



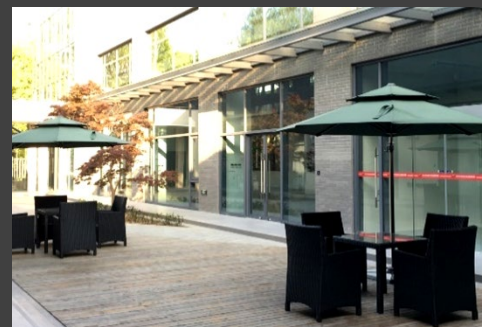
3C Common
Characterization
Center, SIEMIS

公共仪器测试中心



中心简介

测试中心成立于2012年，是学校和学院共同打造的服务于科学研究、技术创新和人才培养的分析测试技术平台，面向社会开放共享。目前，中心设1个办公室和**电子显微镜实验室、X射线实验室、综合分析实验室、谱学分析实验室以及光电检测实验室**五大实验室，具备CS-TEM、XPS、FIB、SEM、XRD等仪器设备40余台（套），总价值超过5000万元，拥有专业技术人才10余人。中心紧盯“双碳”目标，聚焦能源材料与器件的创新发展，为用户提供系统的分析测试整体方案和个性化定制服务，力争建设成为集人才创新、技术创新、设备创新和服务创新于一体的国家一流公共服务平台。





科室分类

电子显微镜实验室	Cs-TEM	谱学分析实验室	UV-vis
	SEM		FTIR
	FIB		Raman
	AFM		FLS
X射线实验室	XRD		ICP
	XPS		DEMS
综合分析实验室	TGA		I. C.
	DSC		G. C.
	BET(2)	光电检测实验室	Solar Simulator
	LPS		Q. E.
	Rheometer		Probe station



电子显微镜实验室

高分辨球差校正透射电子显微镜



FEI Titan Themis Cubed 30-300 kV

聚焦离子束双束电子显微镜



FEI Scios Dual Beam FIB/SEM

冷场发射扫描电子显微镜



Hitachi SU8010 Cold-FE SEM

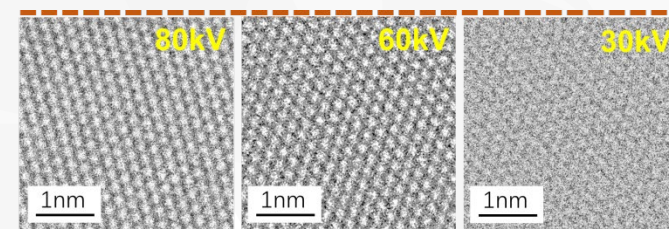
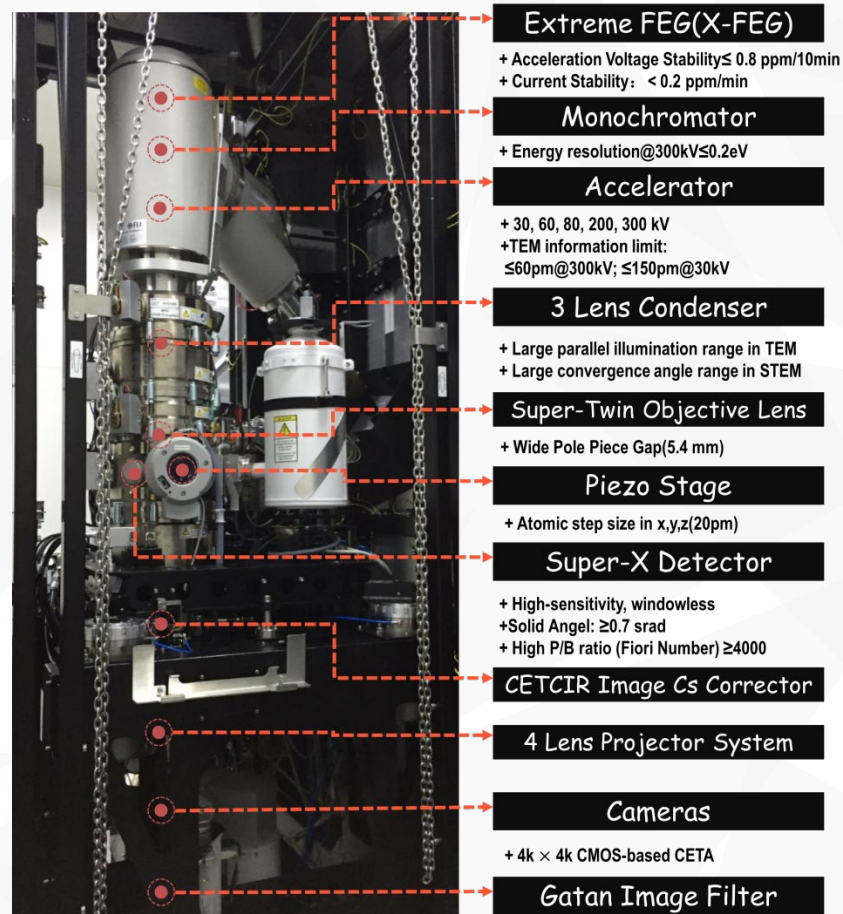
原子力显微镜



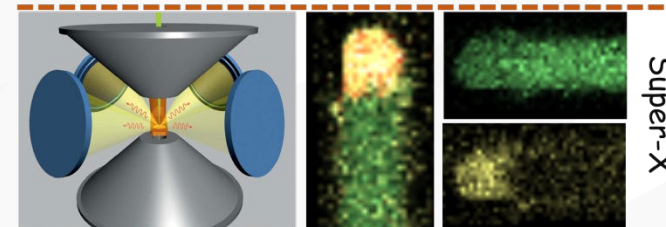
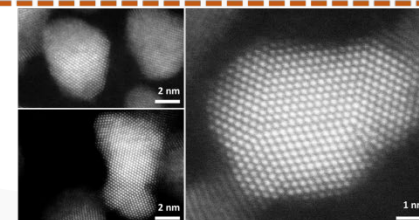
Bruker Dimension Icon



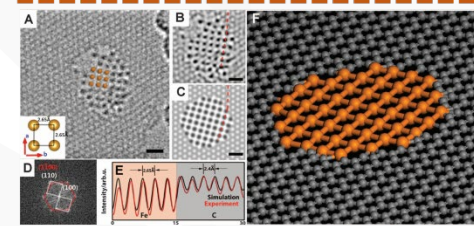
高分辨球差校正透射电子显微镜



Atomic resolution STEM image of Au nanoparticle @300 kV



Super-X

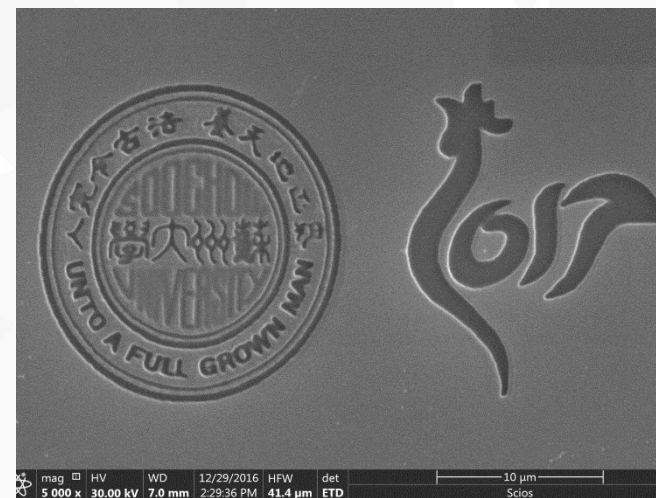
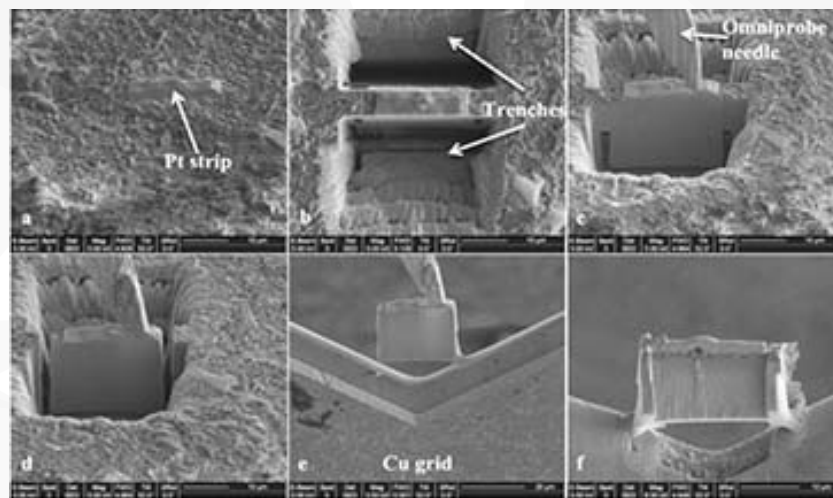
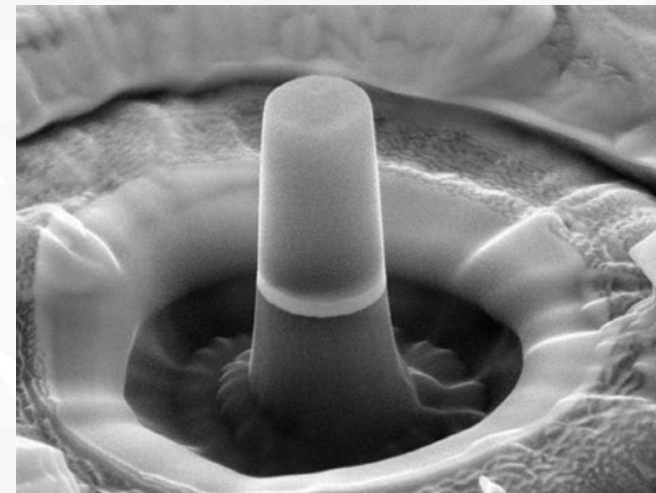
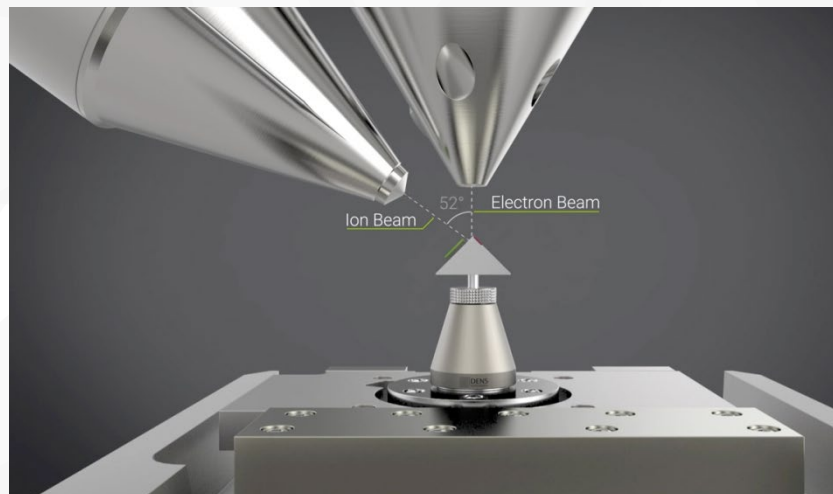


Atomic structure of a suspended mono/atomic Fe layer in a graphene pore

主要应用：原子级二维和三维材料表征；化学成分和价键状态研究；磁场和电场测量；原位气固相互作用实验



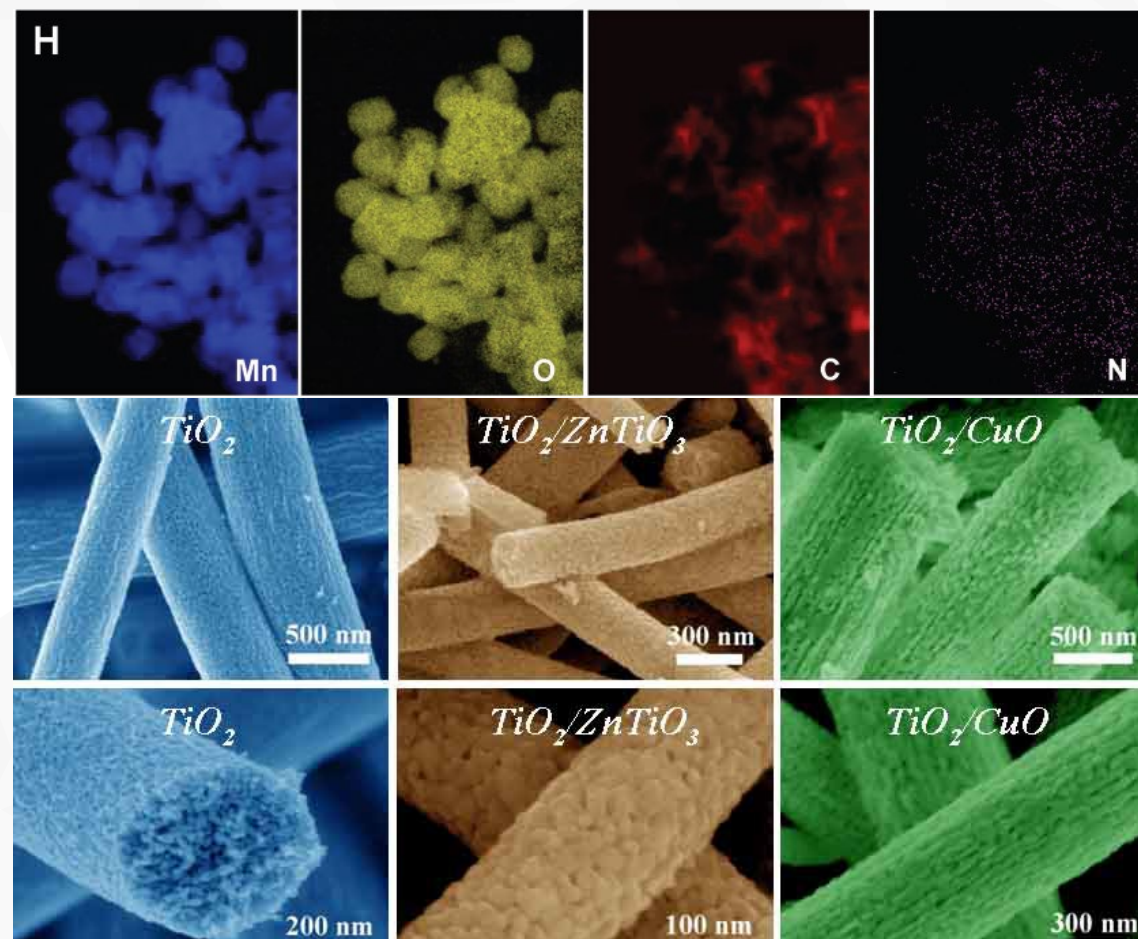
聚焦离子束双束电子显微镜



主要应用：微纳结构加工；截面分析；TEM样品制备；表面形貌表征；元素成分分析



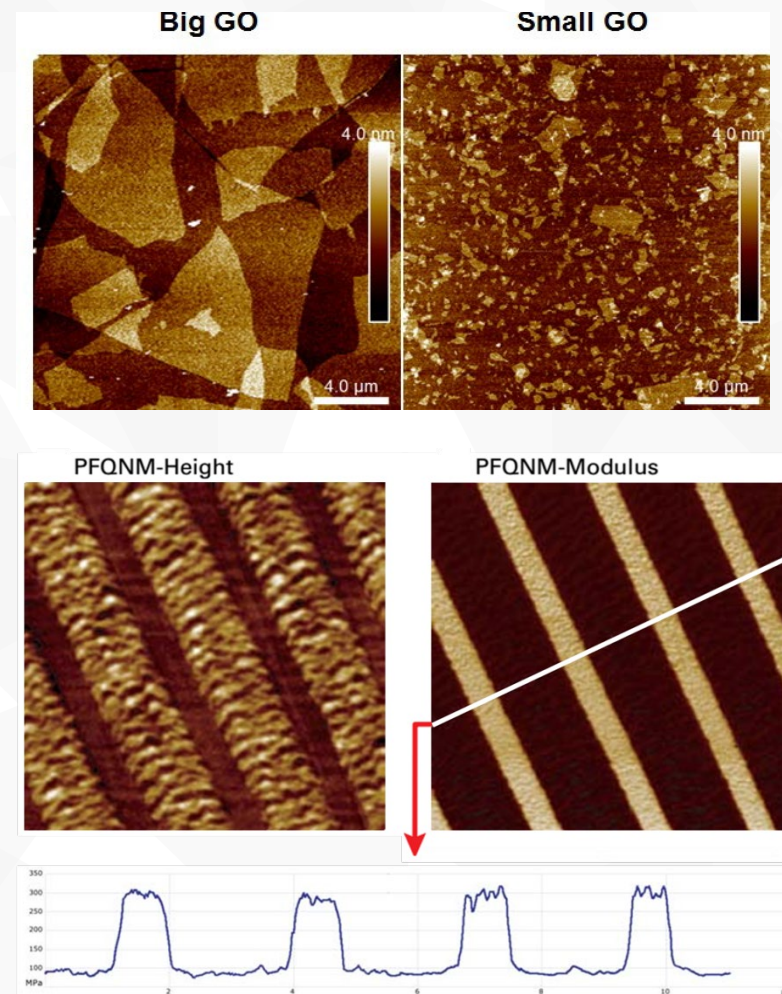
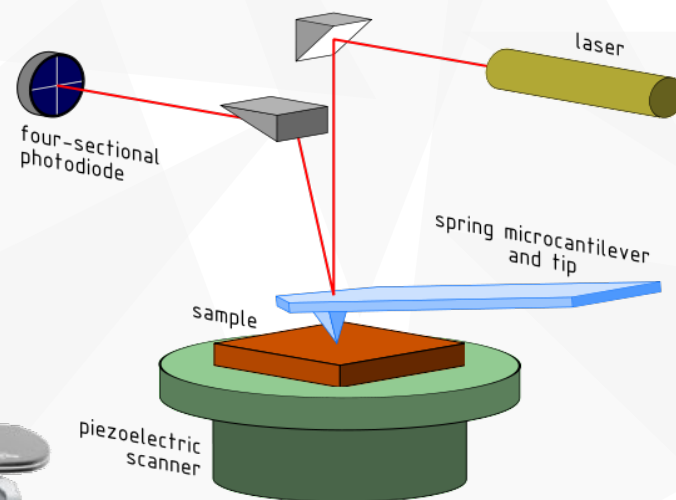
扫描电子显微镜



主要应用：对样品的形貌、粒径、分散性进行表征，对样品微区、亚微区成分进行分析定性、定量分析，可确定样品的组成



原子力显微镜



主要应用：高分辨率成像，在样品上每个原子实现力扫描，液体环境测试，静电力，磁力，表面电势，导电性质，摩擦力测试



X射线实验室

X射线光电子能谱仪



Thermo Fisher Escalab 250Xi

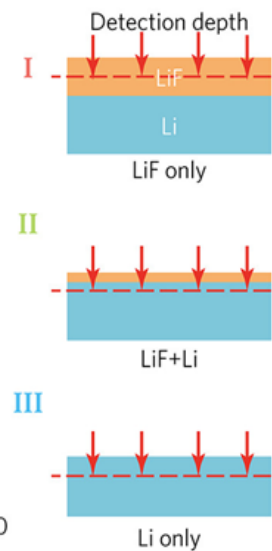
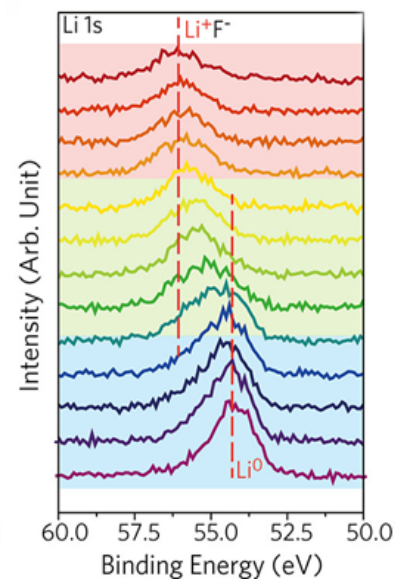
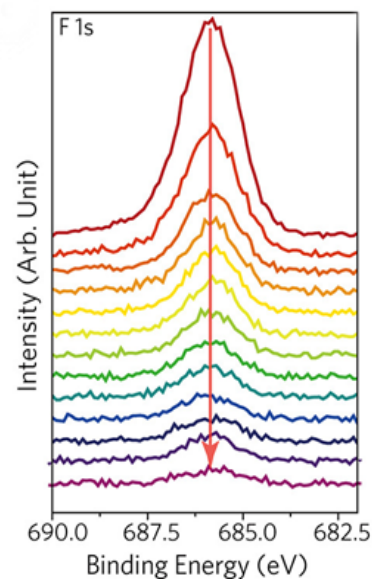
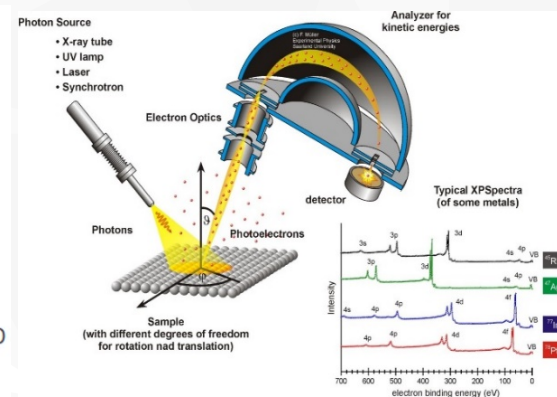
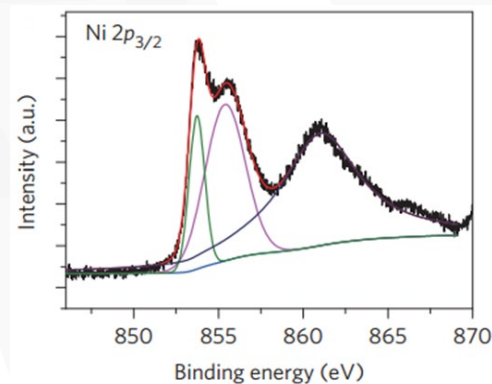
X射线衍射仪

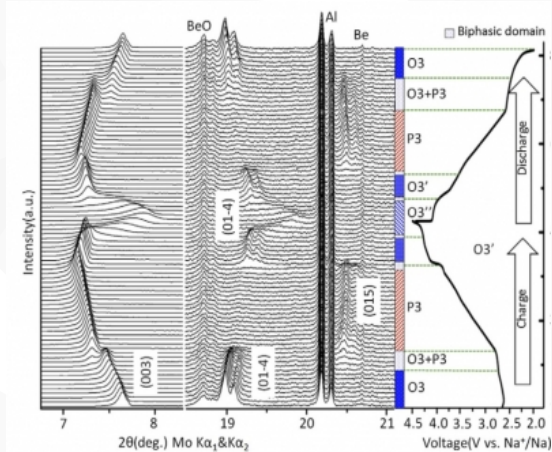
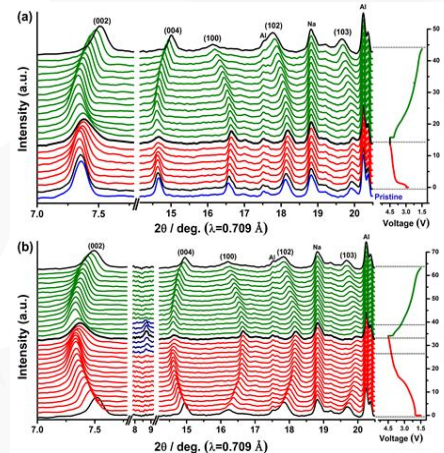
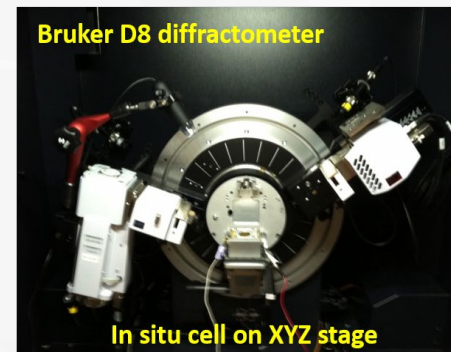
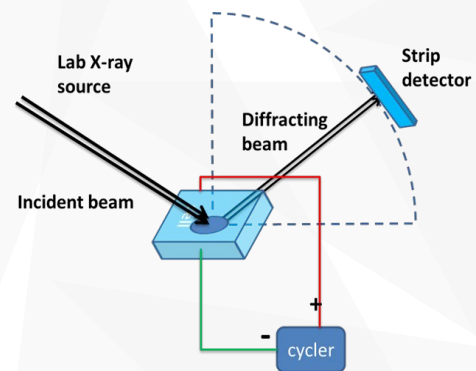


Bruker D8 Advance



X-射线光电电子能谱仪







综合分析实验室

全自动BET分析仪



Micromeritics Tristar II 3020

全自动BET分析仪



Micromeritics ASAP 2460

流变仪



Malvern Kinexus pro

综合热分析仪



Hitachi STA 200

差示扫描量热仪



METTLER TOLEDO DSC1

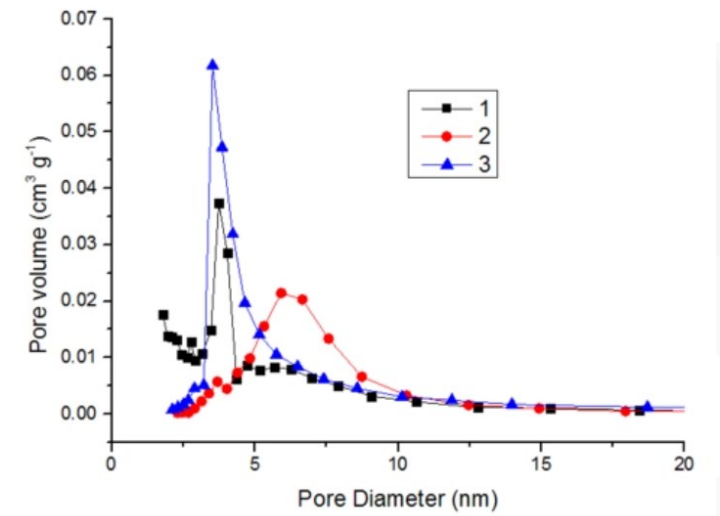
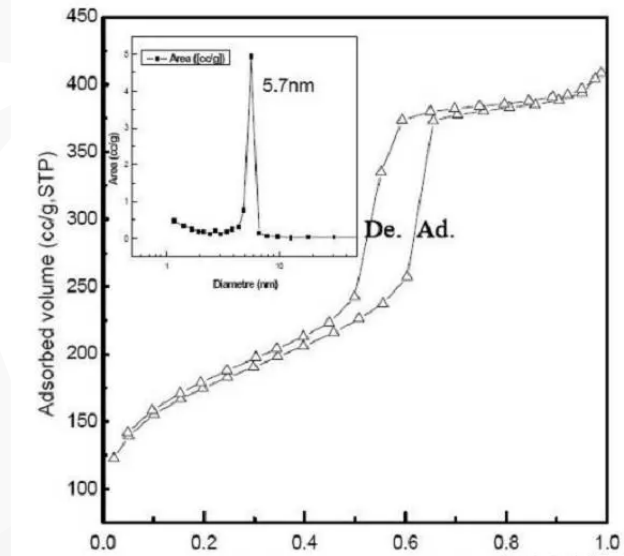
激光粒度仪



Malvern MS3000

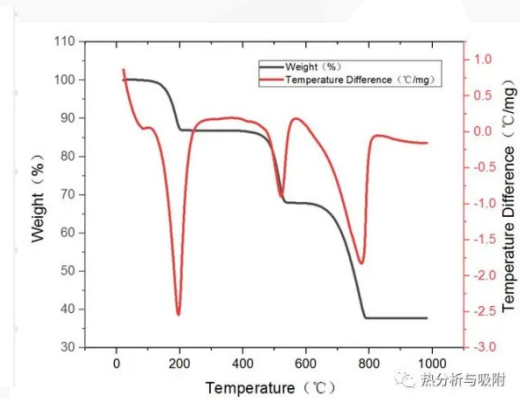


全自动BET分析仪

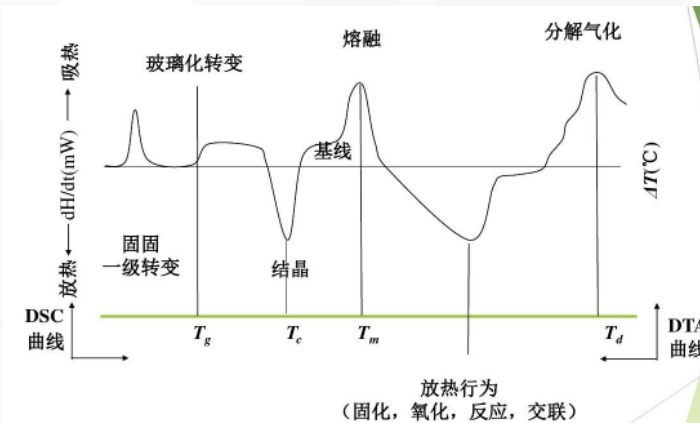




综合热分析仪



差示扫描量热仪





流变仪

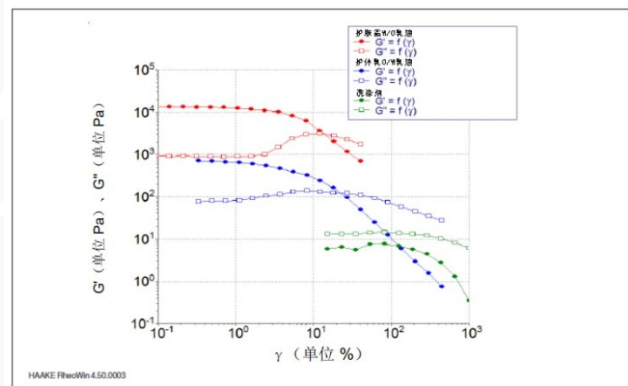
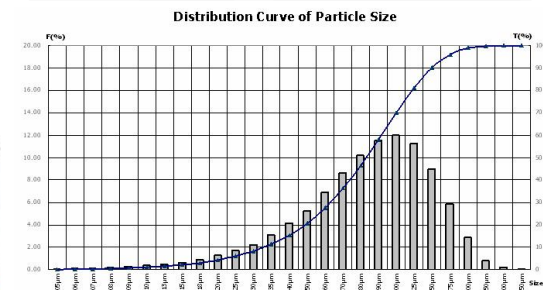


图5: 20°C 时, 作为不同消费品变形 γ 的函数的储能模量 G' 和损耗模量 G'' 。

激光粒度仪





谱学分析实验室

傅里叶红外光谱仪



Bruker Tensor 27

紫外分光光度计



PerkinElmer Lambda 750

共聚焦拉曼光谱仪



Horiba HR Evolution

荧光光谱仪



Edinburgh FLS 1000

电感耦合等离子体发射光谱仪



PerkinElmer OPTIMA 8000

离子色谱仪



Thermo Fisher Aquion

微分电化学质谱仪



HPR-40DEMS-HIDEN

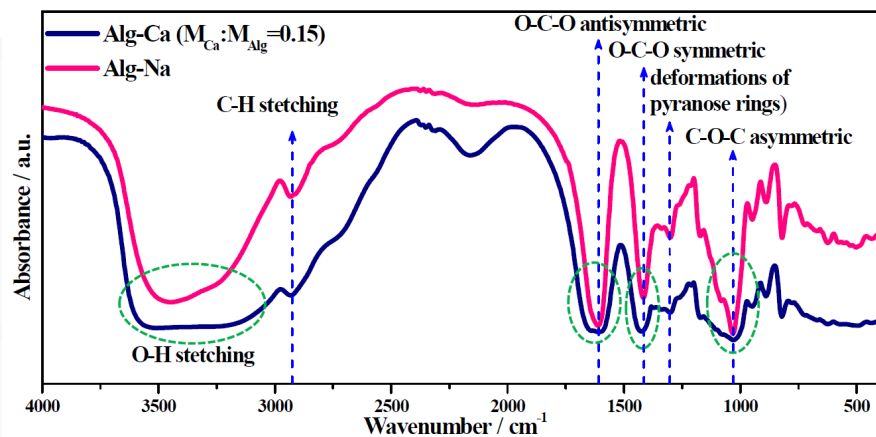
气相色谱谱仪



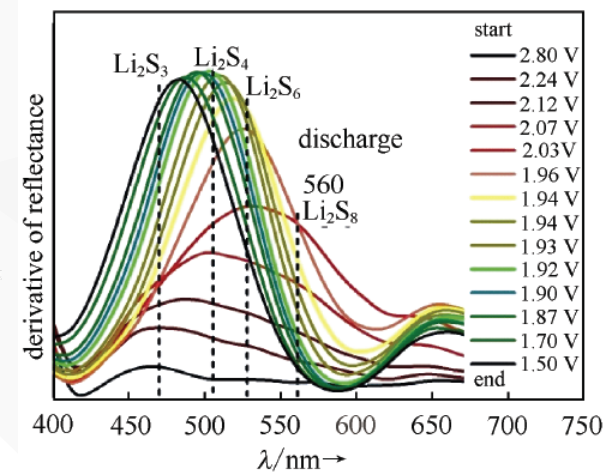
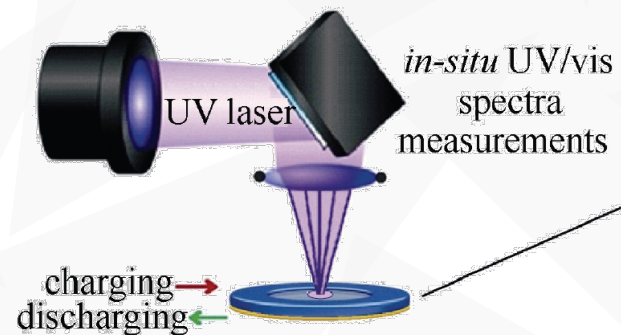
SHIMADZU GC2030



傅里叶红外光谱仪

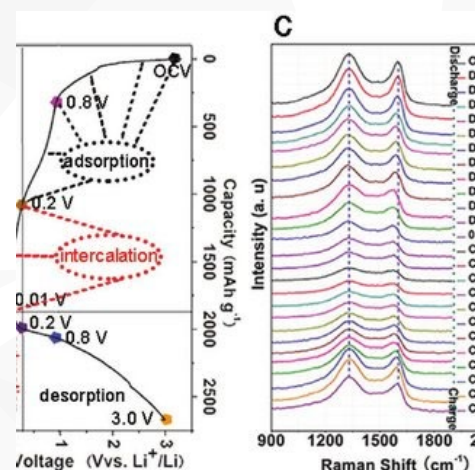
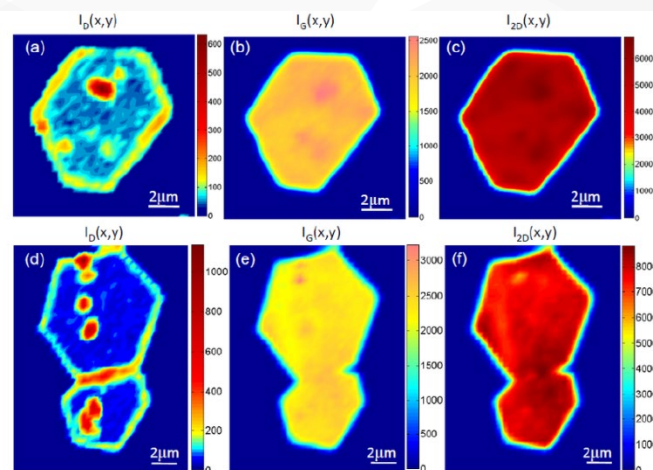


紫外分光光度计

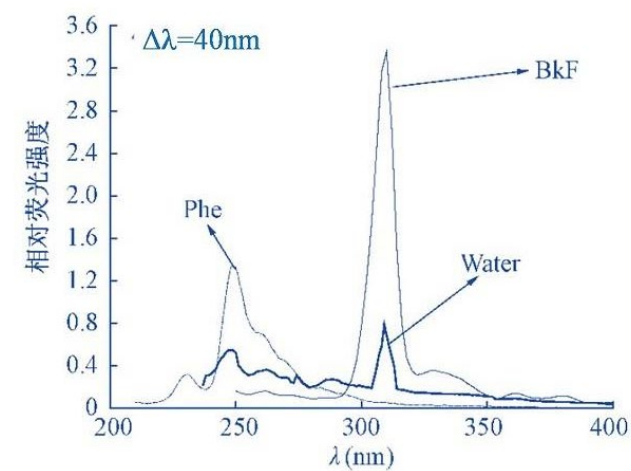




共聚焦拉曼光谱仪



荧光光谱仪



电感耦合等离子体发射光谱仪



离子色谱仪

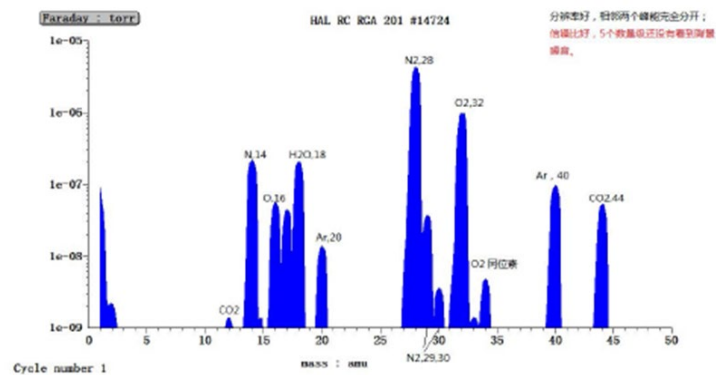


表 1 饮用水的法规限量和实验测定仪器 ICP-OES 的检出限

被分析元素	美国最高污染水平 (MCL) (μg/L)	ICP-OES 检出限 (μg/L) **
As	10	2.4
Cd	5	0.1
Cr	100	0.3
Cu	1300	0.3
Pb	15	1.5
Fe*	300	0.3
Zn*	5000	0.2
Ca*	250 (mg/L)	0.5
*美国二级饮用水污染物		
**本研究论文试验测定		

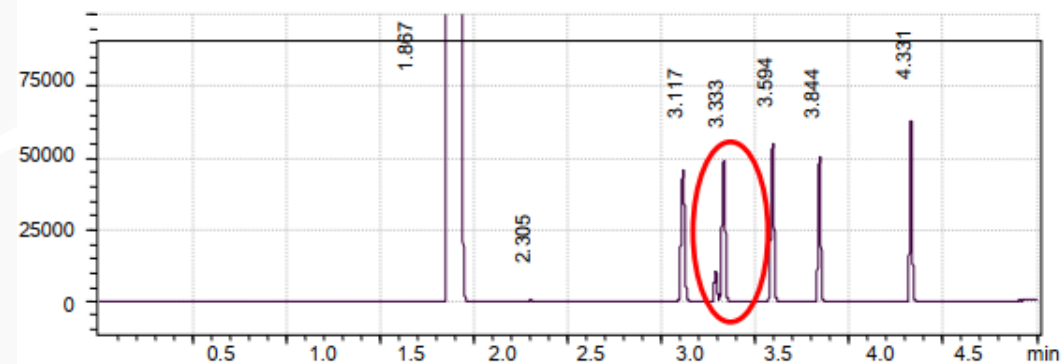


微分电化学质谱仪



峰型扫描图

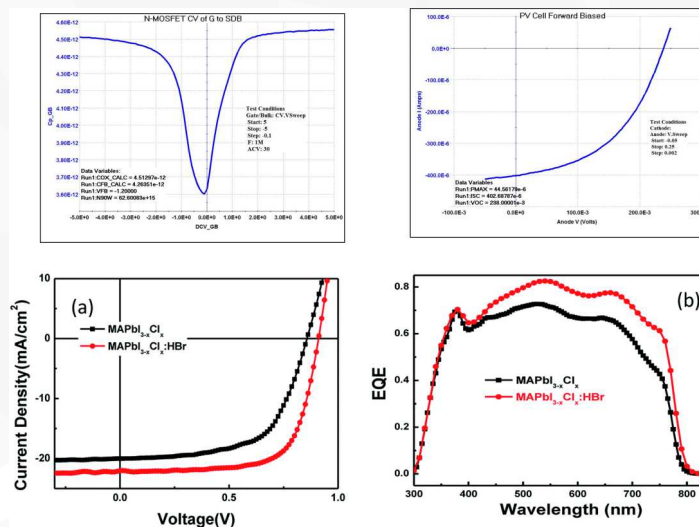
气相色谱谱仪





光电检测实验室

变温光电测量系统



包括：低温探针台，半导体分析仪，太阳能模拟器以及量子效率测试系统



3C Common
Characterization
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谢谢！