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# Material Science Solutions


Aragen Life Sciences is India's leading CRO, offering cutting-edge OLED (Organic Light Emitting Diodes) chemistry services,and has impressive track record of colloborating with global leaders. Our expert material science team possessesthe skills and experience necessary to deliver top-tier electronic grade compounds for a range of applications in OLEDs, Printed Electronics (PE), Nanomaterials, and Biomaterials, establishing our position as the industry leader in this field.

## Chemistry and Technologies

Synthesis - Expertise in handling diverse chemistry

Purification - Column Chromatography, Precipitation, Crystallization and Sublimation

### Characterization

- Compound characterisation with HPLC/UPLC, LCMS/HRMS, NMR etc.
- Method development, validation and documentation as per ICH Q2R1
- Elemental impurities as per ICH Q3D
- Chiral method development (HPLC/GC/SFC)
- Impurity identification, characterization and synthesis
- GPC (Gel permeation chromatography)
- Cleaning method development and validation

**High purity organic compounds for OLED and PE -** Typical specification include high purity > 99.5%, ppm levels residual metal contents, very low levels of residual solvent content, total inorganic content residual solvent content, physical appearance (color/solid) and UV profile

**Reaction capabilities (R&D to pilot scale) -** Fluorination, Pressure reaction (Parallel screening autoclave; SS316, PTFE and Hastelloy), Cyanation, Boron chemistry, Cross-coupling reactions C-C, C-N, C-S, C-P, C-SI and C-H activation, Photochemical/Photo-redox reactions and Amoco oxidation & Continuous flow/photo-flow chemistry.

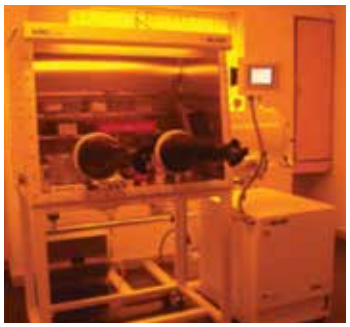
## Value Proposition

- Multi-year Collaboration with world's largest chemical companies
- Over 10+ year experience to support discovery, development and pilot scale synthesis of electronic grade compounds
- Scale-up lab to support large scale synthesis (500 g to kg scale)

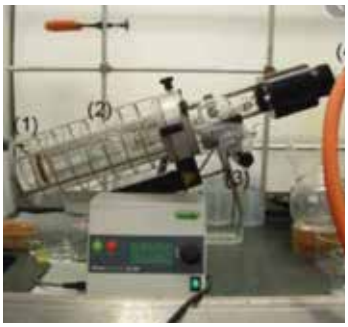
## Infrastructure

- Triple jacketed reactors (Capacity - 250 mL to 20L)
- Reactor-Ready® (-70 to +200 °C), pH probe and data log
- Catalyst screening using Radley Mya-4 equipment with glove box
- Pressure catalyst screening (6 x 100mL capacity, SS316 and Hastelloy)
- Autoclaves (SS316 and Hastelloy) 450mL to 25L
- Par hydrogenators (Capacity - 200mL to 2000mL)
- Carousel 6 Plus and 12 Plus Reaction Station™ for quick optimization
- High temp (up to 250 °C) and high pressure (up to 80 bar) reactions
- Kugelrohr and sublimation apparatus
- Light sensitive compounds up to 20L scale
- Non-Light Sensitive compounds capacity up to 3KL
- Photochemical Reaction (LED/UV) – capacity up to 2KL

R & D and Analytical Lab



Glove Box



Kugelrohr

Parallel Synthesizer

Let's begin the conversation

E: bd@aragen.com
W: aragen.com
in /company/aragen-life-sciences
f /AragenLifeSciences

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