

NANOUPTAKE AVAILABLE EQUIPMENTS 05/2019

Measurable properties	Location/ Institution	Country	Technique	Trademark	Temperature range [°C]	Sample specifications	Additional information	Equipment Web link	Contact person email	Type of use:free to use/some additional cost
Thermal conductivity	Aristotle University	Greece	Guarded Heat Flowmeter		30 C, 0.1 MPa	Solids		<a href="https://transp.cheng.auth.gr/">https://transp.cheng.auth.gr/</a>	Marc Assael (assael@auth.gr; marc.assael@gmail.com)	
Thermal conductivity	Aristotle University	Greece	Transient hot wire	2 Ta-wires anodized instrument	-20 to +200 C, 50 MPa	Liquids, Gases		<a href="https://transp.cheng.auth.gr/">https://transp.cheng.auth.gr/</a>	Marc Assael (assael@auth.gr; marc.assael@gmail.com)	
Thermal conductivity	Aristotle University	Greece	Transient hot wire	2 Ta-wires anodized instrument in silicon paste	0 to +200 C, 0.1 MPa	Solids		<a href="https://transp.cheng.auth.gr/">https://transp.cheng.auth.gr/</a>	Marc Assael (assael@auth.gr; marc.assael@gmail.com)	
Viscosity	Aristotle University	Greece	AR550 Rheometer (Parallel Plates)	TA Instruments	0 to +100 C, 0.1 MPa	Liquids Newtonian & Non-Newtonian		<a href="https://transp.cheng.auth.gr/">https://transp.cheng.auth.gr/</a>	Marc Assael (assael@auth.gr; marc.assael@gmail.com)	
Viscosity	Aristotle University	Greece	Rotovisco RV20 (concentric Cylinders)	Netzsh	0 to +80 C, 0.1 MPa	Liquids Newtonian & Non-Newtonian		<a href="https://transp.cheng.auth.gr/">https://transp.cheng.auth.gr/</a>	Marc Assael (assael@auth.gr; marc.assael@gmail.com)	
Viscosity	Aristotle University	Greece	Vibrating Wire	Various radii	0 to +200 C, 0.1 50 MPa	Liquids, Gases		<a href="https://transp.cheng.auth.gr/">https://transp.cheng.auth.gr/</a>	Marc Assael (assael@auth.gr; marc.assael@gmail.com)	
Electrochemical (redox potential, diffusion coefficient)	CEA-Saclay	France	Potentiostat CV and impedance measurements	VersaStat 4	from 0 to 80	Variable cell sizes (from 1mL to 20mL)	Higher temperature under development	<a href="https://www.ameteksci.com/products/potentiostats/single-channel/versa-stat-series/versa-stat-4">https://www.ameteksci.com/products/potentiostats/single-channel/versa-stat-series/versa-stat-4</a>	sawako.nakamae@cea.fr	Some additional cost or free of use within collaborative projects
Magnetization (for ferrofluids)	CEA-Saclay	France	Commercial SQUID magnetometer	Cryogenic	from -270 to 350	Small (less than few mm3)	Liquid testing at high temperature not possible	<a href="http://www.cryoqec.co.uk/products/s700s-squid-magnetometer">http://www.cryoqec.co.uk/products/s700s-squid-magnetometer</a>	sawako.nakamae@cea.fr	Some additional cost
pH	CEA-Saclay	France	Titration	Karl Fischer					sawako.nakamae@cea.fr	Free of use upon former request, or within collaborative projects
Thermal conductivity	CEA-Saclay	France	Steady-state heat transfer	Home-made	Near room temperature	less than 2ml			sawako.nakamae@cea.fr	Some additional cost or free of use within collaborative projects
Thermoelectric coefficient and power density	CEA-Saclay	France	Diffusive or convection mode open circuit measurements in thermocells	Home-made	from -10 to 180	Variable cell sizes (less than 1ml to 20ml)	Capacitance mode also available		sawako.nakamae@cea.fr	Some additional cost or free of use within collaborative projects
Density	CNR-ITC	Italy	Vibrating tube	Anton Paar DMA 512	from 10°C to 80°C				laura.fedele@itc.cnr.it	
Density	CNR-ITC	Italy	Vibrating tube	Anton Paar DMA 602	from 10°C to 80°C				laura.fedele@itc.cnr.it	
Heat transfer coefficient	CNR-ITC	Italy	Constant applied heat	Home-made	from 20°C to 70°C				sergio.bobbo@itc.cnr.it	
Particle size distribution, zeta potential	CNR-ITC	Italy	Dynamic Light Scattering	Nanoizer ZS (Malvern)	from 0°C to 90°C			<a href="https://www.malvernanalytical.com/en/products/product-range/zetasizer-range/zetasizer-nano-range/zetasizer-nano-zs/index.html">https://www.malvernanalytical.com/en/products/product-range/zetasizer-range/zetasizer-nano-range/zetasizer-nano-zs/index.html</a>	stefano.rossi@itc.cnr.it	
Solubility of gas in oil	CNR-ITC	Italy	Static synthetic method	Home-made	from -30°C to 70°C				sergio.bobbo@itc.cnr.it	
Specific Heat, Latent Heat	CNR-ITC	Italy	Adiabatic Scanning Calorimetry (ASC)	KU Leuven	from -50° to 150°C				sergio.bobbo@itc.cnr.it	
Thermal conductivity	CNR-ITC	Italy	Transient hot wire	thw-01L (Acculstruments)	from -40° to 150°C		Two wires; liquid and gas TC		sergio.bobbo@itc.cnr.it	
Thermal conductivity, Thermal diffusivity	CNR-ITC	Italy	Hot disk	TPS 2500 S (Hot Disk)	from -30° to 150°C			<a href="https://www.hotdiskinstruments.com/products-services/instruments/tps-2500-s/">https://www.hotdiskinstruments.com/products-services/instruments/tps-2500-s/</a>	laura.fedele@itc.cnr.it	
Viscosity	CNR-ITC	Italy	Rheometry	AR-G2 rotational rheometer (TA Instruments)	from -20°C to 200°C		Cone-plate geometry		laura.fedele@itc.cnr.it	
Rheometry	Dokuz Eylül University	Turkey	Rheometry	Brookfield DV3T	from 10 to 70°C	16 ml sample		Brookfield DV3T-LV	alpaskan.turgut@deu.edu.tr	Free to use
Thermal conductivity	Dokuz Eylül University	Turkey	3 omega method (3 w method)	Homemade setup	from 10 to 70°C	liquid (5 ml)	Details of the equipment could be find at <a href="https://link.springer.com/content/pdf/10.1140/epjst/e2008-00459-7.pdf">https://link.springer.com/content/pdf/10.1140/epjst/e2008-00459-7.pdf</a>		alpaskan.turgut@deu.edu.tr	Free to use
Ultrasound probe	Dokuz Eylül University	Turkey	Ultrasonic homogenizer	Misonix Inc S-3000 Sonicator	from 10 to 70°C			<a href="http://www.misonix.com/collections/S-3000">www.misonix.com/collections/S-3000</a>	alpaskan.turgut@deu.edu.tr	Free to use
Viscosity	Dokuz Eylül University	Turkey	Sine-wave vibro viscometer	A&D SV-10	from 10 to 70°C	10 ml sample		<a href="http://www.aandd.jp/products/test_measuring/sv10/sv10.html">http://www.aandd.jp/products/test_measuring/sv10/sv10.html</a>	alpaskan.turgut@deu.edu.tr	Free to use
Chemical composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Fourier-transform infrared spectroscopy	Tensor 37					javier.navas@uca.es	free to use
Crystal structure and chemical composition	Facultad de Ciencias / Universidad de Cádiz	Spain	X-Ray Diffraction	D8ADVANCE A25 Davinci		100 mg		<a href="https://www.bruker.com/products/x-ray-diffraction-and-elemental-analysis/x-ray-diffraction/d8-advance/overview.html">https://www.bruker.com/products/x-ray-diffraction-and-elemental-analysis/x-ray-diffraction/d8-advance/overview.html</a>	javier.navas@uca.es	some additional cost
Elemental composition, chemical and electronic state on the surface of material	Facultad de Ciencias / Universidad de Cádiz	Spain	X-Ray Photoelectron Spectroscopy	Kratos Axis Ultra DLD	from -100°C to 600°C	100 mg		<a href="https://www.jenck.com/productos/producto/axis-ultra-dld">https://www.jenck.com/productos/producto/axis-ultra-dld</a>	javier.navas@uca.es	some additional cost
Morphology/Composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Scanning electron microscopy-SEM	Nova NanoSEM 450					javier.navas@uca.es	some additional cost
Morphology/Composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Transmission electron microscopy-TEM	FEI TITAN Themis 60-300					javier.navas@uca.es	some additional cost
Morphology/Composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Transmission electron microscopy-TEM	JEOL2010F					javier.navas@uca.es	some additional cost
Morphology/Composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Transmission electron microscopy-TEM	JEOL2100 LaB6					javier.navas@uca.es	some additional cost
Morphology/Composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Transmission electron microscopy-TEM	TALOS F200X					javier.navas@uca.es	some additional cost

Particle size distribution and zeta potential	Facultad de Ciencias / Universidad de Cádiz	Spain	Dynamic Light Scattering and Phase Analysis Light Scattering	Zetasizer Nano ZS	from RT to 40°C	2 ml		<a href="https://www.malvernanalytical.com/en/products/product-range/zetasizer-range/zetasizer-nano-range/zetasizer-nano-zs">https://www.malvernanalytical.com/en/products/product-range/zetasizer-range/zetasizer-nano-range/zetasizer-nano-zs</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Specific Heat, Latent Heat, Thermal processes analysis	Facultad de Ciencias / Universidad de Cádiz	Spain	Differential Scanning Calorimetry (DSC), Modulated Differential Scanning Calorimetry (MDSC)	DSC Polyma 214	from -40°C-600°C	~50 mg/sample		<a href="https://www.netzsch-thermal-analysis.com/en/products-solutions/differential-scanning-calorimetry/dsc-214-polyma/">https://www.netzsch-thermal-analysis.com/en/products-solutions/differential-scanning-calorimetry/dsc-214-polyma/</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Structural composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Raman Spectroscopy	iRaman			Diode Laser 785 nm		<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Structural composition	Facultad de Ciencias / Universidad de Cádiz	Spain	Raman Spectroscopy	JobinYvon U1000	from RT to 80°C	500 mg	Laser DPSS 473 nm and 532 nm		<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Thermal conductivity, Thermal diffusivity, Specific heat	Facultad de Ciencias / Universidad de Cádiz	Spain	Transient Hot Bridge (THB)	THB-100	from -50 to 200°C	Liquid (20 ml) samples can be measured.		<a href="https://www.linseis.com/en/products/thermal-diffusivity-thermal-conductivity-instruments/thb-transient-hot-bridge/">https://www.linseis.com/en/products/thermal-diffusivity-thermal-conductivity-instruments/thb-transient-hot-bridge/</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Thermal diffusivity	Facultad de Ciencias / Universidad de Cádiz	Spain	Light Flash Apparatus	LFA 457 Hyperflash	from -1000 to 500°C	Liquid (1 ml) samples can be measured and solid samples (diameter: 12.7 mm and 25.4 mm)		<a href="https://www.netzsch-thermal-analysis.com/us/products-solutions/thermal-diffusivity-conductivity/lfa-457-hyperflash/">https://www.netzsch-thermal-analysis.com/us/products-solutions/thermal-diffusivity-conductivity/lfa-457-hyperflash/</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Ultrasound bath	Facultad de Ciencias / Universidad de Cádiz	Spain	Ultrasonic homogenizer	Elmasonic P60 H	from RT to 80°C		f: 37 / 80 kHz	<a href="https://www.elmasonic.com/fileadmin/downloads/Produktprofile/Produktprofile_EN/Ultrashallgeraete/Elmasonic_P/PP_Elmasonic_P60H_EN.pdf">https://www.elmasonic.com/fileadmin/downloads/Produktprofile/Produktprofile_EN/Ultrashallgeraete/Elmasonic_P/PP_Elmasonic_P60H_EN.pdf</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Ultrasound bath	Facultad de Ciencias / Universidad de Cádiz	Spain	Ultrasonic homogenizer	Elmasonic S30 H	from RT to 80°C		f: 37 kHz	<a href="https://www.elmasonic.com/fileadmin/downloads/Produktprofile/Produktprofile_ES/Ultrashallgeraete/Elmasonic_S/PP_Elmasonic_S30H_ES.pdf">https://www.elmasonic.com/fileadmin/downloads/Produktprofile/Produktprofile_ES/Ultrashallgeraete/Elmasonic_S/PP_Elmasonic_S30H_ES.pdf</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Ultrasound bath	Facultad de Ciencias / Universidad de Cádiz	Spain	Ultrasonic homogenizer	Elmasonic TI-HS	from RT to 80°C		f: 35 / 130 kHz	<a href="https://www.elmasonic.com/fileadmin/downloads/Produktprofile/Produktprofile_EN/Ultrashallgeraete/Transsonic_TI-HS/PP_Elmasonic_TI-HS_EN.pdf">https://www.elmasonic.com/fileadmin/downloads/Produktprofile/Produktprofile_EN/Ultrashallgeraete/Transsonic_TI-HS/PP_Elmasonic_TI-HS_EN.pdf</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Ultrasound probe	Facultad de Ciencias / Universidad de Cádiz	Spain	Ultrasonic homogenizer	Sonics Vibra Cell VCX 750 sonicator			probe for high and low surface tension	<a href="https://www.sonics.com/liquid-mixing/products/vibra-cell-processors/vcx-500-vcx-750/">https://www.sonics.com/liquid-mixing/products/vibra-cell-processors/vcx-500-vcx-750/</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Viscosity	Facultad de Ciencias / Universidad de Cádiz	Spain	Rheometry	SV-10 viscometer	from 10°C to 40°C	10-13 ml	Sample cup: polycarbonate and glass	<a href="http://www.aandd.jp/products/test_measuring/vt10/vt10.html">http://www.aandd.jp/products/test_measuring/vt10/vt10.html</a>	<a href="mailto:javier.navas@uca.es">javier.navas@uca.es</a>	free to use
Colloidal Suspension Stability	IK4-TEKNIKER	Spain	Centrifuged Vis Spectrophotometry	LUMifuge	From room temperature to 60°C	8 samples at same time measurable			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Composition	IK4-TEKNIKER	Spain	UltraViolet Visible Spectrophotometry (UV-Vis)	Perkin Elmer Lambda 950	Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Composition	IK4-TEKNIKER	Spain	Fourier Transformed InfraRed (FT IR)	JASCO FT-IR 4700	Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Composition	IK4-TEKNIKER	Spain	Optical Emission Spectroscopy (ICP)	HORIBA ULTIMA EXPERT	Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Crystal structure and chemical composition	IK4-TEKNIKER	Spain	X-Ray Diffraction (DRX)	BRUKER D8 ADVANCE	Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
High Mecanical Stirring	IK4-TEKNIKER	Spain	Mechanical dispersion	VMA-GETZMANN DISPERMAT	Room Temperature	Ball Basket for nano range dispersion			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Morphology/Composition	IK4-TEKNIKER	Spain	Fluorescence	BRUKER S8 TIGER	Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Morphology/Composition	IK4-TEKNIKER	Spain	Scanning Electron Microscopy (SEM)		Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Particle size distribution	IK4-TEKNIKER	Spain	Dinamic Light Scatering (DLS)	ZETASIZER NANO SERIES MALVERN	Room Temperature	Minimum dispersion stability required			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Particle size distribution	IK4-TEKNIKER	Spain	Laser Diffraction (LS)	MASTERSIZER 2000 MALVERN	Room Temperature	200ml			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Specific Heat, Latent Heat, Thermal processes analysis	IK4-TEKNIKER	Spain	Calorimetry DSC	HPDSC1 -Mettler Toledo	From -50 to 500°C				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Surface Area	IK4-TEKNIKER	Spain	Surface Area Analyzer (BET)	IQ AUTOSORB	@-196,15°C (Liquid Nitrogen)				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Test Bench for Heat transfer coefficient	IK4-TEKNIKER	Spain		Ad-Hoc Test Bench	From 20 to 80°C	for refrigerants with phases transition			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Thermal Conductivity	IK4-TEKNIKER	Spain	Transient hot wire	KD2 Pro	from -5°C to 100°C	Solid (30ml/sample) and liquid (20 ml) samples can be measured.			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Thermal stability	IK4-TEKNIKER	Spain	Thermogravimetric analysis-TGA	TGA/SDTA851e-Mettler Toledo	From 25 to 1200°C				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Thermal Stability/Reactivity	IK4-TEKNIKER	Spain	ThermoGravimetric Analysis (TGA)	METTLER TOLEDO	From 50°C to 1100°C				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Thermal Stability/Reactivity/phase change temperature	IK4-TEKNIKER	Spain	Dynamic Scanning Calorimetry (DSC)	METTLER TOLEDO	From 50°C to 550/600°C				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Ultrasonication Bath	IK4-TEKNIKER	Spain	Dispersion by Ultrasonic Cavitation	ELMA ELMASONIC S 30	Room Temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Ultrasonication Tip	IK4-TEKNIKER	Spain	Dispersion by Ultrasonic Cavitation	Hielscher UIP 1000hdt	Room temperature				<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Viscosity	IK4-TEKNIKER	Spain	Rheology	TA Discover HR 2 Rehometer	From 5°C to 600°C	Plate-Plate, Cone-Plate and Cuvette (5°C) and to reach 600°C (oven)	Low and high viscosity rates		<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Wettability/Surface Energy	IK4-TEKNIKER	Spain	Surface Tension/Contact Angle	KRUSS Easy Dine	Room Temperature	Static/Sliding angles			<a href="mailto:marta.hernaiz@tekniker.es">marta.hernaiz@tekniker.es</a>	some additional cost
Building test rigs of all typrs for heat transfer processes (pipe flow, heat exchangers, phase change devices)	ILK Dresden	Germany	Inhouse apparatus according to customers demand		depends on customer demands				<a href="mailto:Matthias.Buschmann@ilkdresden.de">Matthias.Buschmann@ilkdresden.de</a>	to be payed according to project costs
Specific Heat, Latent Heat, Thermal processes analysis	ILK Dresden	Germany	DSC (cp and enthalpy)	µDSC VII von Setaram	-40...100 °C				<a href="mailto:Matthias.Buschmann@ilkdresden.de">Matthias.Buschmann@ilkdresden.de</a>	to be payed according to project costs

Specific Heat, Latent Heat, Thermal processes analysis	ILK Dresden	Germany	DSC (enthalpy)	DSC Q200 TA Instruments	-90...400 °C			<a href="mailto:Matthias.Buschmann@ilkdresden.de">Matthias.Buschmann@ilkdresden.de</a>	to be payed according to project costs	
Thermal conductivity	ILK Dresden	Germany	Inhouse apparatus (ring gap apparatus)		depends on fluid and pressure			<a href="mailto:Matthias.Buschmann@ilkdresden.de">Matthias.Buschmann@ilkdresden.de</a>	to be payed according to project costs	
Chemical composition	Lund University	Sweden	Fourier-transform infrared spectroscopy	FT/IR-6200				<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Some additional cost	
Morphology/Composition	Lund University	Sweden	Scanning electron microscopy-SEM	Hitachi SU8010				<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
Particle size distribution	Lund University	Sweden	Dynamic Light Scatering	Malvern Nano Zetasizer	from 0 to 90			<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
pH meter	Lund University	Sweden	-	Orion Star A211 pH benchtop meter				<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
Specific heat	Lund University	Sweden	Differential Scanning Calorimetry (DSC)	TA Instruments				<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
Thermal conductivity	Lund University	Sweden	Transient plane source	TPS 2500S	Up to 150 °C			<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
Viscosity	Lund University	Sweden	Rheometry	Brookfield	from -35 to 150			<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
Zeta potential	Lund University	Sweden	-	Malvern Nano Zetasizer	from 0 to 90			<a href="mailto:bengt.sunden@energy.lth.se">bengt.sunden@energy.lth.se</a> <a href="mailto:zan.wu@energy.lth.se">zan.wu@energy.lth.se</a>	Free to use	
Ball mill	Naitec	Spain	Nanoparticles dispersion	Microcer Netzsch				<a href="https://www.netzsch-grinding.com/es/productos-soluciones/molinda-en-via-humeda/molinos-de-laboratorio-de-las-miniseries-microseries/">https://www.netzsch-grinding.com/es/productos-soluciones/molinda-en-via-humeda/molinos-de-laboratorio-de-las-miniseries-microseries/</a>	<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost
Chemical composition	Naitec	Spain	Fourier-transform infrared spectroscopy	Perkin Elmer Spectrum 100				<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost	
Latent Heat	Naitec	Spain	Differential Scanning Calorimetry (DSC)	Perkin Elmer DSC-Diamond	from -50 to 650°C			<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost	
Morphology/Composition	Naitec	Spain	Scanning electron microscopy (SEM)	Carl Zeiss Ultra Plus				<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost	
Particle Size distribution	Naitec	Spain	Dynamic Light Scatering	Zetasizer Nano Z590 (Malvern)	from 0 to 90°C			<a href="https://www.malvernanalytical.com/en/products/product-range/zetasizer-range/zetasizer-nano-range/zetasizer-nano-z590">https://www.malvernanalytical.com/en/products/product-range/zetasizer-range/zetasizer-nano-range/zetasizer-nano-z590</a>	<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost
Tensiometer	Naitec	Spain	Bubble Pressure tensiometer	Sensadyne				<a href="http://www.sensadyne.com/qc6000-1">http://www.sensadyne.com/qc6000-1</a>	<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost
Thermal conductivity	Naitec	Spain	Transient hot bridge	Linseis THB 100	from -50 to 200°C			<a href="https://www.linseis.com/en/products/thermal-diffusivity-thermal-conductivity/thb-transient-hot-bridge/">https://www.linseis.com/en/products/thermal-diffusivity-thermal-conductivity/thb-transient-hot-bridge/</a>	<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost
Thermal study	Naitec	Spain	Thermogravimetric analysis (TGA)	Perkin Elmer TGA 7	up to 950°C			<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost	
Ultrasound probe	Naitec	Spain	Ultrasonic homogenizer	Sonic VCX 750				<a href="https://www.sonics.com/liquid-processing/products/vibra-cell-processors/vcx-500-vcx-750/">https://www.sonics.com/liquid-processing/products/vibra-cell-processors/vcx-500-vcx-750/</a>	<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost
Viscosity	Naitec	Spain	Rheometry	Physica MC1	from 10 to 60°C			<a href="mailto:jesarte@naitec.es">jesarte@naitec.es</a>	Some additional cost	
Density	Rzeszow University of Technology	Poland	Tensjometr PI-MT1A.KOM Polon-Izot		from 10 to 60°C	60 ml		<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use	
Electrical conductivity AC, permittivity, impedance	Rzeszow University of Technology	Poland	Novococtrl Concept 80		from -160°C to 400°C	~1ml	Frequency range: from 3 μHz to 3 GHz	<a href="http://www.polenizet.pl/produkt/254.73.tensjometr-t-tye-d-mt1a.html">http://www.polenizet.pl/produkt/254.73.tensjometr-t-tye-d-mt1a.html</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	some additional costs
Electrical conductivity DC	Rzeszow University of Technology	Poland	WTW, MultiLine 3410, MultiLine 3630		from -5°C to 70°C	~25ml	Range: 0,01μS/cm - 2000mS/cm	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use	
Mass	Rzeszow University of Technology	Poland	analytic balance	RADWAG WAS220/X		10-220 mg		<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use	
pH	Rzeszow University of Technology	Poland		WTW, MultiLine 3410, MultiLine 3631	from 5°C to 80°C	~25ml	Range: from 0 to 14 pH	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use	
polarizing microscope with a heating table	Rzeszow University of Technology	Poland		Eclipse LV100POL Nikon	from -160°C-300°C			<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use	
Refractive Index	Rzeszow University of Technology	Poland	Prism with 589 nm LED light source	Abbebat 350 Anton Paar	from 4 to 85°C	> 0,2 ml	Range: 1,26 – 1,72	<a href="https://www.nikonmetrology.com/fr/product/eclipse-lv100r-pol">https://www.nikonmetrology.com/fr/product/eclipse-lv100r-pol</a> <a href="https://www.anton-paar.com/us-en/products/details/abbebat-performance-and-performance-plus-line/">https://www.anton-paar.com/us-en/products/details/abbebat-performance-and-performance-plus-line/</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use
Surface tension	Rzeszow University of Technology	Poland	du Nouy ring	Tensjometr PI-MT1A.KOM Polon-Izot	from 10 to 60°C	25 ml	Range: 1-2000 mN/m	<a href="http://www.polenizet.pl/produkt/254.73.tensjometr-t-tye-d-mt1a.html">http://www.polenizet.pl/produkt/254.73.tensjometr-t-tye-d-mt1a.html</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use
Thermal conductivity	Rzeszow University of Technology	Poland	Transient hot wire	KD2 Pro		30 ml		<a href="https://www.metergroup.com/environment">https://www.metergroup.com/environment</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use
Ultrasound bath	Rzeszow University of Technology	Poland	Ultrasound bath	Emmi 60 HC EMAG				<a href="http://www.emag-polka.pl/produkty/myski_emag/emmi-60hc.html">http://www.emag-polka.pl/produkty/myski_emag/emmi-60hc.html</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use
Ultrasound probe	Rzeszow University of Technology	Poland	Ultrasonic homogenizer	Sonics Vibracell VCX130 Sonics & Materials Inc			High energy sonication	<a href="https://www.sonics.com/liquid-processing/products/vibra-cell-processors/vcx-130/">https://www.sonics.com/liquid-processing/products/vibra-cell-processors/vcx-130/</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use
Viscosity	Rzeszow University of Technology	Poland	Rheometry	HAAKE MARS 2 rheometer Thermo Electron Corporation	From -150 to 500°C	Depends on the measuring geometry type (from 0.2 ml to 50 ml)	Possible measurements in high pressure (up to 100 bar) and in electric field (up to 2000 V/mm)	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use	
Vortex	Rzeszow University of Technology	Poland	Vortex	IKA Vortex 3				<a href="https://www.ika.com/en/Products-Lab-Eq/Shakers-Vortex-mixer-Lab-Shaker-csp-170-VORTEX-3-cpdt-334000/">https://www.ika.com/en/Products-Lab-Eq/Shakers-Vortex-mixer-Lab-Shaker-csp-170-VORTEX-3-cpdt-334000/</a>	<a href="mailto:ezvia@prz.edu.pl">ezvia@prz.edu.pl</a>	free to use
Electrical conductivity	Technical University "Gheorghe Asachi" from Iasi Romania		HI 2030 edge	Hanna Instruments				<a href="https://www.hannainstruments.co.uk/edge-bench-conductivity-meter.html">https://www.hannainstruments.co.uk/edge-bench-conductivity-meter.html</a>	<a href="mailto:aminea@tuiasi.ro">aminea@tuiasi.ro</a>	free to use

Morphology/Composition	Technical University "Gheorghe Asachi" from Iasi Romania	Scanning electron microscopy-SEM	Vega Tescan				<a href="https://www.anton-paar.com/en/products/sem-scr-5000">https://www.anton-paar.com/en/products/sem-scr-5000</a>	<a href="mailto:aminea@tuiasi.ro">aminea@tuiasi.ro</a>	Free to use
Specific Heat, Latent Heat, Thermal processes analysis	Technical University "Gheorghe Asachi" from Iasi Romania	Differential Scanning Calorimetry (DSC)	DSC2 Mettler Toledo	from -150°C to 200°C	~50µl/sample		<a href="https://www.mettler.com/ro/Products/Calorimetry/DSC2">https://www.mettler.com/ro/Products/Calorimetry/DSC2</a>	<a href="mailto:aminea@tuiasi.ro">aminea@tuiasi.ro</a>	Free to use
Ultrasound probe	Technical University "Gheorghe Asachi" from Iasi Romania	Ultrasonic bath	Bandelin				<a href="https://www.bandelin.com/en/ultrasonic-baths">https://www.bandelin.com/en/ultrasonic-baths</a>	<a href="mailto:aminea@tuiasi.ro">aminea@tuiasi.ro</a>	Free to use
Viscosity	Technical University "Gheorghe Asachi" from Iasi Romania	Rheometry	Anton Paar MCR 501	from -40°C to 200°C			<a href="https://www.anton-paar.com/en/products/rheometry/mcr-501">https://www.anton-paar.com/en/products/rheometry/mcr-501</a>	<a href="mailto:aminea@tuiasi.ro">aminea@tuiasi.ro</a>	Free to use
Chemical composition, crystal structure	Universidade de Vigo	Spain	X-ray diffraction (XRD)	PANalytical X'Pert PRO	Room temperature		<a href="https://www.panalytical.com/en/products/xrd">https://www.panalytical.com/en/products/xrd</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Chemical state	Universidade de Vigo	Spain	Fourier-transform infrared spectroscopy (FTIR)	FTIR Nicolet 6700	Room temperature		<a href="https://www.thermo.com/Products/FTIR">https://www.thermo.com/Products/FTIR</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Chemical state	Universidade de Vigo	Spain	X-ray photoelectron spectroscopy (XPS)	Thermo-Fisher Scientific XPS K-ALPHA	Room temperature		<a href="https://www.thermo.com/Products/XPS">https://www.thermo.com/Products/XPS</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Convection coefficients and pressure drop	Universidade de Vigo	Spain	Thermal resistances over a tube-in-tube heat exchanger	Homemade	from 20 to 50 °C	3 l/sample		<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Crystal structure	Universidade de Vigo	Spain	Raman spectroscopy	Horiba Jobin Yvon HR800UV	Room temperature		<a href="https://www.jobinyvon.com/en/raman">https://www.jobinyvon.com/en/raman</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Density	Universidade de Vigo	Spain	Oscillating U-tube method	Anton Paar DMA 4500	from 0°C to 100°C	1 ml/sample	<a href="https://www.anton-paar.com/en/products/density-meter-dmatm-4500-en/">https://www.anton-paar.com/en/products/density-meter-dmatm-4500-en/</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Density	Universidade de Vigo	Spain	Oscillating U-tube method	Anton Paar DMA 500	from 15 °C to 40°C	1 ml/sample	<a href="https://www.anton-paar.com/en/products/details/density-meter-dmatm-500/">https://www.anton-paar.com/en/products/details/density-meter-dmatm-500/</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Particle size, morphology	Universidade de Vigo	Spain	Atomic force microscopy (AFM)	Multimode 8	Room temperature		<a href="https://www.bruker.com/en/products/surface-and-dimensional-analysis/atomic-force-microscopy/multimode-8-hr/">https://www.bruker.com/en/products/surface-and-dimensional-analysis/atomic-force-microscopy/multimode-8-hr/</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Particle size, morphology	Universidade de Vigo	Spain	Transmission electron microscopy (TEM)	JEOL JEM-1010	Room temperature		<a href="https://www.jeol.com/en/Products/TEM">https://www.jeol.com/en/Products/TEM</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Particle size, morphology, composition	Universidade de Vigo	Spain	Scanning electron microscopy (SEM), Energy dispersive X-ray spectroscopy (EDS)	JEOL JSM-6700 f	Room temperature		<a href="https://www.jeol.com/en/Products/SEM">https://www.jeol.com/en/Products/SEM</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
Particle size, morphology, crystal structure	Universidade de Vigo	Spain	Transmission electron microscopy (TEM), Electron diffraction	JEOL JEM-2010 FEG	Room temperature		<a href="https://www.jeol.com/en/Products/TEM">https://www.jeol.com/en/Products/TEM</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Some additional cost
pH	Universidade de Vigo	Spain	Glass electrode	HACH Sension+ PH3	from -20 to 150 °C	5 ml/sample	<a href="https://www.hach.com/sension-ph3-basic-laboratory-ph-orm-meter/product?id=7640520218">https://www.hach.com/sension-ph3-basic-laboratory-ph-orm-meter/product?id=7640520218</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Size distribution, zeta potential	Universidade de Vigo	Spain	Dynamic Light Scattering	Zetasizer Nano ZS	from 0 to 90 °C	150 µl/sample	<a href="https://www.malvernanalytical.com/en/products/instrument-range/zetasizer-nano-range/zetasizer-nano-zs">https://www.malvernanalytical.com/en/products/instrument-range/zetasizer-nano-range/zetasizer-nano-zs</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Specific Heat, Latent Heat, Thermal processes analysis	Universidade de Vigo	Spain	Differential Scanning Calorimetry (DSC), Modulated Differential Scanning Calorimetry (MDSC)	TA Instruments	from -180 to 725°C	~20µl/sample	<a href="https://www.tainstruments.com/pdf/brochure/2012%20DSC%20Brochure%201.pdf">https://www.tainstruments.com/pdf/brochure/2012%20DSC%20Brochure%201.pdf</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Tensiometer	Universidade de Vigo	Spain	Drop formation	LAUDA TVT 2	from 5 to 50 °C	1 ml/sample	<a href="https://lauda-brinkmann.com/products/summary.php?pv=TVT_2">https://lauda-brinkmann.com/products/summary.php?pv=TVT_2</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Thermal conductivity	Universidade de Vigo	Spain	Transient hot wire	Thermtest THW-L2	from -50 to 100°C	20 ml/sample	<a href="https://thermtest.com/thw-l2">https://thermtest.com/thw-l2</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Thermal conductivity of solids, pastes or liquids	Universidade de Vigo	Spain	Guarded Heat Flow Meter	DTC-25	Near ambient	~ from 0,2 to 60 ml/sample	<a href="http://www.tainstruments.com/wp-content/uploads/DTC-25_2015.pdf">http://www.tainstruments.com/wp-content/uploads/DTC-25_2015.pdf</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Thermal conductivity, Thermal resistivity	Universidade de Vigo	Spain	Transient hot wire	KD2 Pro	from -50 to 150°C	Solid (30ml/sample) and liquid (20 ml) samples can be measured.	<a href="https://www.metergroup.com/environment">https://www.metergroup.com/environment</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Ultrasound bath	Universidade de Vigo	Spain	Ultrasonic homogenizer	JP Selecta SA			<a href="http://www.grupo-selecta.com/pdf/es/pages/Espa%C3%81a%20Catalogo%20124.pdf">http://www.grupo-selecta.com/pdf/es/pages/Espa%C3%81a%20Catalogo%20124.pdf</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Ultrasound probe	Universidade de Vigo	Spain	Ultrasonic homogenizer	Sonopuls HD2200-Bandelin			<a href="https://bandelin.com/produkte/ultrasonic-homogenizers/hangen">https://bandelin.com/produkte/ultrasonic-homogenizers/hangen</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Viscosity	Universidade de Vigo	Spain	Rheometry, magnetorheology	Physica MCR 101	from -30 to +180 °C	~300µl/sample	<a href="https://www.anton-paar.com/en/products/group/rheometer/">https://www.anton-paar.com/en/products/group/rheometer/</a>	<a href="mailto:luis.lugo@uvigo.es">luis.lugo@uvigo.es</a>	Free to use
Chemical composition	Universidade Lisboa / Faculdade Ciências	Portugal	Fourier-transform infrared spectroscopy	IRAffinity-1 (Shimadzu)	Room temperature	Solid and liquid samples		<a href="mailto:msantos@ciencias.ulisboa.pt">msantos@ciencias.ulisboa.pt</a>	Some additional cost
Chemical Structure	Universidade Lisboa / Faculdade Ciências	Portugal	Nuclear Magnetic Resonance - NMR	Brucker 400 MHz	Room temperature	Liquid Samples		<a href="mailto:mbrito@ciencias.ulisboa.pt">mbrito@ciencias.ulisboa.pt</a>	Some additional cost
Density	Universidade Lisboa / Faculdade Ciências	Portugal	Vibrating Tube	Anton Paar DMA 55 + HP cell 512	from 20 to 100°C	Liquid Samples		<a href="mailto:afsantos@ciencias.ulisboa.pt">afsantos@ciencias.ulisboa.pt</a>	Under contact
Density and Speed of Sound	Universidade Lisboa / Faculdade Ciências	Portugal	Vibrating Tube	Anton Paar DAS 5000M	from 20 to 150°C	Liquid Samples		<a href="mailto:afsantos@ciencias.ulisboa.pt">afsantos@ciencias.ulisboa.pt</a>	Under contact
Dielectric Constant/Permittivity	Universidade Lisboa / Faculdade Ciências	Portugal	Capacitance method	HP4284A Precision LCR Meter	from 20 to 90°C	Liquid samples		<a href="mailto:fsantos@ciencias.ulisboa.pt">fsantos@ciencias.ulisboa.pt</a>	Under contact
Diffusion Coefficients	Universidade Lisboa / Faculdade Ciências	Portugal	Taylor Dispersion Technique	Developed in Lab	from 20 to 120°C	Liquids		<a href="mailto:mlopes@ciencias.ulisboa.pt">mlopes@ciencias.ulisboa.pt</a>	Under contact
Electrical Conductivity	Universidade Lisboa / Faculdade Ciências	Portugal	Conductance Method	HP 4192A Wav Impedance Analyser	from 20 to 80°C	Liquid samples		<a href="mailto:fsantos@ciencias.ulisboa.pt">fsantos@ciencias.ulisboa.pt</a>	Under contact
High Temperature Furnace	Universidade Lisboa / Faculdade Ciências	Portugal	Thin-film annealing, High temperature calibrations and measurements, gas phase	Tecnolab HT	from 20 to 1200°C	Solid and gaseous samples. Molten materials		<a href="mailto:milourenco@ciencias.ulisboa.pt">milourenco@ciencias.ulisboa.pt</a>	Some additional cost
Phase Equilibria Apparatus (VLE)	Universidade Lisboa / Faculdade Ciências	Portugal	Flow Method	Developed in Lab	from 20 to 150°C, P up to 17 Bar	Liquid Binary and Ternary Mixtures		<a href="mailto:afristino@ciencias.ulisboa.pt">afristino@ciencias.ulisboa.pt</a>	Under contact

Refraction Index	Universidade Lisboa / Faculdade Ciências	Portugal	Abbé Refractometry	Anton Paar AbbeMAT 500	from 20 to 90°C	Liquid samples		<a href="mailto:afasantos@ciencias.ulisboa.pt">afasantos@ciencias.ulisboa.pt</a>	Under contact
Sonicator	Universidade Lisboa / Faculdade Ciências	Portugal	Ultrasound Technique	Hielscher UP200St	Around Room temperature. Temperature monitored	Dispersions/Suspensions. Volumes from 0.1 to 2000 ml		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Some additional cost
Specific Heat, Latent Heat, Thermal processes analysis	Universidade Lisboa / Faculdade Ciências	Portugal	Differential Scanning Calorimetry (DSC)	Linseis PT100	from 20 to 700°C	Solid and liquid samples		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Surface Structure	Universidade Lisboa / Faculdade Ciências	Portugal	Atomic Force Microscopy - AFM	Nanoscope IIIa Multimode AFM (Digital Instruments, Veeco)	Room temperature	Films, self-assembled monolayers, nanosystems		<a href="mailto:anaviana@ciencias.ulisboa.pt">anaviana@ciencias.ulisboa.pt</a>	Some additional cost
Thermal Conductivity (High Temperatures)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot strip	Developed in Lab	from 50 to 1200°C	Molten materials, around 80 ml		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermal Conductivity (High Temperatures)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot strip	Developed in Lab	from 200 to 800°C	Gaseous samples		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermal Conductivity (low Temperature)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot wire	Developed in Lab	from -100 to 200°C	Liquid samples, around 150 ml		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermal Conductivity (low to medium temperatures)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot strip		from -10 to 200°C	Liquid samples, around 20 ml		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermal Conductivity (medium temperatures)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot wire	Developed in Lab	from 20 to 200°C	Gaseous samples		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermal Conductivity (Room Temperature)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot wire probe	Hukseflux	from -10 to 120°C	Liquid samples, around 150 ml		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermal Conductivity (Room Temperature)	Universidade Lisboa / Faculdade Ciências	Portugal	Transient hot wire probe	KD2 Pro	from 20 to 80°C	Liquid samples, around 80 ml		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Thermometer Calibration Bench	Universidade Lisboa / Faculdade Ciências	Portugal	Thermal Comparator with standard thermometer/thermocouple references	Developed in Lab	from 20 to 700°C	Thermocouples, PTRs, Thin-films thermometers		<a href="mailto:mlourengo@ciencias.ulisboa.pt">mlourengo@ciencias.ulisboa.pt</a>	Under contact
Viscosity	Universidade Lisboa / Faculdade Ciências	Portugal	Rehometer (Cone & Plate, Plate & Plate and Concentric Cylinders)	TA AR1500EX	from -20 to 300°C	Liquids, suspensions, pastes		<a href="mailto:fsantos@ciencias.ulisboa.pt">fsantos@ciencias.ulisboa.pt</a>	Under contact
Viscosity	Universidade Lisboa / Faculdade Ciências	Portugal	Ubbelohde/Cannon Frenske/Ostwald capillary viscometer	SI Analytics (ex-SHOTT)	from 20 to 90°C	Newtonian Liquids		<a href="mailto:fsantos@ciencias.ulisboa.pt">fsantos@ciencias.ulisboa.pt</a>	Under contact
Viscosity (High Temperatures)	Universidade Lisboa / Faculdade Ciências	Portugal	Oscillating Cup	Developed in Lab	from 50 to 800°C	Molten materials, around 80 ml		<a href="mailto:fsantos@ciencias.ulisboa.pt">fsantos@ciencias.ulisboa.pt</a>	Under contact
Water Composition	Universidade Lisboa / Faculdade Ciências	Portugal	Karl-Fisher Coulometric	Mettler Toledo 831KF Coulometer	Room temperature	Liquid samples, low volume		<a href="mailto:xpmendez@ciencias.ulisboa.pt">xpmendez@ciencias.ulisboa.pt</a>	Under contact
Water Composition	Universidade Lisboa / Faculdade Ciências	Portugal	Karl-Fisher Volumetric	Mettler Toledo KFT Titrator	Room temperature	Liquid samples, high volume		<a href="mailto:afcrisino@ciencias.ulisboa.pt">afcrisino@ciencias.ulisboa.pt</a>	Under contact
Morphology/Composition	Universidade Lisboa / Instituto Superior Técnico	Portugal	Scanning electron microscopy - SEM	Hitachi S2400 with Bruker light elements EDS detector; FEI-SEM: JEOL 7001F with Oxford light elements EDS detector and	Room temperature	Solid and liquid samples	<a href="http://microlab.ist.utl.pt/microfacilities.html">http://microlab.ist.utl.pt/microfacilities.html</a>	<a href="mailto:isabel.nogueira@tecnico.ulisboa.pt">isabel.nogueira@tecnico.ulisboa.pt</a>	Some additional cost
Morphology/Composition	Universidade Lisboa / Instituto Superior Técnico	Portugal	Transmission electron microscopy - TEM	Hitachi 8100 with ThermoNoran light elements EDS detector and digital image acquisition	Room temperature	Solid and liquid samples	<a href="http://microlab.ist.utl.pt/microfacilities.html">http://microlab.ist.utl.pt/microfacilities.html</a>	<a href="mailto:isabel.nogueira@tecnico.ulisboa.pt">isabel.nogueira@tecnico.ulisboa.pt</a>	Some additional cost
Custom setup (flow boiling experiments with smooth and corrugated tubes)	Universidade Lisboa / IST	Portugal						<a href="mailto:anamoi@tecnico.ulisboa.pt">anamoi@tecnico.ulisboa.pt</a>	free to use
Custom setup (pool boiling experiments with simple or micro/nano structured surfaces)	Universidade Lisboa / IST	Portugal						<a href="mailto:anamoi@tecnico.ulisboa.pt">anamoi@tecnico.ulisboa.pt</a>	free to use
Custom setup (Thermal Conductivity)	Universidade Lisboa / IST	Portugal	THW		from -15°C to 80°C	30 mL/sample	Under Testing	<a href="mailto:anamoi@tecnico.ulisboa.pt">anamoi@tecnico.ulisboa.pt</a>	free to use
Custom setup (Viscosity, Density, Specific heat, Heat transfer coefficient under forced convection)	Universidade Lisboa / IST	Portugal	Viscosity - Capillary viscosimeter; Density - Coriolis flow meter, Specific heat - flow calorimeter		from -15°C to 80°C	1.5 L/sample		<a href="mailto:anamoi@tecnico.ulisboa.pt">anamoi@tecnico.ulisboa.pt</a>	free to use
Microscopy (e.g. Detailed analysis of contact line region)	Universidade Lisboa / IST	Portugal	Laser Scanning Confocal Microscopy	Leica SP8	ambient		<a href="https://doi.org/10.1016/j.ihmatstransfer.2018.10.114">https://doi.org/10.1016/j.ihmatstransfer.2018.10.114</a> <a href="https://www.leica-microsystems.com/products/confocal-microscopes/n/leica-tcs-sp8/">https://www.leica-microsystems.com/products/confocal-microscopes/n/leica-tcs-sp8/</a>	<a href="mailto:anamoi@tecnico.ulisboa.pt">anamoi@tecnico.ulisboa.pt</a>	free to use
Sonicator	Universidade Lisboa / IST	Portugal	Ultrasonic homogenizer	Hielscher UP200Ht	ambient		<a href="https://www.hielscher.com/200Ht_p.htm">https://www.hielscher.com/200Ht_p.htm</a>	<a href="mailto:anamoi@tecnico.ulisboa.pt">anamoi@tecnico.ulisboa.pt</a>	free to use
Surface tension and contact angles (Static and dynamic)	Universidade Lisboa / IST	Portugal	Optical tensiometry	THETA - Attention	ambient		<a href="https://www.biolinscientific.com/attention/optical-tensiometers/theta">https://www.biolinscientific.com/attention/optical-tensiometers/theta</a>	<a href="mailto:Oronzio.MANCA@unicampania.it">Oronzio.MANCA@unicampania.it</a>	Free to use
Convection heat transfer, pressure drop and magnetic field	Università della Campania	Italy	Heating by electrical resistance	Homemade	from 20°C-80°C			<a href="mailto:Oronzio.MANCA@unicampania.it">Oronzio.MANCA@unicampania.it</a>	Free to use
Thermal diffusivity	Università della Campania	Italy	NanoFlash	NETZSCH LFA 447	from -50 to 150°C			<a href="mailto:Oronzio.MANCA@unicampania.it">Oronzio.MANCA@unicampania.it</a>	Free to use
Ultrasound probe	Università della Campania	Italy	Ultrasonic homogenizer	Hielscher UP 400S				<a href="mailto:Oronzio.MANCA@unicampania.it">Oronzio.MANCA@unicampania.it</a>	Free to use
Atomic force microscopy	Universitat de Barcelona	Spain	Atomic force microscope (AFM)	Multimode 8 and Nanoscope V electronics from Bruker with a Peak Force Quantitative Nanomechanics mode (QNM)	from -40 - 150 °C		<a href="https://www.bruker.com/products/surface-and-dimensional-analysis/atomic-force-microscopes/multimode-8-hr/overview.html">https://www.bruker.com/products/surface-and-dimensional-analysis/atomic-force-microscopes/multimode-8-hr/overview.html</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Additional cost
Chemical composition	Universitat de Barcelona	Spain	Fourier-transform infrared spectroscopy	Spectrum Two™ from Perkin Elmer (Waltham, MA, USA)	at RT		<a href="http://www.perkinelmer.com/es/category/infrared-spectroscopy-ft-ir">http://www.perkinelmer.com/es/category/infrared-spectroscopy-ft-ir</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Free to use
Crystal structure and chemical composition	Universitat de Barcelona	Spain	X-Ray Diffraction	XRD from Philips MRD	from RT to 400°C		<a href="https://www.malvernpanalytical.com/en/products/ps-c-barreneche@ub.edu/roduct-range/xpert3-range/xpert3-mrd">https://www.malvernpanalytical.com/en/products/ps-c_barreneche@ub.edu/roduct-range/xpert3-range/xpert3-mrd</a>	<a href="mailto:c_barreneche@ub.edu">c_barreneche@ub.edu</a>	Additional cost
Morphology/Composition	Universitat de Barcelona	Spain	Scanning electron microscopy-SEM	SEM QUANTA 200	at RT		<a href="https://www.fei.com/products/sem/quanta-sem/">https://www.fei.com/products/sem/quanta-sem/</a>	<a href="mailto:c_barreneche@ub.edu">c_barreneche@ub.edu</a>	Additional cost
Particle size distribution	Universitat de Barcelona	Spain	Multisizer	Coulter counter multisizer PSD	from RT	25 ml	<a href="https://www.beckman.com/cell-counters-and-analyzers/multisizer-4e">https://www.beckman.com/cell-counters-and-analyzers/multisizer-4e</a>	<a href="mailto:c_barreneche@ub.edu">c_barreneche@ub.edu</a>	Additional cost

Specific Heat, Latent Heat, Thermal processes analysis	Universitat de Barcelona	Spain	Differential Scanning Calorimetry (DSC), Modulated Differential Scanning Calorimetry (MDSC)	DSC2 Mettler Toledo	from -150°C-700°C	~50µl/sample	<a href="https://www.mt.com/es/en/home/products/Laboratory_Analytics_Browse/TA_Family_Browse/DSC.html">https://www.mt.com/es/en/home/products/Laboratory_Analytics_Browse/TA_Family_Browse/DSC.html</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Additional cost
Thermal conductivity, Thermal resistivity	Universitat de Barcelona	Spain	Transient hot wire	KD2 Pro	from -50 to 150°C	Solid (30ml/sample) and liquid (20 ml) samples can be measured.	<a href="https://www.metergroup.com/environment">https://www.metergroup.com/environment</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Free to use
Thermal cycling stability	Universitat de Barcelona	Spain	Thermal cycler	GeneQ Thermal Cyclers from BIOER	from RT to 105°C	~25µl/sample	<a href="http://en.bioer.com.cn/product/216.html">http://en.bioer.com.cn/product/216.html</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Free to use
Thermal stability	Universitat de Barcelona	Spain	Thermogravimetric analysis-TGA	DSTQ600, TA Instruments	up to 1600°C		<a href="https://www.tainstruments.com/products/thermal-analysis/thermogravimetric-analysis/">https://www.tainstruments.com/products/thermal-analysis/thermogravimetric-analysis/</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Additional cost
Ultrasound probe	Universitat de Barcelona	Spain	Ultrasonic homogenizer	Ultrasonic vibra-cell	at RT		<a href="https://www.sonics.com/liquid-processing/products/vibra-cell-processors/">https://www.sonics.com/liquid-processing/products/vibra-cell-processors/</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Free to use
Viscosity	Universitat de Barcelona	Spain	Rheometry	RST Cone Plate Rheometer from Brookfield	from RT to 95°C	< 1.5 ml/sample	<a href="https://www.brookfieldengineering.com/products/rheometers/rst-cone-plate-rheometer">https://www.brookfieldengineering.com/products/rheometers/rst-cone-plate-rheometer</a>	<a href="mailto:c.barreneche@ub.edu">c.barreneche@ub.edu</a>	Free to use
Absorption, transmittance and scattering spectra	Universitat Jaume I	Spain	UV-Vis	CARY 500 Spectrophotometer, Varian Dev.	Room temperature	liquids: 10 ml/sample solids: 0.5 ml/sample		<a href="mailto:cordonci@uji.es">cordonci@uji.es</a>	Free to use
Centrifuge	Universitat Jaume I	Spain	-	Nahita 2652		12 vials of 15 ml up to 4000 rpm		<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Chemical composition	Universitat Jaume I	Spain	Fourier-transform infrared spectroscopy	FT/IR-6200-Jasco				<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Contact angle	Universitat Jaume I	Spain	Sessile drop	self-designed equipment				<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Crystal structure and chemical composition	Universitat Jaume I	Spain	X-Ray Diffraction	D4 Endeavor & D8 Advance- Bruker-AXS	up to 1200°C		<a href="https://www.cordouan-tech.com/products/vasco-flex/">https://www.cordouan-tech.com/products/vasco-flex/</a>	<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Heat transfer coefficient, Nusselt number and pressure drop	Universitat Jaume I	Spain	Thermal hydraulic loop for nanofluids dynamic characterization	self-designed equipment	up to 400° and 10 bar	50 liters of liquid		<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Morphology/Composition	Universitat Jaume I	Spain	Scanning electron microscopy-SEM	JEOL 7001F				<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Morphology/Composition	Universitat Jaume I	Spain	Transmission electron microscopy-TEM	JEOL 2100				<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Particle size distribution	Universitat Jaume I	Spain	Dynamic Light Scattering	Vasco Flex-Corduan Technologies	from RT to 400°C	25 ml		<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Particle size distribution and zeta potential	Universitat Jaume I	Spain	Dynamic Light Scattering	Zetasizer Nano ZS-Malvern	from 0°C to 90°C	1 ml	<a href="https://www.malvernanalytical.com/en/products/zetasizer-nano-range/zetasizer-nano-range/zetasizer-nano-range/">https://www.malvernanalytical.com/en/products/zetasizer-nano-range/zetasizer-nano-range/zetasizer-nano-range/</a>	<a href="mailto:cordonci@uji.es">cordonci@uji.es</a>	Free to use
pH	Universitat Jaume I	Spain	Glass electrode	Consort C-1010	0-100°C			<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Porous size distribution	Universitat Jaume I	Spain	Nitrogen adsorption	Gemini V Micromeritics Instrument Corp.			<a href="https://www.micromeritics.com/Product-Showcase.aspx">https://www.micromeritics.com/Product-Showcase.aspx</a> <a href="http://www.tainstruments.com/products/rheology/discovery-hybrid-rheometers/">http://www.tainstruments.com/products/rheology/discovery-hybrid-rheometers/</a>	<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Rheology, Viscosity	Universitat Jaume I	Spain	Rheometry	Discovery HR-TA instruments	from -160°C to 600°C	< 1.5 ml/sample	Parallel plates 40 mm	<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Specific Heat, Latent Heat, Thermal processes analysis	Universitat Jaume I	Spain	Differential Scanning Calorimetry (DSC), Modulated Differential Scanning Calorimetry (MDSC)	DSC2 Mettler Toledo	from -70°C-700°C	~50µl/sample	<a href="https://www.mt.com/es/en/home/products/Laboratory_Analytics_Browse/TA_Family_Browse/DSC.html">https://www.mt.com/es/en/home/products/Laboratory_Analytics_Browse/TA_Family_Browse/DSC.html</a>	<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Specific surface area BET	Universitat Jaume I	Spain	Nitrogen adsorption	Gemini V Micromeritics Instrument Corp.			<a href="https://www.micromeritics.com/Product-Showcase.aspx">https://www.micromeritics.com/Product-Showcase.aspx</a> <a href="https://www.metergroup.com/environment">https://www.metergroup.com/environment</a>	<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Thermal conductivity, Thermal resistivity	Universitat Jaume I	Spain	Transient hot wire	KD2 Pro	from -50 to 150°C	Solid (30ml/sample) and liquid (20 ml) samples can be measured.		<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Thermal stability	Universitat Jaume I	Spain	Thermogravimetric analysis-TGA	TGA/SDTAS1e/LF/1600-Mettler Toledo	up to 1600°C			<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Some additional cost
Transmittance	Universitat Jaume I	Spain	UV-Vis	self-designed equipment	up to 250°C	liquids: 20ml		<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Ultrasound probe	Universitat Jaume I	Spain	Ultrasonic homogenizer	Sonopuls HD2200-Bandelin			<a href="https://bandelin.com/produkte/ultrasonic_homogenizers/7lang-en">https://bandelin.com/produkte/ultrasonic_homogenizers/7lang-en</a>	<a href="mailto:lhernand@uji.es">lhernand@uji.es</a>	Free to use
Chemical composition, crystal structure	Université Rennes 1	France	X-ray diffraction (XRD)	PANalytical X'Pert PRO	Room temperature			<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Some additional cost
Crystal structure	Université Rennes 1	France	Raman spectroscopy	LabRAM HR 800	Room temperature			<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Some additional cost
Density	Université Rennes 1	France	Gas pycnometry nitrogen, helium (powder, liquid, paste)	UltraPyc 1200e (Quantachrome/Anton Paar)	from 10°C to 50°C	from few mg to g (different sizes of container)		<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use
Foam structure analyzer	Université Rennes 1	France	Image analysis, bubble size distribution	Dynamic Foam Analyzer – DFA100 KRÜSS GmbH	Ambiant	few dl		<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use
Heat transfer	Université Rennes 1	France	Co-axial heat exchanger	Homemade				<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use Experimental setup for heat transfer performance evaluation
Particle size, morphology	Université Rennes 1	France	Atomic force microscopy (AFM)	Multimode 8	Room temperature			<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Some additional cost
Particle size, morphology, composition	Université Rennes 1	France	Scanning electron microscopy (SEM), Energy dispersive X-ray spectroscopy (EDS)	JEOL JSM 7100 F EDS EBSD Oxford	Room temperature			<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Some additional cost
Particle size, morphology, crystal structure	Université Rennes 1	France	Transmission electron microscopy (TEM), Electron diffraction	JEOL 2100	Room temperature			<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Some additional cost
Surface tension, interfacial tension, contact angle	Université Rennes 1	France	Pendant drop, reverse drop, sessile drop	Drop Shape Analyzer DSA-30 KRÜSS GmbH	from -20 to 160 °C	from 1 ml/sample		<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use

Thermal conductivity	Université Rennes 1	France	Transient hot wire (time measurement less than few second)	Thermtest THW-L2	from -10 to 90°C	20 ml/sample	<a href="https://thermetest.com/thw-t2">https://thermetest.com/thw-t2</a>	<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use
Thermal conductivity, Thermal resistivity	Université Rennes 1	France	Transient hot wire	KD2 Pro	from 10 to 50°C	liquid (20 ml) samples	<a href="https://www.metersgroup.com/environment">https://www.metersgroup.com/environment</a>	<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use
Ultrasound bath	Université Rennes 1	France	Ultrasonic homogenizer	Fischer Bioblock Sci. Transonic				<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use
Viscosity, rheological properties	Université Rennes 1	France	Rheometry, cone&plate and other geometries	Malvern Kinexus Pro	from -20 to +200 °C	from 1ml/sample		<a href="mailto:patrice.estelle@univ-rennes1.fr">patrice.estelle@univ-rennes1.fr</a>	Free to use
Chemical composition	University of Birmingham	United Kingdom	FT-IR/R Microscope	Tensor 27/ Lumos Bruker	room T	solid (< 1g), powder (< 1g) and liquid (< 1mL)		<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Crystal structure and chemical composition	University of Birmingham	United Kingdom	X-Ray Difrraction	D8 Advance- Bruker	from -180 to 450°C		high temperature/low temperature stage, capillar	<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Dynomill	University of Birmingham	United Kingdom	Dynomill	Willy A. Bachofen AG				<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Glove Box	University of Birmingham	United Kingdom				with analytical balance		<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Morphology/Composition	University of Birmingham	United Kingdom	Scanning electron microscopy-SEM	Hitachi TM3030	room T			<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Particle size distribution	University of Birmingham	United Kingdom	Dynamic Light Scatering	Malvern	room T			<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Thermal conductivity, Thermal diffusivity	University of Birmingham	United Kingdom	Hot wire	Systemtechnik	from -10 up to 80 °C	liquid sample ~ 100 mL		<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Thermal conductivity, Thermal diffusivity	University of Birmingham	United Kingdom	Laser Flash Apparatus	Netsch/Linseis	from -150 to 1500 °C	Solid sample ( pellets 12.7 mm diameter, 2-3mm thickness) and liquid (0.5-1 g)		<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Thermal conductivity, Thermal diffusivity	University of Birmingham	United Kingdom	Thermal Hot bridge	Linseis	from -150 to 1000 °C	Solid sample (20x40 m,>1cm thickness) and liquid		<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
thermal stability	University of Birmingham	United Kingdom	Thermogravimetric analysis-TGA/DSC	STA449 Netsch/STA Linseis	from -150 to 1600°C	~50µl/sample		<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Ultrasound probe	University of Birmingham	United Kingdom	Ultrasonic homogenizer	Fisherbrand™ QS00 Sonicator				<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined
Viscosity	University of Birmingham	United Kingdom	Rheometer	Anton Paar	from -150 up to 700°C	~50µl/sample	Parallel Plate 35 mm, Cup	<a href="mailto:H.Navarro@bham.ac.uk">H.Navarro@bham.ac.uk</a>	to be defined