Ibis T5000™
Hardware and Maintenance Overview

Kristin S. Lowery, Ph.D.
Ibis Biosciences, Inc.
Technology Transition Workshop

Ibis T5000™ Components

- Bruker Daltonics micrOTOF™
- Automated heat sealer
- Cleanup model
- Thermo Electron robotic arm
- LEAP Technologies autosampler
- Ibis T5000™ software
- Ibis T5000™ processor
- Processing computer
- Data acquisition computer
- JUN-AIR compressor (optional)
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Cleanup Module

- Tray 1: Crude PCR Plate
- Tray 2: Elution (ESI) Plate
- Tray 3: Magnetic Bead Plate
- Reagent Reservoirs
- Magnets
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Ibis T5000™ Autosampler

LEAP Technologies Autosampler

Spray Station

Injection Valve

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Ibis T5000™ Reagents

- Clean-up Reagent 3
- System Waste
- System Water
- Clean-up Reagent 1, 2, & 3 Bottles

- Reagent Consumption ~ 50 ml per plate
- System Liquid ~ 150 ml per plate
- System Waste ~ 300 ml per plate (25-30% MeOH)
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Maintenance of Fluidic Components

• On a daily basis:
  – Ensure autosampler syringes are not bent
  – Check Cavro® syringes for leaks

• On a monthly basis:
  – Perform flush of system fluidics
  – Replace reagents and water

• As needed:
  – Clean syringes and surfaces with 70% isopropanol
Heat Sealer

• On a daily basis, ensure plate sealer roll has sufficient seals for run
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Ibis T5000™ ESI-TOF

• Yearly
  – PM visit including calibration of TOF
  – Run SRM 2392-I with positive controls
    • Demonstrate that instrument is calibrated in a NIST traceable way
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Ibis T5000™ Software Errors

- Watch the splash screen for errors

![T5000 Controller](image)

IMAGE COURTESY OF KRISTIN S. LOWERY, PH.D.
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Ibis T5000™ Software Errors

- Watch the splash screen for errors

IMAGE COURTESY OF KRISTIN S. LOWERY, PH.D.
Error Recovery

- Check instrument power switches
- Check serial cable connections
- Check ethernet cable connections
- Contact Ibis service group
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Arm Error Recovery

- **Retry** will retry the arm command
  - Use if a plate was missing, e.g. if you indicated a run of 5 plates but only loaded 3

- **Ignore** will skip the command
  - Use if a plate was dropped

For Phone Applications Support Only

IMAGE COURTESY OF KRISTIN S. LOWERY, PH.D.
## Other Common Errors

<table>
<thead>
<tr>
<th>Error</th>
<th>Recovery Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barcode Read Failure</td>
<td>Manually enter the barcode</td>
</tr>
<tr>
<td>PCR plate status is &quot;Kit&quot;</td>
<td>Register the plates</td>
</tr>
<tr>
<td>Previously Registered MagBead/Elution plates</td>
<td>Get new plates</td>
</tr>
<tr>
<td>Z-Axis Crash on Leaps</td>
<td>Correct the problem if possible and hit Retry or Abort</td>
</tr>
<tr>
<td>Sealer Foil Error</td>
<td>Reload the foil or replace roll</td>
</tr>
<tr>
<td>Air in the tubing or syringes</td>
<td>Check the system liquid level and make sure tubing is in the liquid</td>
</tr>
<tr>
<td>Pumpbox syringe(s) leaking</td>
<td>Replace. Contact Ibis for a replacement syringe</td>
</tr>
<tr>
<td>Reservoirs overflowing</td>
<td>Check the system waste</td>
</tr>
</tbody>
</table>
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