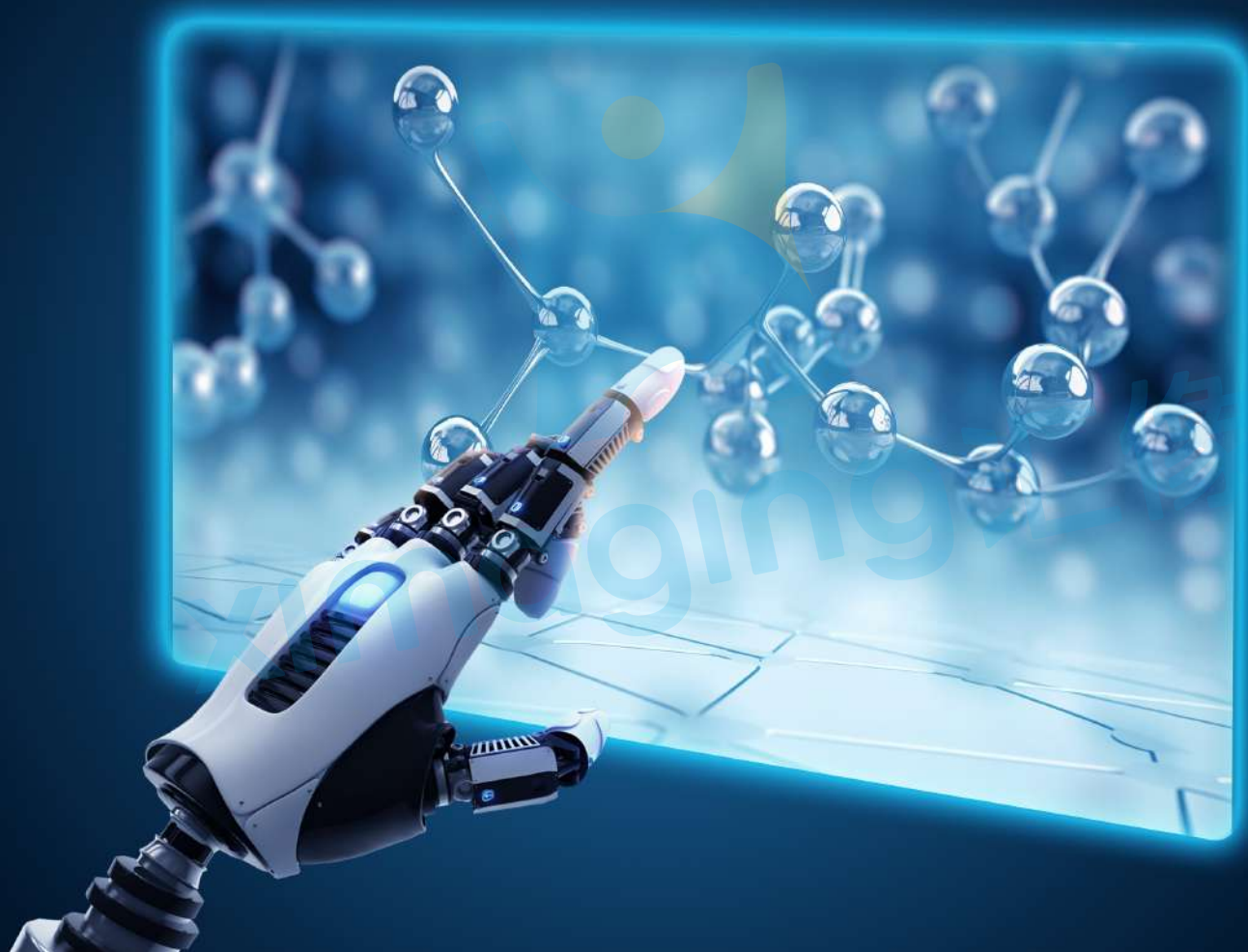


# Antigone

**High throughput chemical synthesis  
and purification automated solution**

It will energize productivity reform in synthesis and purification work.



***Converging intelligence  
surpassing imagination***

# X-imaging Technology

X-imaging is an AI company which focuses on life science, applied chemical and microbiology. X-imaging devotes to intelligent automated products and solutions for food, pharmaceutical, environmental, clinical diagnosis and testing industries. X-imaging originated from AI and SciX and it also has the artistic conception that science beauty is achieved by AI. X-imaging is also one of the earliest company which transfers the robot scientist from concept into reality.

As specialized and sophisticated enterprise and high-tech company of artificial intelligence area as well as the member of China Biology Facilities and Biological Standardization Committee, X-imaging has established AI and Digital Product R&D Center, Automatic Product R&D Center, Applied Product R&D Center and solutions. X-imaging can supply full service to customers from technology, products and solutions .

X-imaging owns the value of simplicity, honest, altruism and open mind of innovation, concentration, win-win. X-imaging devotes to establish the symbiosis and prosperity of cooperative partner system with customers. X-imaging insists on original aspiration and mission that science beauty is achieved by AI. X-imaging devotes to a great company which has social responsibilities and can be trusted by cooperators and customers. X-imaging AI scientist will go into every laboratory to assist the scientist to accomplish different kind of scientific research activities such as pharmaceutical research, biological manufacture, energy chemicals and disease diagnosis etc. X-imaging will promote the development of knowledge visualizaton and innovation intelligentization. X-imaging will energize the development of global science and technology, science industry.

Intelligent science, selecting X-imaging. X-imaging Technology is your best cooperater in AI era.

## Our vision

X-imaging shall be the global leading supply of life science automation and intelligent solution. X-imaging wishes everyone can enjoy a healthy, safe and high quality life in the world. X-imaging promises to supply high standard technologies, products and services to the world.



High Technology Enterprise



Specialized and  
Sophisticated Enterprise

## Customers



# Antigone High throughput chemical synthesis and purification automation solution

In traditional drug discovery experiments, chemists have to devote most of their energy to repetitive physical labor, such as reaction placement, reaction monitoring, preparation and purification etc., which consumes a lot of time and energy. X-imaging Technology has devoted itself to creating a high-throughput drug discovery intelligent platform, including an intelligent high-throughput synthesis screening workstation and a high-throughput preparation and purification automated platform, which can accomplish the full process of intelligent feeding-reaction-reaction monitoring-preparation and purification-purity analysis. The high-throughput drug discovery intelligent platform can help pharmaceutical companies save human resource costs, accelerate the research and development of new drugs, and provide more stable, accurate and reliable solutions for new drug discovery with high throughput and high efficiency.



Intelligent high-throughput synthesis screening workstation



Raw material

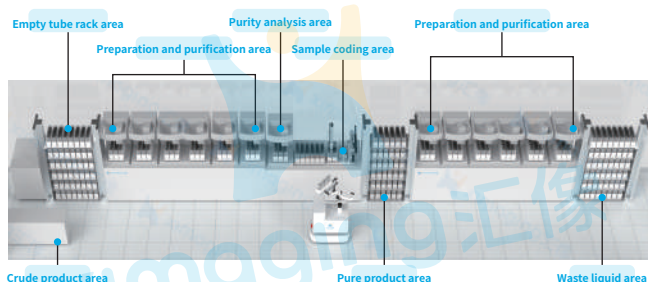
solid/liquid



Reaction



Crude product



High-throughput preparation and purification automation platform



Crude product

95%



Pure product

98%



# Intelligent high-throughput synthesis screening workstation

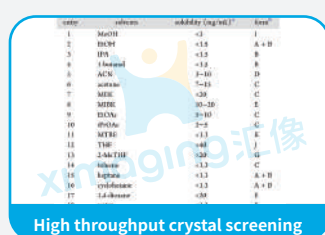
The intelligent high-throughput synthesis screening workstation is a compact high-throughput synthesis reaction screening platform. It covers the entire process of feeding, reaction, and reaction monitoring, and realizes the automation of synthesis reactions. The optional glove box can meet the anhydrous and oxygen-free operation system, and the customized photoreaction, electrical reaction, and multiphase reaction modules can meet the needs of various organic synthesis experiments.



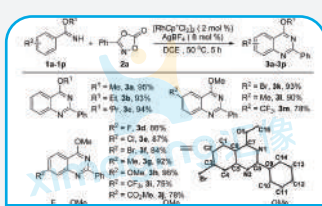
Intelligent high-throughput synthesis screening will accelerate R&D innovation.

## Applications

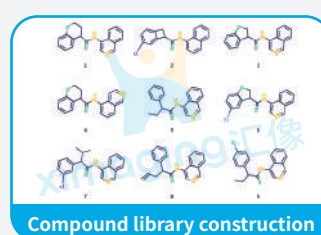
### Application fields: Pharmaceutical and chemical fields



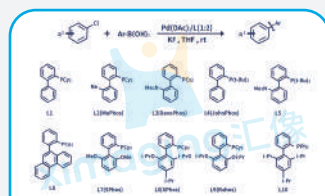
High throughput crystal screening



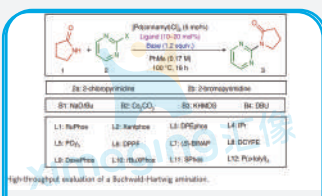
Parallel reaction synthesis



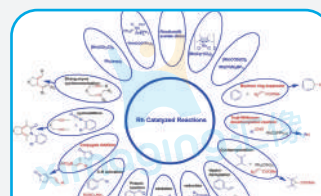
Compound library construction



Processing condition screening



Research on reaction condition optimization and methodology



Catalyst research

### Target customer groups

- Pharmaceutical R&D companies (Compound library construction, Reaction condition optimization, Processing condition screening, Crystal form screening etc.)
- CRO, CDMO, CMC companies etc. (High-throughput parallel reaction, Reaction condition optimization, Processing condition screening, Crystal form screening etc.)
- Universities (Reaction condition optimization and Methodology research, Catalyst research etc.)

## Product features



### Efficient operation

7x24 hours of uninterrupted and efficient operation, high-throughput reactions are more efficient



### Intelligent expansion

The workstation software can be connected to other systems to expand more functions.



### Information traceability

The whole process of experimental data monitoring, data collection automation, and traceable data flow



### Friendly interface

Graphical interface, more intuitive operation, simple interface, easy to learn and operate



### Intelligent Scheduling

Weighing and liquid dispenser modules can achieve parallelization and higher experimental throughput

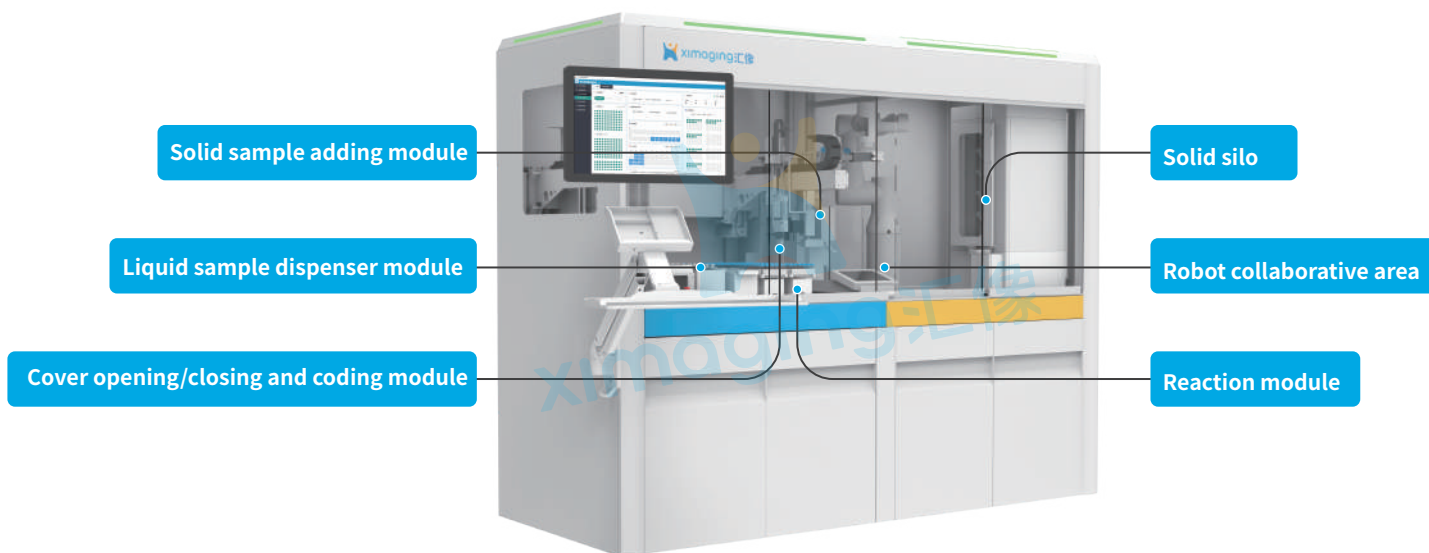


### Safety and Health

It can replace manual work for highly toxic and high-risk experiments. It effectively ensures personal safety.



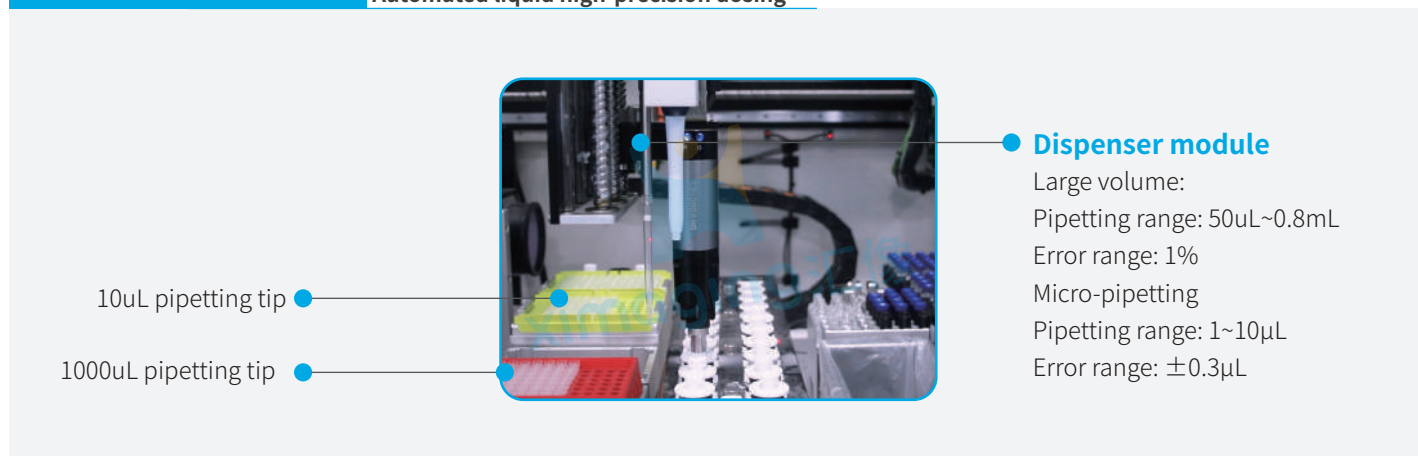
# Functional module



## Solid sample adding module Automated high-precision weighing of solid powder



## Liquid sample dispenser module Automated liquid high-precision dosing



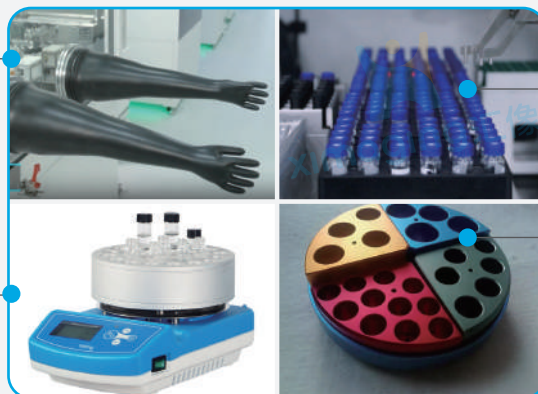
**Reaction module** It can be heated and stirred at room temperature ~ 150°C, and operated in anhydrous and oxygen-free environment.

**Glove box**

Optional on demand, providing anhydrous and oxygen-free operation system

**Heating and magnetic**

Complete heating and stirring



**Oscillation module**

Oscillate and mix at room temperature

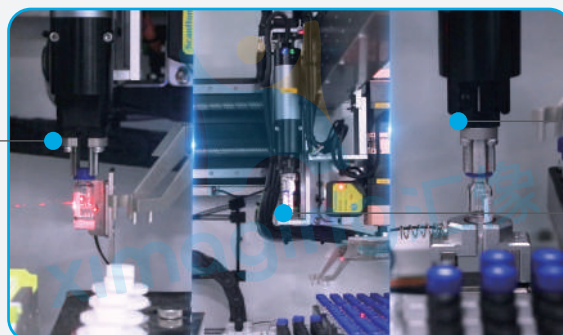
**Parallel reaction plate**

Specifications and apertures are optional

**Opening and closing cover and coding module** Applicable to automatic opening and closing of sample bottles of different specifications

**Inkjet printing**

Number and letter combination



**Opening and closing cover**

Automatic opening and closing cover

**Scanning code**

Full data tracking

**Solid silo** Large-capacity silo storage, automatic door opening and closing

**Large capacity**

It can accommodate 40 dosing tips.

**Rotating rack**

Small volume and large capacity



**Nitrogen inlet, humidity control**

Dynamic nitrogen filling, material does not compact

**Automatic door opening and closing**

## Software functions

Simple and friendly graphical interface, easy to implement process design

### Visual interface

Visual graphical operation interface, click a single sample position to query information on a single sample

### Easy to edit

Visualized sample information editing and experiment planning

### Intelligent scheduling

Central control software integrates workstation, intelligent task scheduling, improves throughput efficiency

### Report output

Completed test data can be read in real time during weighing, and reports can be issued after completion

### Intranet access

More secure data

### Drag-and-drop programming

The application processes can be written through drag-and-drop editing.

## Configuration

Type	Product Description	Price
Heating and magnetic stirring module	Magnetic heating and stirring, optional specifications and pore sizes	Customization
Glove box	Anhydrous and oxygen-free environment	Customization
Silo nitrogen filling device	Control humidity	Customization

## Parameters

Parameters		
Solid weighing module	Balance	Range: 7mg-220g; Accuracy: Readability 0.01mg; Linearity error: 0.1mg
	Solid powder sampling control system	Within the weighing range, the error value can be less than 0.3mg
	Powder sampling head	Storage bottle configuration: 16mL, 125mL, Sample needle diameter: 2.5mm, 4mm
	RFID chip	Record powder data such as: powder ID, remaining amount, etc.
Liquid sample dispenser module	Pipetting Tips	Specifications: 10uL, 1000uL
	Pipetting range	Large volume single pipetting range: 50uL~0.8mL Micro volume single pipetting range: 1~10μL
	Tolerance scope	Large volume single pipetting error: 1%; Micro pipetting error: $\pm 0.3\mu\text{L}$
Reaction module	Oscillating module	To perform room temperature oscillation mixing
	Heating module	Temperature range: 25-150°C
	Parallel reaction plate	Specifications and apertures are optional
	Glove box	Anhydrous and oxygen-free operating system is available as required
Robot collaborative module	Payload	1.0kg
	Weight (including cable)	8.7kg
	Working radius	576.3mm
	Repeatability positioning accuracy	$\pm 0.1\text{mm}$
	Tool end maximum speed	1.5m/s
Dimension	2200x850x1700mm WDH	
Max sampling /each time	200	
Efficiency	To complete 200-340 screening experiments within 24 hours	
Working humidity	30%~40%	
System	Win10, Win11, Window serverice2019, Window serverice2022 Graphics card: NVIDIA GTX770 and above, Graphics card: >4G, Processor: i7 and above, Memory: 8G and above, at least one USB3.0	

# High-throughput preparation and purification automated platform

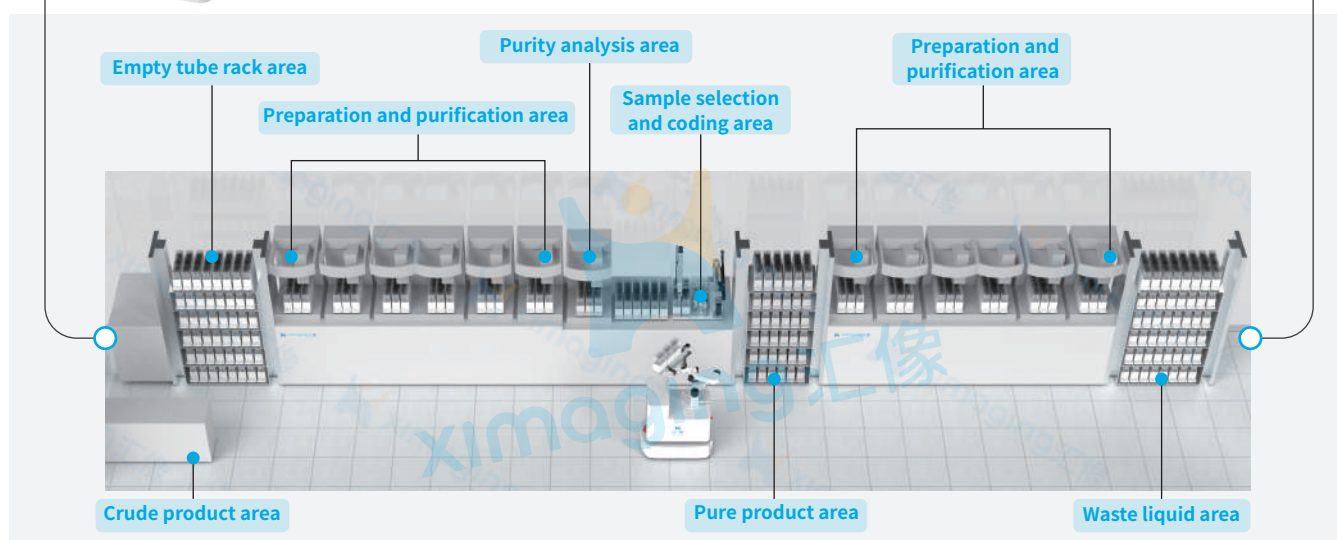
The preparation purification and purity detection function island integrates the three functions of preparation, separation and purification, purity analysis and detection, and automatic selection of qualified samples and coding. It realizes the automation and unmanned operation of the entire preparation and purification process. Relying on X-imaging's own iMagicOS intelligent operating system for intelligent linkage and timing optimization, a powerful robot transportation and cooperation system for transportation coordination, and integrated linkage analysis instruments such as Preparative High Performance Liquid Chromatography (Prep-HPLC), mass spectrometry detection system (MS) and high performance liquid chromatography (HPLC) etc. The whole process is unmanned, and the crude product is true input and the pure product is output. It greatly liberates the laboratory human resources and improves the experimental efficiency, which is 8-12 times that of traditional manual laboratories.

## AGV mobile robot scientist



## iMagicOS Intelligent Magic Operating System

Intelligent scheduling, support for queue jumping and temporary sample addition, creating the best choice for intelligent laboratory preparation and purification.

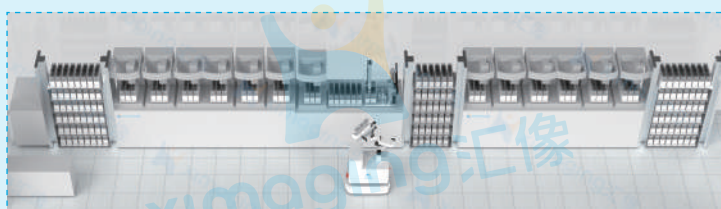


## Expected efficiency improvement

For example, if it takes 50 minutes to prepare a crude product and 4 minutes to test a purity, and the system operates for 24 hours, the preparation, purification and purity testing functional island can complete the preparation and analysis of more than 100 crude products in one day. **This is 8-12 times the efficiency of a single operator.**



+



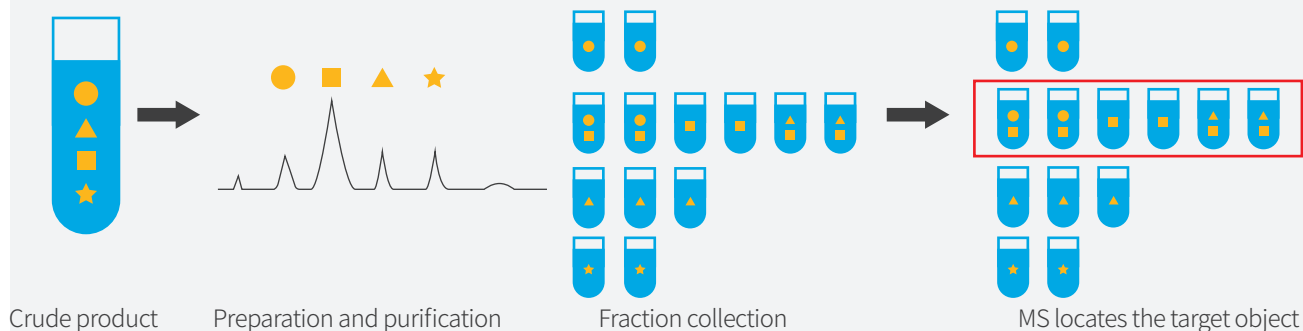
=



## Functional description

### Preparation, purification and detection positioning area

The AGV mobile robot puts the crude product into the preparation and purification area for separation and purification, and links with the MS to locate the target.



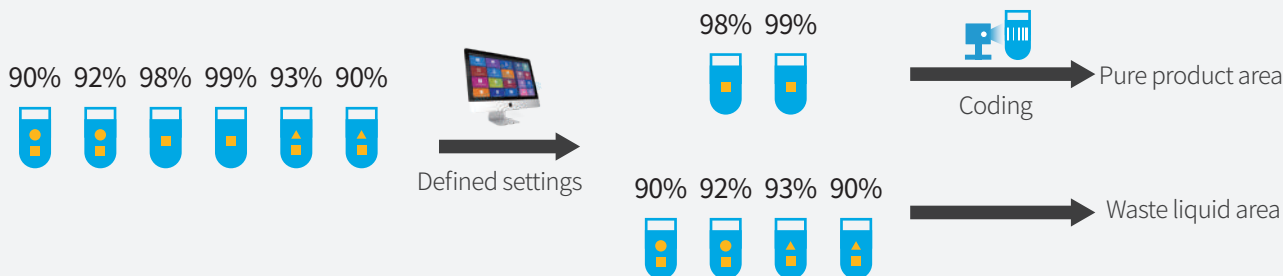
### Purity detection area

The AGV mobile robot transfers the sample to the purity detection area and performs purity detection on the sample tube containing the target compound based on the MS positioning results.



### Sample selection and coding area

The purity requirements can be defined, and the AGV will automatically select the samples with qualified purity, code and mark them. Then the samples will be moved to the pure product area.



## Applicable fields

### Medical research and development, preparation and analysis laboratories



Purification of drug impurities



New drug development



Natural medicine chemistry and  
Chinese medicine chemistry



Preparation of  
chiral compounds

# *Intelligent Science, Selecting X-imaging*

---

**X-imaging Intelligence  
Technology (Shanghai) Co., Ltd.**

---

**Shanghai Headquarter**

**Add:** No.58 Tanzhu Road Minhang District  
Shanghai PR. China 201109

**Mobile:** +86 13817386487

**Phone:** **+86 400-880-1586**

**Website:** [www.x-imaging.com](http://www.x-imaging.com)

**Email:** [marketsh@x-imaging.com](mailto:marketsh@x-imaging.com)



微信公众号



微信视频号



官方网站



技术支持