

426e Boston Street, Topsfield, MA 01983-1216 TEL: 978-887-7000 FAX: 978-887-6671

...because a  $\mu g$  of understanding is worth a ton of guessing

ANALYTICAL SERVICES SURFACE ANALYSIS Auger Electron Spectroscopy (JEOL Jamp 7800), 50nm resolution, w/SEM function and X-ray Analysis, Depth profiles collected using rotational depth profiling. Digital imaging.	\$ 375/hr	PRODUCTS ION SPUTTER CALIBRATION STANDARDS (please check for availabili ISC-SIO2-500 SiO2 (500 ± 25Å) on 4" Si wafer ISC-SIO2-1029 SiO2 (1006 ± 10Å) on 4" Si wafer ISC-TA2O5 Ta2O5 on Ta, 1000Å (37mm2) NiCr-3 12 layers Cr(60nm/Ni-60nm on Silicon (1 X 3 cm) ISC-Si3N4-1000 Si3N4 (1000Å) on Si (1cmX3cm)				\$475 \$975 \$330 \$660 \$330
SCANNING ELECTRON MICROSCOPY JEOL- 840 with EDS x-ray, digital imaging (computer image files sent by email or disk- no charge!).	\$ 325/hr	ULTRA-HIGH VACUUM ELEMENTAL STANDARDS			Mount only	Mount + standards
contray chair or disk no charge./.		UHV-EL-6	Mount for 6	elements	\$145	\$685
ELECTRON MICROPROBE (fully automated (4)	\$ 375/hr	UHV-EL-9	Mount for 9		\$145	\$995
* * * * * * * * * * * * * * * * * * * *	\$ 3/3/111	UHV-EL-12	Mount for 12 elements		\$225	\$1,305
wavelength & 1 energy-dispersive x-ray spectrometer with detectabilities to 10ppm. SEM resolution 70Å.		UHV-EL-15	Mount for 15 elements		\$260	\$1,505 \$1,610
·					•	
Digital images & data (image files & report sent by email.		UHV-EL-18			\$290	\$1,910 \$4,400
LABORATORY OFRWICES.		UHV-EL-37 Mount for 37 elements			\$400	\$4,100
LABORATORY SERVICES:	Φ 04 <i>E</i> /	(note: the UHV-EL-37 with standards is shipped under vacuum in a small Vacu-Storr)				<b>#</b> 220
Metallography- Custom sample preparation, mounting,	\$ 215/hr	UHV-EL-37PI PHI Mount adapters				\$330
sections, polishing, plating thickness preparation, etc.	A 0.45#	UHV-EL-37VG for VG Instruments				\$330
Optical Microscopy- Bench & Stereo.	\$ 215/hr	UHV-EL-37Stub (Amray, FEI, LEO, Zeiss)				\$110
Profilometry- Sloan Dektak 3030 for surface roughness,	\$ 85/scan	1 ,				\$110
step heights, etc.	(min. 3)	( ) ( )				\$220
Microhardness- Vickers & Knoop indentation	\$ 215/hr	UHV-EL-SRM481 (5) NIST Cu:Ag wires				\$220
Note: turnaround time is normally 1 week after recipt of samples.		UHV-EL-SRM482 (5) NIST Cu:Au wires				\$220
For 1 -2 day expedited add 50%.		UHV-EL-Al-Cu X-ray Calibration. std. (NIST traceable)	)			\$155
		JN-1 SEM demo standards (not UHV compatible)				\$640
PRODUCTS						
VAC-U-STORR (VUS) Desiccators		MAGNIFICATION REFERENCE STANDARDS				
VUS-J-S (Glass)	\$140		MR-1	MRS-3	MRS-4	MRS-6
VUS-J-M (Glass)	\$250	MRS-#NT (Not traceable)	n/a	\$490	\$990	\$3,000
VUS-J-L (Glass)	\$300	MRS-#XY (XY traceable)	n/a	\$1,500	\$2,100	\$4,900
VUS-J-XL	\$425	MRS-#XYZ (XYZ traceable)	n/a	\$1,800	\$2,400	n/a
VUS-SS-4.5 4" Conflat flange, no top	POR	MR-1X (X traceable only - 100µm X 150 mm)	\$1,200	n/a	n/a	n/a
VUS-SS-4.63 4 5/8" Conflat flange, no top	POR	Cleaning only (best effort basis)	\$200	\$200	\$200	\$200
VUS-SS-6 6" Conflat flange, no top	POR	RECERTIFICATION Micro Ruler	\$600	n/a	n/a	n/a
VUS-SS-8 8" Conflat flange, no top	POR	RECERTIFICATION & CLEANING X and Y axes	n/a	\$1,000	\$1,500	\$2,900
call for prices on covers, gaskets & misc. parts.		RECERTIFICATION & CLEANING X, Y and Z axes	n/a	\$1,300	\$1,800	n/a
7		No return authorization necessary. Please send	with purchase	e order		
RETAINERS & miscellaneous						
		MRS-SEM/R Retainer (1" OD X 1/8")	n/a	\$100	\$100	n/a
		MRS-OM/R (optical microscope adapter 1"X2")	n/a	\$100	\$100	n/a
		MRS-Glass (1" X 3" glass slide mounting)	n/a	\$100	\$100	n/a
		MRS-3 or 4 (for TEM, etc.) 3mmX 0.25mm	n/a	\$350	\$350	n/a
		MRS-pin (used with the SEM/R - 1/8" pin)	n/a	\$100	\$100	n/a
		MRS-6-Retainer/pin	n/a	n/a	n/a	\$250
		to a recamonymi	11/4	11/4	11/4	Ψ200

Magnification standards traceability: accredited to ISO-17025 (ACLASS registrar)

## Terms

Payment is net 30 days subject to credit approval.

VISA, Master Card and American Express accepted with 3% bank fee added

Late fee of 1.5%/month for delinquent accounts.

Shipping: FOB Topsfield, Ma. Delivery: Stock to 30 days

Foreign delivery orders must be prepaid. Payment to be made against a U.S. bank by check in U.S. \$, by Letter of Credit, wire, or credit card.

Price-42.doc

Price List Effective: January 2017

OP 3.0-8 Rev. M