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# LC-MS 1000

Liquid Chromatograph Mass Spectrometer



LC-MS 1000  
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Test data in this manual, if not noted, is our company's test data.

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LC-MS 1000 is the first commercial LCMS system designed by domestic instrument company in Chinese market. Its performance meets the requirement of national standards for LCMS and for determination of chemicals in food and environment. We use imported parts such as turbo pumps and detectors to improve performance and detection stability. LC-MS1000 has high performance/cost ratio. Since Skyray makes most consumables, we can guarantee our customers the lowest maintenance cost in daily use.

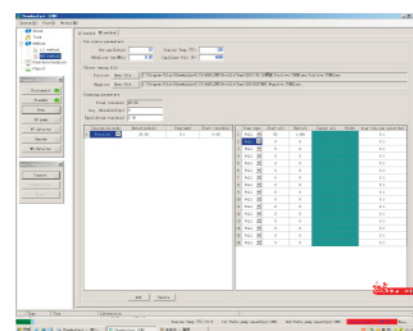
## Highlights:

### 01 Unique ion source design

- The sample capillary position is adjustable in order to get maximum ion signal for different samples
- Patented heating technology and nebulizer gas technology help increase vaporization efficiency which reduces background noise and increase sensitivity
- Folder-line shape gas exit in ion source helps vacuum nozzle clean and reduce contamination effects. That is also very helpful to maximum ion transfer efficiency so that we can get maximum sensitivity

### 02 Multi-channel acquisition function increases analysis and working efficiency

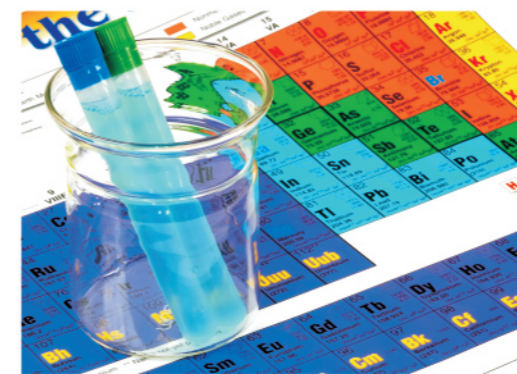
- Full scan mode could be used to find and qualitatively analyze target molecule in your sample. Selected ion monitoring mode (SIM mode) could be used to quantitatively analyze your target molecule
- SIM mode is often used to analyze low concentration or low ionization efficiency samples since its higher detection ability. In the mean while, Full scan mode is often used to analyze higher concentration or high ion efficiency unknown sample
- The multi-channel acquisition function of LC-MS1000 enables to analyze more compounds in one sample scan. During analysis, positive or negative ionization mode, selective ion monitoring (SIM) and/or full scan mode are for choice, or all used during one operation, which greatly improves analysis speed and working efficiency



multi-channel acquisition technology

### 03 Quick switch between positive and negative ionization modes

Quick switch between positive and negative ionization modes minimizes effect on chromatograph spectra during the switch. For compounds, which can be ionized in both modes (Positive/Negative), Positive spectrum and negative spectrum in one scan make results more reliable.

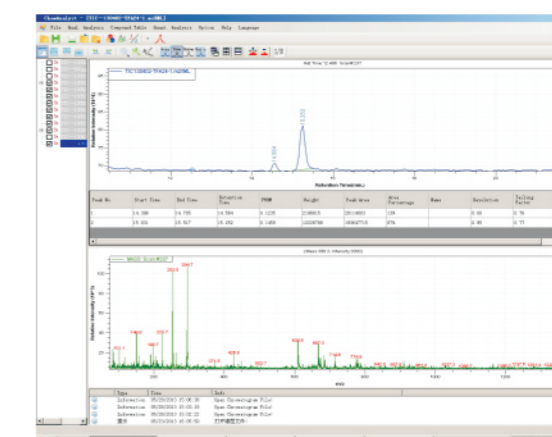
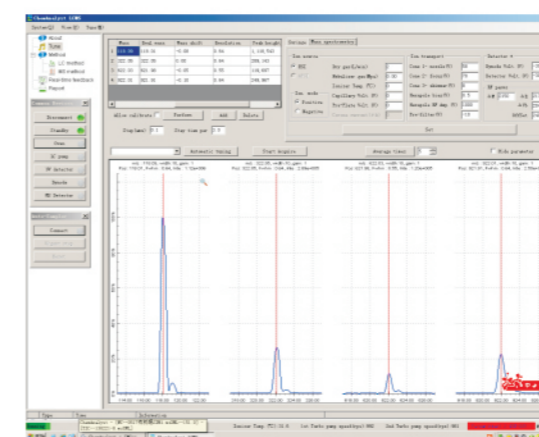


### 04 Obtain abundant MS information in one sample (including molecular weight and several structures information)

In-source collision induced dissociation (CID) function with more fragment structure information, facilitate the mass spectrogram analysis of target compound

### 05 Dual language interfaces, simple operation and powerful software functions

Powerful LC-MS chemical workstation software (chemAnalyst) simplifies all operation procedures from tuning to method set, sampling to qualitative and quantitative data analysis. Advanced networking function enables you to remote control instrument and view test results



Simple ChemAnalyst Software Interface

## Specifications:

- Mass range:  $m/z$  10-1500 amu
- Resolution: unit resolution ( $FWHM \leq 0.7$  amu)
- Mass accuracy:  $\pm 0.20$  amu (in the mass calibration range of scan mode)
- Mass axis stability:  $\pm 0.2$  amu/12h (under constant temp. of  $\pm 2^\circ C$ )
- Scanning rate: standard mode: 1000 amu/s, fast scan mode: 10000 amu/s
- SIM signal to noise ratio: ESI, 200 ul/min, SIM  
Positive ion mode: 10pg reserpine,  $S/N \geq 50:1$  (RMS)  
Positive ion mode: 10pg chloramphenicol,  $S/N \geq 20:1$  (RMS)
- Peak area Repeatability:  $RSD \leq 4.6\%$
- Retention time repeatability:  $RSD \leq 1.5\%$



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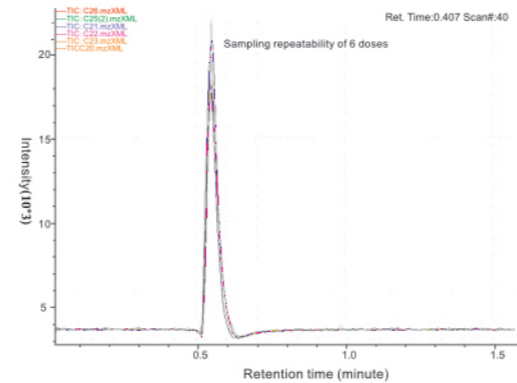
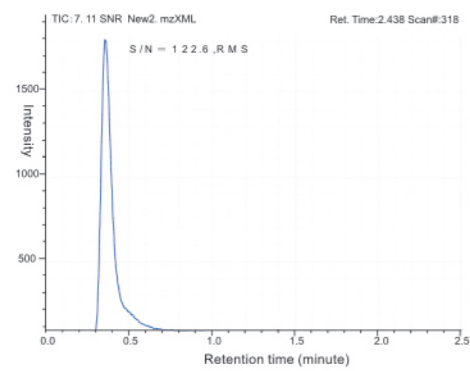


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## Pg level sensitivity and stable repeatability



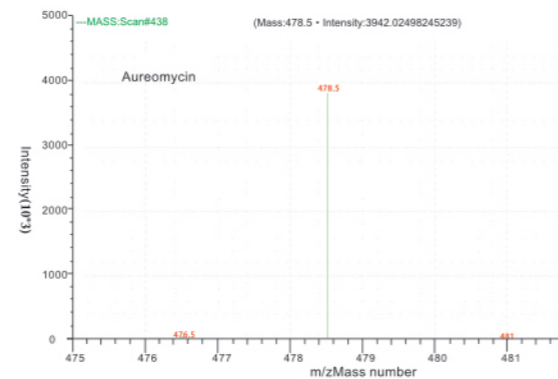
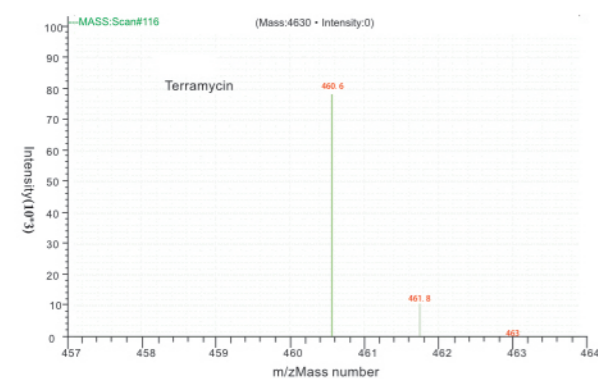
## Application Field:

Single quadrupole type LC-MS is widely applied in industries like pharmaceutical industry, environmental monitoring, food safety and chemical industry, etc.

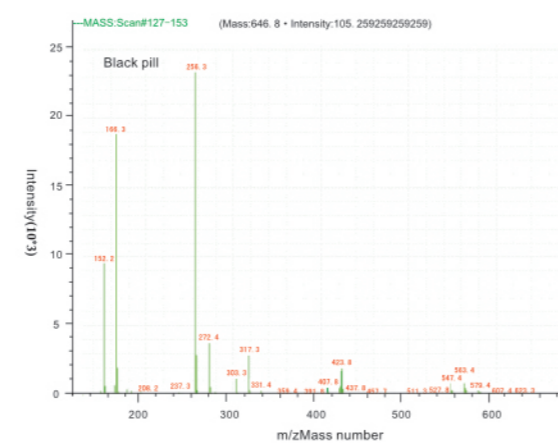
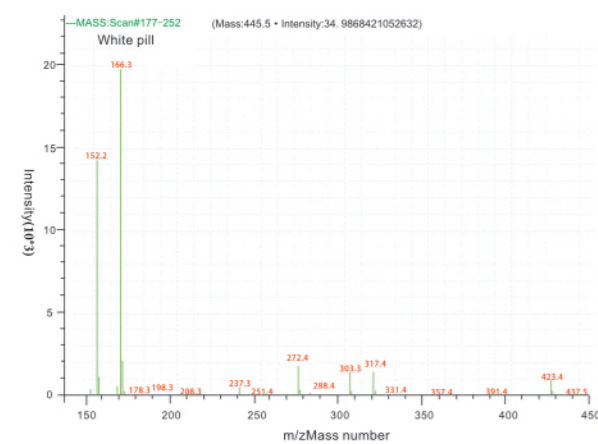
## Sample application:

### 1. medicine production monitoring

#### A. Antibiotics

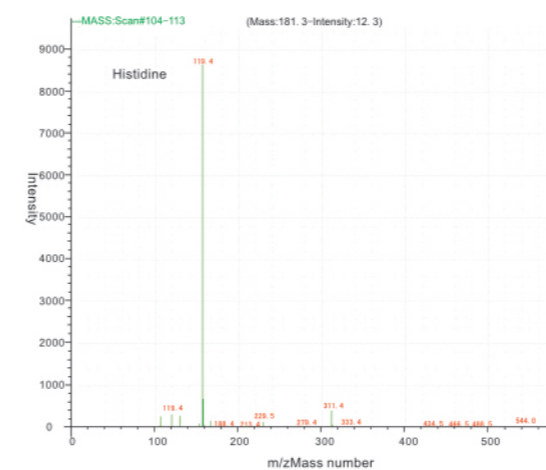


#### B. Bufferin

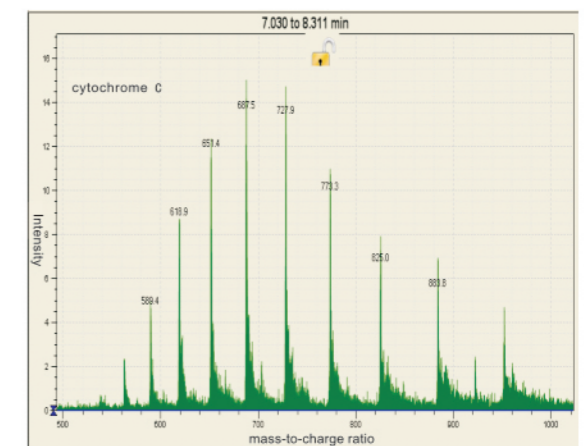


## 2. Biological field

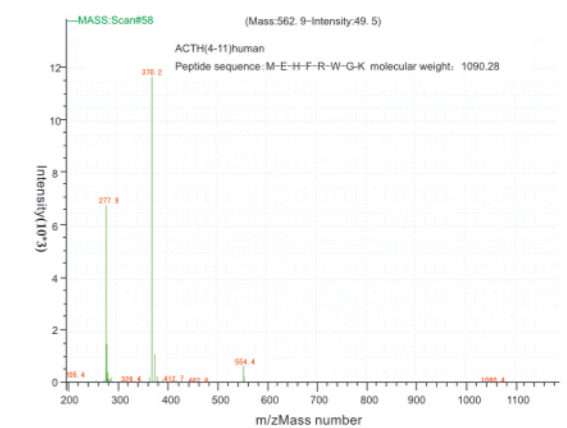
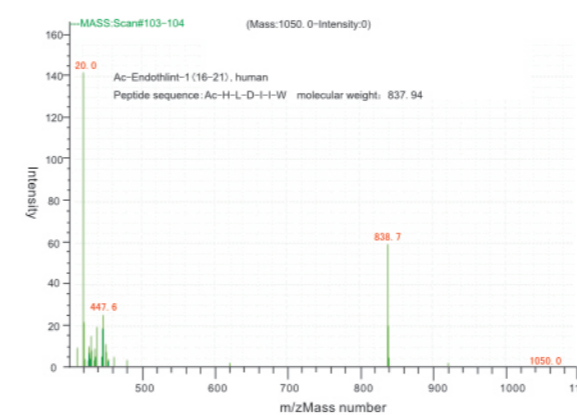
### A. Amino acid



### B. Cytochrome C



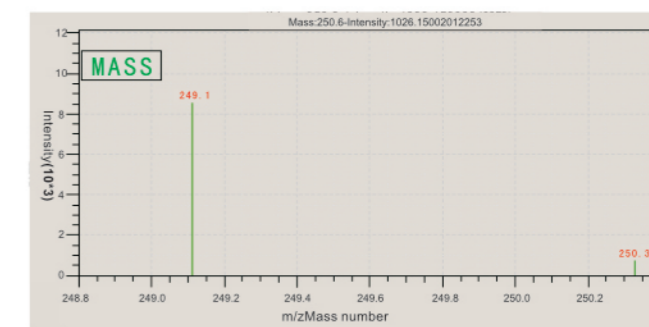
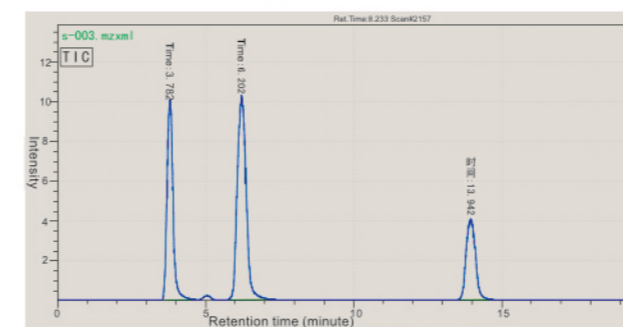
### C. Peptide



## 3. Food safety

### A. Food additive (illegal)

#### Detection of sudan red I, II, III





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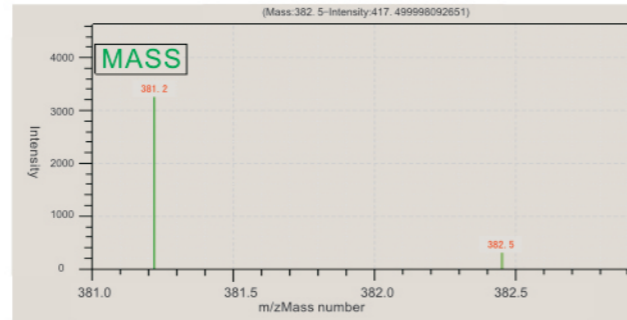
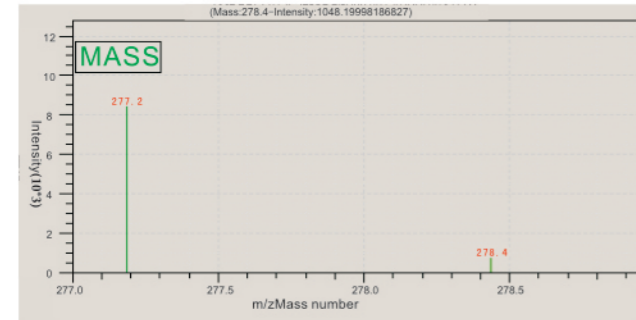
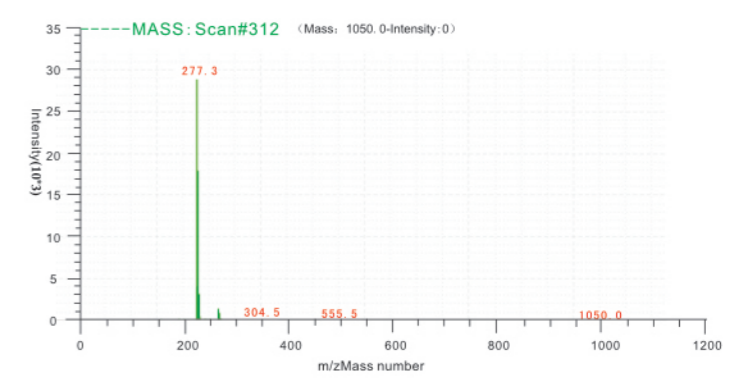
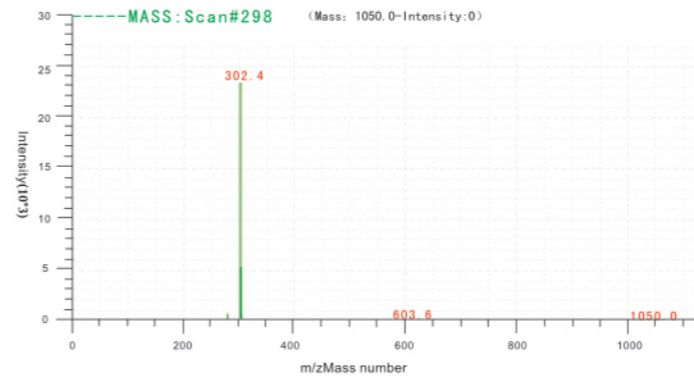
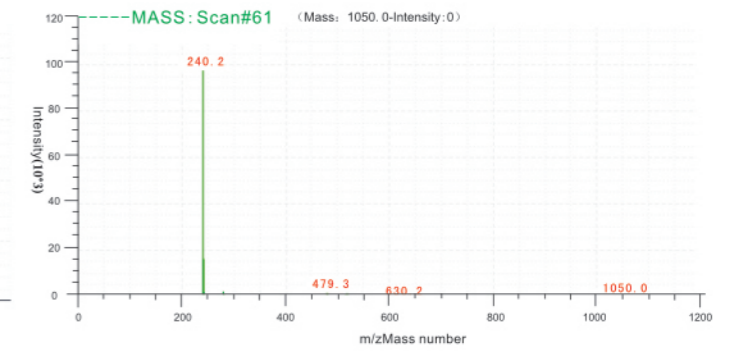
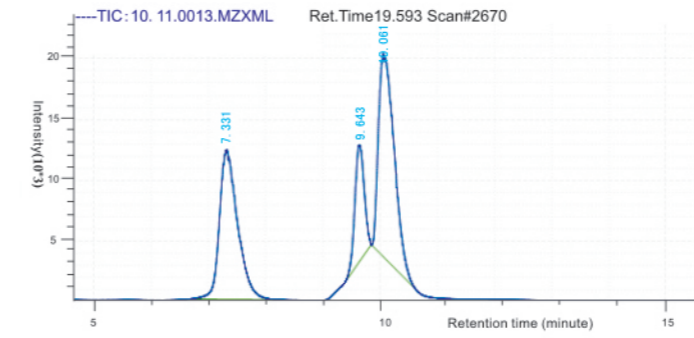
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## B. Pesticide residues in food

Ractopamine, Clenbuterol Hydrochloride, Salbutamol in meat.



Phthalic acid ester (PAE, including DMP, DEP, BBP, DBP, DCHP, DEHP, DNOP, DINP, DIDP) in food safety

