

Equipment list

Research group · Development of chemical processes and products with low environmental impact"

90 registered instruments

Updated: July 2026

No.	Equipment	Year
1	3D printer Abax Bio-G	2020
2	3D printer Ender 3 Pro	—
3	50-liter dewar, Mettler Toledo	2006
4	9-position multi-well stirrer Ovan MultiHeat D model MH90E	—
5	9-position multi-well stirrer SBS (stirring only)	—
6	Accessories for the Mettler Toledo DMA	2006
7	Analytical balance AG245 Mettler Toledo	—
8	Analytical balance MS204S Mettler Toledo	—
9	Analytical balance XS5205 Dual Range Mettler Toledo	—
10	Balance PB153-S Mettler Toledo	2006
11	Ball mill Retsch mod. 301	2005
12	Ball oven B-585 Buchi	—
13	Ball viscometer AMVn Anton Paar	—
14	Caddy for a Mettler Toledo dewar	2006
15	Capillary microviscometer AMV200N Anton Paar	2007
16	Centrifuge Universal 320 Hettich Zentrifugen	—
17	Circulating cryothermostat MPC-K6 Huber	—
18	Climatic chamber Vötsch Industrietechnik VCL 4006	—
19	Compressed-air dryer F-100 Electrocompresor	2006
20	Conductivity meter SevenCompact Mettler Toledo	—

No.	Equipment	Year
21	Contact angle measurement instrument DataPhysics OCA 15 L Plus	2005
22	Cryothermostat Julabo Presto A30	—
23	Diaphragm vacuum gauge 0-25 mbar Telstar GVG-11	2004
24	Digital densitometer DMA5000 Anton Paar	2006
25	DMA (physical cure analysis) and accessories Mettler Toledo DMA 861	2002
26	DSC821e (phase-change analysis) Mettler Toledo	—
27	Ebulliometer VLE-602 Fischer	—
28	Freeze dryer SP Scientific Products VirTis BenchTop Pro, with Vacuubrand RZ 9 vacuum pump	2017
29	FTIR Jasco FT/IR-4700 with Specac Golden Gate adapter and Specac Golden Gate Reaction Cell Controller	—
30	Gas booster with automatic pressure and flow control Maximator model DLE 75-1-GG	2004
31	Gas chromatograph 430-GC Varian	—
32	Gas chromatograph Agilent 7890A with coupled headspace injector 7697A	—
33	Gas chromatograph with FID and TCD detectors and automatic high-pressure stream sampling system Varian Star 3800	2000
34	Gas flow meter DryCal DC-Lite MH	2005
35	Gel permeation chromatograph (GPC) 390-LC Varian	—
36	General laboratory equipment: glassware, analytical balances, ovens, etc.	—
37	High-performance liquid chromatograph (HPLC) 1260 Agilent, with refractive index detector (RID) and diode-array UV-Vis detector (DAD)	—
38	High-pressure capillary viscometer (in-house design, built by PID ENG&TECH) includes an Endress+Hauser differential pressure sensor 0.500 mbar (Pmax = 450 bar)	2004
39	High-pressure generator HIP model 62-6-10	2001
40	High-pressure pump module for CO ₂ and modifier delivery Dosapro Milton Roy model MD93G6M390 (CO ₂ pump) Qmax = 2.97 L/h; Pmax = 390 bar. Dosapro Milton Roy model CEGA0.5SN8P3 (modifier pump) Qmax = 0.55 L/h; Pmax = 200 bar	2004
41	High-pressure reactor (379 bar @ 343 °C) with 300 mL capacity, 300 mL Bolted Closure Vessel & ¾" Magnedrive Autoclave Engineers	2004
42	High-pressure vibrating-tube densitometer Anton Paar model 512-P	2001
43	Hot-plate press Polystat 200T Servitec	—
44	Hydraulic press (crimper) for batteries TMAX-JKKF20-TC	2026
45	Isocratic high-performance liquid chromatograph (HPLC) 1260 Agilent, with refractive index detector (RID)	—

No.	Equipment	Year
46	Karl Fischer titrator Mettler-Toledo KF DL-31	—
47	Micrometric applicator Doctor Blade	2024
48	Microtox Model 500 ModernWater	—
49	Microwave Speedwave	—
50	Mini tube rotator Fischer	—
51	Mixer UM113 Unix	2008
52	Muffle furnace Sel-Horn R-8 L Selecta	—
53	Multi-well stirrer AM4 Digital PRO with external probes (4)	2023
54	Multivapor P6 230 Buchi	—
55	Optical microscope Scope A1 ZEISS	—
56	Oven for drop and softening point determination, Mettler Toledo, mod. FP 83HT	2002
57	Oven for melting temperature determination, Mettler Toledo, model FP 81HT MCB	2002
58	Oven, Selecta Conterm150L brand	2006
59	Pellet press for FTIR Specac	—
60	Peltier oven Memmert IPP110	—
61	pH meter Crison GLP 22	—
62	Polisher Buehler Metaserv 3000	—
63	Portable cabinet, pyramid type	2006
64	Potentiostat Biologic SP-150e (expanded to 2 channels in 2024) and CESH electrochemical cell	2019
65	Power supply for DSC 400W Mettler Toledo	2006
66	Processor and controller for melting-point and drop/softening-point cells. Mettler Toledo FP90	2002
67	Pump Bran+Luebbe E-P31 with refrigerated head for CO2 delivery	2000
68	Reactor Kiloclave, C22 alloy, 3L Buchi	—
69	Reactor Parr 4546 with controller 4848 450 mL	—
70	Refractometer J357 Rudolph	—
71	Rheometer ARES LS1 and chiller TA Instruments	2004

No.	Equipment	Year
72	Rotary evaporator R-100 with V-100 pump and I-100 Buchi pressure controller	—
73	Rotary evaporator R-114 with V-700 pump, V-550 pressure controller and B-480 Buchi bath	—
74	SCA24 Static and Dinamic Contact Angle on Fibers DataPhysics	2007
75	Setup with variable-volume view cell for high-pressure phase equilibrium studies (in-house design, built by PID ENG&TECH) volume = 50-300 mL, Pmax = 340 bar	2005
76	Stirrer IKA KS 4000 i	—
77	TGA (thermal stability analysis) Mettler Toledo TGA851E	2002
78	TGA/DSC 1e STARe with autosampler Mettler Toledo	—
79	Thermostatic block RS9000 Barstead	—
80	TMA Mettler Toledo TMA/SDTA840	2000
81	Ultracentrifugal mill ZM200 Retsch	—
82	Ultrasonic bath 5410631 Selecta	—
83	Ultraviolet spectrophotometer Cary 50 Varian (shared)	—
84	Universal testing machine Zwick/Roell	2008
85	Vacuum oven, Selecta Vacioterm brand	2006
86	Vacuum trap + dewar VADE 10214 with lid	2025
87	Vacuum/nitrogen line FengTecEx, 4-port (manifold M29, vacuum solid glass stopcocks, double 5, 450 mm) and Laborglass bubbler trap, with Vacuubrand RZ 6 vacuum pump and I-100 Buchi pressure controller	2024
88	Viscotester Thermo6R Plus	2006
89	Vortex mixer VorTemp 1550	—
90	Water purification system Ultrapure Water Direct-Q3 Millipore	—