

**PRICE LIST**

(Approved by Advisory Board on 2019.03.26)

For information and quotation, please contact:

[servizi-impreses.mater@unimib.it](mailto:servizi-impreses.mater@unimib.it)

Item	Laboratory	Test description	u.m.	Cost per unit
A.1	A_Archeo	Thermoluminescence authentication. Cost per measurement.	€/each	€ 225.00
A.2	A_Archeo	Thermoluminescence dating. Cost per measurement.	€/each	€ 1 100.00
A.3	A_Archeo	Optically Stimulated Emission dating. Cost per measurement.	€/each	€ 860.00
A.4	A_Archeo	Radiocarbon dating. Cost per measurement.	€/each	€ 480.00
A.5	A_Archeo	Dendrochronology (dating). Cost per measurement.	€/each	€ 156.00
A.6	A_Archeo	Elemental analysis (C, H, N, S). Cost per measurement.	€/each	€ 38.50
A.7	A_Archeo	Rehydroxylation dating. Cost per measurement.	€/each	€ 1 100.00
A.8	A_Archeo	Gravimetric Analysis for the determination of water content. Cost per measurement.	€/each	€ 852.00
B.1	B_Comib	Optometric analysis. Cost per measurement	€/each	€ 50.00
C.1	C_Fis_Chm_Mtr	Resistivity and Mobility measurement. Cost per sample.	€/sample	€ 102.00
C.2	C_Fis_Chm_Mtr	Resistivity and Mobility measurement at Low Temperature. Cost per sample.	€/sample	€ 202.00
C.3	C_Fis_Chm_Mtr	Solar Cell I-V characteristics. Cost per sample.	€/sample	€ 223.00
C.4	C_Fis_Chm_Mtr	QSSPCD Lifetime measurements. Cost per sample.	€/sample	€ 182.00
C.5	C_Fis_Chm_Mtr	LBIC measurement. Cost per sample.	€/sample	€ 228.50
C.6	C_Fis_Chm_Mtr	Thin Film Deposition (max 5x5 cm <sup>2</sup> ). Cost per deposition.	€/each	€ 213.00
C.7	C_Fis_Chm_Mtr	FTIR Spectroscopy at low temperature. Cost per sample.	€/sample	€ 201.00
C.8	C_Fis_Chm_Mtr	FTIR Spectroscopy. Cost per sample.	€/sample	€ 141.50
C.9	C_Fis_Chm_Mtr	UV-VIS and IR Photoluminescence. Cost per sample.	€/sample	€ 277.00
C.10	C_Fis_Chm_Mtr	UV-VIS and IR Photoluminescence at low temperature. Cost per sample.	€/sample	€ 323.00
D.1	D_Lasmo	CG-MS analysis (within 2000 u.m.a. electron impact ionization). Cost per hour	€/hour	€ 125.00
D.2	D_Lasmo	NMR Spectroscopy in liquid solution. Cost per hour.	€/hour	€ 192.00
D.3	D_Lasmo	FTIR-ATR Spectroscopy (liquid and solid samples). Cost per hour.	€/hour	€ 148.00
E.1	E_Lccc	Optical Microscopy Imaging (transmission or reflection configuration). Cost per hour.	€/hour	€ 115.50
E.2	E_Lccc	Hot-Stage Optical Microscopy Imaging (transmission or reflection configuration). Temperature: -190°C ÷ 600°C. Cost per hour.	€/hour	€ 148.50
E.3	E_Lccc	Single Crystal X-Ray Diffraction. Room temperature. Cost per hour.	€/hour	€ 166.50
E.4	E_Lccc	Single Crystal X-Ray Diffraction. Variable Temperature 80 K ÷ 490 K. Cost per hour.	€/hour	€ 199.50

F.1	F_MibSolar	Fabrication of DSC cells < 0.20 cm <sup>2</sup> for component evaluation (1 dye + 1 electrolyte) (10 DSC cells)	€/each	€ 860.00
F.2	F_MibSolar	Fabrication of DSC cells < 0.20 cm <sup>2</sup> for component evaluation (1 dye + 5 electrolytes) (25 DSC cells)	€/each	€ 1 370.00
F.3	F_MibSolar	I/V characteristics (current, voltage, maximum power, total efficiency). Cost per hour.	€/hour	€ 246.00
F.4	F_MibSolar	External Quantum Efficiency measurements. (EQE or IPCE). Spectral response. Cost per hour.	€/hour	€ 284.50
F.5	F_MibSolar	Internal Quantum Efficiency measurements. (IQE or APCE). Spectral response. Cost per hour.	€/hour	€ 295.50
F.6	F_MibSolar	Absorption spectrum of dye sensitized TiO <sub>2</sub> photoanodes (5 DSC Cells - 1 dye)	€/each	€ 421.50
F.7	F_MibSolar	Absorption spectrum of dye sensitized TiO <sub>2</sub> photoanodes (15 DSC Cells - 3 dyes)	€/each	€ 941.50
F.8	F_MibSolar	DSC Logo - custom made image (12 logos - 5x5 cm <sup>2</sup> )	€/each	€ 2 606.00
F.9	F_MibSolar	Laser cutting. Cost per sample	€/sample	€ 246.00
F.10	F_MibSolar	TiO <sub>2</sub> Coating 10x10 cm <sup>2</sup>	€/each	€ 541.00
F.11	F_MibSolar	TiO <sub>2</sub> Coating 10x10 cm <sup>2</sup> (custom made image)	€/each	€ 1 108.00
F.12	F_MibSolar	Electrochemical Impedance Spectroscopy (EIS) (1 PV cell)	€/each	€ 114.00
G.1	G_MSNS	C-V measurements at room temperature. Single Frequency. Cost per hour.	€/hour	€ 127.00
G.2	G_MSNS	C-V measurements at variable temperature (10 K ÷ 500 K). Single Frequency. Cost per hour.	€/hour	€ 270.00
G.3	G_MSNS	EPR and EDMR measurements. X and Q band. Variable temperature (10 K ÷ 500 K). Cost per hour.	€/hour	€ 424.00
H.1	H_Nanomat_Lab	Thermogravimetric Analysis (TGA). Cost per sample.	€/sample	€ 132.00
H.2	H_Nanomat_Lab	Thermogravimetric Analysis coupled to Mass Spectrometry (TGA/MS). Determination of the composition of the gaseous reaction products. Cost per	€/sample	€ 198.00
H.3	H_Nanomat_Lab	Electron Spin Resonance. Cost per sample.	€/sample	€ 209.00
H.4	H_Nanomat_Lab	ICP-AES analysis. Cost per sample (1 element).	€/each	€ 100.00
I.1	I_Ombe	Atomic Force Microscopy - low resolution (microns) images. Cost per sample	€/sample	€ 330.00
I.2	I_Ombe	Atomic Force Microscopy - high resolution (nanometer) images. Cost per sample	€/sample	€ 440.00
I.3	I_Ombe	Spectroscopic ellipsometry on isotropic solid samples - thickness and refractive index determination. Cost per sample.	€/sample	€ 1 804.00
I.4	I_Ombe	UV-vis-NIR transmission spectroscopy. Cost per sample (n samples ≤5)	€/sample	€ 176.00
I.5	I_Ombe	UV-vis-NIR transmission spectroscopy. Cost per sample (n samples >5)	€/sample	€ 137.50
I.6	I_Ombe	UV-vis-NIR near-normal incidence reflectance spectroscopy. Cost per sample (n samples ≤5)	€/sample	€ 264.00
I.7	I_Ombe	UV-vis-NIR near-normal incidence reflectance spectroscopy. Cost per sample (n samples >5)	€/sample	€ 198.00
J.1	J_Posylife	DSC for polymer analysis (3 runs). Cost per measurement.	€/each	€ 160.00
J.2	J_Posylife	Time-Domain NMR analysis (TD-NMR). a) Determination of the proton content, b) determination of the rigid fraction in polymers (evaluation of the crystallinity).	€/each	€ 50.00
J.3	J_Posylife	Time-Domain NMR analysis (TD-NMR). Determination of the relaxation time T <sub>2</sub> or T <sub>1</sub> for the study of the crosslink density and homogeneity in elastomers. Single	€/each	€ 90.00
J.4	J_Posylife	Time-Domain NMR analysis (TD-NMR). Multiple Quantum Coherence Measurement for the study of crosslink density and homogeneity in elastomers.	€/each	€ 200.00
J.5	J_Posylife	Mechanical measurements of plastics and elastomers by means of Zwick dynamometer in traction or compression: determination of the elastic modulus,	€/sample	€ 250.00
J.6	J_Posylife	Dynamic Mechanical Analysis (DMA) of plastics and elastomers: single frequency analysis, determination of storage modulus, loss modulus and tand.	€/sample	€ 300.00
J.7	J_Posylife	Gel Permeation Chromatography for the determination of polymer molecular weight.	€/sample	€ 100.00
K.1	K_Sem	Tescan VEGA TS Univac 5136XM electronic scanning microscope, for images with secondary electrons and back scattered. Hourly Rate	€/hour	€ 131.00
K.2	K_Sem	Tescan VEGA TS Univac 5136XM electronic scanning microscope, Measure EDX (up to 10 elements): up to 5 microanalysis per sample. Hourly tariff	€/hour	€ 147.00
K.3	K_Sem	Tescan VEGA TS Univac 5136XM electronic scanning microscope, for EBIC measurements. Hourly Rate	€/hour	€ 146.00
K.4	K_Sem	Tescan VEGA TS Univac 5136XM electronic scanning microscope, for EBIC measurements versus Temperature. Hourly Rate	€/hour	€ 198.00

K.5	K_Sem	Zeiss 500 electronic scanning microscope, for images with secondary electrons and back scattered. Hourly Rate	€/hour	€	260.00
K.6	K_Sem	Zeiss 500 electronic scanning microscope, Measure EDX (up to 10 elements): up to 5 microanalys per sample. Hourly tariff	€/hour	€	282.00
K.7	K_Sem	Zeiss 500 electronic scanning microscope, for images with secondary electrons, back scattered and EBSD. Hourly Rate	€/hour	€	315.00
K.8	K_Sem	Zeiss 500 electronic scanning microscope, for images with secondary electrons, back scattered and STEM. Hourly Rate	€/hour	€	305.00
K.9	K_Sem	Gold metalization. Rate for 1-6 samples	€/hour	€	15.00
L.1	L_Song	Non-invasive EDXRF Analysis. Cost per sample.	€/sample	€	200.00
L.2	L_Song	MICRO-RAMAN Spectroscopy. Half day cost (technical assistance included).	€/each	€	266.00
L.3	L_Song	MICRO-FTIR Spectroscopy. Half day cost (technical assistance included).	€/each	€	279.00
L.4	L_Song	Refractometry. Half day cost (technical assistance included).	€/each	€	253.00
L.5	L_Song	Laser Ablation ICP Mass Spectrometry. Half day cost	€/each	€	506.00
L.6	L_Song	Electron Impedance Spectroscopy. Half day cost	€/each	€	103.50
L.7	L_Song	UV-VIS-NIR Spectroscopy coupled to Integrating Sphere. Half day cost	€/each	€	253.00
L.8	L_Song	Wavelength resolved thermoluminescence (cost per day with assistance by personnel)	€/each	€	330.00
L.9	L_Song	X-ray induced luminescence (cost per day with assistance by personnel)	€/each	€	330.00
M.1	M_Sp_Semicond	UV/vis/IR Microluminescence. Cost per sample.	€/sample	€	275.00
M.2	M_Sp_Semicond	Triple Micro-Raman Spectroscopy. Cost per 0.5 day (technical assistance included).	€/each	€	266.00
M.3	M_Sp_Semicond	Triple Micro-Raman Spectroscopy, deep-UV excitation. Cost per 0.5 day (technical assistance included).	€/each	€	462.00
N.1	N_ss_NMR	Solid State NMR Spectroscopy. Cost per hour.	€/hour	€	280.50