

团体标准

T/SZS XXXX—2020

植物性食品中农药残留高通量筛查检测 气相色谱-质谱/质谱法

High-throughput screening detection of multi-pesticide residues in plant derived foods by gas chromatography-tandem mass spectrometry method

(征求意见稿)

2020 – XX – XX 发布

2020 – XX – XX 实施

深圳市深圳标准促进会 发布

目 次

前 言	III
1 范围	1
2 规范性引用文件	1
3 术语和定义	1
4 原理	1
5 试剂和材料	1
5.1 试剂	1
5.2 溶液配制	1
5.3 农药及相关化学品标准溶液	1
5.4 材料	2
6 仪器	2
7 试样制备与贮存	2
7.1 试样制备	2
7.2 试样贮存	3
8 分析步骤	3
8.1 前处理	3
8.2 测定	3
8.3 空白试验	4
9 回收率	4
10 精密度	4
11 特异性	4
附 录 A(资料性) 230 种农药及其代谢物名称、CAS 号、筛查限、分组、离子对、碰撞电压.....	5
附 录 B(资料性) 230 种农药及其代谢物 (MRM) 色谱图.....	20
附 录 C(资料性) 样品的添加浓度为筛查限时的回收率与精密度	49

前 言

本文件按照GB/T 1.1—2020《标准化工作导则 第1部分：标准化文件的结构和起草规则》给出的规定起草。

请注意本文件的某些内容可能涉及专利，本标准的发布机构不承担识别这些专利的责任。

本文件由深圳市标准促进会提出并归口。

本文件起草单位：华测检测认证集团股份有限公司、中华人民共和国深圳海关食品检验检疫技术中心、深圳市标准技术研究院。

本文件主要起草人：

本文件为首次制定。

植物性食品中农药残留高通量筛查检测 气相色谱-质谱/质谱法

1 范围

本文件规定了植物性食品中230种农药及其代谢物残留量的气相色谱-质谱/质谱法。

本文件适用于生菜、苹果、番茄、芹菜、橙子和大米中230种农药及其代谢物残留量的测定，其它植物性食品可参照执行。

2 规范性引用文件

下列文件中的内容通过文中的规范性引用而构成本文件必不可少的条款。其中，注日期的引用文件，仅该日期对应的版本适用于本文件；不注日期的引用文件，其最新版本（包括所有的修改单）适用于本文件。

GB 2763 食品安全国家标准 食品中农药最大残留限量

GB/T 6682 分析实验室用水规格和试验方法

3 术语和定义

本文件没有需要界定的术语和定义。

4 原理

试样用乙腈提取，提取液经分散固相萃取净化，气相色谱-质谱/质谱仪检测，外标法定量。

5 试剂和材料

注：除非另有说明，在分析中仅使用分析纯的试剂，水为GB/T 6682规定的一级水。

5.1 试剂

5.1.1 乙腈（ CH_3CN ，CAS 号：75-05-8）：色谱纯。

5.1.2 氯化钠（ NaCl ，CAS 号：7647-14-5）。

5.1.3 醋酸（ CH_3COOH ，CAS 号：55896-93-0）：色谱纯。

5.1.4 甲醇（ CH_3OH ，CAS 号：67-56-1）：色谱纯。

5.1.5 丙酮（ CH_3COCH_3 ，CAS 号：67-64-1）：色谱纯。

5.1.6 硫酸镁（ MgSO_4 ，CAS 号：7487-88-9）。

5.1.7 柠檬酸钠（ $\text{Na}_3\text{C}_6\text{H}_5\text{O}_7$ ，CAS 号：6132-04-3）。

5.1.8 柠檬酸氢二钠（ $\text{C}_6\text{H}_6\text{Na}_2\text{O}_7$ ，CAS 号：6132-05-4）。

5.1.9 醋酸钠（ CH_3COONa ，CAS 号：6131-90-4）。

5.2 溶液配制

乙腈-醋酸溶液（99+1，体积比）：量取10 mL醋酸加入990 mL乙腈中，混匀。

5.3 农药及相关化学品标准溶液

5.3.1 标准储备溶液

分别称取5 mg~10 mg (精确至0.1 mg) 各农药及相关化学标准物质, 根据标准物质的溶解度选择甲醇、丙酮、乙腈等溶剂溶解并定容至10 mL。标准储备液避光-18 °C保存, 有效期一年。

5.3.2 混合标准溶液 (混合标准溶液 A、B、C、D、E、F 和 G)

按照农药及相关化学品的性质, 将230种农药及相关化学品分成A、B、C、D、E、F和G共7个组, 并根据每种农药及相关化学品的筛查限, 确定其在混合标准溶液中的浓度。本标准对230种农药及相关化学品的分组参见附录A。

依据每种农药及相关化学品的分组、混合标准溶液浓度及其标准储备液的浓度, 移取一定量的单个农药及相关化学品标准储备溶液于10 mL 容量瓶中, 用乙腈定容至刻度。混合标准溶液避光0 °C~4 °C保存, 有效期一个月。

5.3.3 混合标准工作溶液 (适用于筛查检测)

分别移取适量混合标准工作溶液A、B、C、D、E、F和G, 用乙酸乙酯定容, 配制为浓度为0.005mg/L、0.010 mg/L、0.020 mg/L、0.050 mg/L、0.100 mg/L和0.200 mg/L或其他合适浓度的混合标准系列溶液, 试验当天配制, 应现用现配。

5.3.4 基质匹配混合标准工作溶液 (适用于半定量检测)

分别移取适量基质空白溶液、混合标准工作溶液A、B、C、D、E、F和G, 用乙酸乙酯定容, 配制为浓度为0.005mg/L、0.010 mg/L、0.020 mg/L、0.050 mg/L、0.100 mg/L和0.200 mg/L或其他合适浓度的基质匹配混合标准系列溶液, 试验当天配制, 应现用现配。

5.4 材料

5.4.1 乙二胺-N-丙基硅烷化硅胶 (PSA): 40~60 μm。

5.4.2 十八烷基硅烷键合硅胶 (C₁₈): 40~60 μm。

5.4.3 石墨化炭黑 (GCB): 40~120 μm。

5.4.4 陶瓷均质子: 2 cm (长)×1 cm (外径)。

5.4.5 微孔滤膜 (尼龙): 0.22 μm。

6 仪器

6.1 气相色谱-质谱/质谱仪, 配电子轰击源 (EI)。

6.2 分析天平: 感量 0.1 mg 和 10 mg。

6.3 离心机: 转速不低于 4200 r/min。

6.4 组织捣碎机。

6.5 旋转蒸发器。

6.6 氮吹仪: 可控温。

6.7 涡旋混合器。

7 试样制备与贮存

7.1 试样制备

7.1.1 蔬菜和水果

蔬菜和水果的取样量按照相关的标准规定执行。样品取样部位按照GB 2763规定执行。对于个体较小的样品, 取样后全部处理; 对于个体较大的基本均匀样品, 可在对称轴或对称面上分割或切成小块后

处理；对于细长、扁平或组分含量在各部分有差异的样品，可在不同部位切取小片或截成小段后处理；取后的样品将其切碎，充分混匀，用四分法取样或直接放入组织捣碎机中捣碎成匀浆，放入聚乙烯瓶或袋中。

7.1.2 谷物类

谷物类样品500 g，粉碎后使其全部可通过425 μm 的标准网筛，放入聚乙烯瓶或袋中。

7.2 试样贮存

将试样按照检测样和留样分别存放。于-18 $^{\circ}\text{C}$ 条件下保存。

8 分析步骤

8.1 前处理

8.1.1 蔬菜、水果样品

称取10 g试样（精确至0.01 g）于50 mL塑料离心管中，加入10 mL乙腈、加入4 g硫酸镁、1 g氯化钠、1 g柠檬酸钠、0.5 g柠檬酸氢二钠及1颗陶瓷均质子，盖上离心管盖，剧烈震荡1 min后4200 r/min离心5 min。吸取6 mL上清液加到内含885 mg硫酸镁、150 mg PSA及15 mg GCB的15 mL塑料离心管中，涡旋混匀1 min。4200 r/min离心5 min，准确吸取2 mL上清液于氮吹管中氮吹至近干，加入2 mL乙酸乙酯，涡旋混匀，过微孔滤膜（5.4.5），用于测定。

8.1.2 谷物类样品

称取5 g试样（精确至0.01 g）于50 mL塑料离心管中，加入10 mL水，涡旋混匀，静置30 min。加入10 mL乙腈-醋酸溶液（5.2）、加入6 g硫酸镁、1.5 g醋酸钠及1颗陶瓷均质子，盖上离心管盖，剧烈震荡1 min后4200 r/min离心5 min。吸取8 mL上清液加到内含1200 mg硫酸镁、400 mg PSA及400 mg C18的15 mL塑料离心管中，涡旋混匀1 min。4200 r/min离心5 min，准确吸取2 mL上清液于氮吹管中氮吹至近干，加入1 mL乙酸乙酯，涡旋混匀，过微孔滤膜（5.4.5），用于测定。

注：上述处理中净化前的上清液吸取量可根据需要调整，净化材料（无水硫酸镁、PSA、C₁₈、GCB）用量按比例增减。

8.2 测定

8.2.1 气相色谱-质谱/质谱仪参考条件

- 色谱柱：(5%-苯基)-甲基聚硅氧烷石英毛细管柱；30 m \times 0.25 mm \times 0.25 μm ，或者相当；
- 色谱柱温度：60 $^{\circ}\text{C}$ 保持2 min，然后以16 $^{\circ}\text{C}/\text{min}$ 程序升温至150 $^{\circ}\text{C}$ ，再以10 $^{\circ}\text{C}/\text{min}$ 程序升温至200 $^{\circ}\text{C}$ ，再以3 $^{\circ}\text{C}/\text{min}$ 程序升温至220 $^{\circ}\text{C}$ ，再以25 $^{\circ}\text{C}/\text{min}$ 程序升温至300 $^{\circ}\text{C}$ ，保持8 min。
- 载气：氦气，纯度 $\geq 99.999\%$ ，流速1.0 mL/min；
- 进样口温度：290 $^{\circ}\text{C}$ ；
- 进样量：1.00 μL ；
- 进样方式：不分流进样；
- 电子轰击源：70 eV；
- 离子源温度：300 $^{\circ}\text{C}$ ；
- 传输线温度：300 $^{\circ}\text{C}$ ；
- 溶剂延迟，3 min；
- 多反应监测：每种农药分别选择一对定量离子、一对定性离子。每组所需要检测的离子对按照出峰顺序，分时段分别检测。每种农药的保留时间、定量离子对、定性离子对和碰撞电压，参见附录A中表A.1。

8.2.2 定性及定量

8.2.2.1 保留时间

被测试样中目标农药色谱峰的保留时间与相应标准色谱峰的保留时间相比较，相对误差应在 $\pm 0.5\%$ 之内。

8.2.2.2 定量离子、定性离子及子离子丰度比

在相同实验条件下进行样品测定时，如果检出的色谱峰的保留时间与标准样品相一致，并且在扣除背景后的样品质谱图中，目标化合物的质谱定量和定性离子均出现（信噪比大于等于3），而且同一检测批次，对同一化合物，样品中目标化合物的定性离子和定量离子的相对丰度比与质量浓度相当的基质匹配标准工作溶液相比，其允许偏差不超过表1规定的范围，则可初步判断样品中存在目标农药。若检出目标化合物的含量超过筛查限浓度，则可判定样品中该目标化合物的检测结果为阳性结果。

表1 定性时相对离子丰度的最大允许偏差

相对离子丰度	> 50%	> 20%至 50%	> 10%至 20%	$\leq 10\%$
允许相对偏差	$\pm 20\%$	$\pm 25\%$	$\pm 30\%$	$\pm 50\%$

8.2.2.3 半定量检测

本方法采用基质匹配标准工作溶液外标法定量，基质匹配标准工作溶液的浓度应与待测化合物的浓度相近。

8.3 空白试验

除不加试料外，采用完全相同的测定步骤进行平行操作。

8.4 结果计算

试样中被测农药残留量以质量分数 X 计，单位以毫克每千克（mg/kg）表示，按公式(1)计算：
式中：

$$X = \frac{V \times A \times C}{A_s \times m} \dots\dots\dots(1)$$

式中：

C —标准溶液中农药的质量浓度，单位为毫克每升（mg/L）；

A —样品溶液中被测农药的峰面积；

A_s —农药标准溶液中被测农药的峰面积；

V —样品溶液定容体积，单位为毫升（mL）；

m —试样的质量，单位为克（g）。

计算结果保留两位有效数字，当结果大于1 mg/kg 时保留三位有效数字。

9 回收率

本方法添加水平为筛查限时，添加回收率在50%~200%范围内。

10 精密度

本方法精密度按照《食用农产品化学物质残留高通量筛查方法确认与检测质量控制指南》规定应小于等于20%。

11 特异性

本方法样品空白基质中230种农药及其代谢物在相应保留时间处的质谱响应不高于筛查限的5%。

附 录 A

(资料性)

230种农药及其代谢物名称、CAS号、筛查限、分组、离子对、碰撞电压

230 种农药及其代谢物中英文名称、CAS 号、筛查限、分组、离子对及碰撞电压相关信息见表 A. 1。

表 A. 1 230 种农药及其代谢物中英文名称、CAS 号、筛查限、分组、离子对、碰撞电压

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时 间(min)	离子对	CE (eV)	标 物 分 组
1	敌敌畏	Dichlorvos	62-73-7	0.01	7.86	186.9/93*	12	A
						109/79	6	
2	二丙烯草胺	Allidochlor	93-71-0	0.01	8.31	138/96*	8	E
						138/110	8	
3	联苯	Biphenyl	92-52-4	0.01	9.4	154.1/115*	26	E
						151.8/125.8	24	
4	速灭磷	Mevinphos	26718-65-0	0.01	9.86	192/127*	10	C
						127/95	14	
5	3-羟基克百威	Carbofuran-3-Hydroxy	16655-82-6	0.01	10.09	180.1/137.1*	15	G
						137.1/81	18	
6	苯胺灵	Propham	122-42-9	0.01	10.1	179.1/93.1*	14	F
						92.9/65.9	12	
7	虫螨畏	Methacrifos	62610-77-9	0.01	10.46	240/180*	10	A
						125/79	8	
8	邻苯基苯酚	Ortho-phenylphenol	90-43-7	0.01	10.83	170.1/115*	34	C
						141.1/115.1	14	
9	异丙威	Isoproc carb	2631-40-5	0.01	10.91	136/103*	22	D
						121/103	13	
10	禾草敌	Molinate	2212-67-1	0.01	11.04	187.1/126.1*	6	E
						126.1/55.1	12	
11	庚烯磷	Heptenophos	23560-59-0	0.01	11.25	215/200*	8	E
						124/62.9	28	
12	克百威	Carbofuran	1563-66-2	0.01	11.97	149.1/77*	8	E
						149.1/121.1	24	
13	氧乐果	Omethoate	1113-02-6	0.01	11.64	156.1/110*	10	C
						110.1/79	10	
14	四氯硝基苯	Tecnazene	117-18-0	0.01	11.54	214.8/143.6*	20	C
						214.8/178.7	10	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
15	仲丁威	Fenobucarb	3766-81-2	0.01	11.64	150.1/121.1 *	8	D
						121.1/77	20	
16	残杀威	Propoxur	114-26-1	0.01	11.67	152.1/110*	8	A
						110/62.9	24	
17	毒草胺	Propachlor	1918-16-7	0.01	11.68	176.1/57.1*	10	F
						120/50.9	35	
18	氟铃脲	Hexaflumuron	86479-06-3	0.01	11.75	277/148*	30	F
						277/176	13	
19	二苯胺	Diphenylamine	122-39-4	0.01	11.95	169.2/167.1 *	22	E
						168.1/139	38	
20	灭线磷	Ethoprop	13194-48-4	0.01	11.96	200/158*	6	E
						157.9/96.9	16	
21	乙丁烯氟灵	Ethalfuralin	55283-68-6	0.01	12.03	315.9/276.1 *	8	C
						276/202	14	
22	氯苯胺灵	Chlorpropham	101-21-3	0.01	12.2	213/127*	14	E
						171/127	8	
23	氟乐灵	Trifluralin	1582-09-8	0.01	12.19	306.1/159.7 *	20	F
						306.1/206	10	
24	杀虫脒	Chlordimeform	6164-98-3	0.01	12.21	196/181.1*	8	G
						117.1/89.8	18	
25	乙丁氟灵	Benfluralin	1861-40-1	0.01	12.24	292/159.7*	20	C
						292/206.1	10	
26	治螟磷	Sulfotep	3689-24-5	0.01	12.32	322/202*	10	D
						202/145.9	10	
27	蔬果磷	Dioxabenzofos	3811-49-2	0.01	12.39	216/138*	8	D
						183/153	8	
28	甲拌磷	Phorate	298-02-2	0.01	12.59	260/75*	8	E
						75/47	8	
29	α -六六六	BHC, Alpha	319-84-6	0.01	12.73	218.8/146.6 *	20	A
						182.8/146.7	12	
30	六氯苯	Hexachlorobenzene	118-74-1	0.01	12.8	285.8/250.8 *	18	E
						283.8/213.8	30	
31	五氯甲氧基苯	Pentachloroanisole	1825-21-4	0.01	12.92	279.9/236.9 *	22	D
						266.8/238.9	12	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
32	内吸磷	Demeton	8065-48-3	0.01	12.32	170/114*	10	C
						109/81	15	
33	氯硝胺	Dicloran	99-30-9	0.01	13.03	206/176*	10	G
						160/124.1	8	
34	西玛津	Simazine	122-34-9	0.01	13.13	186/91*	8	C
						172.7/138	6	
35	莠去津	Atrazine	1563-66-2	0.01	13.37	200/104*	10	D
						200/122.1	10	
36	β -六六六	BHC, Beta	319-85-7	0.01	13.28	218.7/146.6 *	18	A
						180.9/145	14	
37	异噁草酮	Clomazone	81777-89-1	0.01	13.31	138/74.9*	24	D
						125/89	16	
38	戊菌隆	Pencycuron	66063-05-6	0.01	13.31	125/62.8*	28	D
						125/89	16	
39	五氯硝基苯	Quintozene	82-68-8	0.01	13.34	294.8/236.9 *	14	C
						213.8/141.9	28	
40	γ -六六六	BHC, gamma	58-89-9	0.01	13.47	218.7/183*	8	A
						180.9/109	26	
41	杀螟腈	Cyanophos	2636-26-2	0.01	13.55	243/109*	10	G
						125/79	6	
42	乐果	Dimethoate	60-51-5	0.01	13.54	125/79*	8	E
						87/42.1	10	
43	炔苯酰草胺	Propyzamide	23950-58-5	0.01	13.61	172.9/74*	38	C
						172.9/109	26	
44	地虫硫磷	Fonos	0	0.01	13.61	172.9/74*	38	C
						172.9/109	26	
45	二嗪磷	Diazinon	333-41-5	0.01	13.65	179.1/121.5 *	26	E
						137.1/54.1	20	
46	噁霉胺	Pyrimethanil	53112-28-0	0.01	13.81	198.1/117.9 *	30	E
						198.1/157.6	18	
47	乙拌磷	Disulfoton	298-04-4	0.01	13.53	185.9/96.9*	16	E
						88/45	18	
48	氯唑磷	Isazophos	42509-80-8	0.01	13.96	161/119*	8	E
						118.9/76	18	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
49	七氟菊酯	Tefluthrin	79538-32-2	0.01	13.96	197/141.1*	10	G
						177/127	14	
50	乙嘧硫磷	Etrinfos	38260-54-7	0.01	14.14	167.9/153.1*	6	E
						153.1/56	16	
51	野麦畏	Triallate	2303-17-5	0.01	14.13	268/183.9*	18	C
						86.1/43.3	6	
52	δ-六六六	BHC, delta	319-86-8	0.01	14.17	218.8/146.5*	20	A
						182.8/146.7	14	
53	抗蚜威	Pirimicarb	23103-98-2	0.01	14.26	238.1/166.1*	10	E
						166.1/55	18	
54	异稻瘟净	Iprobenfos	26087-47-8	0.01	14.33	203.9/91.1*	8	E
						91.1/65	16	
55	解草酮	Benoxacor	98730-04-2	0.01	14.44	259/120*	16	F
						120/65	20	
56	五氯苯胺	Pentachloroaniline	527-20-8	0.01	14.57	264.8/193.6*	18	C
						264.8/202.8	20	
57	呋草黄	Benfuresate	68505-69-1	0.01	14.71	256/163.1*	8	F
						163.1/107.1	10	
58	除线磷	Dichlofenthion	97-17-6	0.01	14.72	279/223*	14	A
						222.9/205	14	
59	精二甲吩草胺	Dimethenamid-P	163515-14-8	0.01	14.75	230/154.1*	10	D
						154.1/111	10	
60	乙草胺	Acetochlor	34256-82-1	0.01	14.85	146/117.7*	8	C
						131.8/117	14	
61	甲基毒死蜱	Chlorpyrifos-methyl	5598-13-0	0.01	14.9	285.9/93*	20	B
						125/47	12	
62	噻草酮	Metribuzin	21087-64-9	0.01	14.92	198/55*	26	C
						198/82.1	16	
63	氟甲腈	Fipronil-desulfinyl	205650-65-3	0.01	15	212/172*	10	B
						178.1/115.1	20	
64	乙烯菌核利	Vinclozolin	50471-44-8	0.01	14.99	212/172*	14	C
						100.1/72.1	15	
65	螺环菌胺-1	Spiroxamine-1	118134-30-8	0.01	15.08	100.1/58.1*	15	G
						100.1/72.1	15	
66	甲基对硫磷	Parathion-methyl	298-00-0	0.01	15.1	263/109*	12	B

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
						124.9/47	12	
67	甲草胺	Alachlor	15972-60-8	0.01	15.1	188.1/130*	32	B
						160.1/131.7	10	
68	硅氟唑	Simeconazole	149508-90-7	0.01	15.1	195/75.1*	14	F
						121/74.9	24	
69	甲基立枯磷	Tolclofos-methyl	57018-04-9	0.01	15.12	266.8/252*	12	B
						265/219.9	20	
70	西草净	Simetryn	1014-70-6	0.01	15.23	213/152.1*	12	D
						213/170.1	10	
71	甲霜灵	Metalaxyl	57837-19-1	0.01	15.33	160.1/130*	18	B
						131.9/117	12	
72	莠灭净	Ametryne	834-12-8	0.01	15.33	227.1/58.1*	12	D
						227.1/170	10	
73	七氯	Heptachlor	76-44-8	0.006	15.35	271.8/236.9*	12	G
						99.8/39	26	
74	皮蝇磷	Fenchlorfos	299-84-3	0.01	15.41	169/110.4*	6	C
						124.9/47	12	
75	扑草净	Prometryn	7287-19-6	0.01	15.4	241.1/58.1*	12	C
						226.1/184.1	8	
76	氟硫草定	Dithiopyr	97886-45-8	0.01	15.43	354/286.1*	14	F
						306/286.1	8	
77	甲基嘧啶磷	Pirimiphos-methyl	29232-93-7	0.01	15.7	305.1/180.1*	8	B
						290.1/125	20	
78	杀螟硫磷	Fenitrothion	122-14-5	0.01	15.82	277/109*	16	C
						125/79	8	
79	螺环菌胺-2	Spiroxamine-2	118134-30-8	0.01	15.08	100.1/58.1*	15	G
						100.1/72.1	15	
80	乙氧呋草黄	Ethofumesate	26225-79-6	0.01	15.86	207.1/137.1*	10	C
						161.1/77.1	28	
81	戊草丹	Esprocarb	85785-20-2	0.01	16.08	222.1/91.1*	10	D
						162.1/91.1	10	
82	马拉硫磷	Malathion	121-75-5	0.01	16.07	173.1/99*	12	B
						92.8/63	8	
83	噻唑烟酸	Thiazopyr	117718-60-2	0.01	16.1	327.1/277.1*	26	G

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
						306/215	26	
84	异丙甲草胺	Metolachlor	87392-12-9	0.01	16.23	238.1/132.8 *	26	C
						162.1/132.9	14	
85	毒死蜱	Chlorpyrifos-ethyl	2921-88-2	0.01	16.29	313.9/257.9 *	12	E
						196.7/107	36	
86	禾草丹	Thiobencarb	28249-77-6	0.01	16.37	100.1/44*	10	D
						72/44	6	
87	乙霉威	Diethofencarb	87130-20-9	0.01	16.36	225.1/96*	24	D
						168/96.1	12	
88	艾氏剂	Aldrin	309-00-2	0.006	16.45	262.9/191*	30	A
						260.9/191	30	
89	倍硫磷	Fenthion	55-38-9	0.01	16.46	278/109*	18	A
						245.3/125	12	
90	丁苯吗啉	Fenpropimorph	67306-03-0	0.01	16.54	128.1/41.7*	24	F
						128.1/70.1	12	
91	对硫磷	Parathion	56-38-2	0.01	16.56	291/109*	12	G
						109/81	10	
92	四氟醚唑	Tetraconazole	112281-77-3	0.01	16.64	336/204*	28	B
						100.9/51	10	
93	三唑酮	Triadimefon	43121-43-3	0.01	16.66	208/111*	20	D
						208/126.7	12	
94	水胺硫磷	Isocarbophos	24353-61-5	0.01	16.7	136/108*	12	C
						121.1/65	14	
95	酞菌酯	Nitrothal-isopropyl	10552-74-6	0.01	16.79	236/194*	8	G
						194/120	18	
96	三氯杀螨醇	Dicofol	115-32-2	0.01	16.88	250.9/139*	12	C
						111/74.9	12	
97	溴硫磷	Bromophos-methyl	2104-96-3	0.01	17.04	330.8/315.8 *	14	D
						125/79	6	
98	双苯酰草胺	Diphenamid	957-51-7	0.01	17.05	239.1/72.1*	10	G
						166.8/152	16	
99	四氯苯酞	Phthalide-4,5,6,7-tetrachloro	27355-22-2	0.01	16.91	274/93*	14	E
						274/121	10	
100	氧化氯丹	Oxy-Chlordane	155681-22-4	0.01	17.15	387/263*	28	F
						185/149	8	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时 间(min)	离子对	CE (eV)	标 物 分 组
101	氟虫腈硫醚	Fipronil-sulfide	120067-83-6	0.01	17.22	199/121.1*	10	F
						58.1/42.1	25	
102	甲基异柳磷	Isofenphos-methyl	99675-03-3	0.01	17.22	241.1/121.1*	20	B
						199/65	34	
103	二甲戊灵	Pendimethalin	40487-42-1	0.01	17.4	252.1/161*	14	B
						252.1/162	8	
104	克菌丹	Captan	133-06-2	0.01	17.43	264/236*	6	G
						149/105	6	
105	噁菌环胺	Cyprodinil	121552-61-2	0.0004	17.46	225.1/209.7*	16	B
						224.1/196.9	20	
106	氟虫腈	Fipronil	120068-37-3	0.002	17.55	368.8/214.9*	30	B
						366.9/212.9	28	
107	戊菌唑	Penconazole	66246-88-6	0.01	17.64	248/157*	22	C
						158.9/89	28	
108	乙菌利	Chlozolate	84332-86-5	0.01	17.68	259/152.9*	26	D
						259/187.9	12	
109	异柳磷	Isofenphos	25311-71-1	0.01	17.72	213/121*	14	D
						185/121	10	
110	毒虫畏	Chlorfenvinphos	2701-86-2	0.01	17.78	323/266.9*	14	E
						266.9/159	16	
111	硫环磷	Phosfolan	947-02-4	0.01	17.81	196/140*	10	B
						92/63.9	10	
112	丙烯菊酯-1	Allethrin-1	28434-00-6	0.01	17.93	136.1/93.1*	12	A
						123.1/41.1	24	
113	稻丰散	Phenthoate	13376-78-8	0.01	17.97	274/121*	10	F
						121/77	22	
114	丙烯菊酯-2	Allethrin-2	28434-00-6	0.01	17.97	136.1/93.1*	12	A
						123.1/41.1	24	
115	喹硫磷	Quinalphos	13593-03-8	0.01	18	157.1/102*	22	B
						146/118.1	10	
116	腐霉利	Procymidone	32809-16-8	0.01	18.12	283/96.1*	8	B
						95.9/53	16	
117	三唑醇-1	Triadimenol-1	55219-65-3	0.01	18.14	128/65*	20	C
						128/100	12	
118	哌草丹	Dimepiperate	61432-55-1	0.01	18.17	145/112.1*	8	G

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
						119/65	26	
119	苯酰菌胺	Zoxamide	156052-68-5	0.01	17.68	258/187* 186.9/123	10 22	F
120	三唑醇-2	Triadimenol-2	55219-65-3	0.01	18.17	128/65* 128/100	20 12	C
121	乙基溴硫磷	Bromophos-ethyl	4824-78-6	0.01	18.52	302.7/284.8* 96.9/65	14 16	C
122	杀扑磷	Methidathion	950-37-8	0.001	18.51	302.6/284.9* 145/58	14 14	C
123	狄氏剂	Dieldrin	60-57-1	0.006	18.6	262.8/190.9* 262.8/192.9	30 30	A
124	反式氯丹	Chlordane gamma-trans	5103-74-2	0.01	18.61	374.7/265.9* 271.7/236.8	22 12	B
125	丙虫磷	Propaphos	7292-16-2	0.01	18.67	220/125* 139.9/125	24 12	F
126	多效唑	Paclobutrazol	76738-62-0	0.01	18.78	236/125* 125/89	12 18	E
127	丁草胺	Butachlor	23184-66-9	0.01	18.88	188.1/160.1* 160/131.7	10 12	E
128	苯硫威	Fenothiocarb	62850-32-2	0.01	19.06	160.1/72.1* 72.1/56	10 12	A
129	α-硫丹	Endosulfan 1	959-98-8	0.01	19.1	240.6/205.9* 194.7/125	14 22	A
130	顺式氯丹	Chlordane alpha-cis	5103-71-9	0.01	19.09	376.6/268* 372.8/265.8	20 20	D
131	啉氧菌酯	Picoxystrobin	117428-22-5	0.01	19.06	146.1/103.1* 145.1/102	15 20	D
132	氟啶脲	Chlorfluazuron	71422-67-8	0.01	19.22	323/306.3* 175.9/148	20 10	F
133	粉唑醇	Flutriafol	76674-21-0	0.01	19.27	219/123* 123/75	12 24	F
134	苯线磷	Fenamiphos	22224-92-6	0.005	19.35	303.1/195.2* 154/139	8 10	B

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
135	萘丙酰草胺	Napropamide	15299-99-7	0.01	19.37	271.1/72.1*	14	E
						100.1/72.1	6	
136	氟酰胺	Flutolanil	66332-96-5	0.01	19.46	281/173*	10	B
						173/95	28	
137	杀螨酯	Chlorfenson	80-33-1	0.01	19.51	174.9/75*	28	C
						111/75	14	
138	己唑醇	Hexaconazole	79983-71-4	0.01	19.51	231/175*	10	B
						213.9/123.5	28	
139	抑霉唑	Imazalil	35554-44-0	0.01	19.51	215/173*	8	D
						172.8/109	26	
140	苯氧菌胺	Metominostrobin-E	133408-50-1	0.01	19.51	238.1/210.1*	20	C
						191.1/160.1	20	
141	丙硫磷	Prothiofos	34643-46-4	0.01	19.55	308.9/239*	14	A
						266.7/220.9	18	
142	稻瘟灵	Isoprothiolane	50512-35-1	0.01	19.6	290/118*	12	A
						204/85	28	
143	丙草胺	Pretilachlor	51218-49-6	0.01	19.59	238.1/146.1*	10	A
						202.1/145.5	14	
144	丙溴磷	Profenofos	41198-08-7	0.01	19.68	336.9/266.9*	12	A
						296.7/268.9	10	
145	氟虫腈砒	Fipronil-sulfone	120068-36-2	0.01	19.79	248/176.1*	30	F
						246/176.1	30	
146	p, p'-滴滴伊	DDE o, p	72-55-9	0.01	19.79	317.8/246*	20	A
						246/176.1	28	
147	噁草酮	Oxadiazon	19666-30-9	0.01	19.81	174.9/76*	28	E
						174.9/112	12	
148	麦草氟甲酯	Flamprop-methyl	52756-25-9	0.01	19.86	276/105.1*	8	G
						105/51	28	
149	杀螨特-1	Aramite-1	140-57-8	0.01	20.08	319/185.1*	8	F
						135.1/77	22	
150	腈菌唑	Myclobutanil	88671-89-0	0.01	19.9	179/90*	28	B
						179/125	14	
151	氟硅唑	Flusilazole	85509-19-9	0.01	19.95	233/151.9*	14	F
						206/151.3	14	
152	乙氧氟草醚	Oxyfluorfen	42874-03-3	0.01	19.96	252/146*	30	C

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
						252/169.8	28	
153	噻嗪酮	Buprofezin	69327-76-0	0.01	19.98	175/132.1* 105.1/50.9	12 32	G
154	杀螨特-2	Aramite-2	140-57-8	0.01	20.09	319/185.1* 135.1/77	8 22	F
155	菱锈灵	Carboxin	5234-68-4	0.01	20.06	143/43* 87/43	16 6	D
156	醚菌酯	Kresoxim-methyl	143390-89-0	0.01	20.01	130.9/130.1* 116/62.9	10 24	B
157	虫螨腈	Chlorfenapyr	122453-73-0	0.01	20.32	248.9/112* 136.9/102	24 12	A
158	环氟菌胺	Cyflufenamid	180409-60-3	0.01	20.23	237/188* 222.8/203	24 10	B
159	环丙唑醇	Cyproconazole	94361-06-5	0.01	20.44	222/82* 222/125	10 20	B
160	异狄氏剂	Endrin	72-20-8	0.01	20.41	280.8/245.3* 245/173	8 22	G
161	精吡氟禾草灵	Fluazifop-P-butyl	79241-46-6	0.01	20.42	383.1/282.1* 282/91.1	14 18	B
162	乙酯杀螨醇	Chlorobenzilate	510-15-6	0.01	20.56	139/74.9* 111/75.1	26 14	C
163	丰索磷	Fensulfothion	115-90-2	0.01	20.61	307.9/96.9* 307.9/153.1	26 12	B
164	β -硫丹	Endosulfan 2	115-29-7	0.01	20.64	240.6/205.8* 158.9/123	12 12	A
165	硫丹硫酸盐	Endosulfan sulfate	1031-07-8	0.01	20.65	271.7/234.9* 238.7/203.9	12 12	A
166	烯唑醇	Diniconazole	76714-88-0	0.01	20.66	268/136* 232/123	32 31	C
167	噁霜灵	Oxadixyl	77732-09-3	0.01	20.7	163.1/117* 131.9/117	24 16	B
168	p, p'-滴滴涕	DDD p, p'	72-54-8	0.01	20.75	236.8/165* 235/165.1	20 20	A
169	乙硫磷	Ethion	563-12-2	0.01	20.75	230.9/128.9* *	22	C

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时 间(min)	离子对	CE (eV)	标 物 分 组
						153/97	10	
170	o, p'-滴滴涕	DDT o, p	789-02-6	0.01	19.96	236.8/165*	22	A
						235/165.1	22	
171	烯草酮	Clethodim	99129-21-2	0.01	21.04	205.1/176.1 *	10	E
						164.1/109	10	
172	灭锈胺	Mepronil	55814-41-0	0.01	21.03	269.1/119.1 *	14	G
						119/65	22	
173	三唑磷	Triazophos	24017-47-8	0.01	21.04	161/105.7*	12	G
						91/65	12	
174	苯霜灵	Benalaxyl	71626-11-4	0.01	21.16	148.1/77*	30	A
						91/65	12	
175	三硫磷	Carbophenothion	786-19-6	0.01	21.23	342/157*	10	C
						157/45	12	
176	敌瘟磷	Edifenphos	17109-49-8	0.01	21.43	310/109*	26	A
						172.9/65.1	30	
177	肟菌酯	Trifloxystrobin	141517-21-7	0.01	21.25	145/95*	14	C
						116.1/63	24	
178	丙环唑-1	Propiconazole-1	60207-90-1	0.01	21.28	172.9/74*	38	A
						172.9/109	26	
179	丙环唑-2	Propiconazole-2	60207-90-1	0.01	21.38	172.9/74*	38	A
						172.9/109	24	
180	吡草醚	Pyraflufen-ethyl	129630-19-9	0.01	21.38	412/349*	12	F
						349/238	16	
181	p, p'-滴滴涕	DDT p, p	50-29-3	0.01	20.78	236.8/165*	22	A
						235/165.1	22	
182	炔草酸	Clodinafop-propargyl ester	105512-06-9	0.01	21.42	349/238*	17	G
						266/91	15	
183	环嗪酮	Hexazinone	51235-04-2	0.01	21.48	171.1/71.1*	14	B
						127.7/83	10	
184	戊唑醇	Tebuconazole	80443-41-0	0.01	21.62	250/125*	20	C
						125/89	16	
185	克螨特	Propargite	2312-35-8	0.01	21.65	150.1/135.1 *	8	G
						135.1/77.1	26	
186	吡氟酰草胺	Diflufenican	83164-33-4	0.01	21.65	394/266.1*	12	F
						266/238.1	12	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
187	增效醚	Piperonyl butoxide	51-03-6	0.01	21.73	176.1/103.1 *	22	D
						176.1/117	18	
188	生物苜呋菊酯	Bioresmethrin	28434-01-7	0.01	21.73	171.1/128.1 *	15	G
						171.1/143.1	15	
189	氟环唑	Epoxiconazole	135319-73-2	0.01	22.04	192/102*	20	D
						192/111	20	
190	哒嗪硫磷	Pyridaphenthion	119-12-0	0.01	21.97	340/199.1*	8	A
						199/77.1	24	
191	亚胺硫磷	Phosmet	732-11-6	0.01	21.74	160/50.9*	38	C
						160/76.9	22	
192	联苯菊酯	Bifenthrin	82657-04-3	0.01	22.08	181/165.9*	10	B
						165.1/163.6	24	
193	苯硫磷	EPN	2104-64-5	0.01	22.11	169/77*	22	A
						157/77	22	
194	溴螨酯	Bromopropylate	18181-80-1	0.01	22.13	340.8/185*	14	C
						184.9/75.5	30	
195	氟吡啶草胺	Picolinafen	137641-05-5	0.01	22.13	376.1/238.7 *	12	F
						145/95	12	
196	哌草磷	Piperophos	24151-93-7	0.01	22.13	320.1/122.1 *	10	C
						122.1/53	20	
197	苯氧威	Fenoxycarb	72490-01-8	0.01	22.19	255.1/186.1 *	10	F
						116/44.1	16	
198	联苯肼酯	bifenazate	149877-41-8	0.01	22.16	258/170*	22	G
						258/196	12	
199	乙螨唑	Etoxazole	153233-91-1	0.01	22.19	204/176.1*	10	C
						140.9/62.9	26	
200	甲氰菊酯	Fenpropathrin	64257-84-7	0.01	22.41	181/126.8*	28	B
						97.1/55.1	6	
201	吡螨胺	Tebufenpyrad	119168-77-3	0.01	22.28	318.1/131.1 *	14	A
						276.1/171	10	
202	莎稗磷	Anilofos	64249-01-0	0.01	22.3	225.9/157*	14	A
						183.7/157	8	
203	喹螨醚	Fenazaquin	120928-09-8	0.01	22.35	160/145*	8	G
						145/117	12	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
204	伏杀硫磷	Phosalone	2310-17-0	0.01	22.12	182/74.8*	30	B
						121.1/65	10	
205	氯氟氰菊酯-1	Cyhalothrin-1	68085-85-8	0.01	22.64	207.9/180.9 *	8	E
						180.9/152	22	
206	吡丙醚	Pyriproxyfen	95737-68-1	0.01	22.68	226.1/186.1 *	12	A
						136.1/78	20	
207	苯噻酰草胺	Mefenacet	73250-68-7	0.01	22.76	192/109*	26	A
						136/109	12	
208	氯氟氰菊酯-2	Cyhalothrin-2	68085-85-8	0.01	22.76	207.9/180.9 *	8	E
						180.9/152	22	
209	乳氟禾草灵	Lactofen	77501-63-4	0.01	22.78	343.9/223*	14	G
						223/131.8	20	
210	灭蚁灵	Mirex	2385-85-5	0.01	22.9	272/235*	15	B
						272/237	15	
211	吡菌磷	Pyrazophos	13457-18-6	0.01	22.9	231.9/204.1 *	10	A
						221/148.7	14	
212	氯苯嘧啶醇	Fenarimol	60168-88-9	0.01	22.95	219/107*	10	B
						139/74.9	26	
213	保棉磷	Azinphos-methyl	86-50-0	0.01	23.21	160/50.9*	34	F
						132/77	12	
214	螺螨酯	Spirodiclofen	148477-71-8	0.004	23.29	312.2/259*	8	G
						156.9/73	20	
215	联苯三唑醇	Bitertanol	55179-31-2	0.01	23.33	170/115.1*	34	G
						170/141.1	20	
216	顺式氯菊酯	Permethrin-1	61949-76-6	0.01	23.38	183.1/153*	12	E
						163/91.1	12	
217	反式氯菊酯	Permethrin-2	61949-77-7	0.01	23.48	183/153*	14	E
						183/165.1	10	
218	蝇毒磷	Coumaphos	56-72-4	0.01	22.92	226/163*	18	D
						209.9/119	22	
219	氟啶唑	Fluquinconazole	136426-54-5	0.01	23.51	340/108.1*	36	B
						340/298	16	
220	哒螨灵	Pyridaben	96489-71-3	0.01	23.54	147.1/117.1 *	20	A
						147.1/119.1	8	

序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
221	咪鲜胺	Prochloraz	67747-09-5	0.01	23.54	308/147.1*	12	G
						69.9/42	8	
222	氟丙嘧草酯	Butafenacil	134605-64-4	0.01	23.58	331/124*	38	F
						180/124	16	
223	氟氯氰菊酯-1	Cyfluthrin-1	68359-37-5	0.01	23.81	163/65.1*	26	B
						163/91.1	12	
224	腈苯唑	Fenbuconazol	114369-43-6	0.01	23.86	198.1/129.1*	8	B
						129/77.8	18	
225	氟氯氰菊酯-2	Cyfluthrin-2	68359-37-5	0.01	23.89	206/151.1*	18	B
						163/91.1	12	
226	氟氯氰菊酯-3	Cyfluthrin-3	68359-37-5	0.01	23.95	226/206.1*	12	B
						163/91.1	12	
227	氟氯氰菊酯-4	Cyfluthrin-4	68359-37-5	0.01	23.98	226/206.1*	10	B
						163/91.1	12	
228	啉酰菌胺	Boscalid	188425-85-6	0.01	24.15	140.1/76.1*	20	D
						140.1/112.1	10	
229	氟氰戊菊酯-1	Flucythrinate-1	70124-77-5	0.01	24.25	199.1/107.1*	22	B
						157/107.1	12	
230	醚菊酯	Etofenprox	80844-07-1	0.01	24.43	163.1/77.1*	32	G
						163.1/107.1	16	
231	氟氰戊菊酯-2	Flucythrinate-2	70124-77-5	0.01	24.43	199/107*	22	B
						157/107	12	
232	啉螨醚	Pyrimidifen	105779-78-0	0.01	24.83	185.8/171*	18	G
						184/141.2	30	
233	丙炔氟草胺	Flumioxazin	103361-09-7	0.01	25.04	354.1/176.1*	16	D
						354.1/312	8	
234	氯氰菊酯	Cypermethrin	71697-59-1	0.01	24.3	180.9/152.1*	20	B
						163/91.1	12	
235	氰戊菊酯-1	Fenvalerate	51630-58-1	0.01	25.2	225.1/119.1*	18	B
						125/89.3	20	
236	氟胺氰菊酯-1	Fluvalinate-1	102851-06-9	0.01	25.12	250/55.1*	16	B
						180.8/152.1	22	
237	氟胺氰菊酯-2	Fluvalinate-2	102851-06-9	0.01	25.19	250/55.1*	16	B
						180.8/152.1	20	

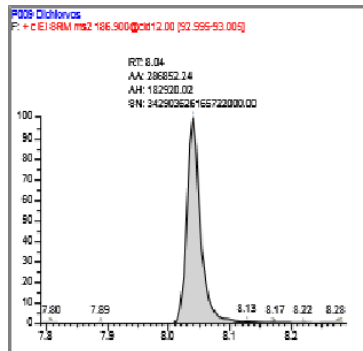
序号	中文名称	英文名称	CAS 号	筛查限 (mg/kg)	保留时间(min)	离子对	CE (eV)	标物 分组
238	氰戊菊酯-2	Esfenvalerate	51630-58-1	0.01	25.4	225.1/119.1 *	18	B
						125/89.3	20	
239	苯醚甲环唑-1	Difenoconazole-1	119446-68-3	0.01	25.59	323/265*	14	A
						265/139	36	
240	苯醚甲环唑-2	Difenoconazole-2	119446-68-3	0.01	25.68	323/265*	16	A
						265/138.9	36	
241	溴氰菊酯-1	Deltamethrin-1	52820-00-5	0.01	25.74	252.8/92.9*	16	D
						181/152.1	22	
242	溴氰菊酯-2	Deltamethrin-2	52820-00-5	0.01	25.95	252.8/92.9*	16	D
						181/152.1	22	
243	氟烯草酸	Flumiclorac-pentyl	87546-18-7	0.01	26.17	423/308*	17	F
						423/318	12	
244	啞菌酯	Azoxystrobin	131860-33-8	0.01	26.18	388.1/345.1 *	15	G
						344.1/172.1	20	
245	烯酰吗啉-1	Dimethomorph-1	110488-70-5	0.01	26.18	387.1/301.1 *	12	D
						301.1/273.1	10	
246	烯酰吗啉-2	Dimethomorph-2	110488-70-5	0.01	26.2	387.1/301.1 *	12	D
						301.1/273.1	10	
注 1：带*为定量离子对。								
注 2：230 种农药及其代谢物合计共 246 个。								

附 录 B

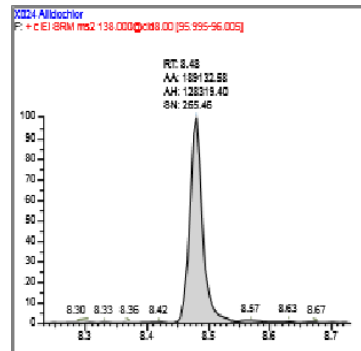
(资料性)

230 种农药及其代谢物 (MRM) 色谱图

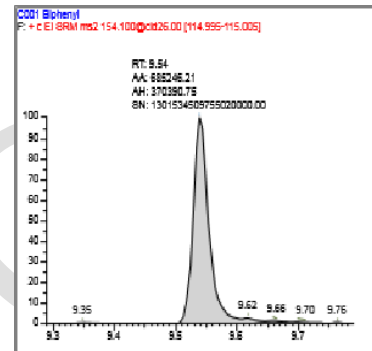
230 种农药及其代谢物多反应监测 (MRM) 色谱图如下:



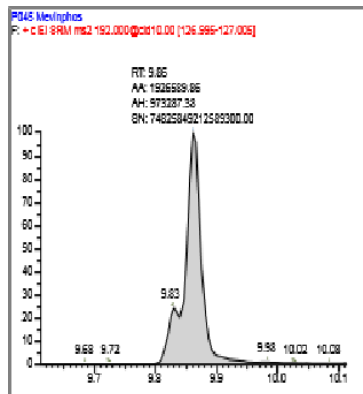
1.敌敌畏
Dichlorvos



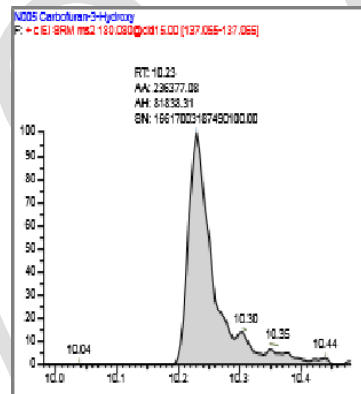
2.二丙烯草胺
Allidochlor



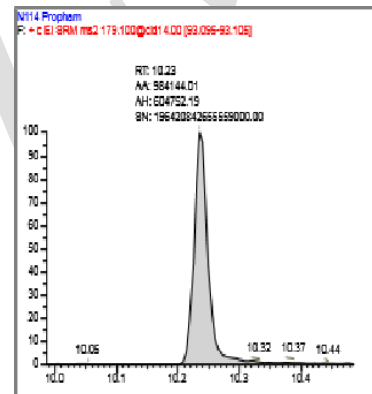
3.联苯
Biphenyl



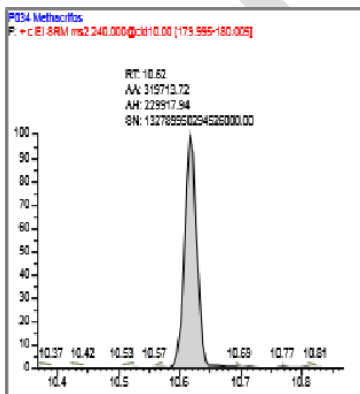
4.速灭磷
Mevinphos



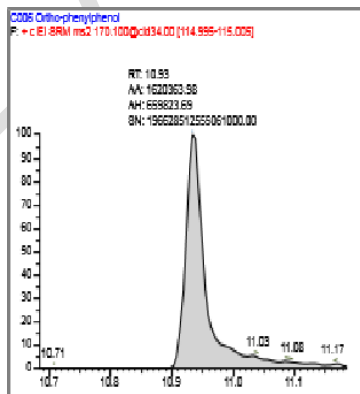
5.3-羟基克百威
Carbofuran-3-Hydroxy



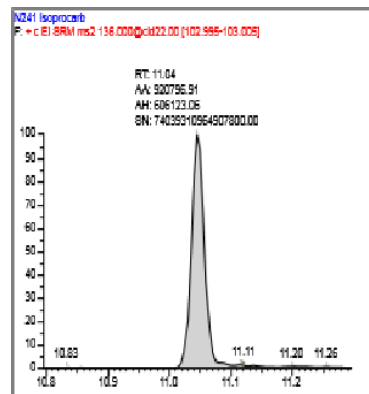
6.苯胺灵
Protham



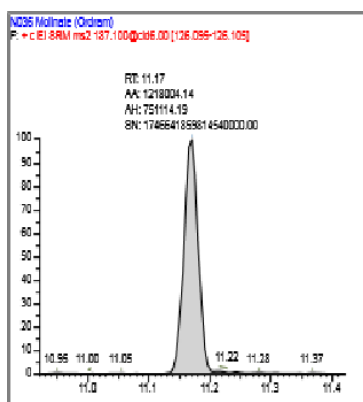
7.虫螨畏
Methacrifos



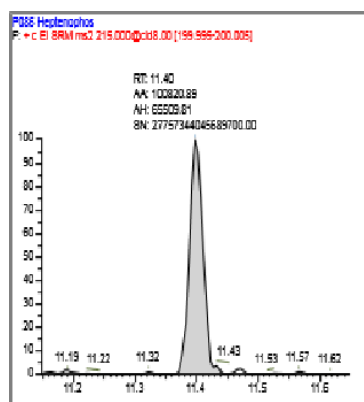
8.邻苯基苯酚
Ortho-phenylphenol



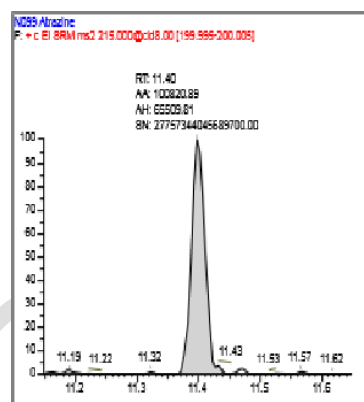
9.异丙威
Isoprocarb



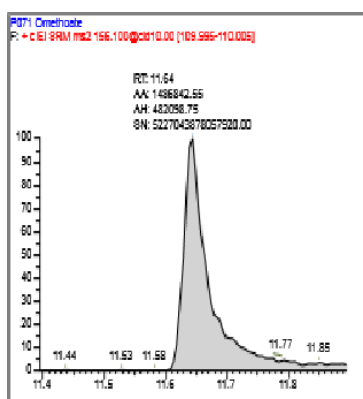
10.禾草敌
Molinate



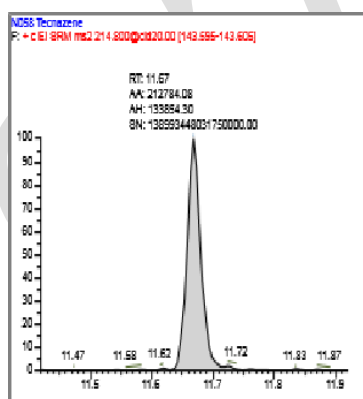
11.庚烯磷
Heptenophos



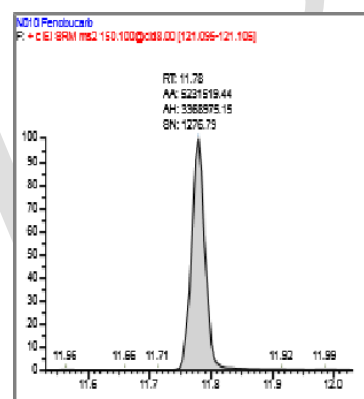
12.克百威
Carbofuran



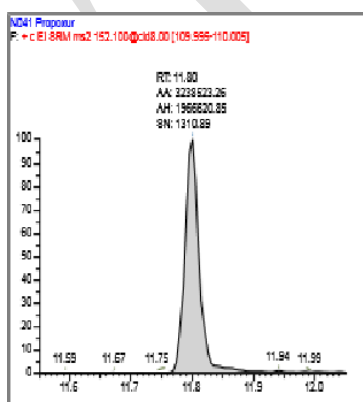
13.氧乐果
Omethoate



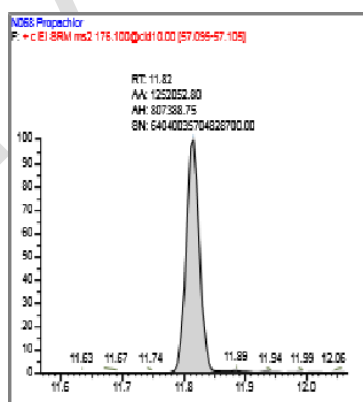
14.四氯硝基苯
Tecnazene



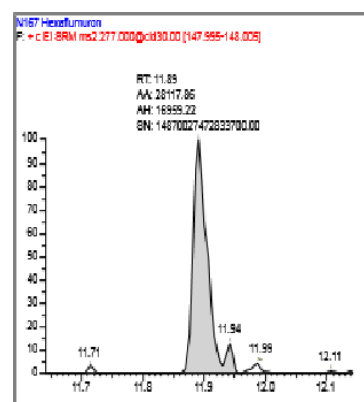
15.仲丁威
Fenobucarb



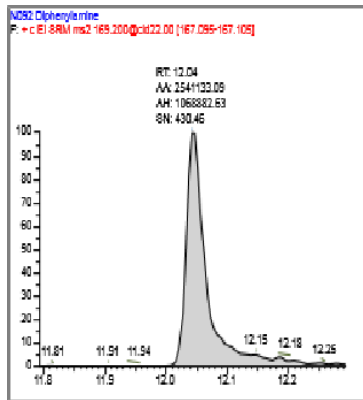
16.残杀威
Propoxur



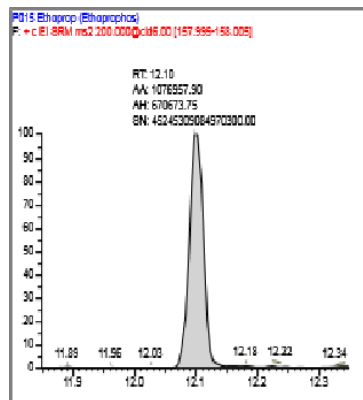
17.毒草胺
Propachlor



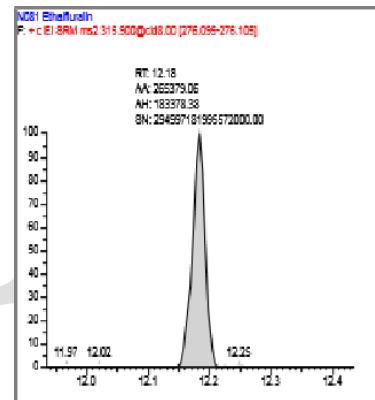
18.氟铃脲
Hexaflumuron



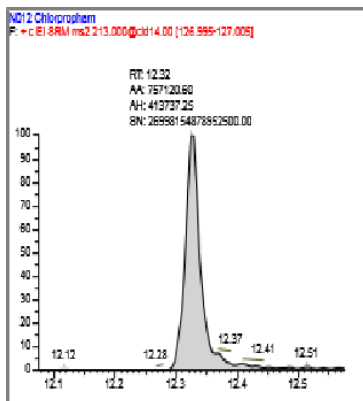
19.二苯胺
Diphenylamine



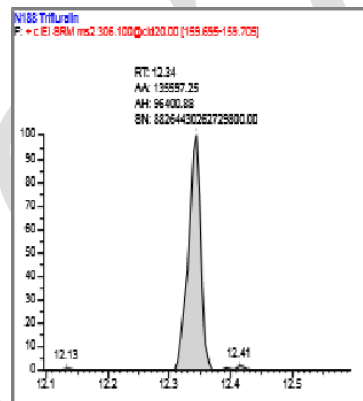
20.天线磷
Ethoprop



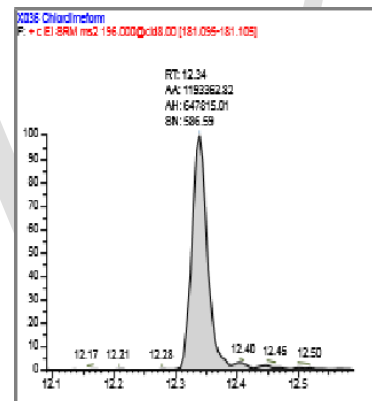
21.乙丁烯氟灵
Ethalfuralin



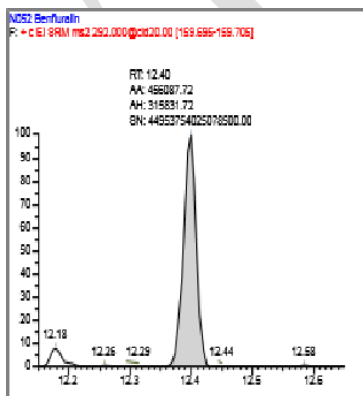
22.氯苯胺灵
Chlorpropham



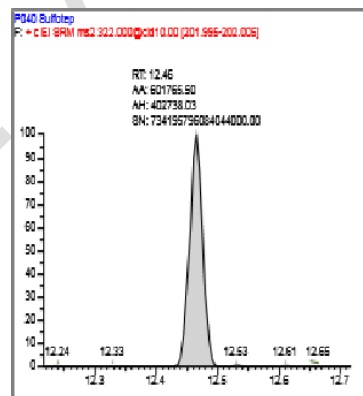
23.氟乐灵
Trifluralin



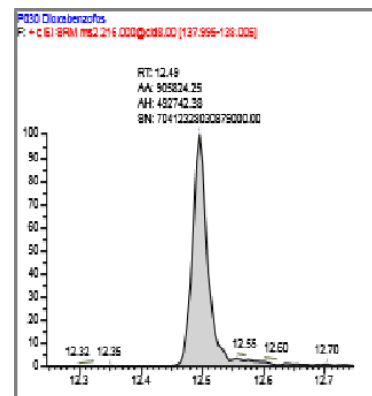
24.杀虫脒
Chlordimeform



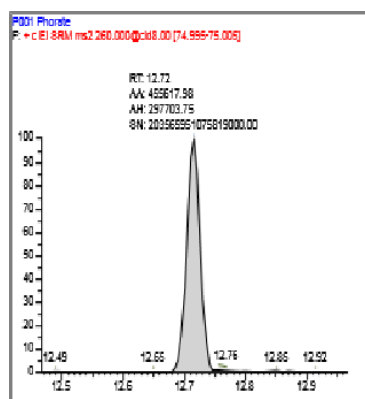
25.乙丁氟灵
Benfluralin



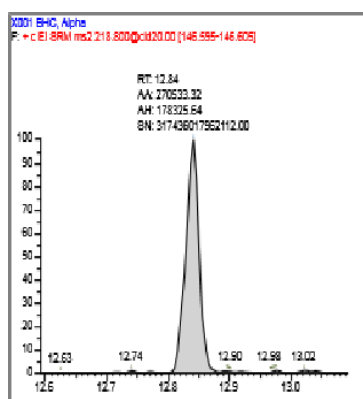
26.治螟磷
Sulfotep



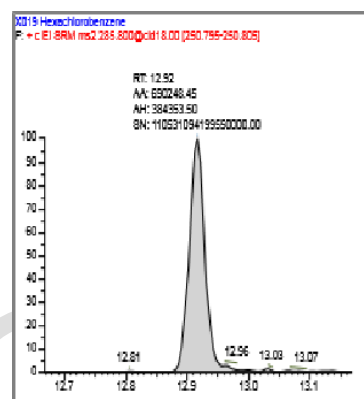
27.蔬果磷
Dioxabenzofos



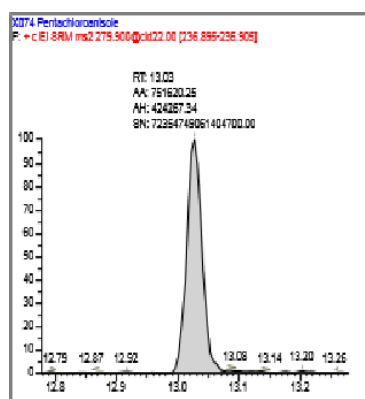
28. 甲拌磷
Phorate



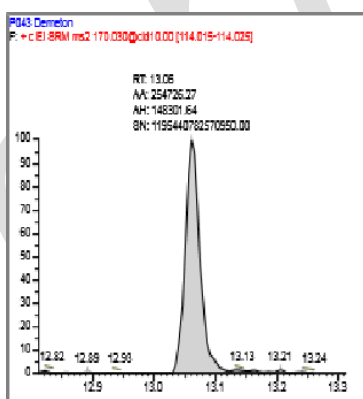
29. α -六六六
BHC, Alpha



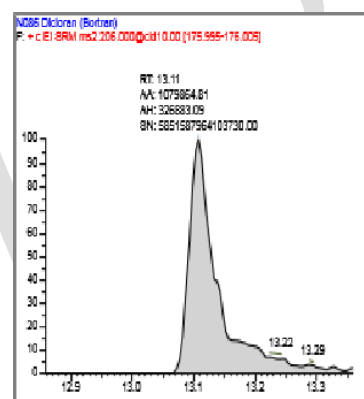
30. 六氯苯
Hexachlorobenzene



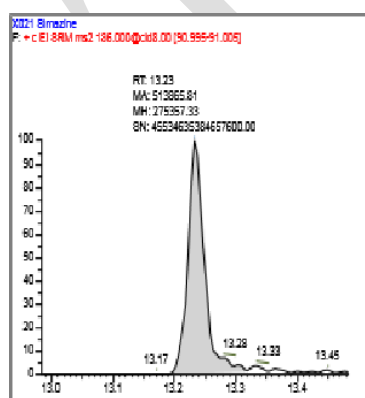
31. 五氯甲氧基苯
Pentachloroanisole



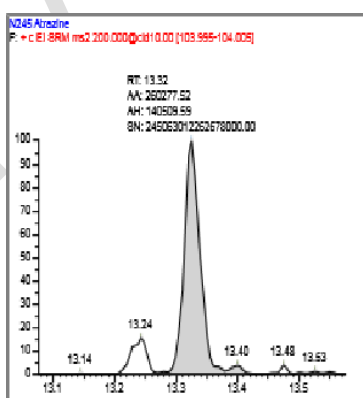
32. 内吸磷
Demeton



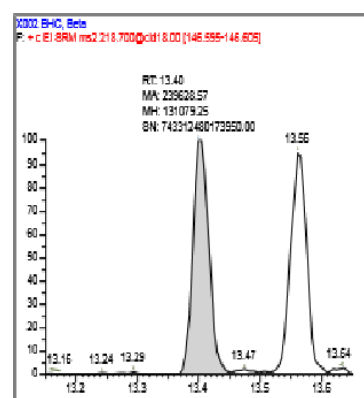
33. 氯硝胺
Dicloran



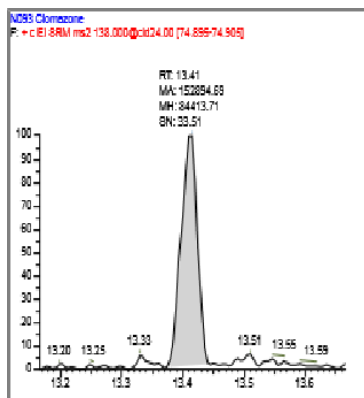
34. 西玛津
Simazine



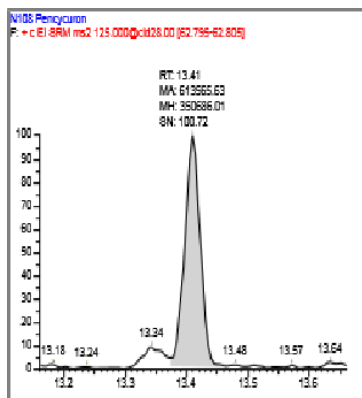
35. 莠去津
Atrazine



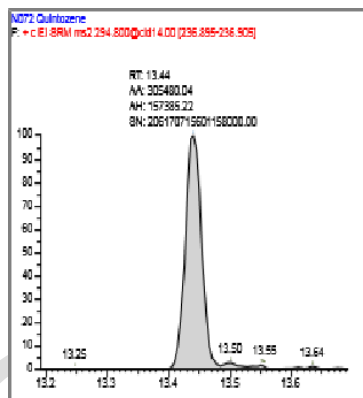
36. β -六六六
BHC, Beta



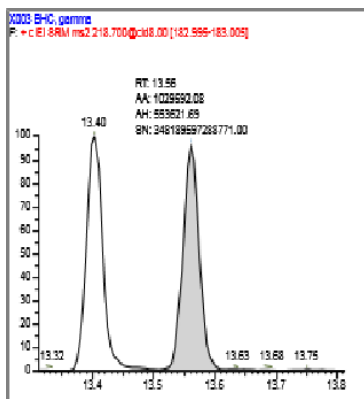
37.异噁草酮
Clomazone



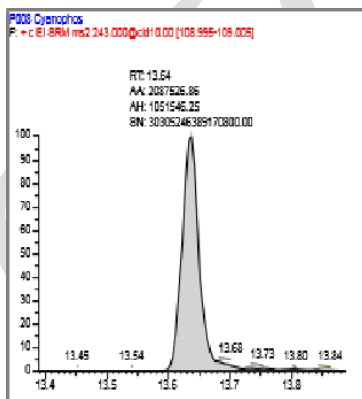
38.戊菌隆
Pencycuron



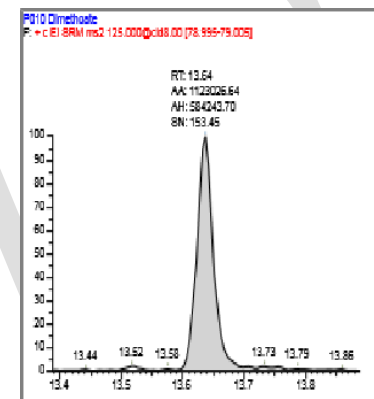
39.五氯硝基苯
Quintozene



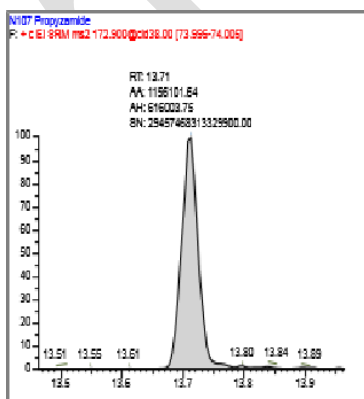
40.γ-六六六
BHC, gamma



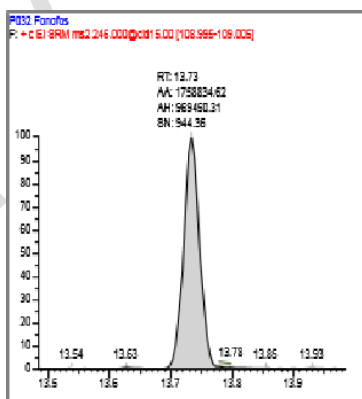
41.杀螟腈
Cyanophos



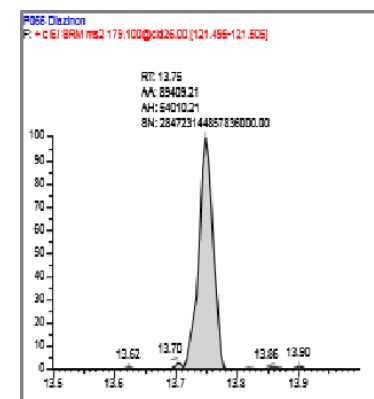
42.乐果
Dimethoate



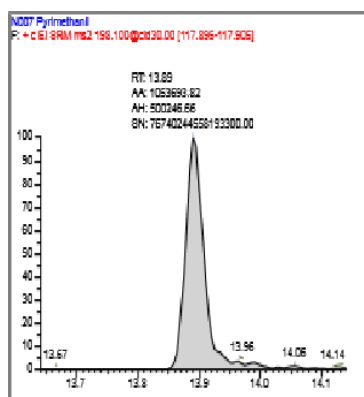
43.炔苯酰草胺
Propyzamide



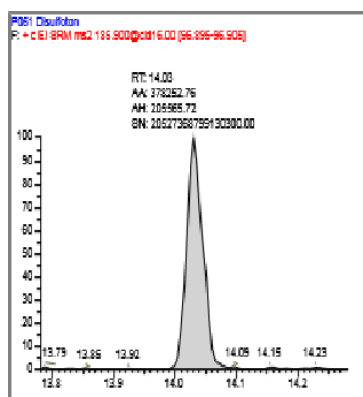
44.地虫硫磷
Fonos



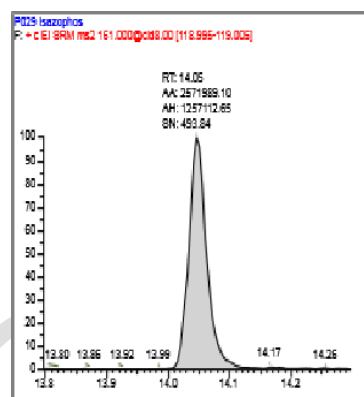
45.二嗪磷
Diazinon



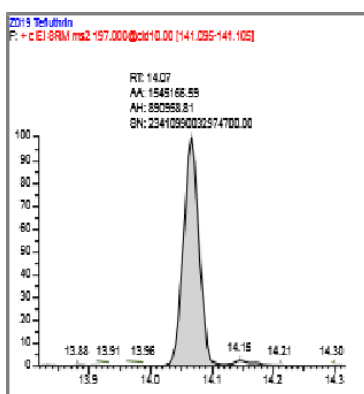
46. 嘧霉胺
Pyrimethanil



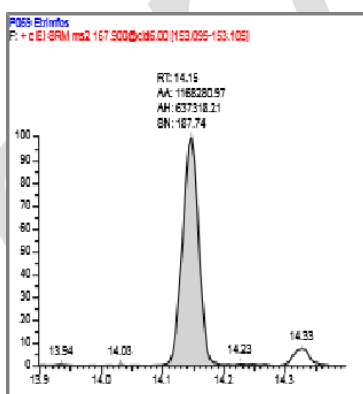
47. 乙拌磷
Disulfoton



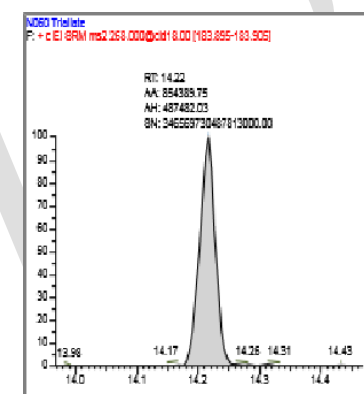
48. 氯唑磷
Isazophos



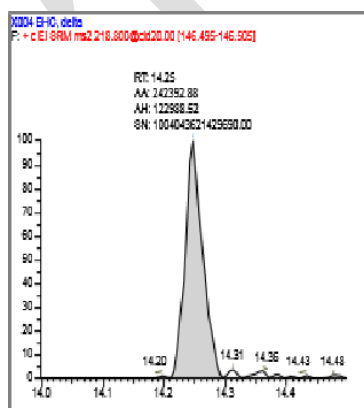
49. 七氟菊酯
Tefluthrin



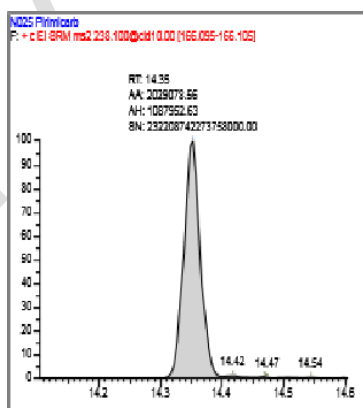
50. 乙啶硫磷
Etrinfos



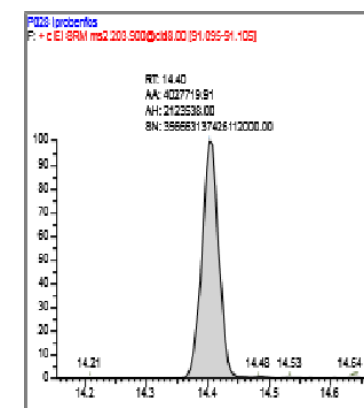
51. 野麦畏
Triallate



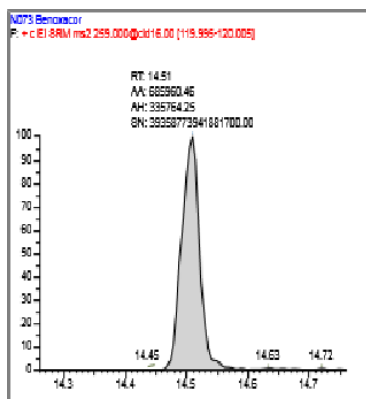
52. δ-六六六
BHC, delta



53. 抗蚜威
Pirimicarb

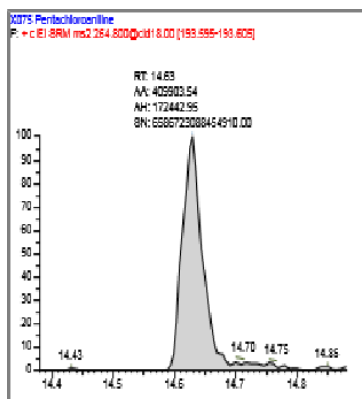


54. 异稻瘟净
Iprobenfos



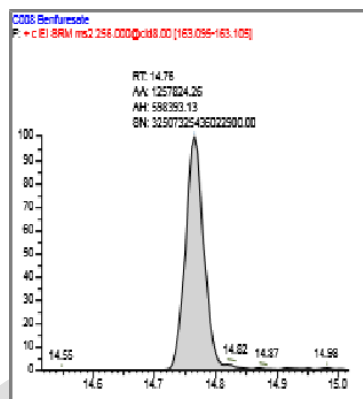
55.解草酮

Benoxacor



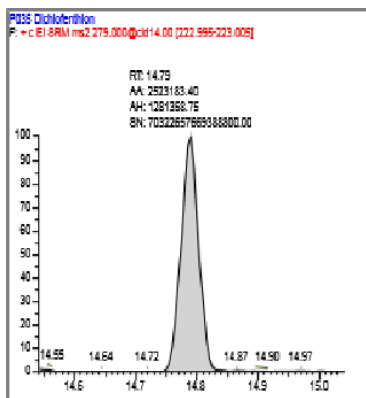
56.五氯苯胺

Pentachloroaniline



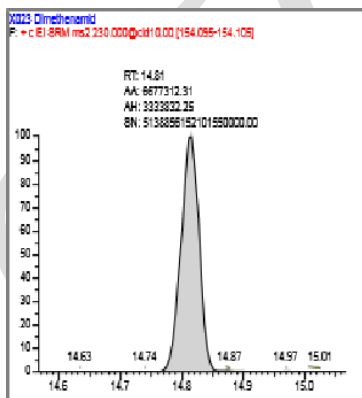
57.呋草黄

Benfuresate



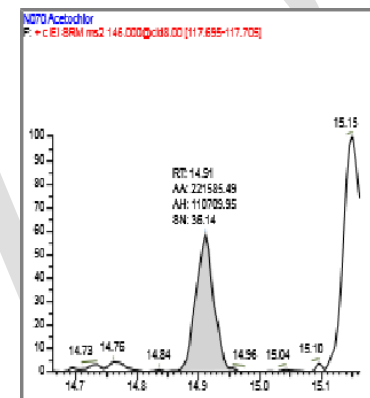
58.除线磷

Dichlofenthion



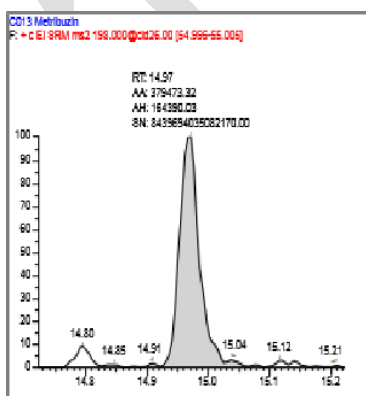
59.精二甲吩草胺

Dimethenamid-P



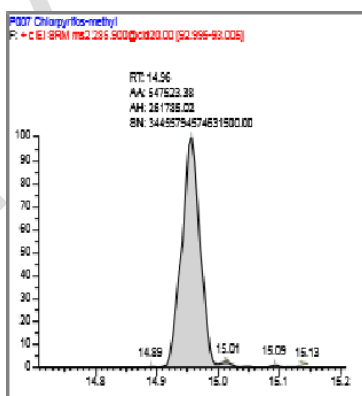
60.乙草胺

Acetochlor



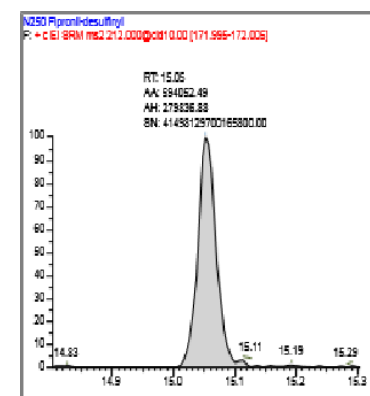
61.甲基毒死蜱

Chlorpyrifos-methyl



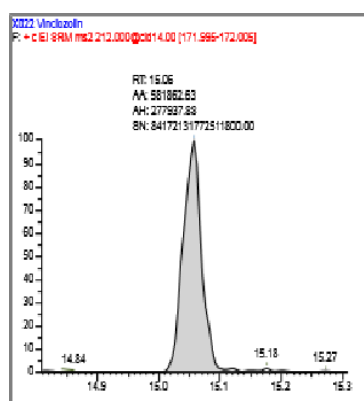
62.嗟草酮

Metribuzin



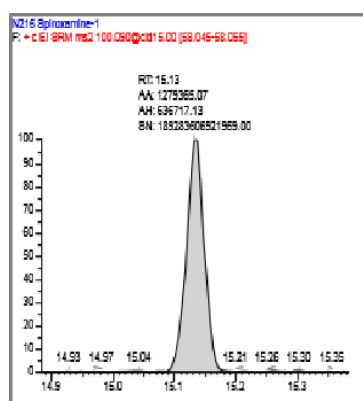
63.氟甲腈

Fipronil-desulfanyl



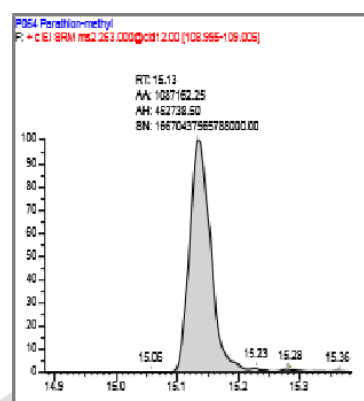
64. 乙烯菌核利

Vinclozolin



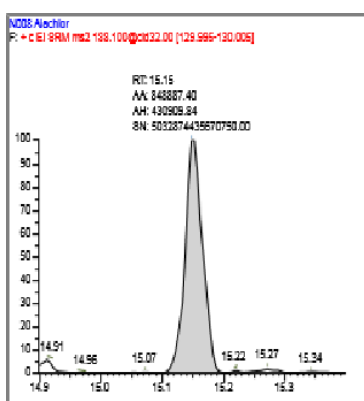
65. 螺环菌胺-1

Spiroxamine-1



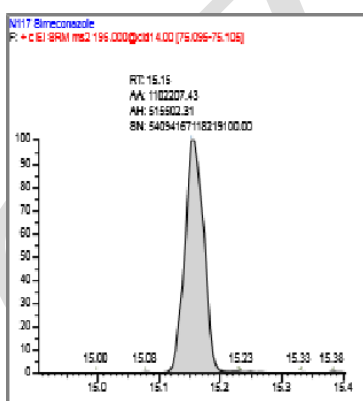
66. 甲基对硫磷

Parathion-methyl



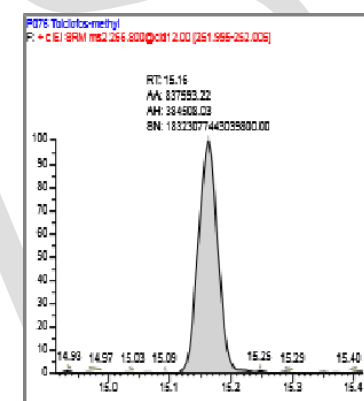
67. 甲草胺

Alachlor



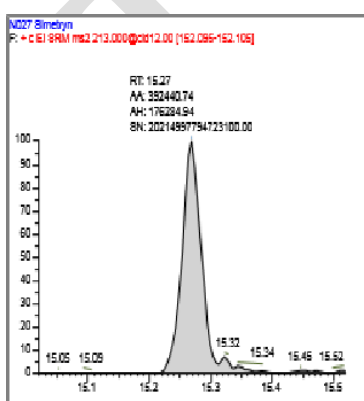
68. 硅氟唑

Simeconazole



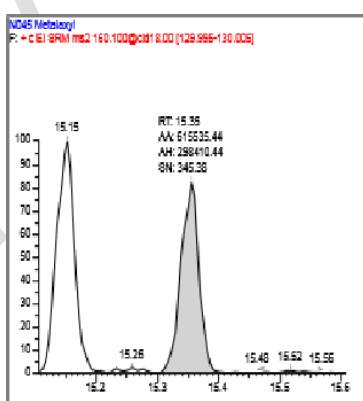
69. 甲基立枯磷

Tolclofos-methyl



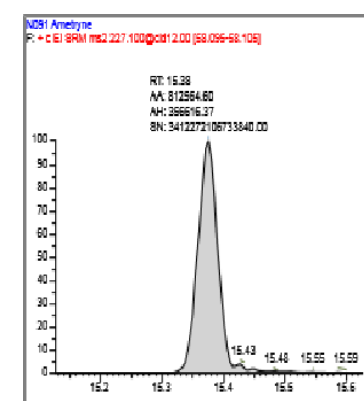
70. 西草净

Simetryn



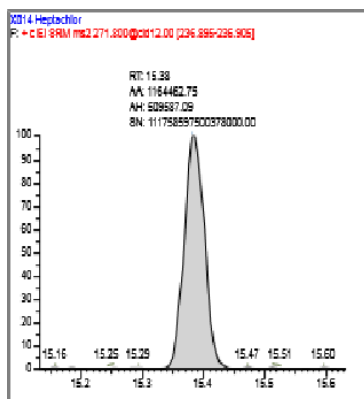
71. 甲霜灵

Metalaxyl



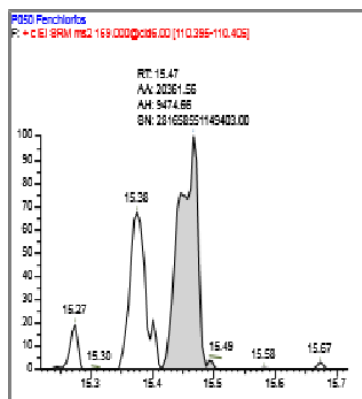
72. 莠灭净

Ametryne



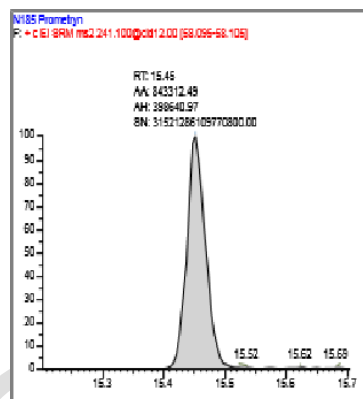
73.七氯

Heptachlor



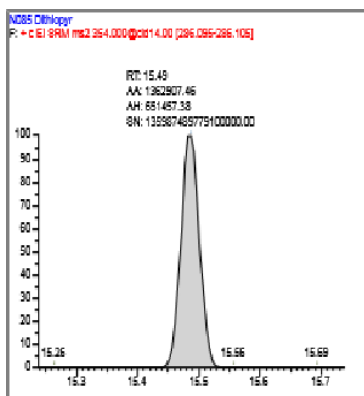
74.皮蝇磷

Fenclorfos



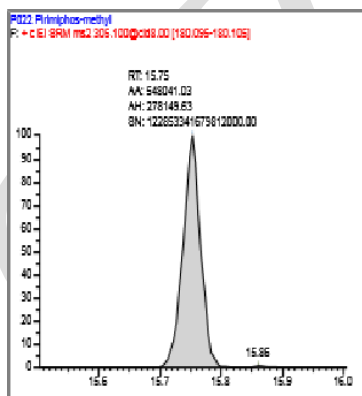
75.扑草净

Prometryn



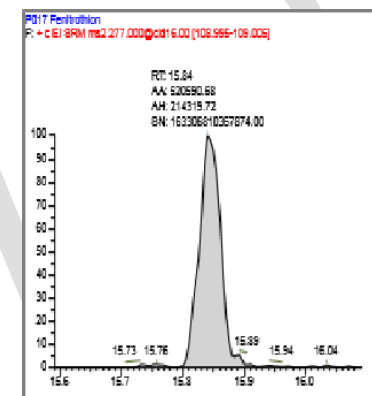
76.氟硫草定

Dithiopyr



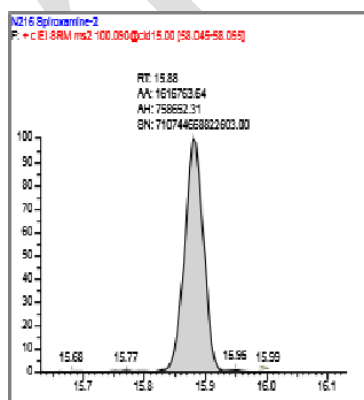
77.甲基嘧啶磷

Pirimiphos-methyl



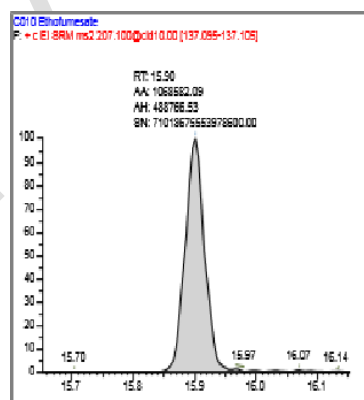
78.杀螟硫磷

Fenitrothion



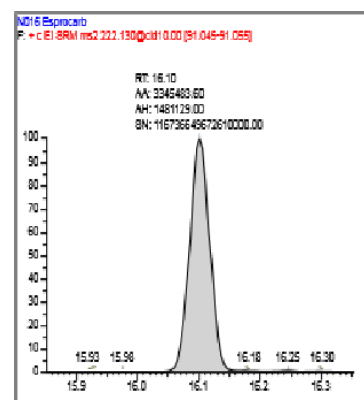
79.螺环菌胺-2

Spiroxamine-2



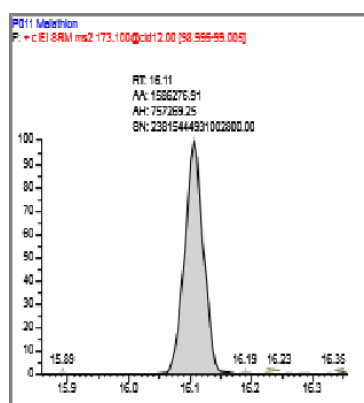
80.乙氧呋草黄

Ethofumesate



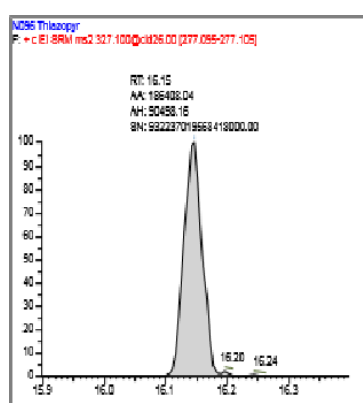
81.戊草丹

Esprocarb



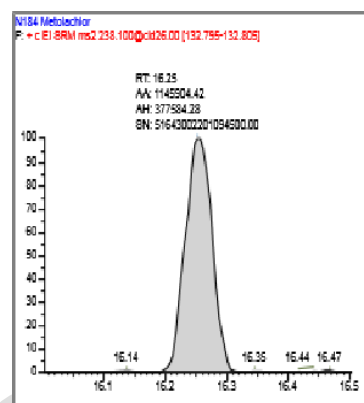
82. 马拉硫磷

Malathion



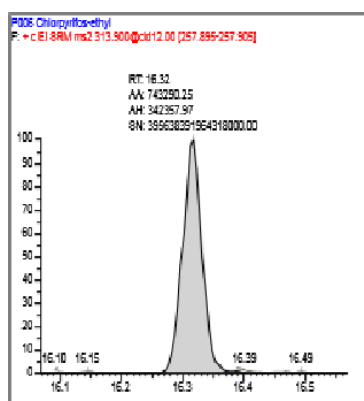
83. 噻唑烟酸

Thiazopyr



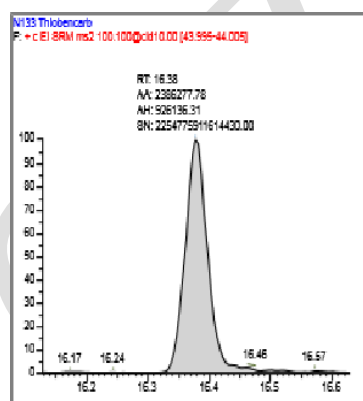
84. 异丙甲草胺

Metolachlor



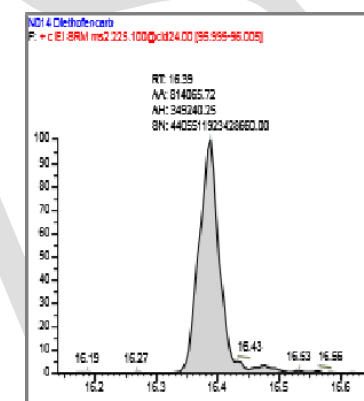
85. 毒死蜱

Chlorpyrifos-ethyl



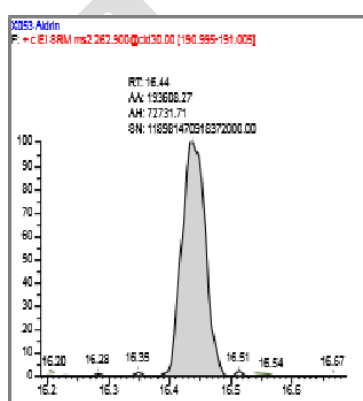
86. 禾草丹

Thiobencarb



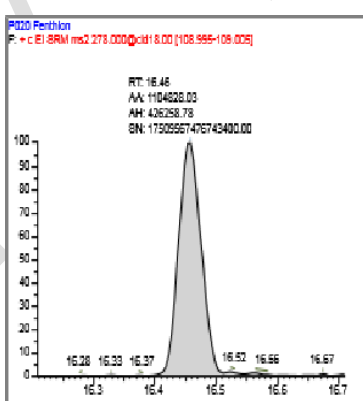
87. 乙霉威

Diethofencarb



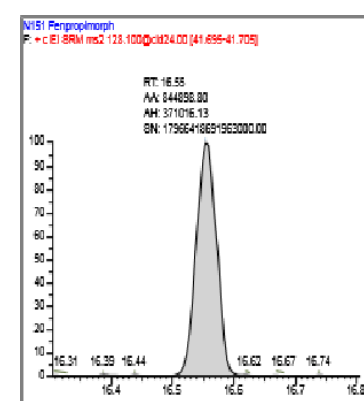
88. 艾氏剂

Aldrin



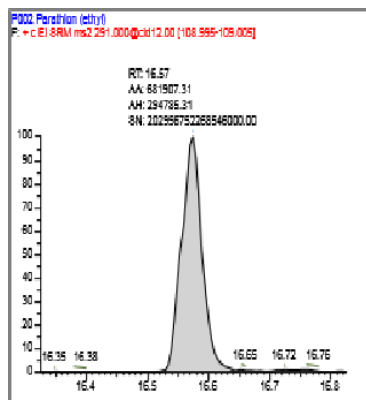
89. 倍硫磷

Fenthion

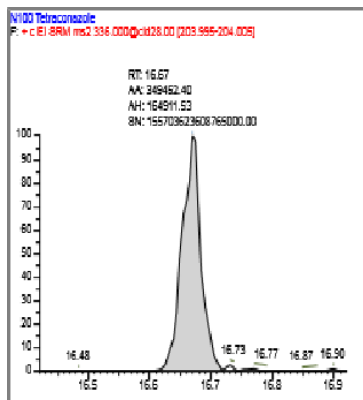


90. 丁苯吗啉

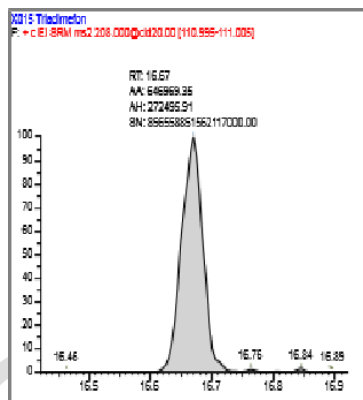
Fenpropimorph



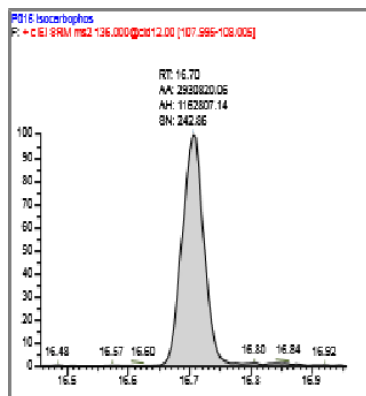
91.对硫磷
Parathion



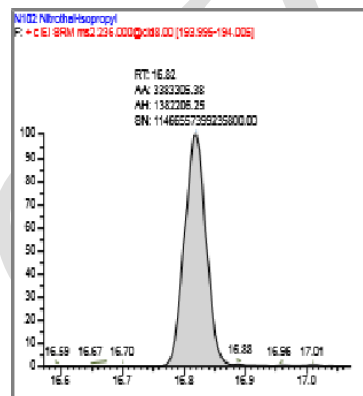
92.四氟醚唑
Tetraconazole



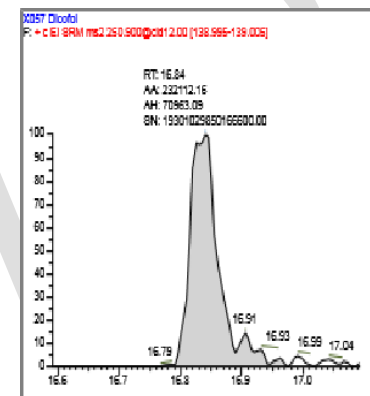
93.三唑酮
Triadimefon



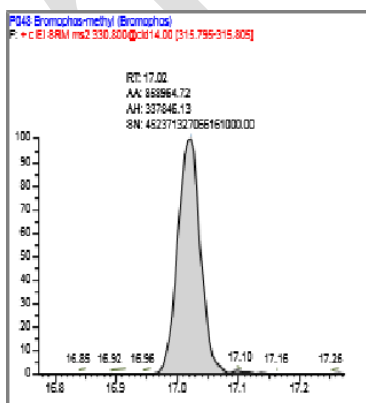
94.水胺硫磷
Isocarbophos



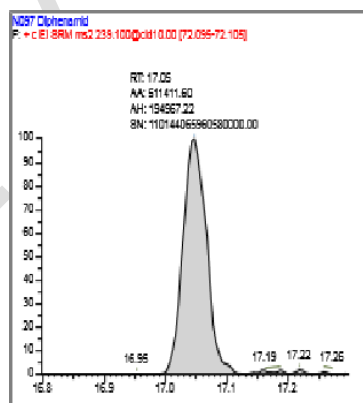
95.酞菌酯
Nitrothal-isopropyl



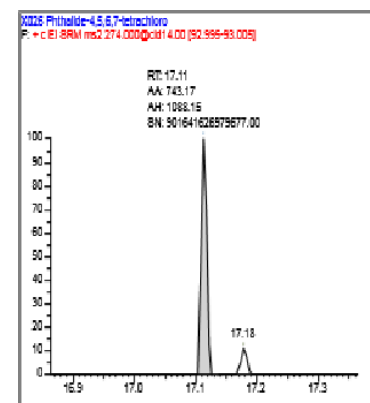
96.三氯杀螨醇
Dicofof



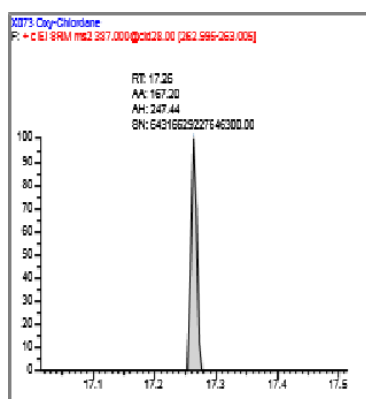
97.溴硫磷
Bromophos-methyl



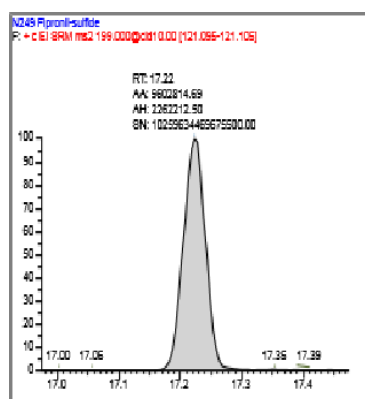
98.双苯酰草胺
Diphenamid



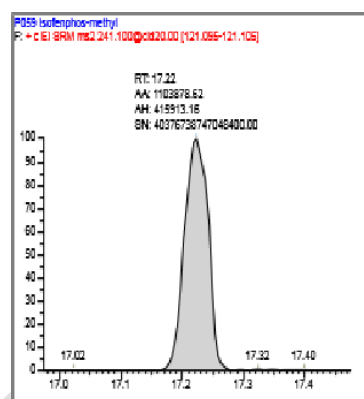
99.四氯苯酞
Phthalide-4,5,6,7-tetrachloro



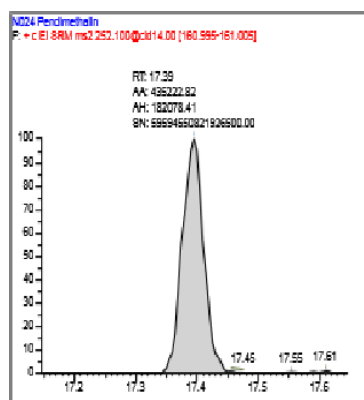
100. 氧化氯丹
Oxy-Chlordane



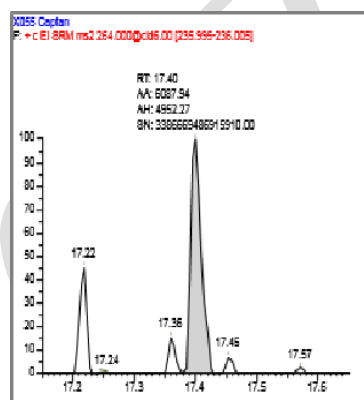
101. 氟虫腈硫醚
Fipronil-sulfide



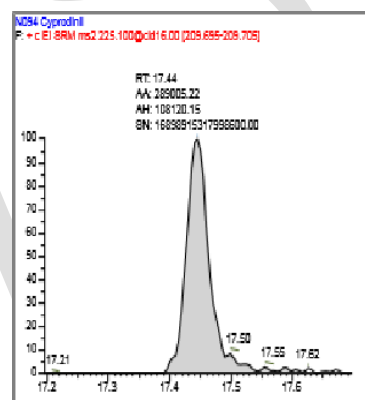
102. 甲基异柳磷
Isufenphos-methyl



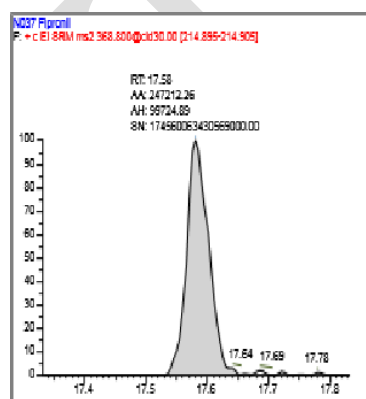
103. 二甲戊灵
Pendimethalin



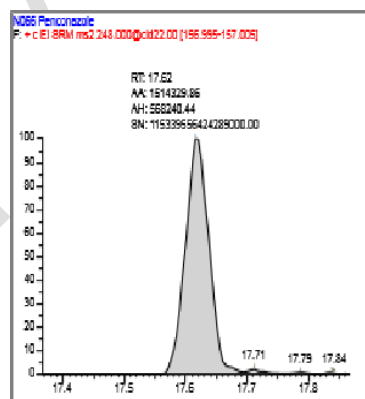
104. 克菌丹
Captan



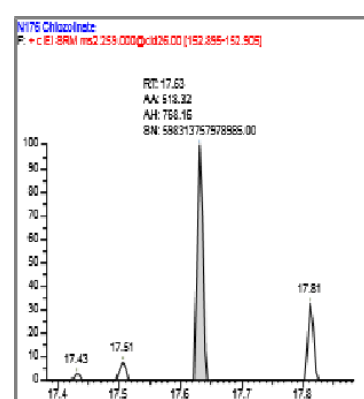
105. 啉菌环胺
Cyprodinil



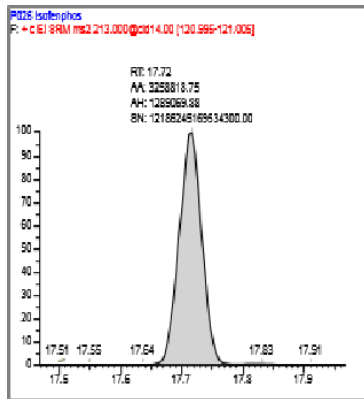
106. 氟虫腈
Fipronil



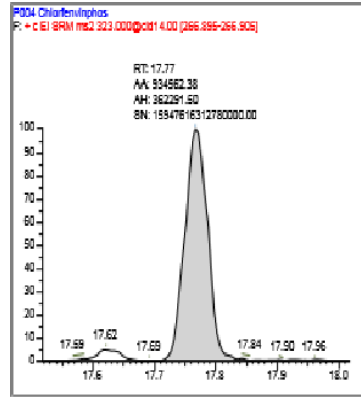
107. 戊菌唑
Penconazole



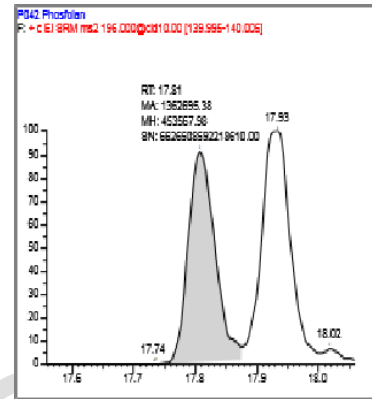
108. 乙菌利
Chlorzoxinate



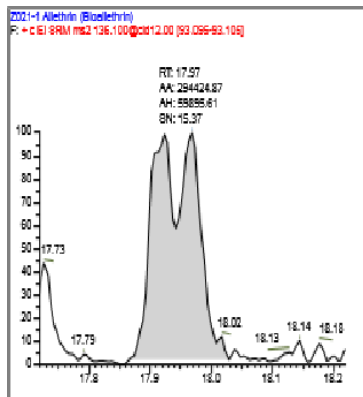
109.异柳磷
Isfenphos



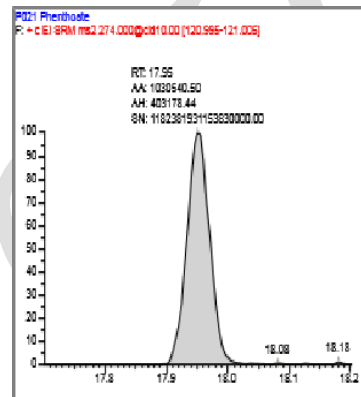
110.毒虫畏
Chlorfenvinphos



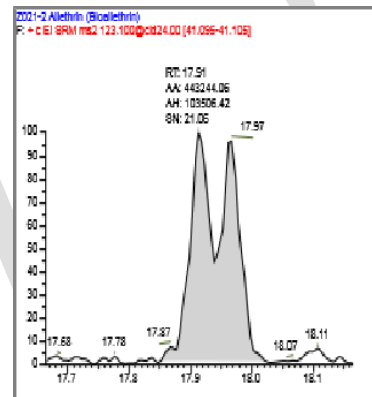
111.硫环磷
Phosfolan



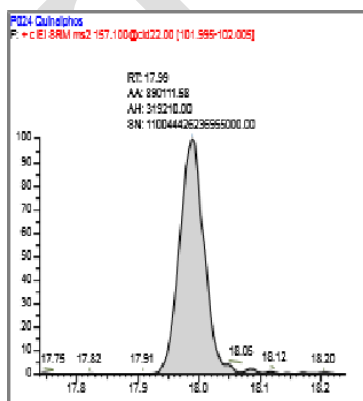
112.丙烯菊酯-1
Allethrin-1



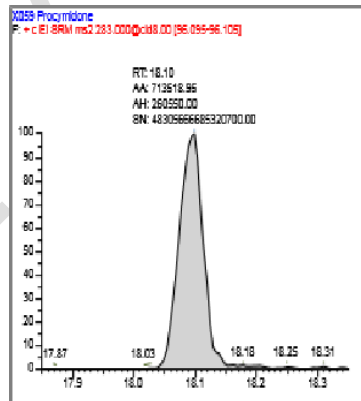
113.稻丰散
Phenthoate



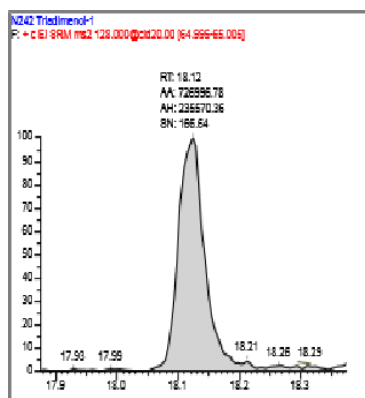
114.丙烯菊酯-2
Allethrin-2



115.喹硫磷
Quinalphos

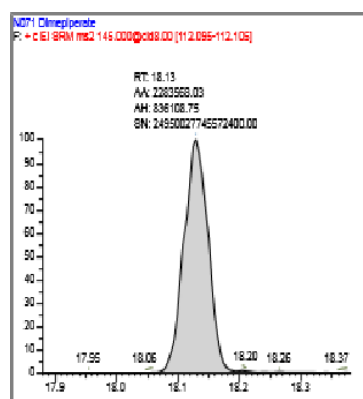


116.腐霉利
Procymidone



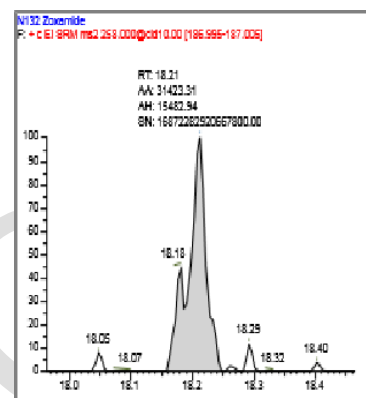
117.三唑醇-1

Triadimenol-1



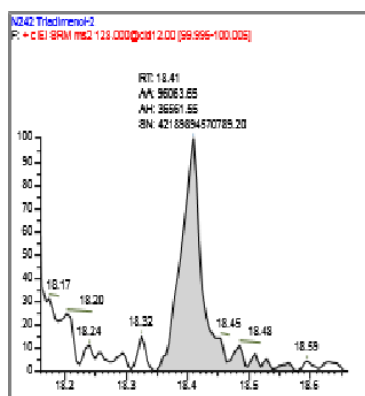
118.啶草丹

Dimepiperate



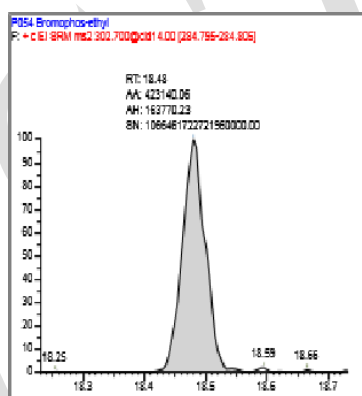
119.苯酰菌胺

Zoxamide



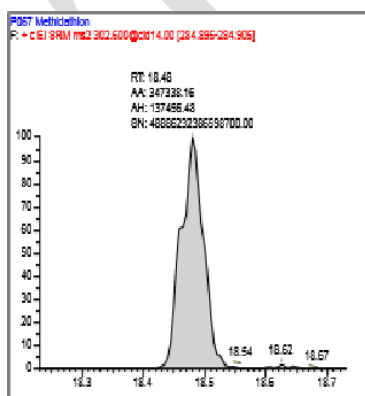
120.三唑醇-2

Triadimenol-2



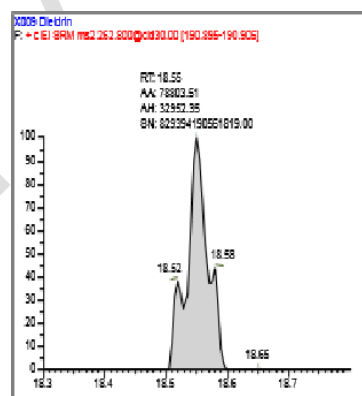
121.乙基溴硫磷

Bromophos-ethyl



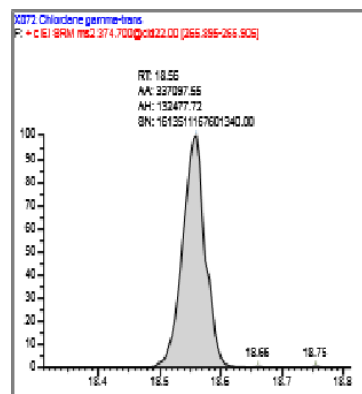
122.杀扑磷

Methidathion



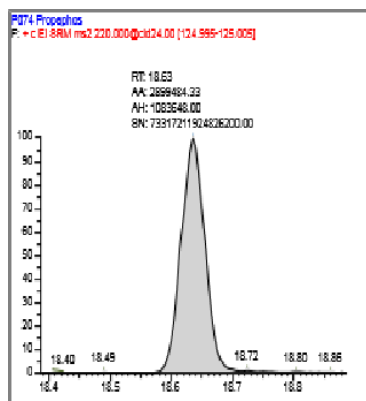
123.狄氏剂

Dieldrin

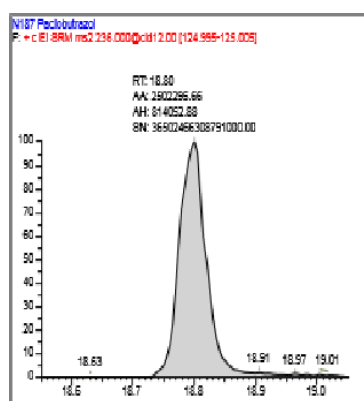


124.反式氯丹

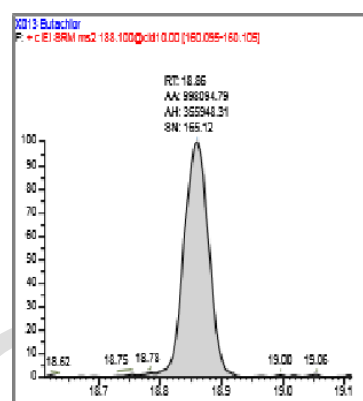
Chlordane gamma-trans



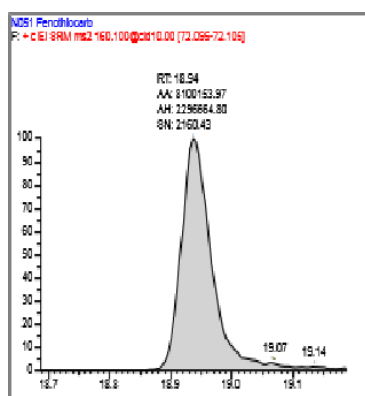
125.丙虫磷
Propaphos



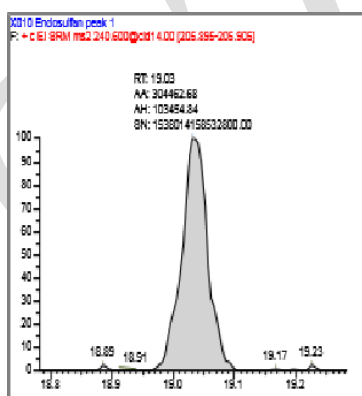
126.多效唑
Paclobutrazol



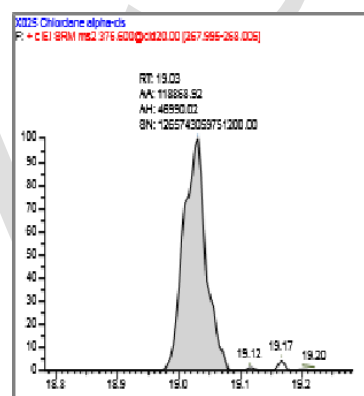
127.丁草胺
Butachlor



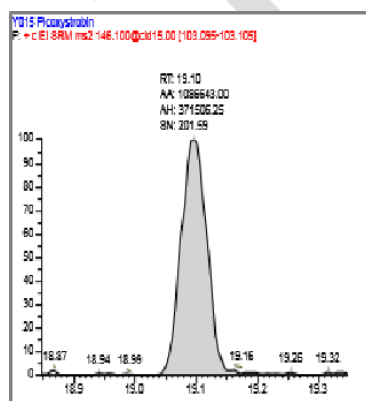
128.苯硫威
Fenothiocarb



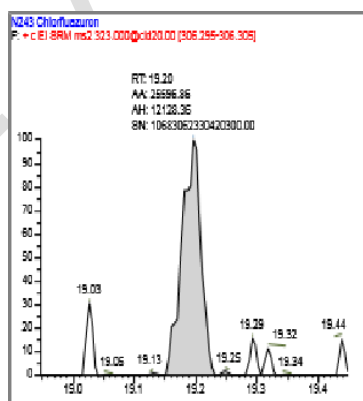
129.α-硫丹
Endosulfan 1



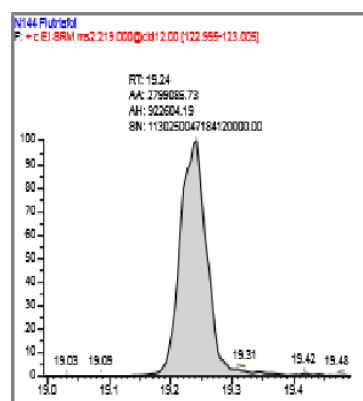
130.顺式氯丹
Chlordane alpha-cis



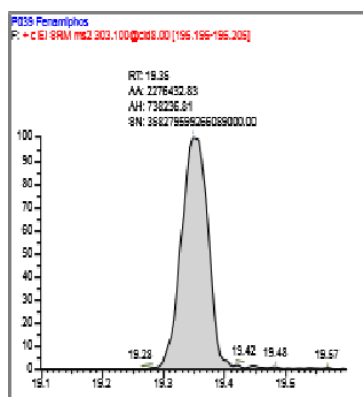
131.啉氧菌酯
Picoxystrobin



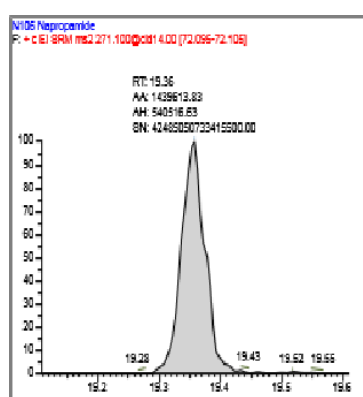
132.氟啶脲
Chlorfluazuron



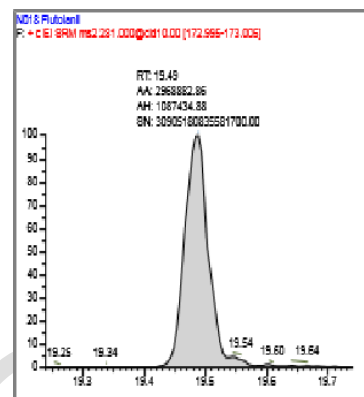
133.粉唑醇
Flutriafol



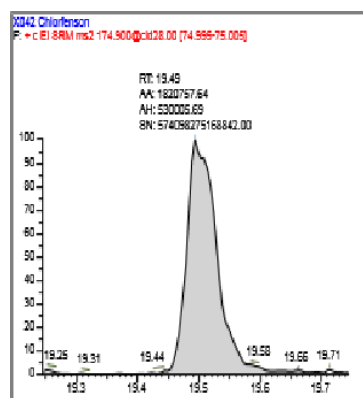
134.苯线磷
Fenamiphos



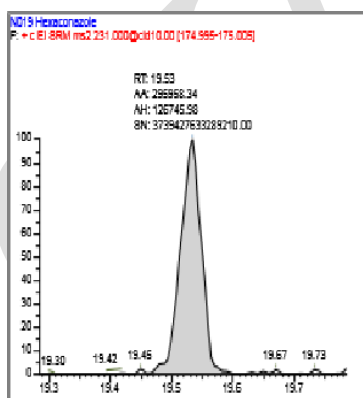
135.萘丙酰胺
Napropamide



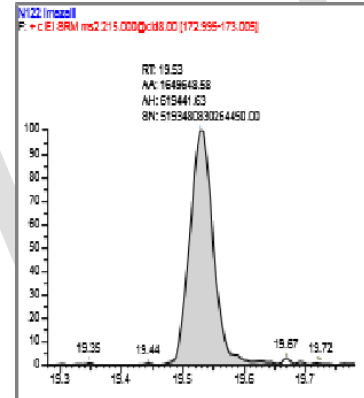
136.氟酰胺
Flutolanil



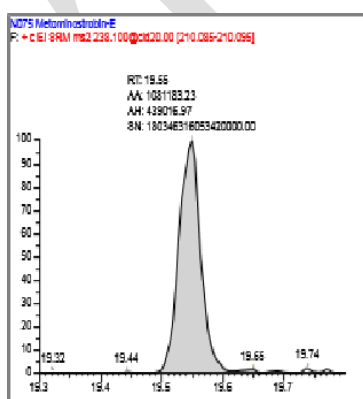
137.杀螨酯
Chlorfenson



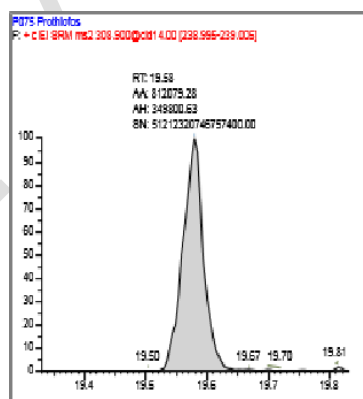
138.己唑醇
Hexaconazole



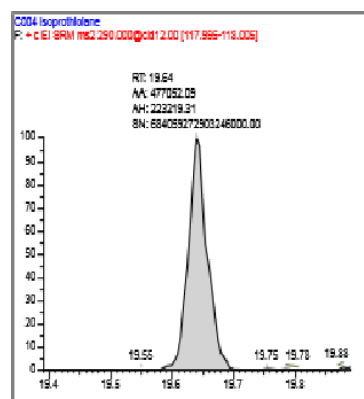
139.抑霉唑
Imazalil



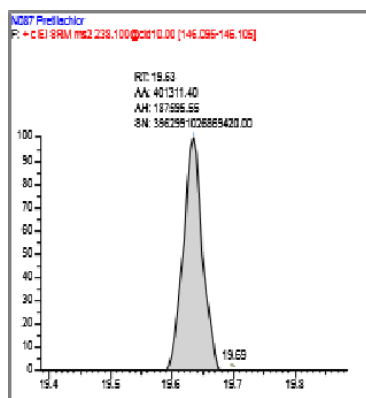
140.苯氧菌胺
Metominostrobin-E



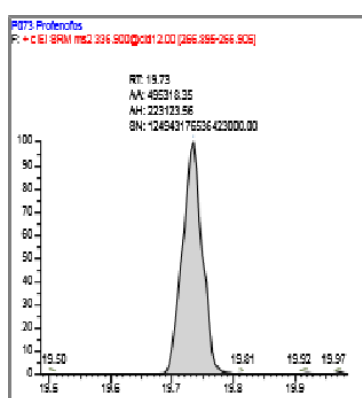
141.丙硫磷
Prothiofos



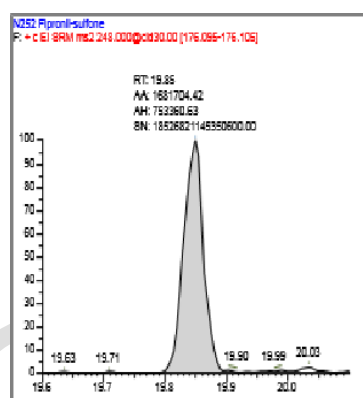
142.稻瘟灵
Isoprothiolane



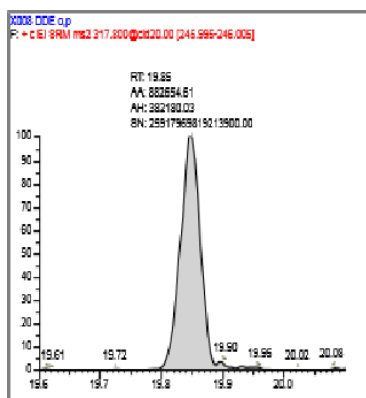
143.丙草胺
Pretilachlor



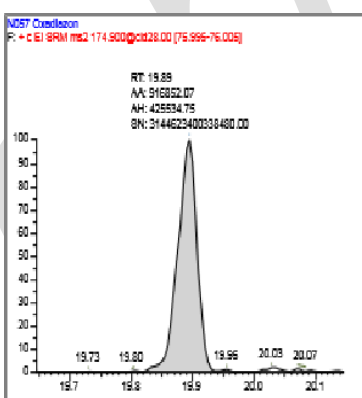
144.丙溴磷
Profenofos



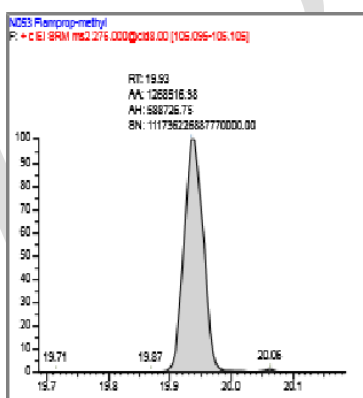
145.氟虫腈砒
Fipronil-sulfone



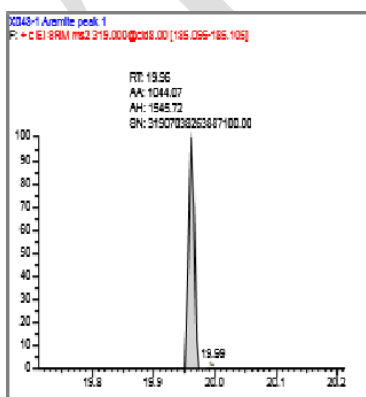
146.p,p'-滴滴伊
DDE o,p



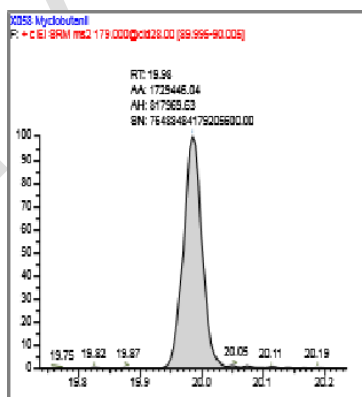
147.噁草酮
Oxadiazon



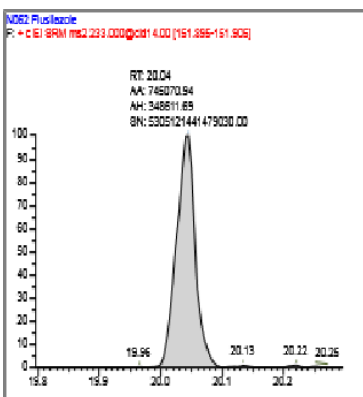
148.麦草氟甲酯
Flamprop-methyl



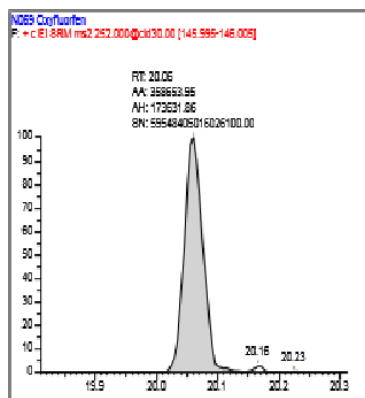
149.杀螨特-1
Aramite-1



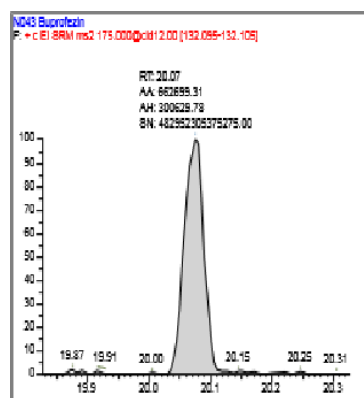
150.腈菌唑
Myclobutanil



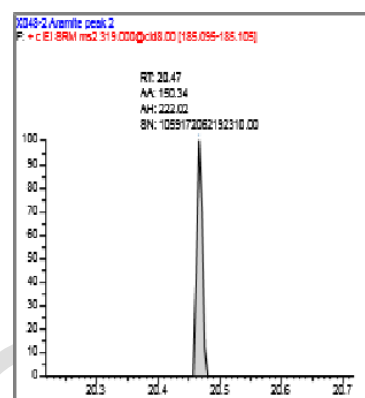
151.氟硅唑
Flusilazole



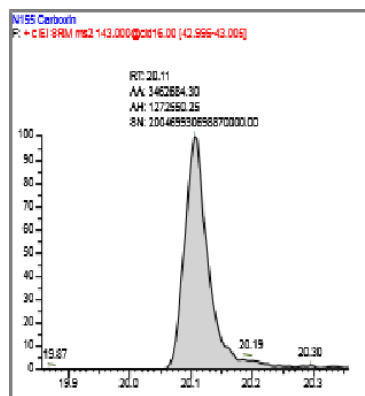
152.乙氧氟草醚
Oxyfluorfen



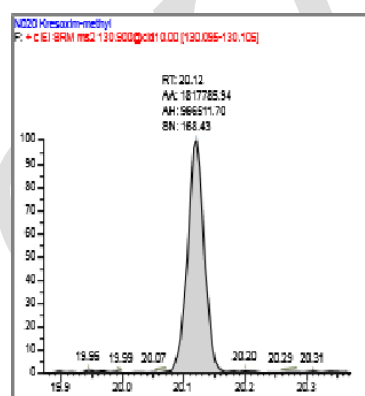
153.噻嗪酮
Buprofezin



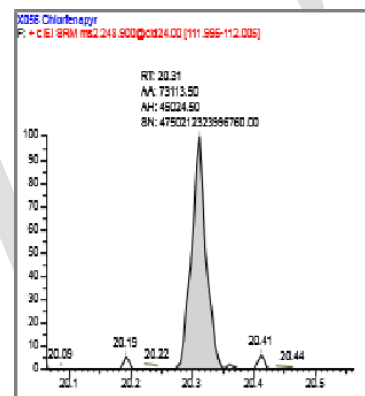
154.杀螨特-2
Aramite-2



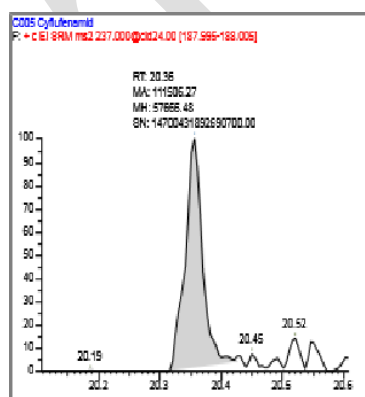
155.萎锈灵
Carboxin



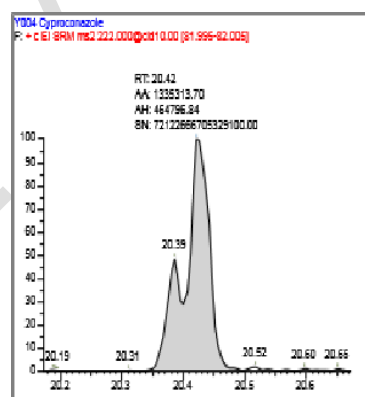
156.醚菌酯
Kresoxim-methyl



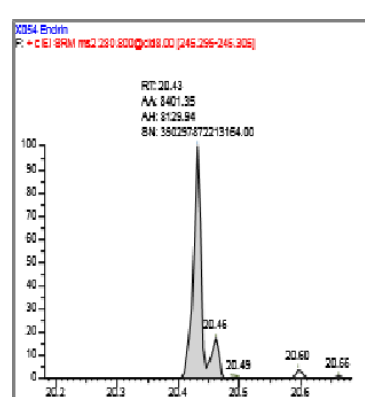
157.虫螨腈
Chlorfenapyr



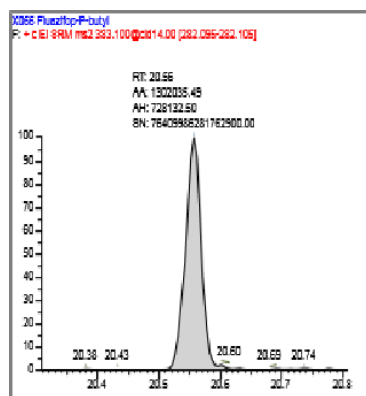
158.环氟菌胺
Cyflufenamid



159.环丙唑醇
Cyproconazole

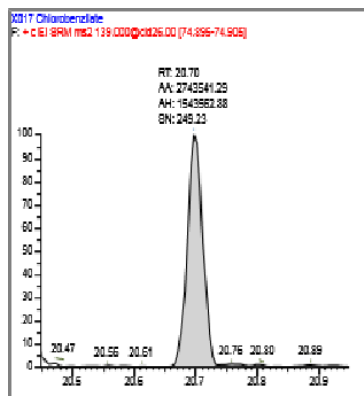


160.异狄氏剂
Endrin



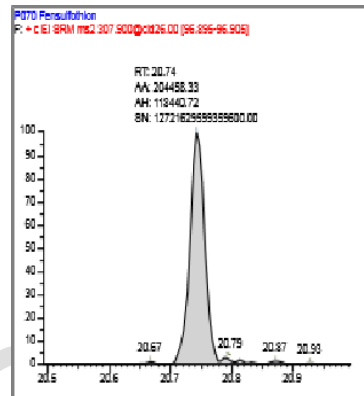
161.精吡氟禾草灵

Fluazifop-P-butyl



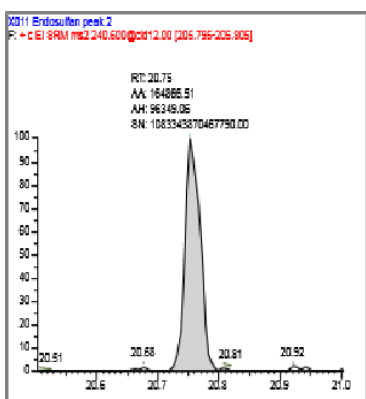
162.乙酯杀螨醇

Chlorobenzilate



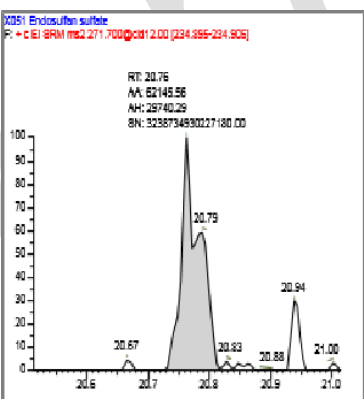
163.丰索磷

Fensulfthion



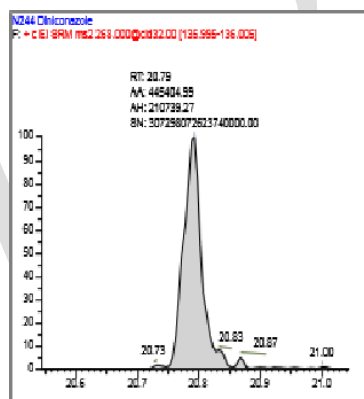
164.β-硫丹

Endosulfan 2



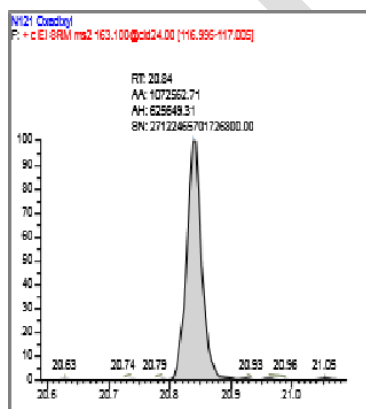
165.硫丹硫酸盐

Endosulfan sulfate



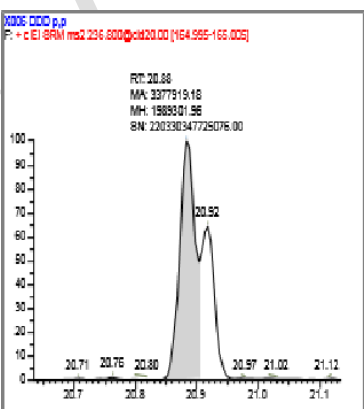
166.烯唑醇

Diniconazole



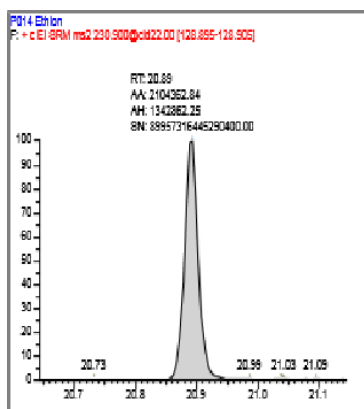
167.噁霜灵

Oxadixyl



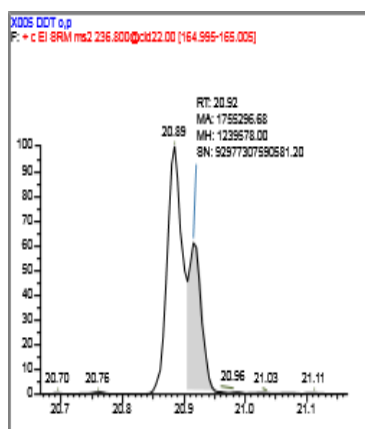
168.p,p'-滴滴滴

DDD p,p'



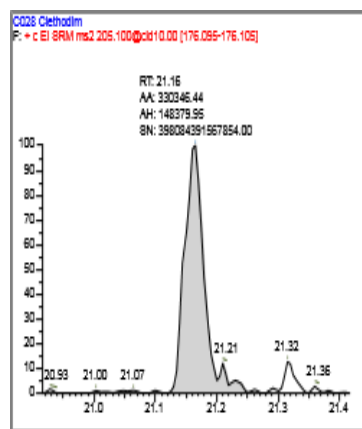
169.乙硫磷

Ethion



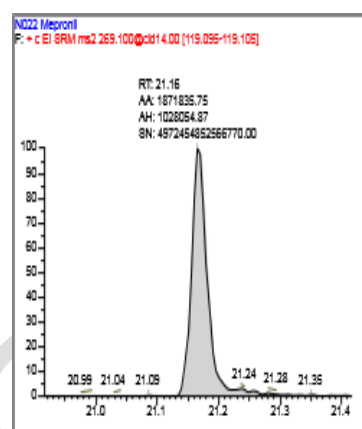
170. o,p'-滴滴涕

DDT o,p'



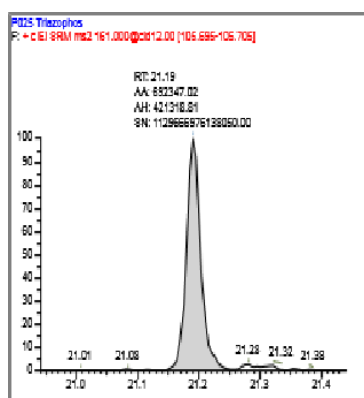
171. 烯草酮

Clethodim



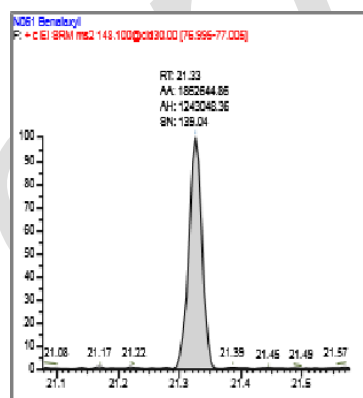
172. 丙炔噁吩

Mepronil



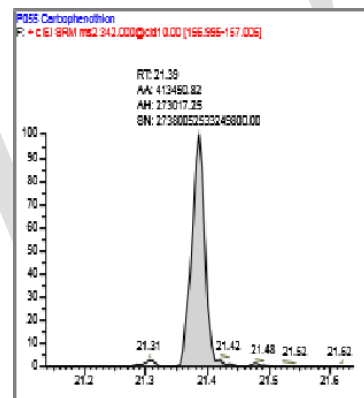
173. 三唑磷

Triazophos



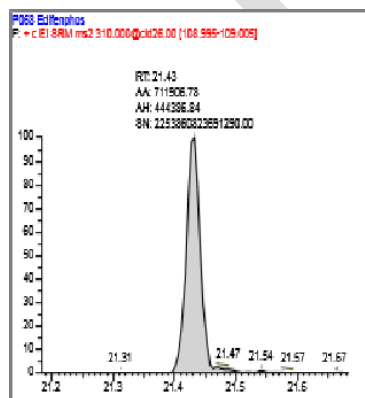
174. 苯霜灵

Benalaxyl



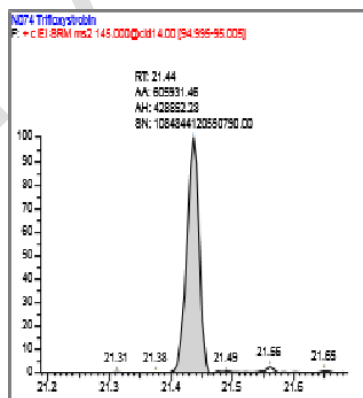
175. 三硫磷

Carbophenothion



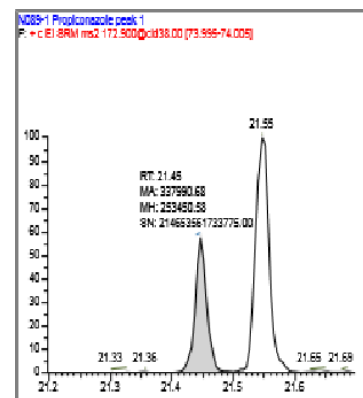
176. 敌瘟磷

Edifenphos



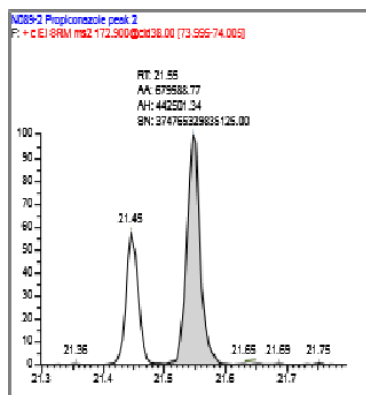
177. 肟菌酯

Trifloxystrobin

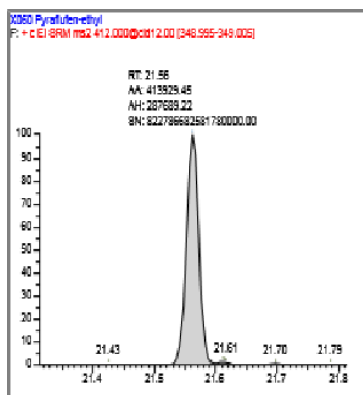


178. 丙环唑-1

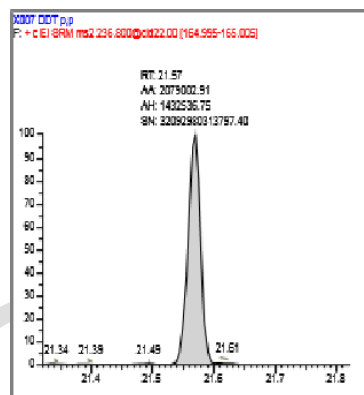
Propiconazole-1



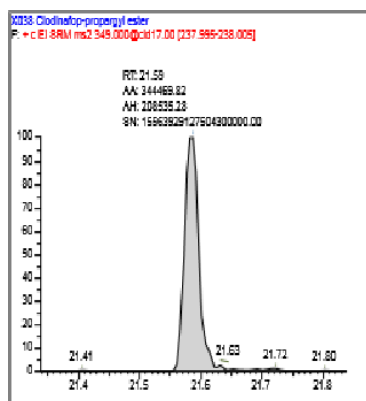
179.丙环唑-2
Propiconazole-2



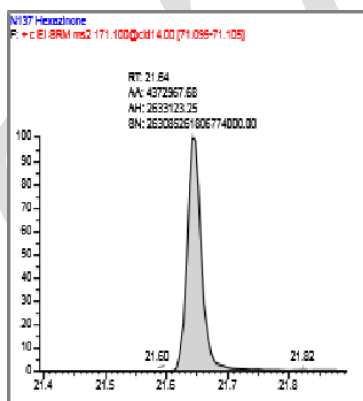
180.吡草醚
Pyraflufen-ethyl



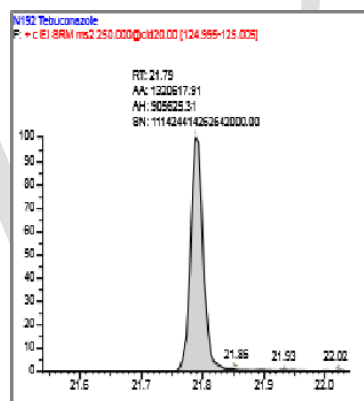
181.p,p'-滴滴涕
DDT p,p



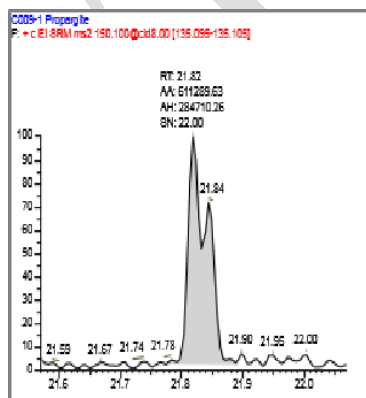
182.炔草酸
Clodinafop-propargyl
ester



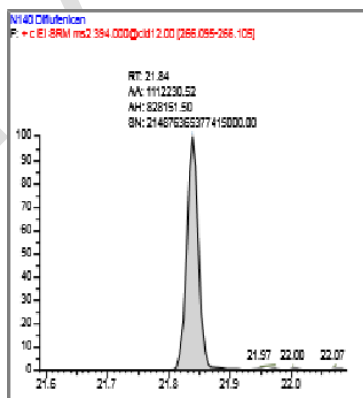
183.环嗪酮
Hexazinone



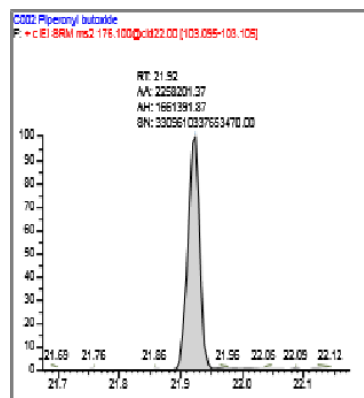
184.戊唑醇
Tebuconazole



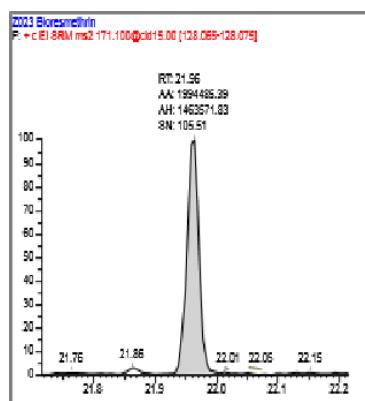
185.克螨特
Propargite



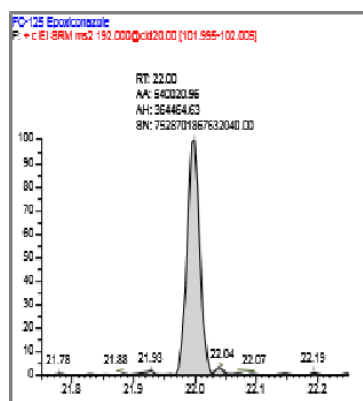
186.吡氟酰草胺
Diflufenican



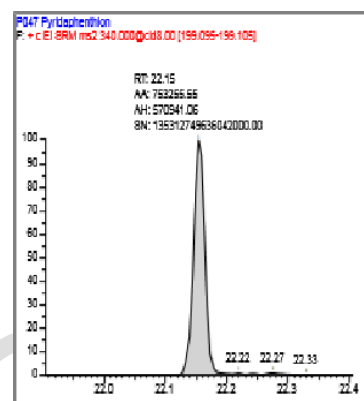
187.增效醚
Piperonyl butoxide



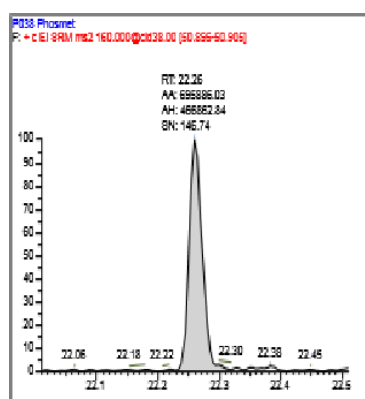
188.生物苄呋菊酯
Bioresmethrin



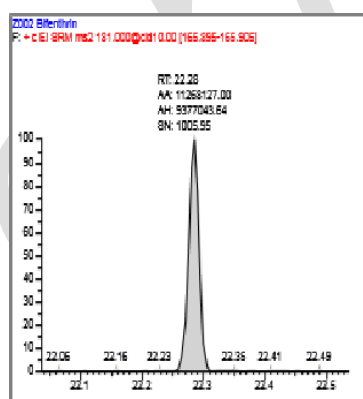
189.氟环唑
Epoxiconazole



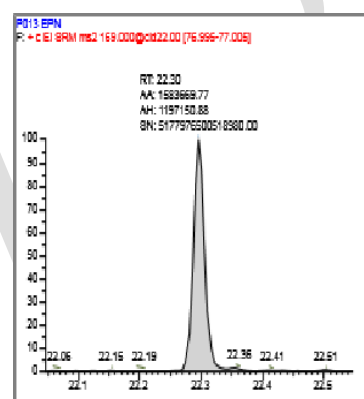
190.哒嗪硫磷
Pyridaphenthion



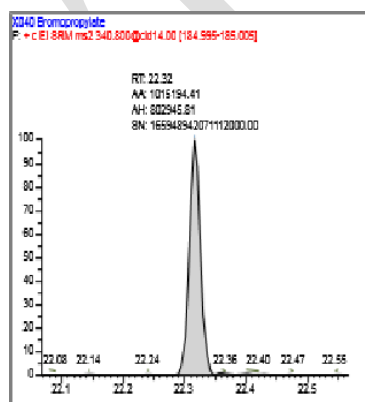
191.亚胺硫磷
Phosmet



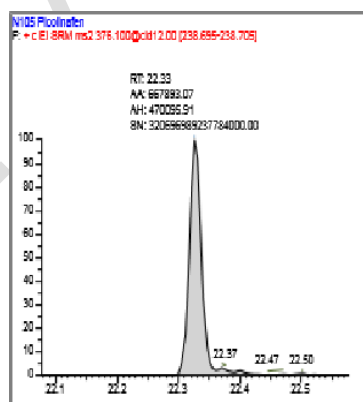
192.联苯菊酯
Bifenthrin



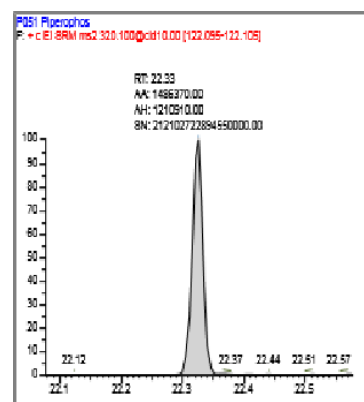
193.苯硫磷
EPN



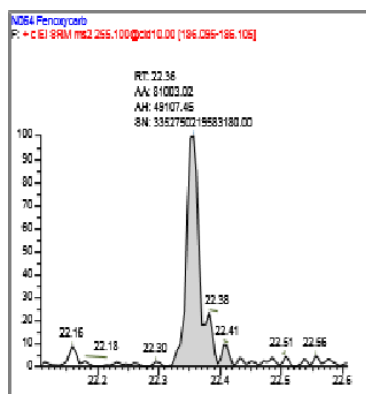
194.溴螨酯
Bromopropylate



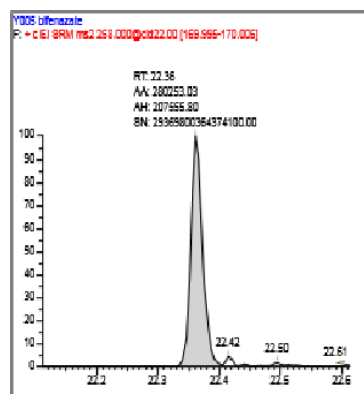
195.氟吡草胺
Picolinafen



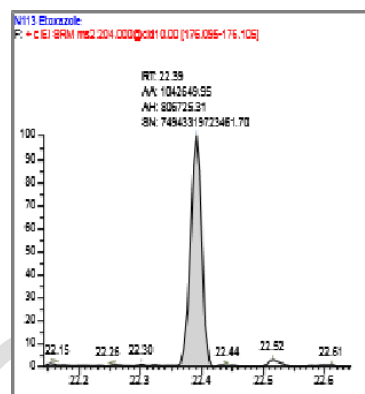
196.哌草磷
Piperophos



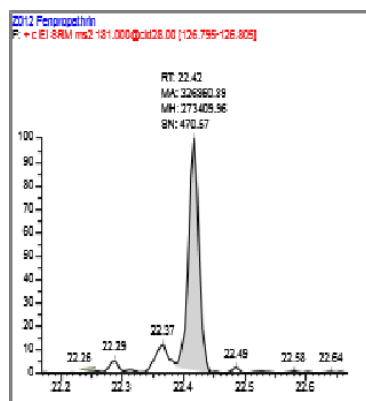
197.苯氧威
Fenoxycarb



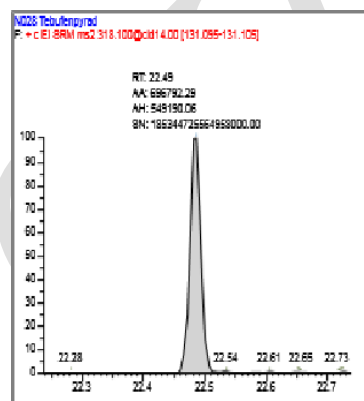
198.联苯腈酯
bifenazate



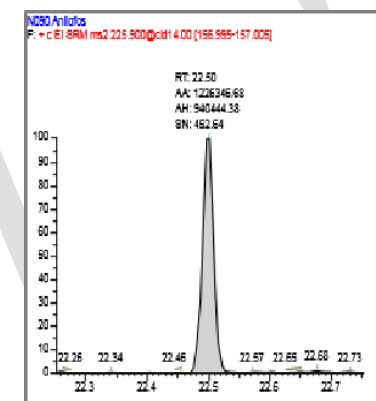
199.乙螨唑
Etoxazole



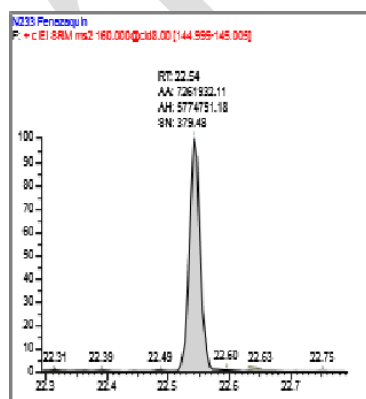
200.甲氰菊酯
Fenpropathrin



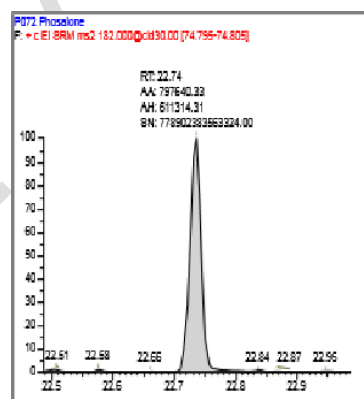
201.吡螨胺
Tebufenpyrad



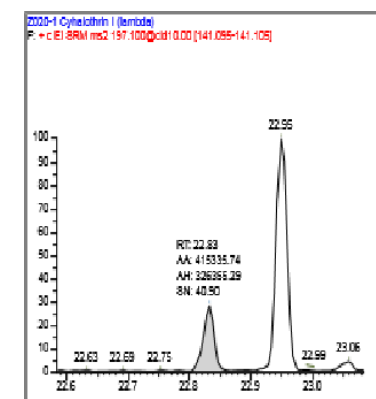
202.莎稗磷
Anilofos



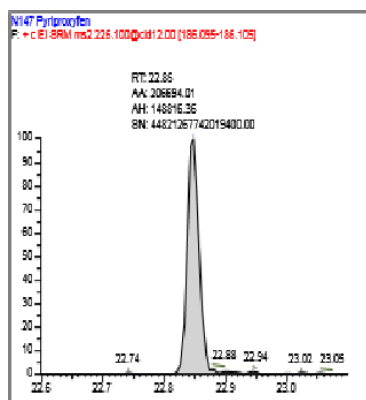
203.啮螨醚
Fenazaquin



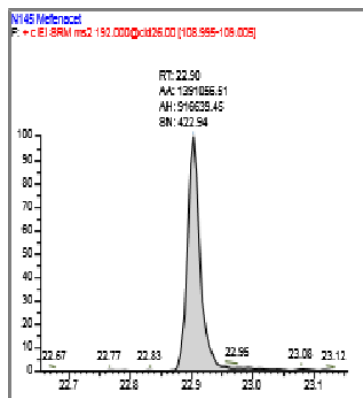
204.伏杀硫磷
Phosalone



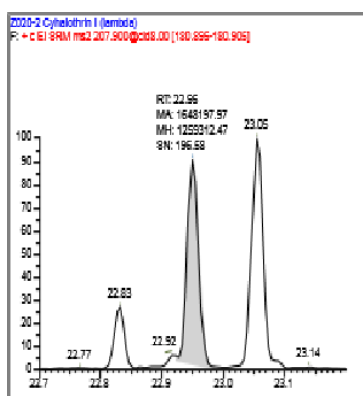
205.氯氟氰菊酯-1
Cyhalothrin-1



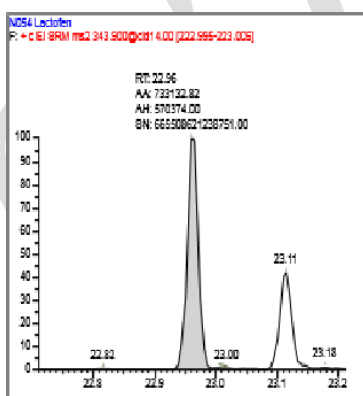
206.吡丙醚
Pyriproxyfen



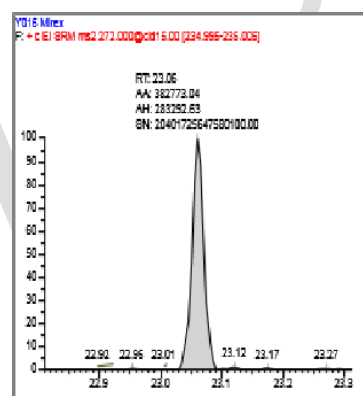
207.苯噻酰草胺
Mefenacet



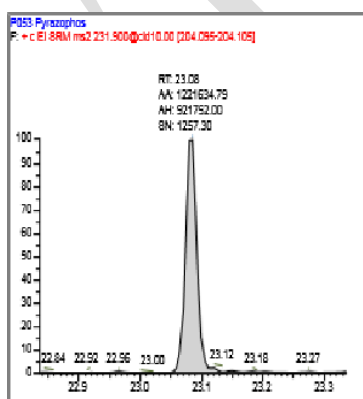
208.氯氟氰菊酯-2
Cyhalothrin-2



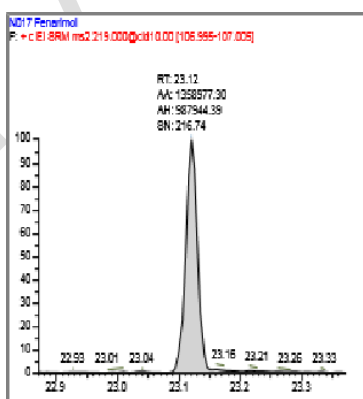
209.乳氟禾草灵
Lactofen



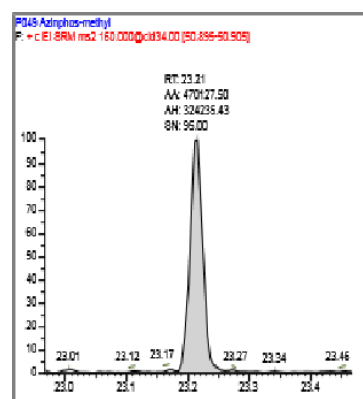
210.灭蚁灵
Mirex



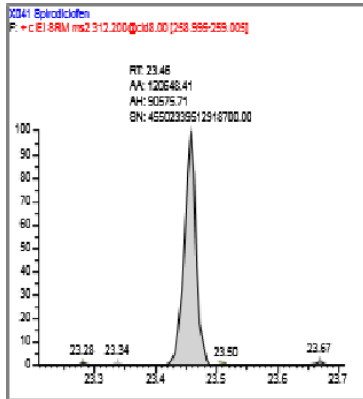
211.吡菌磷
Pyrazophos



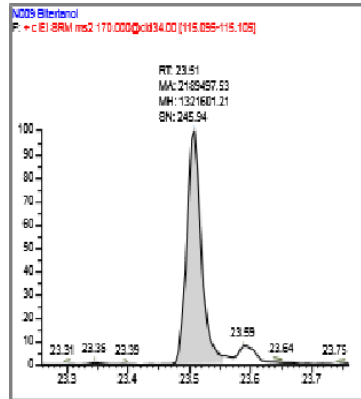
212.氯苯嘧啶醇
Fenarimol



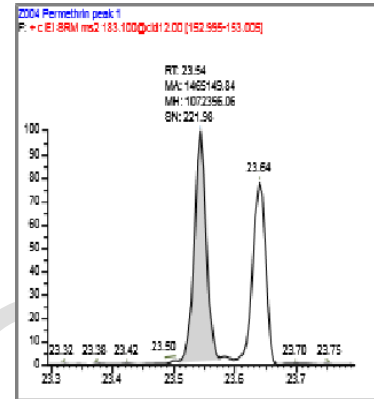
213.保棉磷
Azinphos-methyl



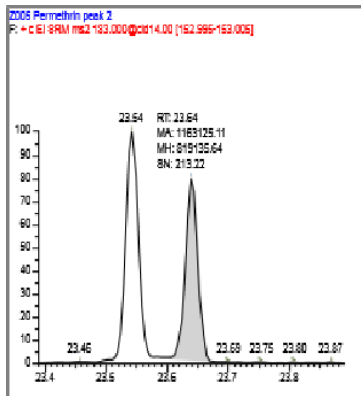
214.螺螨酯
Spirodiclofen



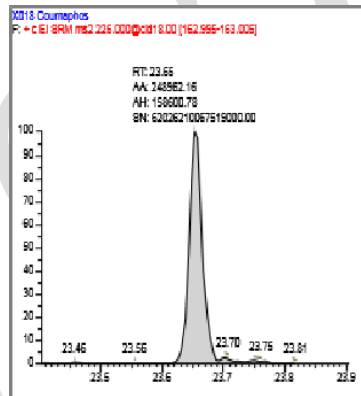
215.联苯三唑醇
Bitertanol



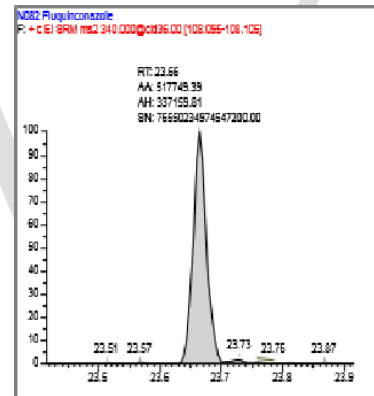
216.顺式氯菊酯
Permethrin-1



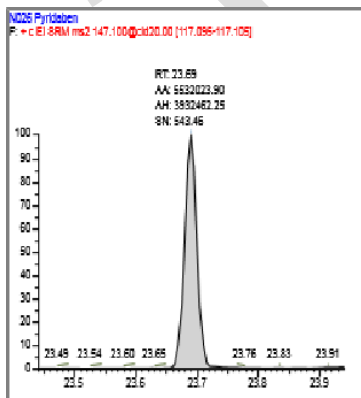
217.反式氯菊酯
Permethrin-2



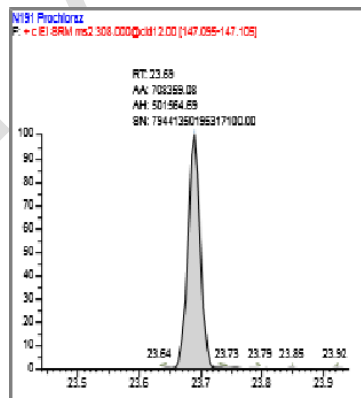
218.蝇毒磷
Coumaphos



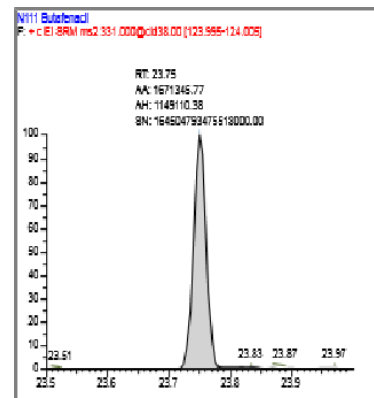
219.氟喹唑
Fluquinconazole



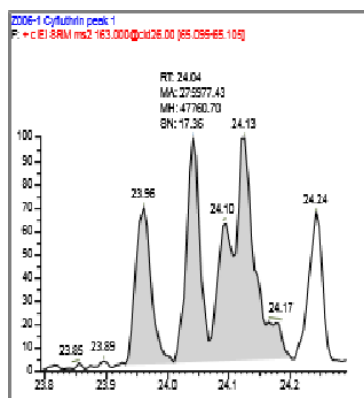
220.哒螨灵
Pyridaben



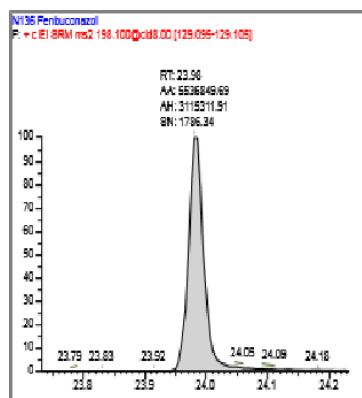
221.咪鲜胺
Prochloraz



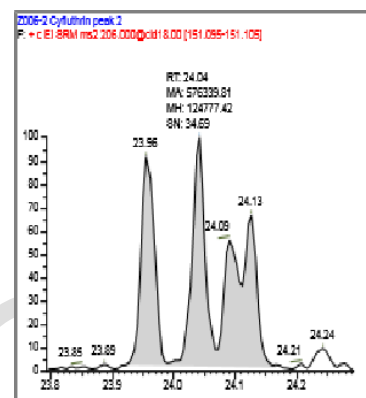
222.氟丙嘧草酯
Butafenacil



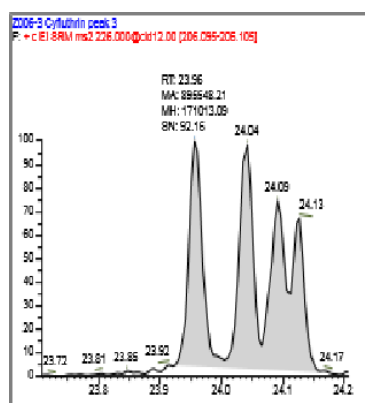
223. 氟氯氰菊酯-1
Cyfluthrin-1



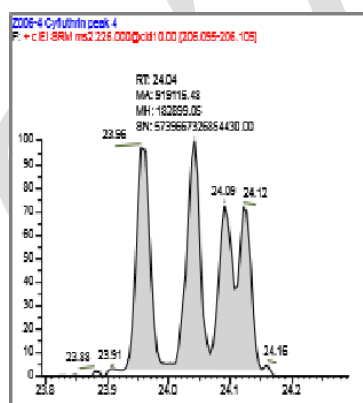
224. 腈苯唑
Fenbuconazole



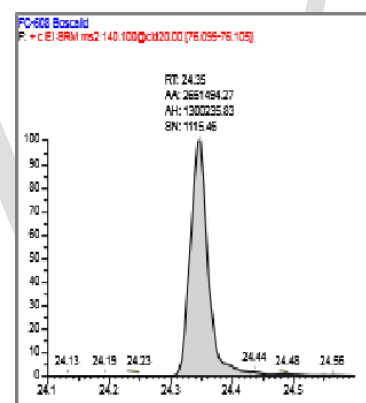
225. 氟氯氰菊酯-2
Cyfluthrin-2



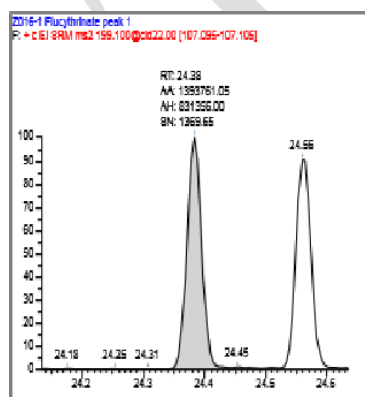
226. 氟氯氰菊酯-3
Cyfluthrin-3



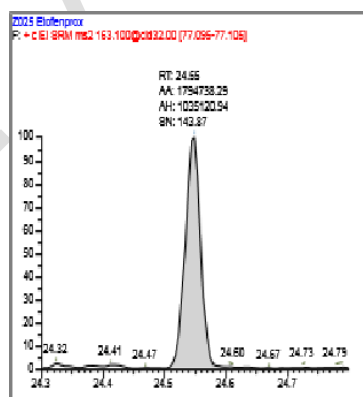
227. 氟氯氰菊酯-4
Cyfluthrin-4



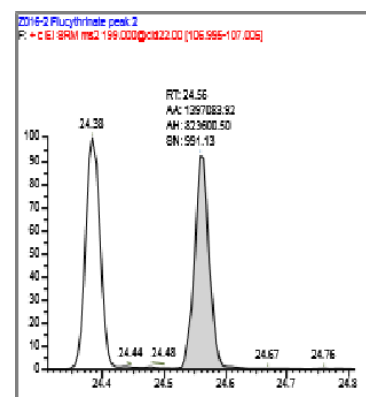
228. 啉酰菌胺
Boscalid



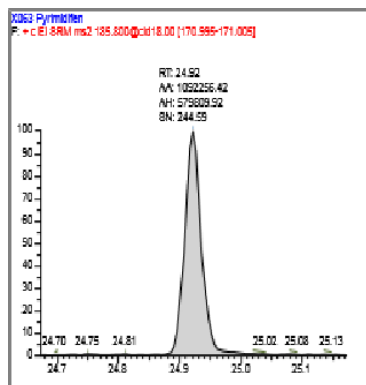
229. 氟氰戊菊酯-1
Flucythrinate-1



230. 醚菊酯
Etofenprox

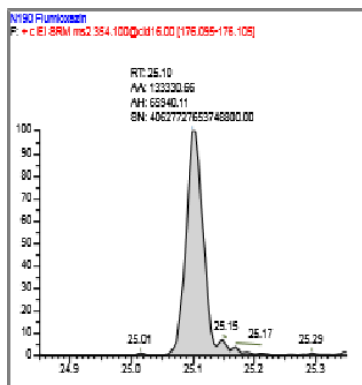


231. 氟氰戊菊酯-2
Flucythrinate-2



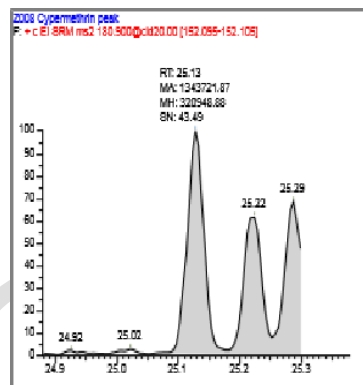
232. 嘧啶醚

Pyrimidifen



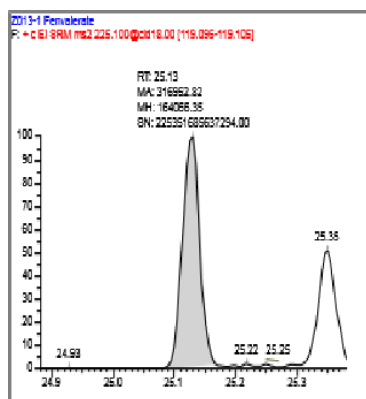
233. 丙炔氟草胺

Flumioxazin



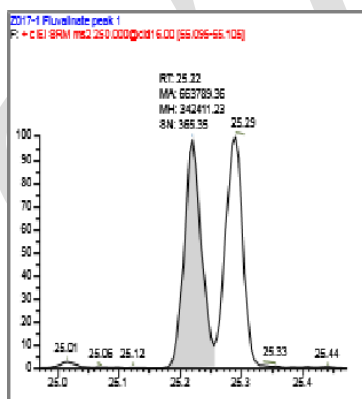
234. 氯氰菊酯

Cypermethrin



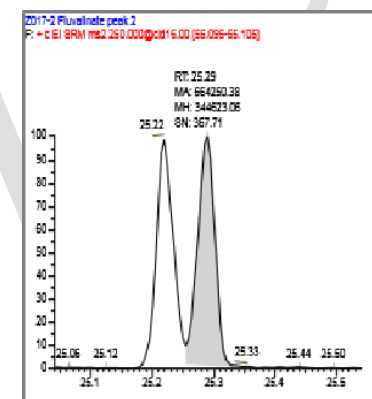
235. 氟戊菊酯-1

Fenvalerate



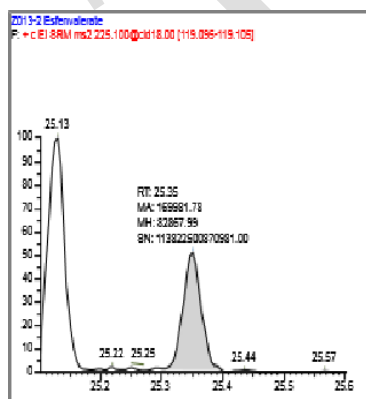
236. 氟胺氰菊酯-1

Fluvalinate-1



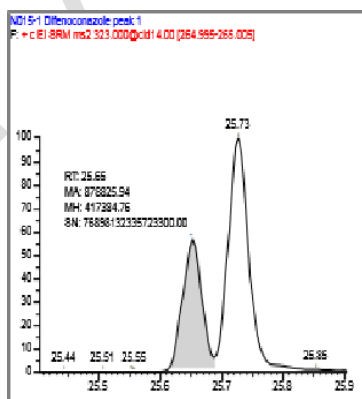
237. 氟胺氰菊酯-2

Fluvalinate-2



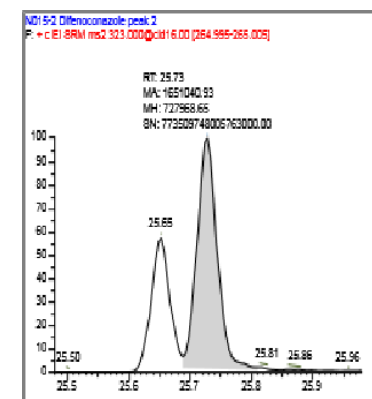
238. 氟戊菊酯-2

Esfenvalerate



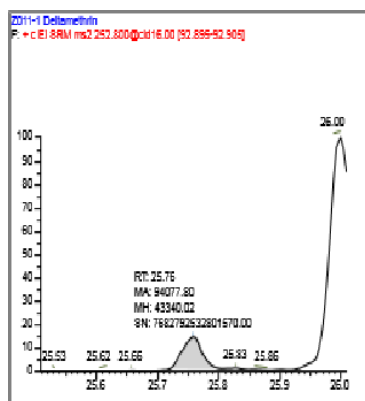
239. 苯醚甲环唑-1

Difenoconazole-1



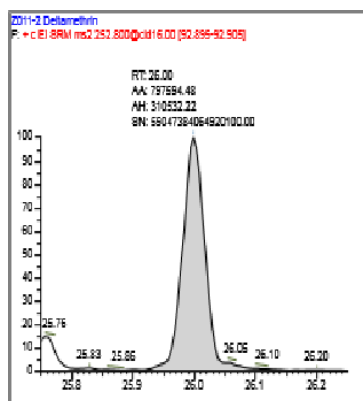
240. 苯醚甲环唑-2

Difenoconazole-2



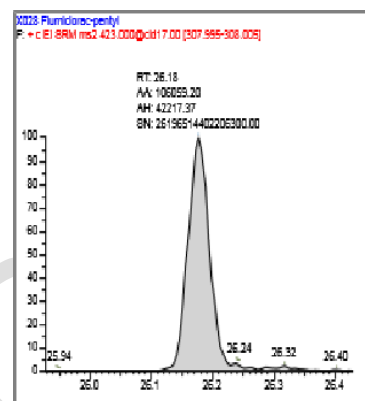
241. 溴氰菊酯-1

Deltamethrin-1



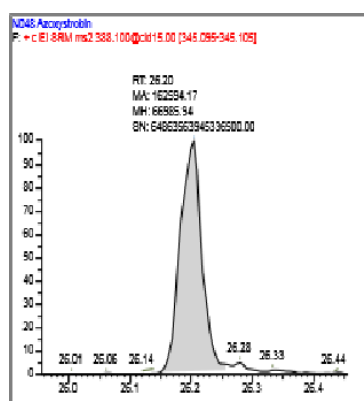
242. 溴氰菊酯-2

Deltamethrin-2



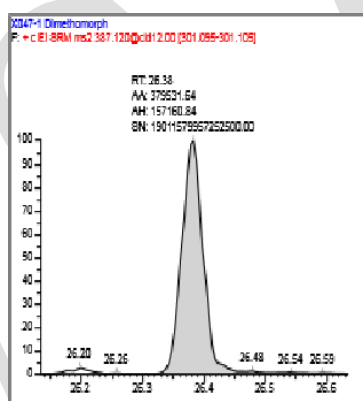
243. 氟烯草酸

Flumiclorac-pentyl



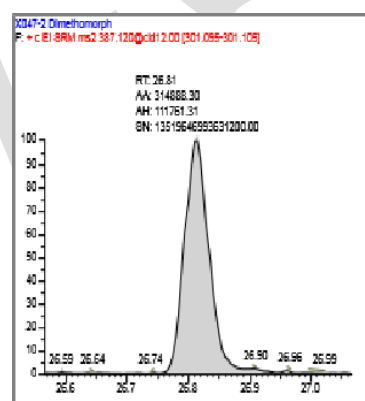
244. 嘧菌酯

Azoxystrobin



245. 烯酰吗啉-1

Dimethomorph-1



246. 烯酰吗啉-2

Dimethomorph-2

T/SZS

附 录 C

(资料性)

样品的添加浓度为筛查限时的回收率与精密度

样品的添加浓度为筛查限时回收率与精密度的实验数据见表C. 1。

表 C. 1 样品的添加浓度为筛查限时的回收率与精密度

项目	回收率 (%)						重复性精密度 (%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
敌敌畏(Dichlorvos)	73.3	72.2	73.9	72.1	75.1	72.8	14.8	13.1	15.0	14.5	18.2	5.5
二丙烯草胺(Allidochlor)	156.5	112.5	131.9	127.7	101.0	119.8	7.0	9.6	8.5	9.5	9.8	8.4
联苯(Biphenyl)	133.6	136.7	103.8	75.3	166.9	141.6	9.0	7.5	11.7	15.0	6.6	7.2
速灭磷(Mevinphos)	123.5	110.2	136.5	93.7	86.4	102.5	9.5	9.2	6.8	11.7	12.9	12.8
3-羟基克百威(Carbofuran-3-Hydroxy)	153.7	160.3	81.5	131.3	113.5	170.0	7.4	6.4	14.9	7.7	9.4	5.8
苯胺灵(Propham)	97.0	96.3	89.5	140.6	117.1	120.3	10.4	12.5	11.4	8.8	9.7	8.7
虫螨畏(Methacrifos)	168.8	119.9	154.5	158.1	130.4	82.3	6.7	10.2	5.9	6.2	8.0	12.0
邻苯基苯酚(Ortho-phenylphenol)	161.6	136.2	67.1	97.7	93.2	159.8	7.5	7.2	15.5	10.1	11.1	6.4
异丙威(Isoprocarb)	68.6	62.8	84.0	91.0	70.4	84.6	7.0	8.9	5.2	5.4	7.5	5.6
禾草敌(Molinate)	133.3	142.6	167.3	158.6	120.4	95.3	6.9	7.2	5.9	6.6	9.6	11.1
庚烯磷(Heptenophos)	122.1	137.5	123.0	146.8	160.2	72.8	8.5	7.0	8.7	7.9	7.3	14.8
克百威(Carbofuran)	126.7	119.4	131.0	131.4	108.9	99.8	9.6	7.2	8.7	9.3	9.8	10.5
氧乐果(Omethoate)	120.0	127.5	153.5	119.1	116.2	77.9	7.0	8.0	7.2	9.6	9.1	13.8
四氯硝基苯(Tecnazene)	87.4	68.2	69.0	63.8	60.1	93.5	6.1	7.2	7.5	9.0	7.9	5.8
仲丁威(Fenobucarb)	78.7	71.2	65.2	103.7	105.1	89.7	6.8	7.3	8.5	6.0	6.7	18.2
残杀威(Propoxur)	164.9	138.3	114.6	128.8	143.5	104.3	6.4	8.7	8.4	7.1	6.8	12.0
毒草胺(Propachlor)	172.4	77.7	146.9	94.2	135.3	86.8	6.1	15.1	6.8	11.6	8.5	12.1
氟铃脲(Hexaflumuron)	135.3	80.3	156.4	82.6	102.8	112.0	7.1	15.3	7.4	13.2	9.6	9.6
二苯胺(Diphenylamine)	170.2	118.4	92.1	103.7	113.8	165.8	5.5	7.5	15.1	8.4	10.2	7.2
灭线磷(Ethoprop)	146.4	93.0	125.4	151.1	150.4	68.9	6.9	10.3	9.3	5.8	7.2	15.2
乙丁烯氟灵(Ethalfuralin)	126.3	146.3	127.1	83.7	123.5	101.4	9.5	6.3	8.8	12.2	9.3	10.3
氯苯胺灵(Chlorpropham)	57.1	64.1	58.1	80.8	68.7	66.9	5.1	6.0	5.9	5.1	7.8	9.0
氟乐灵(Trifluralin)	165.4	109.8	94.2	132.2	100.3	77.3	5.5	7.6	10.7	7.8	11.5	13.1
杀虫脒(Chlordimeform)	75.2	77.6	132.0	89.6	106.9	73.3	15.8	13.1	7.0	10.8	9.6	15.0
乙丁氟灵(Benfluralin)	153.9	79.6	108.8	78.2	136.8	107.0	7.0	12.3	7.4	11.1	7.8	7.4
治螟磷(Sulfotep)	131.0	125.7	83.6	152.0	66.8	165.6	7.7	9.5	15.1	6.8	15.3	6.3
蔬果磷(Dioxabenzofos)	129.9	85.8	132.5	76.1	134.4	112.3	8.9	12.2	8.0	11.9	7.8	8.9
甲拌磷(Phorate)	121.3	80.4	146.7	110.2	127.6	157.2	8.6	15.7	7.5	7.9	8.6	6.5
α -六六六(BHC, Alpha)	98.3	146.1	167.3	84.8	107.0	133.2	10.8	7.4	6.9	15.3	8.4	8.1
六氯苯(Hexachlorobenzene)	74.6	140.7	167.2	162.3	122.9	155.9	16.4	7.7	7.4	5.6	9.4	7.7

项目	回收率(%)						重复性精密度(%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
五氯甲氧基苯(Pentachloroanisole)	113.1	128.7	173.0	126.1	73.5	87.8	9.2	8.2	5.3	7.6	14.2	12.0
内吸磷(Demeton)	91.0	119.8	82.2	73.0	86.1	147.7	11.1	8.8	11.6	17.1	12.4	5.8
氯硝胺(Dicloran)	111.3	79.1	139.4	120.9	90.1	91.1	7.2	13.8	6.5	9.7	13.1	12.2
西玛津(Simazine)	104.0	160.6	125.5	84.8	170.3	130.8	12.4	7.3	8.2	12.5	6.2	8.6
莠去津(Atrazine)	101.9	119.9	151.3	163.8	69.4	164.5	10.3	9.0	6.6	6.3	16.1	6.1
β-六六六(BHC, Beta)	138.5	97.9	164.0	151.0	156.6	161.5	7.5	11.0	7.0	6.7	7.3	6.4
异噁草酮(Clomazone)	74.6	111.1	97.5	68.0	94.1	164.4	17.4	9.6	10.6	18.8	10.5	6.4
戊菌隆(Pencycuron)	107.7	108.9	166.2	164.8	120.8	67.1	10.0	10.4	5.9	5.3	9.1	13.3
五氯硝基苯(Quintozene)	92.2	136.4	137.7	140.6	90.7	78.7	12.2	7.5	8.4	6.9	13.2	12.8
γ-六六六(BHC, gamma)	160.4	168.2	166.0	125.4	151.8	124.3	5.3	7.1	6.9	8.0	6.7	7.1
杀螟腈(Cyanophos)	75.2	70.8	115.0	89.8	116.4	127.1	12.1	14.0	7.3	11.4	10.0	7.1
乐果(Dimethoate)	77.6	100.5	128.0	140.8	166.5	76.3	9.2	8.8	9.0	8.9	7.5	11.9
炔苯酰草胺(Propyzamide)	115.9	106.3	154.1	157.6	156.1	127.3	8.9	10.0	6.8	6.9	7.0	7.3
地虫硫磷(Fonos)	136.1	159.9	86.2	137.1	129.8	159.3	7.4	5.8	13.6	8.3	7.9	6.7
二嗪磷(Diazinon)	104.6	110.1	118.6	136.4	131.7	151.8	9.2	11.0	7.2	7.1	6.0	7.3
嘧霉胺(Pyrimethanil)	101.2	161.5	94.4	78.7	115.0	121.0	10.6	5.7	13.3	13.5	8.7	7.5
乙拌磷(Disulfoton)	71.2	78.4	68.3	68.6	90.7	78.7	7.1	18.4	8.2	7.2	5.2	6.5
氯唑磷(Isazophos)	69.1	111.5	131.5	136.6	165.0	94.7	12.6	10.5	8.2	8.3	6.2	11.6
七氟菊酯(Tefluthrin)	70.3	130.3	104.6	86.7	65.8	111.1	18.2	8.9	11.0	9.5	19.1	8.7
乙嘧硫磷(Etrimfos)	146.1	113.8	140.1	103.2	99.3	72.8	5.1	9.9	8.4	10.5	12.2	10.9
野麦畏(Triallate)	134.8	86.3	138.0	85.4	89.1	113.5	7.2	13.9	8.2	13.6	9.9	9.4
δ-六六六(BHC, delta)	123.2	110.1	125.3	165.7	163.1	130.7	9.2	10.0	8.0	5.1	7.0	7.2
抗蚜威(Pirimicarb)	89.3	170.2	90.4	146.7	159.8	113.9	12.1	6.3	11.8	7.7	6.5	9.7
异稻瘟净(Iprobenfos)	89.0	82.6	104.9	65.9	93.3	119.8	11.1	15.2	8.4	19.5	12.3	9.5
解草酮(Benoxacor)	152.5	168.1	108.9	130.0	86.4	95.9	8.1	6.4	8.5	7.7	11.0	13.4
五氯苯胺(Pentachloroaniline)	112.8	105.6	131.9	93.4	83.5	109.3	8.4	9.0	8.1	10.2	11.4	9.2
呋草黄(Benfuresate)	77.1	139.6	112.0	144.9	117.7	145.7	12.8	8.7	9.7	6.5	9.4	6.6
除线磷(Dichlofenthion)	136.4	79.4	139.5	74.6	128.2	156.1	7.5	10.0	8.4	12.4	10.0	6.0
精二甲酚草胺(Dimethenamid-P)	89.7	124.4	126.6	122.8	141.4	104.8	10.6	7.9	8.0	7.9	8.4	8.2
乙草胺(Acetoachlor)	113.5	118.3	151.6	144.4	166.1	170.0	10.2	7.4	6.7	6.3	5.9	5.6
甲基毒死蜱(Chlorpyrifos-methyl)	78.1	116.7	147.5	128.3	143.0	166.0	14.9	9.9	7.0	8.5	7.2	5.4
噻草酮(Metribuzin)	77.2	123.0	95.1	103.0	78.1	90.1	12.1	8.7	12.0	11.7	13.9	10.3
氟甲腈(Fipronil-desulfinyl)	156.7	133.1	81.8	92.2	96.3	138.4	6.4	7.5	12.7	13.1	10.8	7.2
乙烯菌核利(Vinclozolin)	101.7	132.3	164.7	124.2	73.2	98.7	8.1	7.9	5.7	5.8	14.0	8.5
螺环菌胺-1(Spiroxamine-1)	87.4	109.8	168.6	155.5	119.4	137.3	12.3	10.2	6.3	5.4	8.7	6.8
甲基对硫磷(Parathion-methyl)	81.4	104.3	101.4	113.9	120.3	97.6	15.7	11.6	11.6	9.5	9.1	12.1
甲草胺(Alachlor)	71.4	125.4	76.4	75.2	159.8	90.8	14.6	9.4	14.4	15.0	5.8	11.5
硅氟唑(Simeconazole)	128.2	91.1	166.7	163.6	143.4	77.4	8.7	12.3	5.7	7.7	6.6	11.4

项目	回收率 (%)						重复性精密度 (%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
甲基枯磷(Tolclofos-methyl)	148.5	72.5	94.4	86.1	162.2	117.3	6.7	13.7	12.4	13.0	6.9	7.7
西草净(Simetryn)	144.1	168.4	73.2	77.6	136.9	149.1	7.4	6.9	15.9	14.0	8.1	8.3
甲霜灵(Metalaxyl)	133.7	99.3	124.0	111.6	125.4	79.3	8.6	11.8	10.5	11.4	9.5	14.7
莠灭净(Ametryne)	97.1	105.8	98.5	124.4	83.9	106.4	6.5	10.5	8.2	5.9	9.0	7.2
七氯(Heptachlor)	167.8	67.5	128.0	135.3	150.6	116.8	6.1	15.6	8.0	5.8	7.5	8.3
皮蝇磷(Fenchlorfos)	158.6	76.2	157.7	73.3	158.8	99.5	7.2	13.3	5.5	13.1	6.0	8.1
扑草净(Prometryn)	130.3	130.3	86.1	114.5	67.6	70.4	7.5	7.8	11.6	8.1	14.4	12.3
氟硫草定(Dithiopyr)	133.7	91.2	156.0	167.4	114.4	109.1	8.1	11.1	6.0	6.5	9.8	11.4
甲基嘧啶磷(Pirimiphos-methyl)	128.7	68.7	100.9	125.9	144.4	127.2	10.0	15.5	11.7	9.8	7.9	9.0
杀螟硫磷(Fenitrothion)	130.5	133.5	137.7	72.7	154.2	88.9	7.4	6.9	7.0	16.2	6.2	12.3
螺环菌胺-2(Spiroxamine-2)	80.6	83.2	108.3	103.7	87.7	156.6	13.9	14.4	9.6	12.5	13.0	6.6
乙氧呋草黄(Ethofumesate)	166.7	105.3	140.2	67.9	104.3	94.4	5.8	9.6	7.1	15.2	9.0	10.9
戊草丹(Esprocarb)	116.8	94.4	84.1	101.2	136.7	136.3	9.5	9.6	9.8	11.2	7.6	7.6
马拉硫磷(Malathion)	144.6	158.2	73.3	92.3	113.7	166.6	6.4	6.1	9.5	11.2	9.4	7.1
噻唑烟酸(Thiazopyr)	106.6	91.1	111.8	138.2	141.7	69.8	8.9	10.4	11.3	9.1	7.7	14.0
异丙甲草胺(Metolachlor)	110.7	131.2	100.7	127.6	73.5	86.0	9.3	8.2	9.6	8.2	13.8	14.4
毒死蜱(Chlorpyrifos-ethyl)	115.2	121.5	96.3	156.3	160.8	132.5	9.3	9.4	11.2	7.7	6.3	7.8
禾草丹(Thiobencarb)	89.8	109.4	72.1	106.8	77.7	145.9	12.8	10.9	12.9	9.0	9.7	6.1
乙霉威(Diethofencarb)	99.8	120.7	111.2	129.2	128.9	126.2	11.4	8.4	9.7	8.8	8.0	8.9
艾氏剂(Aldrin)	132.7	97.3	91.0	112.7	96.8	137.8	5.2	7.0	7.8	6.7	7.1	5.0
倍硫磷(Fenthion)	75.9	116.5	149.8	79.9	152.5	115.0	14.1	8.8	8.3	16.2	8.9	8.5
丁苯吗啉(Fenpropimorph)	132.7	157.9	97.5	137.2	127.8	153.5	8.3	5.5	9.6	7.7	9.3	7.0
对硫磷(Parathion)	71.4	87.6	70.8	124.2	134.8	105.3	14.3	11.1	13.6	8.5	8.0	11.2
四氟醚唑(Tetraconazole)	170.9	104.1	87.6	116.0	99.4	121.8	6.0	10.1	11.8	9.7	10.0	9.7
三唑酮(Triadimefon)	94.7	109.9	72.2	117.3	68.9	80.9	12.0	10.3	15.1	8.3	14.2	11.2
水胺硫磷(Isocarbophos)	72.6	88.6	110.5	160.1	71.1	102.0	13.4	13.6	9.8	6.8	14.7	9.8
酞菌酯(Nitrothal-isopropyl)	70.8	112.2	114.1	79.3	88.2	156.9	16.9	10.0	10.5	10.4	14.3	7.7
三氯杀螨醇(Dicofol)	80.9	124.4	73.3	133.1	90.0	97.8	14.0	9.2	15.4	7.5	12.6	10.9
溴硫磷(Bromophos-methyl)	129.9	102.5	122.7	168.6	161.0	108.9	7.5	10.5	6.6	5.6	7.4	12.1
双苯酰草胺(Diphenamid)	125.1	74.7	149.0	105.1	72.8	76.9	9.4	14.2	7.9	9.6	13.0	13.6
四氯苯酞(Phthalide-4,5,6,7-tetrachloro)	168.4	93.5	79.6	79.0	148.6	108.7	5.4	14.2	11.9	10.9	6.9	9.1
氧化氯丹(Oxy-Chlordane)	159.4	144.1	84.4	153.8	142.5	92.7	7.1	6.8	11.6	6.0	8.1	10.7
氟虫腈硫醚(Fipronil-sulfide)	150.4	139.3	115.5	146.3	133.3	162.9	7.1	8.4	9.0	8.1	7.2	7.1
甲基异柳磷(Isofenphos-methyl)	117.4	95.7	109.9	158.9	79.5	77.4	9.3	9.1	10.3	6.9	15.8	14.5
二甲戊灵(Pendimethalin)	153.6	160.7	107.8	142.0	134.4	147.2	7.7	6.9	10.2	9.0	9.4	7.6
克菌丹(Captan)	84.1	104.4	150.2	133.9	103.8	71.5	10.9	7.5	6.2	8.7	9.2	14.9
噻菌环胺(Cyprodinil)	138.9	90.1	129.2	90.9	115.7	101.2	5.6	6.5	6.6	9.2	6.7	8.6

项目	回收率(%)						重复性精密度(%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
氟虫腈(Fipronil)	95.1	97.8	93.8	129.4	108.1	83.6	8.4	7.6	8.1	6.8	7.5	7.9
戊菌唑(Penconazole)	156.9	93.6	85.9	138.8	140.3	138.5	5.6	9.5	11.5	9.0	8.0	6.4
乙菌利(Chlozolinate)	111.4	139.6	164.8	111.5	125.6	92.2	8.9	8.3	7.2	8.7	8.7	10.5
异柳磷(Isofenphos)	125.3	115.3	79.8	116.7	92.9	93.4	8.7	9.4	14.5	10.2	7.5	11.2
毒虫畏(Chlorfenvinphos)	134.8	110.0	167.5	72.6	167.5	158.3	8.7	7.0	6.2	16.0	6.0	6.5
硫环磷(Phosfolan)	98.2	135.4	127.4	77.7	143.6	150.3	10.0	5.2	7.0	14.0	5.9	7.5
丙烯菊酯-1(Allethrin-1)	102.3	164.2	122.1	78.1	164.8	82.9	8.0	7.0	8.1	12.6	7.0	11.8
稻丰散(Phenthoate)	115.1	162.1	159.7	123.0	129.5	137.9	8.0	6.7	5.7	6.5	8.6	6.3
丙烯菊酯-2(Allethrin-2)	167.0	137.9	97.2	165.5	115.4	90.5	6.4	8.0	11.3	6.8	8.1	11.1
喹硫磷(Quinalphos)	98.3	155.1	81.4	111.7	142.2	90.9	12.2	7.4	14.7	7.7	7.6	12.2
腐霉利(Procymidone)	140.6	117.2	86.9	166.2	72.8	138.6	8.1	9.0	11.1	6.8	13.8	9.5
三唑醇-1(Triadimenol-1)	77.7	140.7	155.7	122.7	91.7	83.1	12.1	7.5	5.8	7.9	9.3	12.5
哌草丹(Dimepiperate)	154.2	101.3	102.2	121.0	73.7	116.1	7.7	12.7	10.4	9.7	16.1	8.5
苯酰菌胺(Zoxamide)	127.3	92.3	100.2	84.1	140.8	145.9	8.0	10.7	9.4	13.0	7.9	6.5
三唑醇-2(Triadimenol-2)	133.8	126.5	151.6	93.6	77.6	134.1	8.8	8.8	7.0	12.7	11.8	7.2
乙基溴硫磷(Bromophos-ethyl)	108.0	132.7	110.6	112.3	88.1	118.7	6.7	6.0	6.3	7.9	10.4	6.2
杀扑磷(Methidathion)	133.9	78.7	115.7	152.7	116.6	159.7	6.4	11.9	8.4	6.6	9.3	7.0
狄氏剂(Dieldrin)	109.1	80.0	122.6	124.7	110.7	125.0	6.5	10.0	7.5	5.0	7.5	6.0
反式氯丹(Chlordane gamma-trans)	88.9	101.1	130.8	158.8	96.1	86.4	12.0	10.1	8.8	7.4	12.2	13.2
丙虫磷(Propaphos)	149.7	89.5	116.4	71.1	122.9	69.6	7.1	11.9	9.8	11.4	9.0	17.2
多效唑(Paclobutrazol)	151.0	123.0	150.1	149.7	155.7	133.5	6.6	9.0	7.3	7.3	6.1	8.1
丁草胺(Butachlor)	153.9	147.4	117.6	97.3	114.7	90.7	7.2	7.4	8.7	11.5	8.5	11.7
苯硫威(Fenothiocarb)	141.3	105.9	88.5	132.3	140.4	125.5	8.4	9.7	12.2	5.9	7.6	9.0
α -硫丹(Endosulfan 1)	71.8	113.3	168.2	146.6	90.9	77.3	14.7	10.4	5.7	7.5	10.2	12.9
顺式氯丹(Chlordane alpha-cis)	155.5	161.5	138.7	103.6	165.5	124.2	6.7	5.7	7.9	10.9	5.7	7.6
啮氧菌酯(Picoxystrobin)	108.8	137.8	155.9	109.6	109.0	101.0	9.6	7.2	6.7	9.0	9.1	9.4
氟啶脲(Chlorfluazuron)	161.1	83.5	125.8	158.5	121.4	112.5	6.1	13.8	7.7	6.2	8.7	9.5
粉唑醇(Flutriafol)	142.1	102.7	75.5	130.8	68.4	84.9	7.1	11.7	11.8	6.6	15.7	12.9
苯线磷(Fenamiphos)	101.6	92.7	94.8	78.1	97.7	145.3	7.1	7.6	8.6	9.4	7.7	10.7
萘丙酰草胺(Napropamide)	104.4	121.3	94.9	163.5	79.4	161.1	10.6	7.9	11.6	5.7	14.5	6.1
氟酰胺(Flutolanil)	164.2	132.5	137.6	90.0	161.1	92.5	7.1	9.0	8.1	11.9	6.0	10.0
杀螨酯(Chlorfenson)	117.3	118.8	73.4	150.6	108.7	130.9	7.5	8.7	15.2	6.8	8.0	7.3
己唑啉(Hexaconazole)	130.4	109.8	150.0	145.6	152.3	139.8	7.9	8.3	7.0	7.2	7.4	7.7
抑霉唑(Imazalil)	143.0	148.4	74.8	113.3	110.0	70.9	8.4	5.6	15.2	9.8	9.9	15.5
苯氧菌胺(Metominostrobin-E)	120.9	170.1	134.2	151.8	136.6	92.2	7.5	5.6	6.7	6.5	6.7	11.9
丙硫磷(Prothiofos)	149.2	110.2	88.6	109.7	140.0	94.2	7.8	10.0	12.8	10.6	6.7	10.8
稻瘟灵(Isoprothiolane)	95.4	96.3	124.0	152.7	126.9	121.4	11.3	11.5	7.9	5.6	7.6	10.5
丙草胺(Pretilachlor)	152.7	147.2	97.0	111.2	165.4	102.7	8.2	7.6	11.7	10.5	6.8	10.0

项目	回收率(%)						重复性精密度(%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
丙溴磷(Profenofos)	93.6	156.9	78.5	116.9	139.4	76.6	12.7	7.2	12.5	9.1	9.5	13.8
氟虫腈砒(Fipronil-sulfone)	87.9	90.9	133.1	148.8	97.0	74.7	11.7	10.9	7.7	7.2	10.6	12.8
p,p'-滴滴伊(DDE o,p)	80.3	85.4	140.1	150.6	146.0	93.0	13.5	12.8	7.7	7.2	5.1	10.6
噁草酮(Oxadiazon)	138.9	62.5	145.0	123.8	90.8	136.2	9.2	9.1	8.3	7.5	8.5	7.3
麦草氟甲酯(Flamprop-methyl)	101.0	81.0	112.0	86.5	138.1	90.4	8.5	15.5	9.0	11.7	8.1	12.3
杀螨特-1(Aramite-1)	147.8	113.5	121.3	157.8	97.1	112.0	7.6	9.2	7.1	6.1	10.9	9.5
腈菌唑(Myclobutanil)	66.1	66.1	67.4	65.8	66.7	64.2	9.7	11.0	10.9	10.9	11.9	12.1
氟硅唑(Flusilazole)	91.6	138.8	79.7	103.6	152.6	119.0	12.5	5.5	13.2	10.3	9.0	8.2
乙氧氟草醚(Oxyfluorfen)	159.4	118.3	161.2	136.2	144.7	92.0	6.5	9.0	6.5	8.3	6.8	11.5
噻嗪酮(Buprofezin)	143.5	123.4	114.6	80.9	129.9	99.7	7.3	8.5	7.6	13.8	6.9	10.9
杀螨特-2(Aramite-2)	150.3	95.7	89.6	76.9	93.6	143.7	6.8	8.7	11.4	14.7	10.5	7.4
萎锈灵(Carboxin)	166.6	99.7	103.2	140.7	150.1	148.4	6.8	11.1	12.7	8.8	8.6	7.3
醚菌酯(Kresoxim-methyl)	129.1	130.9	85.5	136.1	110.5	169.7	6.1	8.6	11.1	8.1	8.4	6.0
虫螨腈(Chlorfenapyr)	136.1	88.0	98.2	162.8	102.7	136.8	7.0	8.4	9.7	7.6	9.3	6.6
环氟菌胺(Cyflufenamid)	90.8	104.1	87.9	83.9	141.6	157.7	11.2	10.0	12.7	12.5	6.3	7.7
环丙唑醇(Cyproconazole)	160.9	144.8	132.6	91.9	81.6	147.8	7.9	7.6	9.0	11.0	12.7	6.7
异狄氏剂(Endrin)	155.7	92.9	163.0	133.0	120.7	101.6	7.2	11.8	6.0	9.2	7.6	11.8
精吡氟禾草灵(Fluazifop-P-butyl)	122.5	90.9	112.7	133.6	122.8	109.9	10.4	13.0	10.3	7.5	9.5	8.2
乙酯杀螨醇(Chlorobenzilate)	98.4	103.9	153.7	90.0	144.2	64.8	11.7	9.2	7.4	11.1	7.5	17.8
丰索磷(Fensulfothion)	164.4	111.8	131.6	148.3	146.3	62.9	5.5	8.3	7.6	7.5	8.1	16.2
β-硫丹(Endosulfan 2)	117.2	166.2	108.9	121.0	102.6	95.1	7.9	5.7	8.5	9.7	9.8	9.4
硫丹硫酸盐(Endosulfan sulfate)	98.1	129.9	132.4	73.9	159.0	159.6	9.9	8.4	6.9	13.7	6.9	5.7
烯唑醇(Diniconazole)	126.5	162.5	123.7	83.1	96.0	103.2	6.4	5.1	7.8	13.9	12.7	8.8
噁霜灵(Oxadixyl)	144.4	67.7	108.5	147.3	134.5	94.9	7.3	15.4	9.4	6.7	8.0	12.3
p,p'-滴滴滴(DDD p,p)	85.9	70.1	158.6	147.0	73.2	81.1	11.3	14.0	6.4	5.0	15.9	14.8
乙硫磷(Ethion)	76.6	148.7	94.4	118.5	152.5	151.3	15.1	6.6	11.6	9.7	8.2	7.2
o,p'-滴滴涕(DDT o,p)	70.8	164.1	64.6	114.3	127.4	132.5	15.2	6.1	17.0	10.5	8.7	7.9
烯草酮(Clethodim)	70.4	120.7	121.0	125.9	167.8	127.9	12.3	9.7	7.1	8.3	7.1	9.8
灭锈胺(Mepronil)	101.0	164.7	131.7	115.8	158.2	91.9	10.0	6.8	8.2	9.4	6.1	11.4
三唑磷(Triazophos)	112.6	103.3	113.0	94.3	115.6	83.7	8.9	8.9	9.2	9.3	7.0	12.4
苯霜灵(Benalaxyl)	113.7	101.3	158.4	124.0	143.2	114.3	9.5	10.7	5.6	9.0	6.3	9.6
三硫磷(Carbophenothion)	101.4	100.6	102.1	127.0	107.7	102.5	10.6	9.9	9.7	9.5	9.7	10.8
敌瘟磷(Edifenphos)	90.3	157.0	156.8	80.6	149.1	123.5	10.5	7.6	6.3	11.7	8.2	8.4
肟菌酯(Trifloxystrobin)	113.5	146.1	116.8	96.3	136.3	81.4	9.5	7.8	7.9	10.0	7.4	12.6
丙环唑-1(Propiconazole-1)	91.8	74.2	135.3	143.4	116.0	106.5	10.2	13.6	8.3	6.9	7.9	8.4
丙环唑-2(Propiconazole-2)	99.0	150.5	85.3	105.4	133.9	127.2	10.1	6.6	12.2	7.8	6.5	8.9
吡草醚(Pyraflufen-ethyl)	163.9	75.1	144.2	146.9	96.6	106.2	7.1	14.2	7.7	6.1	11.7	7.9

项目	回收率(%)						重复性精密度(%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
p,p'-滴滴涕(DDT p,p)	136.5	114.2	123.3	161.6	152.1	77.7	8.9	7.6	10.5	6.3	6.9	12.4
炔草酸(Clodinafop-propargyl ester)	89.2	79.6	117.9	80.4	120.1	156.6	11.6	10.9	9.0	13.1	8.8	6.6
环嗪酮(Hexazinone)	82.3	70.1	167.2	152.3	71.8	158.0	15.4	14.6	5.9	6.4	13.2	5.3
戊唑醇(Tebuconazole)	171.2	81.7	90.5	84.4	116.7	112.8	5.1	12.7	12.9	13.1	10.4	11.5
克螨特(Propargite)	137.9	123.8	168.0	127.2	91.3	152.0	7.1	8.2	6.4	7.7	11.3	6.2
吡氟酰草胺(Diflufenican)	163.3	141.2	146.2	114.4	138.7	105.1	6.6	5.3	6.5	10.2	7.6	9.9
增效醚(Piperonyl butoxide)	128.2	128.1	132.3	98.1	154.4	132.7	7.3	7.9	7.0	10.8	7.0	8.2
生物吡啶菊酯(Bioresmethrin)	85.6	139.5	118.7	86.3	140.4	155.9	9.3	7.5	8.8	12.7	7.8	6.3
氟环唑(Epoxiconazole)	77.8	127.0	89.8	127.7	104.8	119.8	12.7	7.8	10.2	8.8	8.4	8.2
吡啶硫磷(Pyridaphenthion)	115.6	142.9	142.4	85.2	75.2	96.8	9.2	15.5	7.1	12.7	11.7	8.9
亚胺硫磷(Phosmet)	91.6	130.6	75.3	83.9	129.8	132.7	8.7	8.3	14.1	11.5	9.2	8.2
联苯菊酯(Bifenthrin)	83.1	126.7	69.9	133.8	86.7	110.8	12.8	7.9	17.3	7.4	12.2	9.6
苯硫磷(EPN)	141.4	136.2	131.4	138.3	70.5	140.0	7.7	8.1	10.4	7.1	15.9	7.2
溴螨酯(Bromopropylate)	87.5	137.1	93.7	107.9	109.0	159.4	12.8	9.2	11.9	11.1	10.3	6.4
氟吡啶草胺(Picolinafen)	126.2	97.3	140.0	130.3	126.1	106.5	7.8	10.5	7.7	6.4	6.7	8.5
哌草磷(Piperophos)	97.3	140.6	138.0	163.9	100.8	72.3	9.8	8.5	6.9	6.4	10.3	14.3
苯氧威(Fenoxycarb)	113.5	116.9	127.2	82.1	77.8	100.7	9.7	9.3	8.4	11.5	15.2	10.5
联苯肼酯(bifenazate)	143.2	132.0	118.0	124.3	73.9	134.5	9.1	8.4	9.7	6.4	15.6	7.2
乙螨唑(Etoxazole)	73.3	95.0	90.5	156.7	156.3	133.6	15.3	9.3	11.6	7.1	7.9	7.3
甲氰菊酯(Fenpropathrin)	119.7	78.2	97.7	120.0	121.3	152.3	8.7	13.7	12.1	8.1	7.8	5.9
吡螨胺(Tebufenpyrad)	89.4	128.3	72.0	127.6	120.5	132.5	11.1	8.6	16.8	7.0	8.9	7.4
莎稗磷(Anilofos)	164.7	93.2	104.1	114.4	160.7	107.5	6.6	11.9	11.6	7.4	6.0	8.9
喹螨醚(Fenazaquin)	134.4	122.4	90.2	123.2	107.2	146.3	6.6	8.6	11.7	9.5	10.5	6.5
伏杀硫磷(Phosalone)	81.6	153.8	162.1	143.6	81.6	79.6	12.6	7.7	7.8	8.5	13.0	14.2
氯氟氰菊酯-1(Cyhalothrin-1)	140.4	80.9	147.1	105.7	130.3	104.5	8.2	13.5	8.3	7.2	9.2	9.4
吡丙醚(Pyriproxyfen)	138.1	144.2	99.2	71.6	95.6	138.5	5.3	5.8	11.8	15.8	9.1	7.5
苯噻草胺(Mefenacet)	79.9	84.9	92.6	72.1	76.5	109.8	14.9	12.3	11.7	14.1	13.5	7.9
氯氟氰菊酯-2(Cyhalothrin-2)	110.5	116.0	72.8	79.3	93.7	70.4	9.4	9.9	16.7	12.8	11.4	15.7
乳氟禾草灵(Lactofen)	117.6	109.0	122.5	159.2	73.0	121.6	9.5	9.7	8.9	6.8	16.5	7.5
灭蚁灵(Mirex)	85.9	95.7	159.5	163.1	93.9	144.6	12.7	11.8	6.0	6.6	10.7	7.4
吡菌磷(Pyrazophos)	110.2	121.7	70.8	74.8	157.6	105.3	10.3	8.9	14.0	16.9	6.4	10.7
氯苯嘧啶醇(Fenarimol)	84.8	79.8	88.4	87.5	150.6	122.8	11.2	11.5	12.4	10.7	8.0	7.9
保棉磷(Azinphos-methyl)	69.7	120.7	137.9	124.7	115.6	103.8	12.6	5.8	6.1	5.4	7.6	7.6
螺螨酯(Spirodiclofen)	156.2	86.7	136.0	154.8	78.3	75.2	6.8	16.2	6.6	7.1	13.3	14.5
联苯三唑醇(Bitertanol)	150.5	80.7	82.3	110.8	143.0	140.8	7.7	14.3	13.7	10.3	8.2	7.1
顺式氯菊酯(Permethrin-1)	65.5	64.8	64.1	68.6	64.3	61.6	10.0	12.2	11.7	9.5	10.9	12.3
反式氯菊酯(Permethrin-2)	66.5	65.1	66.0	63.2	66.3	65.2	11.5	13.9	12.1	11.8	12.9	11.0
蝇毒磷(Coumaphos)	162.1	125.8	132.4	105.6	162.2	122.5	5.3	8.8	8.4	9.4	5.6	7.6

项目	回收率 (%)						重复性精密度 (%)					
	大米	苹果	生菜	芹菜	橙子	番茄	大米	苹果	生菜	芹菜	橙子	番茄
氟喹唑(Fluquinconazole)	128.9	153.5	152.8	113.9	76.6	128.4	8.9	6.9	6.8	7.7	13.7	7.3
吡蚜灵(Pyridaben)	72.1	116.8	162.8	128.0	71.6	137.3	15.5	8.6	6.6	7.9	16.0	8.6
咪鲜胺(Prochloraz)	130.0	124.9	78.9	130.9	157.8	107.6	7.8	7.1	12.0	7.6	6.1	9.0
氟丙啉草酯(Butafenacil)	94.6	148.2	132.2	119.6	164.7	83.2	11.5	6.3	7.5	9.7	6.7	14.3
氟氯氰菊酯-1(Cyfluthrin-1)	132.7	164.8	128.3	126.5	71.8	101.0	9.2	6.4	9.0	8.9	15.0	11.1
腈苯唑(Fenbuconazol)	82.9	149.9	161.1	165.7	111.2	72.4	12.0	8.0	7.5	6.3	7.9	16.8
氟氯氰菊酯-2(Cyfluthrin-2)	94.7	146.0	107.1	93.2	88.4	165.2	9.7	7.6	11.2	13.9	10.6	5.2
氟氯氰菊酯-3(Cyfluthrin-3)	148.8	76.0	140.0	76.5	96.1	119.7	7.2	15.3	8.6	12.8	11.7	8.9
氟氯氰菊酯-4(Cyfluthrin-4)	86.8	112.2	79.8	126.9	71.9	146.1	13.8	9.7	13.7	8.3	13.8	7.2
啉酰菌胺(Boscalid)	98.2	140.6	161.9	100.3	72.5	102.9	9.7	7.8	5.8	11.6	14.0	10.7
氟氰戊菊酯-1(Flucythrinate-1)	164.2	142.9	74.4	128.1	100.4	155.9	6.1	7.6	13.9	8.0	10.4	7.6
醚菊酯(Etofenprox)	65.6	65.1	62.3	65.0	61.4	67.6	12.0	11.7	13.2	13.9	11.1	11.9
氟氰戊菊酯-2(Flucythrinate-2)	161.0	118.4	102.0	141.1	85.5	81.5	6.2	9.5	11.1	7.6	12.7	13.4
啉啉醚(Pyrimidifen)	83.9	159.9	157.5	162.8	133.9	80.3	12.8	6.8	7.6	6.3	9.5	13.9
丙炔氟草胺(Flumioxazin)	80.2	104.1	122.4	82.4	129.3	91.9	13.6	8.4	8.1	13.0	8.8	10.9
氯菊酯(Cypermethrin)	146.9	137.0	68.7	143.2	68.4	94.5	6.6	7.8	16.3	8.3	11.8	11.0
氰戊菊酯-1(Fenvalerate)	77.4	125.2	130.8	88.5	76.7	89.0	11.9	7.4	8.7	13.7	12.6	11.1
氟胺氰菊酯-1(Fluvalinate-1)	153.5	87.7	117.6	124.5	131.7	152.0	7.0	10.2	9.9	7.2	8.3	6.5
氟胺氰菊酯-2(Fluvalinate-2)	78.8	103.9	117.8	122.5	85.8	160.7	13.1	10.3	8.7	9.1	11.0	6.1
氰戊菊酯-2(Esfenvalerate)	111.6	85.0	104.5	140.0	95.3	166.2	8.3	14.1	10.0	6.8	11.9	6.1
苯醚甲环唑-1(Difenoconazole-1)	106.5	168.5	145.4	136.1	130.7	91.2	9.8	6.3	6.8	7.3	9.0	10.0
苯醚甲环唑-2(Difenoconazole-2)	96.2	91.4	76.3	158.6	136.9	132.3	10.8	11.9	15.5	8.2	5.8	8.0
溴氰菊酯-1(Deltamethrin-1)	85.8	156.8	151.0	134.2	158.9	107.9	11.8	5.6	6.6	7.1	6.0	11.1
溴氰菊酯-2(Deltamethrin-2)	82.8	115.6	97.7	94.9	116.2	99.4	13.3	9.1	11.1	11.9	9.0	10.1
氟烯草酸(Flumiclorac-pentyl)	139.5	77.5	144.6	119.7	138.7	73.6	8.6	11.3	8.4	9.6	7.5	15.5
啉菌酯(Azoxystrobin)	82.5	151.3	138.6	149.2	117.2	111.7	11.5	6.7	8.2	7.1	9.2	9.9
烯酰吗啉-1(Dimethomorph-1)	69.5	110.4	69.8	114.2	151.9	166.8	17.2	10.6	14.4	9.8	6.2	6.6
烯酰吗啉-2(Dimethomorph-2)	147.7	109.3	168.4	89.4	73.0	75.8	5.4	11.0	6.1	12.6	13.3	12.6