

Airable Research Lab enables rapid development and validation of functional materials from concept to bench-scale proof-of-principle. We specialize in chemical synthesis, fermentation, formulation development, and material design—providing partners with the capabilities to create application-ready prototypes and assess technical feasibility and commercial potential.



BROAD CAPABILITIES:

- Proof-of-principle material development to rapidly assess technical feasibility and commercial potential
- Chemical synthesis and functionalization of bio-based and specialty materials
- Formulation tailored for liquids, solids, and semi-solid systems
- Performance characterization and targeted testing to inform benchmarking and scalability planning

FULL CATALOGUE:

Experimental Techniques:

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| • Addition/Substitution Reactions | • Esterification |
| • Amidation | • Etherification |
| • Amination | • Fermentation-based Synthesis |
| • Condensation | • Hydrogenation |
| • Copolymerization | • Hydrolysis |
| • Crosslinking | • Neutralization |
| • Dispersion Formulation | • Polymerization |
| • Emulsification | • Quaternization |
| • Enzymatic Transformations | • Sulfonation |
| • Epoxidation | • Surfactant Synthesis |

Analytical Equipment:

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| • AA-Spectrometer | • Gas Chromatograph |
| • Analytical Balance | • GC-Mass Spectrometer |
| • Auto Titrator | • Gloss Meter |
| • Colorimeter | • HPLC |
| • Conductivity Meter | • IR Spectrometer |
| • Contact-Angle Meter | • Linesis Chip DSC |
| • Durometers | • Mandrel Bend |
| • Cleveland Open Cup Flash Point Apparatus | • Melting Point Apparatus |
| • Fluorimeter | |

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| • Microscopes | • pH Meter |
| • Moisture Analyzer | • Refractometer |
| • NETZSCH Kinexus Pro+ Rheometer | • Specific Gravity Cups |
| • NMR Spectrometer | • UV-Vis Spectrometer |
| | • Viscometer |

Processing Equipment:

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| • -80°C Freezer | • High Pressure Parr Reactor (250 mL) |
| • 5 L Eppendorf Bio Flo 120 Bioreactor | • Homogenizers |
| • 10 L and 30 L Large Scale Reactors | • Kettle Reactors (Up to 2 L) |
| • 100 mL - 1 L 3 Neck Glass Reactors | • Lab Ovens |
| • Ball Mill | • Makegear 3-ID FDM 3D Printer |
| • Carver Press | • Overhead Mixers (2000 rpm) |
| • Centrifuges (Bench Scale and 6 L) | • Rotary Evaporators |
| • Draw Down Bars | • Sonicator and Ultra Sonicator |
| • Extruder | • Vacuum Oven |
| • FlackTek Mixer | |

Contact Us

Please visit us at <http://www.airablelabs.com> to learn more about our capabilities.

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