Deuterated solvents and other costly chemicals

Whenever specialized measurements are performed – which are not specified above [eg. VT NMR, DEPT(NMR), VT XRD]

For heating rates slower than 10 K/min, charges will be according to the number of hours taken for measurement. (for DSC)

The Head SAIF IIT Madras Chennai 600 036. Phone No.2257 4935, Fax: 2257 0509/2257 2545 E-mail: saif at iitm.ac.in saif at iitm.ac.in

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<sup>\*</sup> Cost includes the charges for capillary tube.