

freestate JUNIOR

Small Molecule Preformulation



UNCHAINED
LABS

End old routines

Junior automates all your hands-on, back and forth and hard to do small molecule preformulation tasks. It ties them together and makes them one totally routine, high-throughput process. Hand off the grunt work to Junior, and hit the next big thing on your plate instead.

Solubility screening

Polymorph screening

Powder dispensing

Reaction screening



Hand off your process

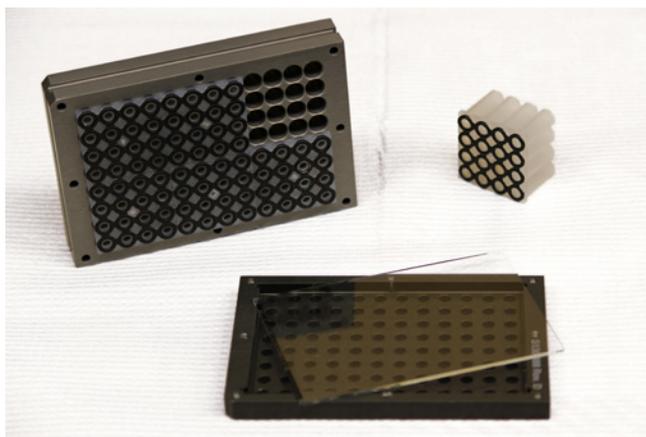
Walk up, set up your run and walk away. Junior automates the parts of your API screening process you'd normally do one by one at the bench. Preconfigured decks for high-throughput and polymorph screenings are ready to go when you are. Examine more variables in a single day, get them done the same way every time and check out a broader experimental space.



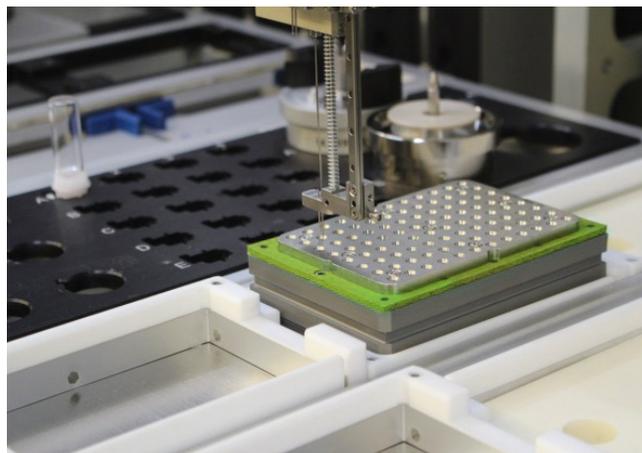
- | | |
|---------------------------------|---------------------------------|
| 1 Solvent tray | 5 Cooling/heating/stirring |
| 2 2-Position passive plate rack | 6 3-Position heating/stirring |
| 3 3-Position passive plate rack | 7 Heated 4-tip liquid dispenser |
| 4 Spray wash | 8 Optional pH probe |

Get your crystals on

Give the number of crystalline forms you can characterize on your API a big-time boost with Junior's 8 x 12 array crystallization assembly. Heat or cool samples right on the deck. The universal substrate lets you analyze samples by birefringence, XRD and Raman spectroscopy without wrecking a single crystal.



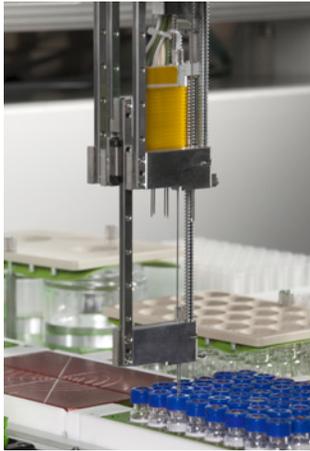
Crystallization assembly with universal substrate plate



Crystallizer block for polymorph screening

Stay soluble

Junior's temperature-controlled pipetting and filtering help get your APIs into solution. Keep them from precipitating on you when you add or remove reagents using a heated dispense element with septum piercing tips for sealed vials. A heated filter block with 96 isolated sample wells erases any chance of well-to-well cross contamination, so you can get the conditions just right.



Heated dispense element with septum-piercing tips



Heated filter block on temperature controlled station

Go sticky or solid

Spot-on pipetting, dispensing and weighing of viscous and solid materials means you're accurately evaluating your formulated drugs. Junior's positive displacement pipetting handles the stickiest stuff out there – even at low volumes. Solid dispensers use an adaptive learning algorithm to accurately dispense and weigh powders. They also remember optimal settings so you get fast, reproducible dosing every time.



Viscous liquid
dispenser handles
up to 1000 cP



Classic Hopper
uses active stirring
for uniform flow rate



SV dispensers
use vibration for
precise delivery

Break through bottlenecks

LEA doesn't move the bottleneck, it totally unclogs it. You get intuitive experimental design that makes sense on the front end and full integration with analytical tools on the back end. LEA also links your conditions, steps and analytical data together, so your final report doesn't just have numbers, it's got all the information you need to make real decisions.

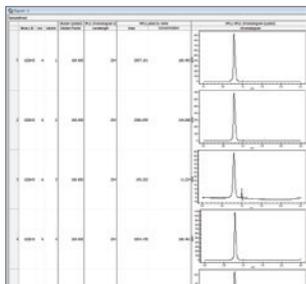


Library Studio

Design complex, high-throughput experiments in an array-based format

PolyView

Review and report all info from experimental design, execution and analytics



Automation Studio

Execute designed experiments and integrated analytics



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