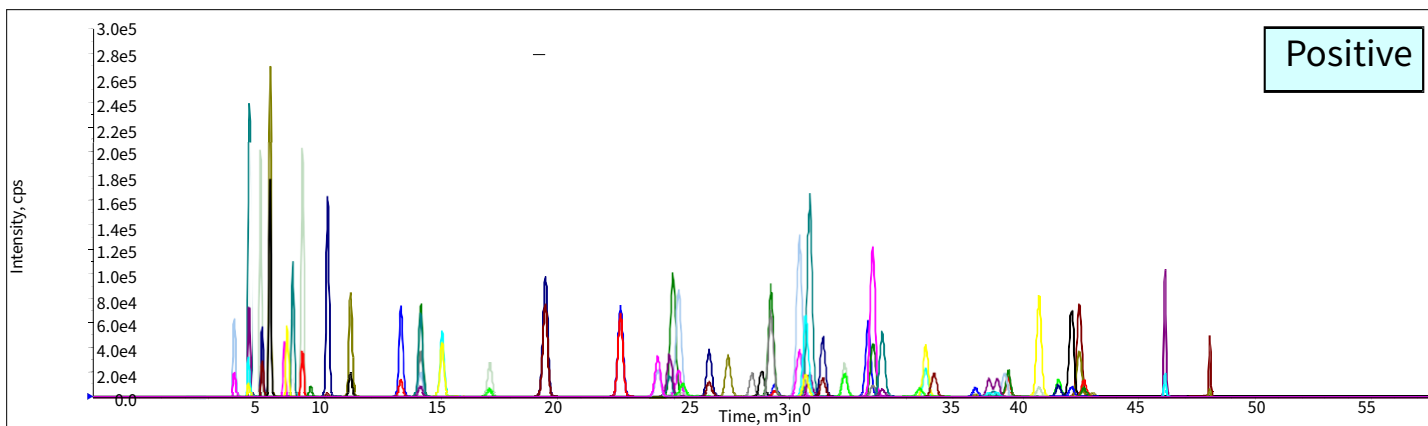
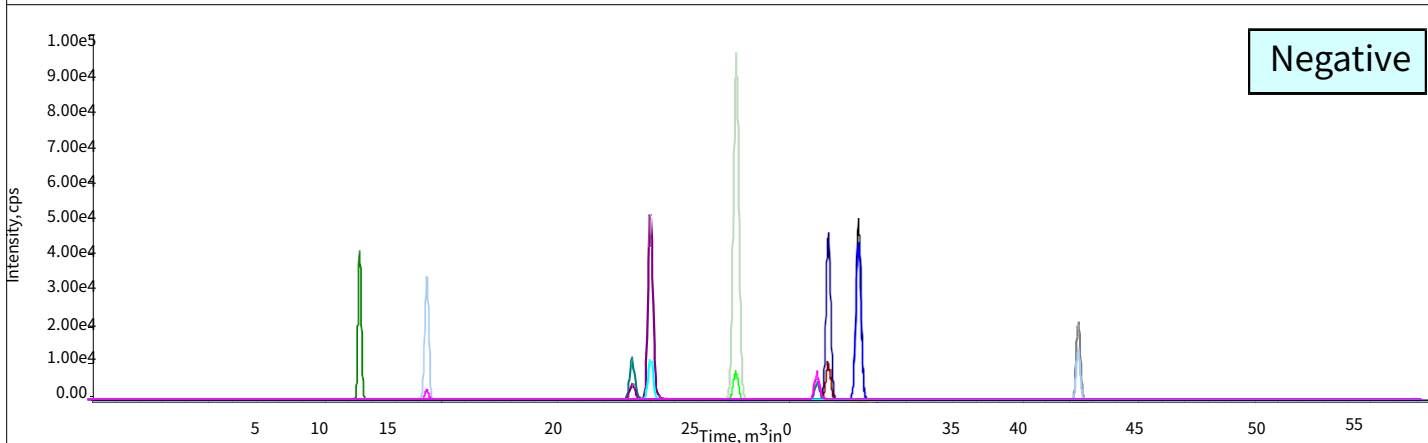


## Analysis of Atorvastatin Calcium

Testing methods of Japanese Water Supply Act were revised in April 2013, and 64 pesticides were added to the target compounds of the simultaneous analytical method using LC/MS/MS. In this note, an InertSustain C18 HPLC column and a 4000QTRAP linear tandem mass spectrometer (AB Sciex) were used. As a result, all the compounds added by the revision were detected with excellent peak shape.



Positive



Negative

Compound name	MW	RT (min)	Ionization	Monitoring ion (m/z)	
				Precursor	Product
Binotefuran	202.2	6.1	ESI(+)	203	129 87
Nitenpyram	270.7	6.7	ESI(+)	271	126 237
Oxamyl	219.3	6.7	ESI(+)	237	72 90
Pymetrozine	217.2	7.2	ESI(+)	218	105 78
Thiamethoxam	291.7	7.3	ESI(+)	292	211 181
Monocrotophos	223.2	7.6	ESI(+)	224	127 193
Imidacloprid	255.7	8.2	ESI(+)	256	209 175
Clothianidin	249.7	8.3	ESI(+)	250	169 132
Trinexapac-ethyl	252.3	8.5	ESI(+)	253	69 207
Cinosaluron	413.4	8.6	ESI(+)	414	183 83
Acetamiprid	222.7	9.0	ESI(+)	223	126 90
Thiacloprid	252.7	10.1	ESI(+)	253	126 90
Pyrazosulfuron-ethyl	414.4	11.1	ESI(+)	415	182 83
Cyanazine	240.7	13.2	ESI(+)	241	214 104
Ethoxysulfuron	398.4	14.1	ESI(+)	399	261 218
Metribuzin	214.3	14.1	ESI(+)	215	187 49
Bromacil	261.1	14.1	ESI(+)	261	205 188
Bendiocarb	223.2	15.0	ESI(+)	224	167 109
Flusilfop	327.3	17.1	ESI(+)	328	282 254
Furametpyr	333.8	19.5	ESI(+)	334	157 290
Metaminostrobin(E)	284.3	22.7	ESI(+)	285	194 140
Linuron	249.1	24.8	ESI(+)	249	182 160
Pyriminobac-methyl(Z)	361.4	24.9	ESI(+)	362	330 284
Ametryn	227.3	25.2	ESI(+)	228	186 96
Acibenzolar-S-methyl	210.3	25.3	ESI(+)	211	136 211
Boscalid	343.2	26.5	ESI(+)	343	307 140
Cyproconazole	291.8	27.3	ESI(+)	292	70 125
Pyriminobac-methyl(E)	361.4	28.4	ESI(+)	362	330 284
Cyproconazole	291.8	28.8	ESI(+)	292	70 125
Cumyluron	302.8	29.2	ESI(+)	303	185 125
Benzobicyclon	447.0	29.3	ESI(+)	447	257 229
Diclofop-methyl	255.1	29.7	ESI(+)	255	89 159
Prometryn	241.4	30.4	ESI(+)	242	158 200
Simeconazole	293.4	30.7	ESI(+)	294	70 73
Chromafenozide	394.5	30.9	ESI(+)	395	175 147
Tetraconazole	372.1	31.4	ESI(+)	372	159 70
Indanofan	340.8	32.3	ESI(+)	341	175 187
Napraamflide	291.4	33.3	ESI(+)	292	171 120
Tebuconazole	352.5	33.5	ESI(+)	353	133 297
Tetrachlorvinphos(CVMP)	366.0	33.6	ESI(+)	367	127 206
Diflubenzuron	307.8	34.0	ESI(+)	308	70 125
Cyprodinil	225.3	35.6	ESI(+)	226	93 77

Compound name	MW	RT (min)	Ionization	Monitoring ion (m/z)	
				Precursor	Product
Etofenprox	340.2	36.2	ESI(+)	340	179 149
Oxadiazyl	341.2	38.0	ESI(+)	341	223 360/223
Difenoconazole	406.3	38.5	ESI(+)	406	251 337
Pyrazolate	439.3	38.7	ESI(+)	439	91 173
Difenoconazole	406.3	38.8	ESI(+)	406	251 337
Pirimiphos-methyl	305.3	39.2	ESI(+)	306	164 108
Phoxim	298.3	39.3	ESI(+)	299	77 129
Triflumizole	345.8	40.7	ESI(+)	346	278 73
Benzoifenap	431.3	41.5	ESI(+)	431	105 119
Quizalofop-ethyl	372.8	42.1	ESI(+)	373	299 271
Oxaziclorfene	376.3	42.4	ESI(+)	376	190 161
Clomeprop	324.2	42.7	ESI(+)	324	120 203
Pentoxazone	353.8	43.0	ESI(+)	354	286 186
Amiraz	293.4	46.1	ESI(+)	294	163 122
Silflufenol	408.6	48.0	ESI(+)	406	287 168

Compound name	MW	RT (min)	Ionization	Monitoring ion (m/z) (min)	
				Precursor	Product
MCPA	200.6	11.5	ESI(-)	199	141 -
Dichlorprop	235.1	14.4	ESI(-)	233	161 125
Propanil	218.1	24.5	ESI(-)	216	160 35
Isaenflide	338.8	25.3	ESI(-)	337	122 78
Tiadinil	267.7	27.8	ESI(-)	266	71 238
Fenrazamide	415.2	31.7	ESI(-)	413	171 179
Diflubenzuron	310.7	32.8	ESI(-)	309	156 289
Thifluzamide	528.1	33.0	ESI(-)	527	125 166
Flusilfop	465.1	42.5	ESI(-)	463	416 398

## HPLC Conditions;

(1.0 µg/L each)

## Column

: InertSustain C18 (3 µm, 75 x 2.1 mm I.D.)

## Eluent

: A) 5 mM ammonium acetate in water  
 B) 5 mM ammonium acetate in methanol  
 A/B = 95/5 – 4 min – 60/40 – 35 min – 25/75  
 – 5 min – 0/100 – 6 min – 0/100 –  
 – (equilibration for 10 min) ,v/v

## Flow rate

: 0.15 mL/min

## Col. Temp.

: 40 °C

## Sample Temp.

: 5 °C

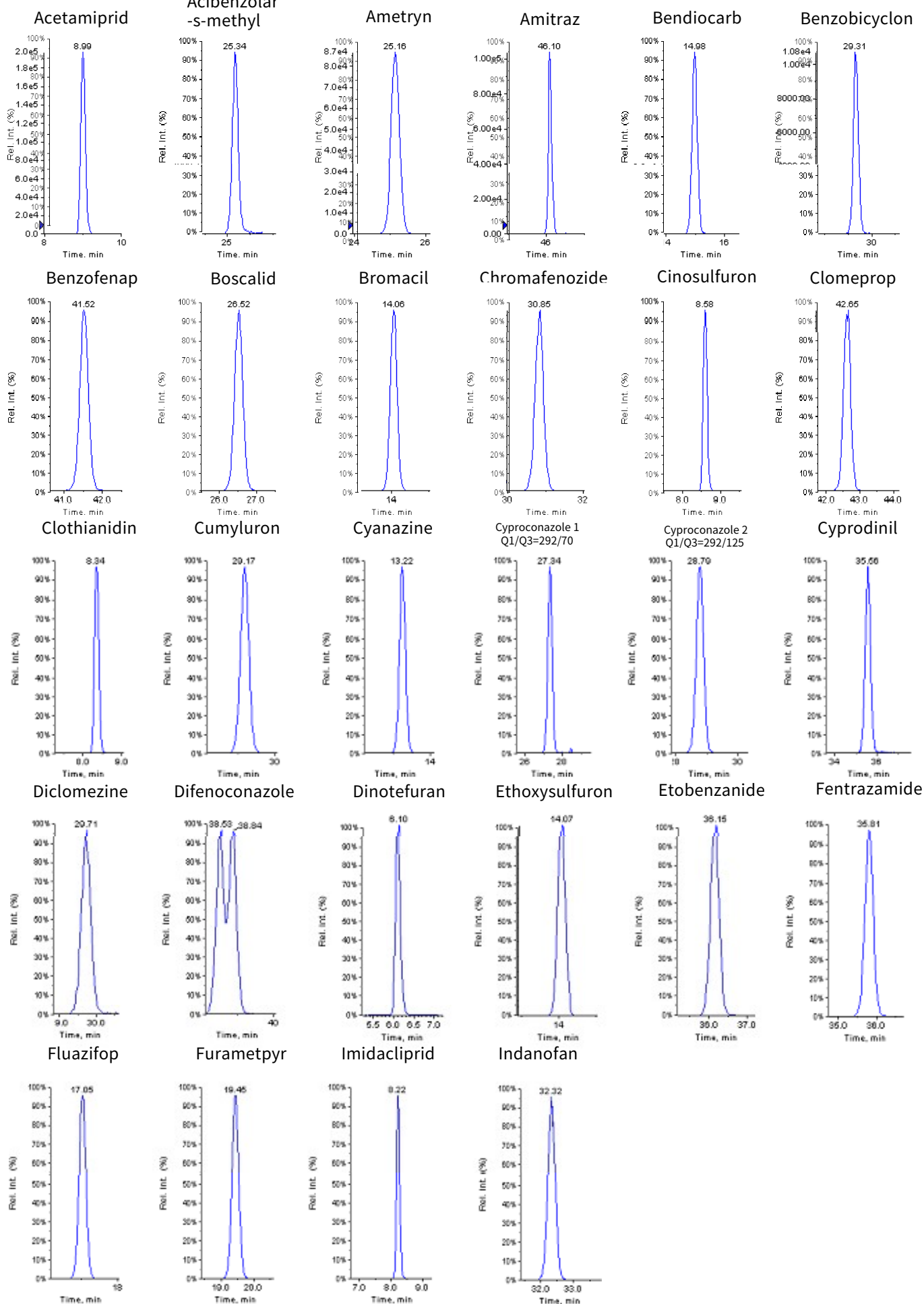
## Detection

: MS/MS (4000 QTRAP: ESI, MRM)

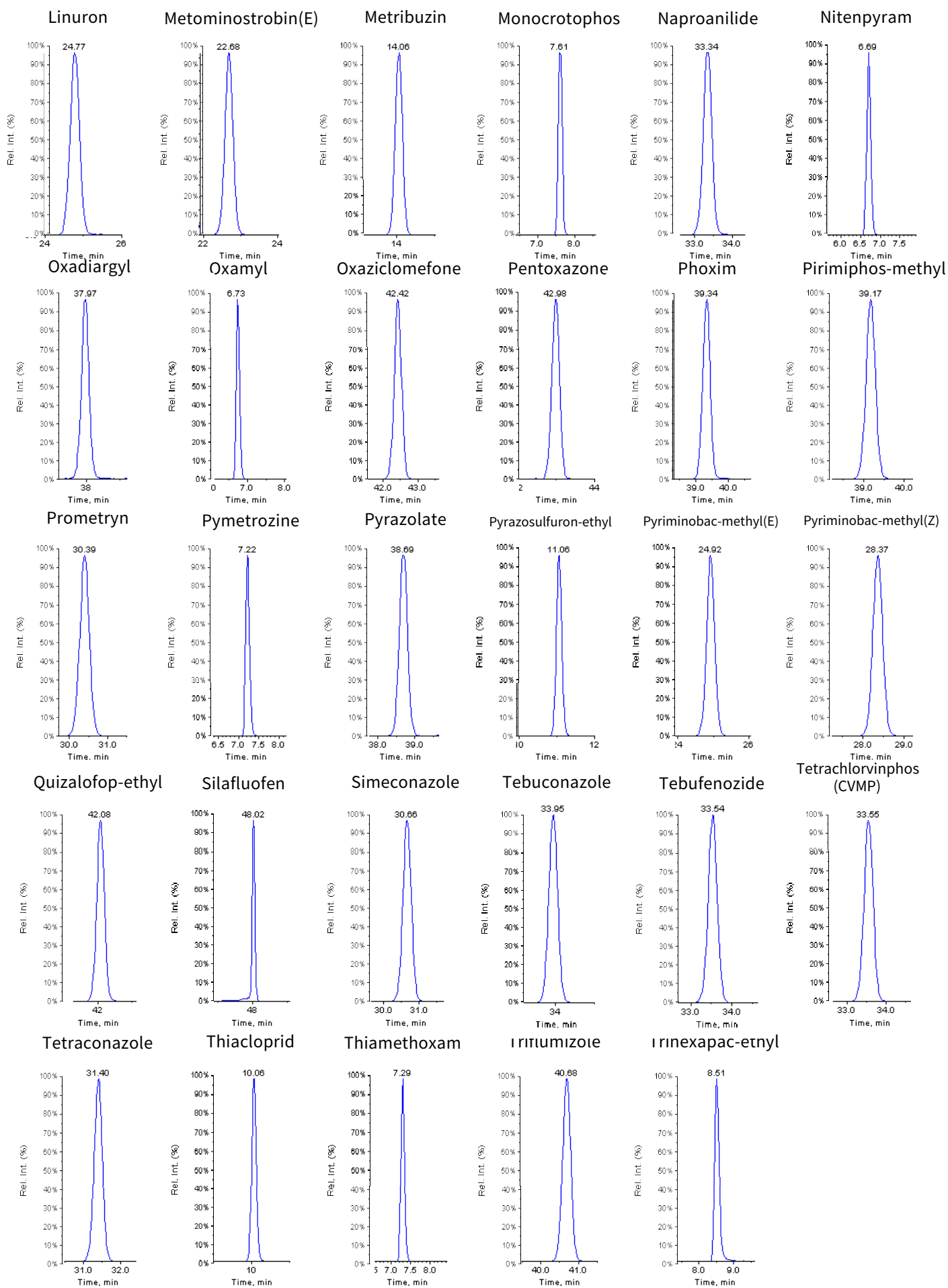
## Inj. Volume

: 100 µL

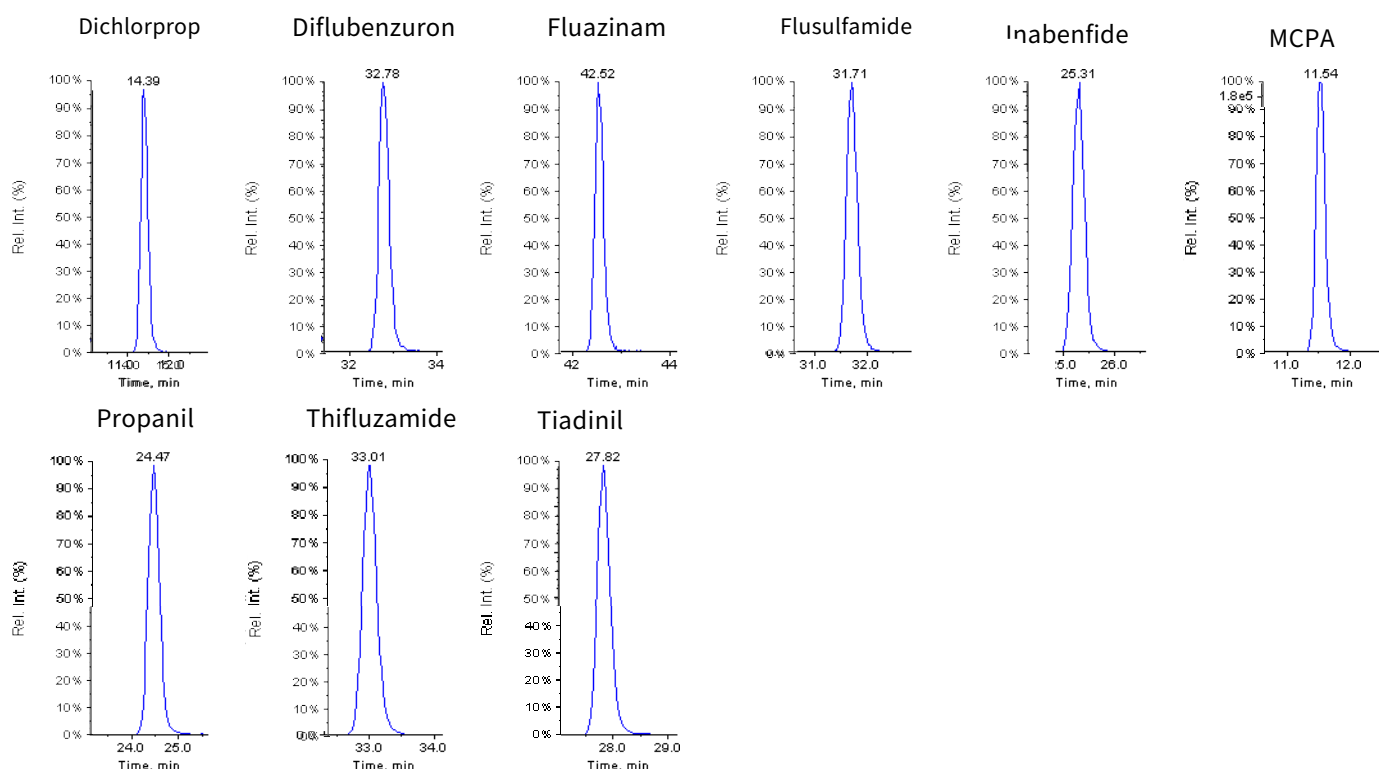
Cyproconazole and difenoconazole are detected as two peaks owing to existence of their isomers.



< Compounds detected in positive mode (2) >



## &lt; Compounds detected in negative mode &gt;



## HPLC column

InertSustain C18 3  $\mu$ m, 75 x 2.1 mm I.D.  
Cat.No. 5020-07413

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