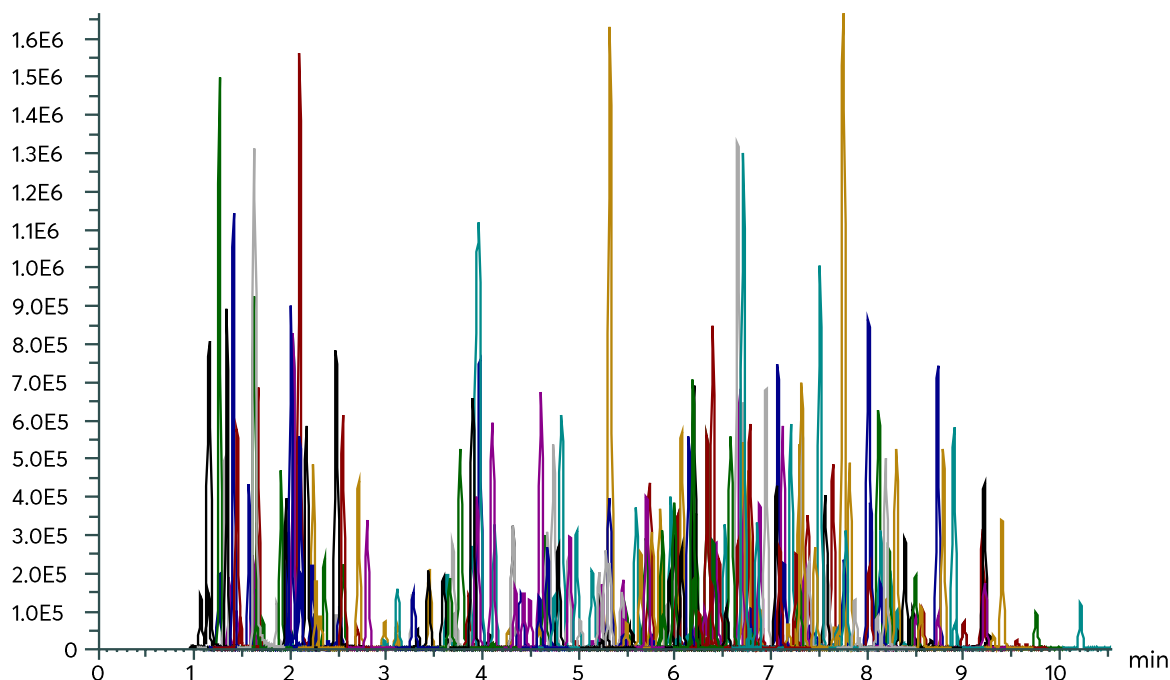


Application note #3060

250 Pesticide Screen using LC-MS/MS



Method Details

CONDITIONS

Column: Avantor® ACE® Excel 2 C18
Particle Size: 2 µm
Dimensions: 100 x 2.1 mm
Mobile Phase: A: 10 mM ammonium formate + 0.05% formic acid in H₂O
B: 10 mM ammonium formate + 0.05% formic acid in MeOH

Gradient:

Time (mins)	% B
0.00	2
0.25	30
10.00	100
12.00	100
12.50	2
14.50	2

Flow Rate: 0.5 mL/min
Temperature: 50 °C
Detection: TSQ Quantiva triple quad MS
Positive mode HESI
Spray voltage: 3500 V
Ion transfer tube temperature: 350 °C
Vaporizer temperature: 300 °C

ORDERING TABLE

Product	Details	Size	Part Number
Avantor® ACE® Excel 2 C18	UHPLC Column	100 x 2.1 mm	EXL-101-1002U

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ANALYTES

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
3-OH Carbofuran	2.25	[M+H] ⁺	238.1	181.2	163.1
5-OH Thiabendazole	1.66	[M+H] ⁺	218.0	147.2	191.1
Abamectin	9.45	[M+NH ₄] ⁺	890.5	305.3	567.5
Acephate	1.26	[M+H] ⁺	184.0	143.1	125.1
Acetamiprid	2.24	[M+H] ⁺	223.1	126.1	90.1
Aldicarb	2.95	[M+NH ₄] ⁺	208.1	116.1	89.0
Aldicarb sulfone	1.44	[M+NH ₄] ⁺	240.1	148.0	86.0
Aldicarb sulfoxide	1.37	[M+NH ₄] ⁺	224.1	132.0	89.1
Allethrin	8.33	[M+H] ⁺	303.2	135.1	123.1
Ametoctradin	7.64	[M+H] ⁺	276.2	149.1	176.2
Atrazine	4.64	[M+H] ⁺	216.1	174.0	104.0
Azinphos ethyl	6.30	[M+H] ⁺	346.0	132.1	233.0
Azinphos methyl	5.14	[M+H] ⁺	318.0	132.0	124.9
Azinphos methyl OA	2.98	[M+H] ⁺	302.0	132.2	160.0
Azoxystrobin	5.59	[M+H] ⁺	404.1	372.1	344.1
Bendiocarb	3.72	[M+H] ⁺	224.1	167.1	109.1
Benoxacor	5.23	[M+H] ⁺	260.1	134.1	120.1
Bifenazate	6.27	[M+H] ⁺	301.1	198.0	170.1
Bitertanol	7.41	[M+H] ⁺	338.2	269.3	99.1
Boscalid	5.85	[M+H] ⁺	343.0	307.0	140.0
Bupirimate	6.68	[M+H] ⁺	317.2	210.2	237.3
Buprofezin	8.24	[M+H] ⁺	306.1	201.1	106.1
Cadusafos	7.58	[M+H] ⁺	271.1	159.0	131.0
Carbaryl	4.07	[M+NH ₄] ⁺	219.1	145.1	127.0
Carbendazim	2.10	[M+H] ⁺	192.1	160.1	132.1
Carbofuran	3.77	[M+H] ⁺	222.1	165.2	123.2
Carboxin	3.97	[M+H] ⁺	236.1	143.0	93.0
Carfentrazone ethyl	6.88	[M+H] ⁺	412.0	346.1	366.0
Chlorantraniliprole	5.24	[M+H] ⁺	484.0	286.0	194.0
Chlorfenvinphos	7.21	[M+H] ⁺	359.0	170.0	99.1
Chlorimuron ethyl	5.73	[M+H] ⁺	415.1	186.0	83.0
Chlorpyrifos	8.47	[M+H] ⁺	349.9	198.0	97.0

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
Chlorpyrifos OA	6.65	[M+H] ⁺	334.0	278.0	197.9
Clethodim	7.71	[M+H] ⁺	360.3	164.1	136.1
Clofentezine	7.38	[M+H] ⁺	303.0	138.1	102.0
Cloransulam methyl	4.13	[M+H] ⁺	430.0	398.1	370.0
Clothianidin	1.99	[M+H] ⁺	250.0	169.1	132.0
Coumaphos	7.07	[M+H] ⁺	363.0	227.1	307.1
Crotoxyphos	5.86	[M+NH ₄] ⁺	332.1	127.1	193.1
Crufomate	6.77	[M+H] ⁺	292.1	236.1	108.1
Cyantraniliprole	4.33	[M+2+H] ⁺	475.0	286.0	444.1
Cyazofamid	6.52	[M+H] ⁺	325.1	108.1	261.2
Cyflufenamid	7.42	[M+H] ⁺	413.1	295.1	203.0
Cymoxanil	2.48	[M+H] ⁺	199.1	128.1	111.1
Cyphenothrin	9.27	[M+NH ₄] ⁺	393.2	151.2	123.2
Cyprosulfamide	3.30	[M+H] ⁺	375.1	135.1	254.1
Cyromazine	1.15	[M+H] ⁺	167.1	125.2	68.2
DEF	9.20	[M+H] ⁺	315.1	169.0	113.0
Demeton-S sulfone	2.55	[M+H] ⁺	291.1	235.1	263.1
Dialifos	7.46	[M+H] ⁺	394.0	208.1	181.0
Diazinon	7.12	[M+H] ⁺	305.1	169.1	153.2
Diazinon OA	5.32	[M+H] ⁺	289.1	153.2	233.1
Dichlormid	3.85	[M+H] ⁺	208.0	140.0	81.2
Dichlorvos	3.63	[M+H] ⁺	221.0	109.1	127.0
Dicrotophos	1.87	[M+H] ⁺	238.1	112.2	193.1
Diethofencarb	5.53	[M+H] ⁺	268.2	124.1	180.2
Diflubenzuron	6.66	[M+H] ⁺	311.0	158.0	141.0
Dimethenamid	5.70	[M+H] ⁺	276.1	244.1	168.2
Dimethoate	2.23	[M+H] ⁺	230.1	199.0	125.0
Dimethomorph	5.76, 6.07	[M+H] ⁺	388.1	301.0	165.1
Dinotefuran	1.36	[M+H] ⁺	203.1	129.1	114.2
Dioxacarb	2.26	[M+H] ⁺	224.1	123.1	167.1
Dioxathion	8.10	[M-C ₂ H ₅ O.PS] ⁺	271.1	97.0	125.0
Disulfoton sulfone	4.59	[M+H] ⁺	307.0	261.1	125.0

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
Disulfoton sulfoxide	4.49	[M+H] ⁺	291.0	185.1	213.1
Diuron	4.82	[M+H] ⁺	233.0	72.1	160.0
DMST	3.90	[M+H] ⁺	215.1	106.1	151.0
Dodine	7.56	[M+H] ⁺	228.3	186.3	60.1
Emamectin	8.57	[M+H] ⁺	886.5	158.1	126.1
Ethiofencarb	4.27	[M+H] ⁺	226.1	107.1	169.1
Ethiofencarb sulfone	1.90	[M+NH ₄] ⁺	275.1	107.1	201.1
Ethiofencarb sulfoxide	1.98	[M+H] ⁺	242.1	107.1	185.0
Ethion	8.31	[M+H] ⁺	385.0	199.1	143.0
Ethion monoxon	6.73	[M+H] ⁺	369.0	199.0	143.0
Ethiprole	5.77	[M+NH ₄] ⁺	413.9	351.0	255.0
Ethofumesate	5.55	[M+H] ⁺	287.1	121.1	241.1
Ethoprop	6.46	[M+H] ⁺	243.1	173.0	131.0
Etofenprox	9.75	[M+NH ₄] ⁺	394.2	177.2	107.1
Etoazole	8.73	[M+H] ⁺	360.2	141.0	304.2
Famoxadone	7.24	[M+NH ₄] ⁺	392.2	331.1	238.0
Fenamidone	5.76	[M+H] ⁺	312.1	236.1	92.2
Fenamiphos	6.71	[M+H] ⁺	304.1	217.1	202.0
Fenamiphos sulfone	4.10	[M+H] ⁺	336.1	266.1	188.1
Fenamiphos sulfoxide	3.96	[M+H] ⁺	320.1	233.1	171.1
Fenazaquin	9.21	[M+H] ⁺	307.2	161.2	57.2
Fenhexamid	6.39	[M+H] ⁺	302.1	178.0	97.2
Fenobucarb	5.49	[M+H] ⁺	208.1	95.0	152.0
Fenoxaprop ethyl	8.04	[M+H] ⁺	362.1	288.1	91.1
Fenoxycarb	6.80	[M+H] ⁺	302.1	88.1	116.1
Fenpropimorph	6.42	[M+H] ⁺	304.3	147.2	119.1
Fenpyroximate	8.90	[M+H] ⁺	422.2	366.1	214.2
Fensulfthion	4.89	[M+H] ⁺	309.0	235.0	281.1
Fenuron	2.17	[M+H] ⁺	165.1	72.1	77.1
Flonicamid	1.66	[M+H] ⁺	230.1	203.0	98.0
Fluazifop P butyl	8.12	[M+H] ⁺	384.1	282.2	328.2
Fludioxonil	5.76	[M+NH ₄] ⁺	266.1	158.1	131.0

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
Flufenoxuron	8.79	[M+H] ⁺	489.0	158.1	141.1
Flufenpyrethyl	6.72	[M+H] ⁺	409.1	335.0	307.0
Flumetsulam	2.03	[M+H] ⁺	326.1	129.1	109.0
Flumiclorac pentyl	8.13	[M+NH ₄] ⁺	441.1	308.1	354.1
Fluometuron	4.31	[M+H] ⁺	233.1	72.2	46.3
Fluopicolide	6.00	[M+H] ⁺	383.0	173.0	145.0
Fluopyram	6.33	[M+H] ⁺	397.1	173.0	208.0
Fluoxastrobin	6.40	[M+H] ⁺	459.1	427.2	188.1
Fluridone	5.32	[M+H] ⁺	330.1	309.1	290.0
Flusilazole	6.77	[M+H] ⁺	316.1	247.2	165.1
Fluthiacet methyl	6.88	[M+H] ⁺	404.0	344.0	273.9
Flutolanil	5.95	[M+H] ⁺	324.1	262.0	282.0
Flutriafol	4.74	[M+H] ⁺	302.1	70.1	123.1
Fluxapyroxad	6.02	[M+H] ⁺	382.1	342.1	314.1
Forchlorfenuron	4.78	[M+H] ⁺	248.1	129.1	93.1
Formetanate HCl	1.26	[M+H] ⁺	222.0	165.1	120.0
Fosthiazate	4.40	[M+H] ⁺	284.1	104.1	228.1
Hexaconazole	7.29	[M+H] ⁺	314.1	158.9	70.0
Hexythiazox	8.51	[M+H] ⁺	353.1	228.0	168.0
Imazalil	5.14	[M+H] ⁺	297.1	159.1	255.1
Imazosulfuron	5.28	[M+H] ⁺	413.0	153.0	156.1
Imidacloprid	1.96	[M+H] ⁺	256.1	209.1	175.0
Imiprothrin	6.34	[M+H] ⁺	319.2	151.1	123.1
Indaziflam	6.58	[M+H] ⁺	302.2	158.1	145.1
Indoxacarb	7.75	[M+H] ⁺	528.1	249.0	150.1
Ipconazole	7.81	[M+H] ⁺	334.2	70.1	125.0
Iprovalicarb	6.31	[M+H] ⁺	321.2	119.1	186.2
Isofenphos	7.39	[M+H] ⁺	346.1	217.0	245.1
Isoproc carb	4.67	[M+H] ⁺	194.1	95.1	152.2
Isoproturon	4.79	[M+H] ⁺	207.2	72.2	165.2
Kresoxim methyl	6.90	[M+H] ⁺	314.1	267.2	222.1
Lactofen	8.22	[M+NH ₄] ⁺	479.1	344.1	223.0

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
Lenacil	4.67	[M+H] ⁺	235.1	153.1	136.1
Leptophos OA	7.75	[M+2+H] ⁺	396.9	155.1	364.9
Linuron	5.46	[M+H] ⁺	249.0	182.1	160.1
Malathion	5.92	[M+H] ⁺	331.0	127.1	285.1
Malathion OA	3.89	[M+H] ⁺	315.1	127.1	99.0
Mandipropamid	5.94	[M+H] ⁺	412.1	328.2	356.2
Mefenpyrdiethyl	7.26	[M+H] ⁺	373.1	327.1	160.0
Mepanipyrim	6.21	[M+H] ⁺	224.1	106.2	77.1
Mesotrione	2.01	[M+H] ⁺	340.1	228.1	104.1
Metaflumizone	8.30	[M+H] ⁺	507.1	178.0	287.1
Metalaxyl	4.91	[M+H] ⁺	280.1	220.1	192.1
Metaldehyde	2.02	[M+NH ₄] ⁺	194.1	62.2	45.3
Metconazole	7.32	[M+H] ⁺	320.2	70.1	125.0
Methamidophos	1.16	[M+H] ⁺	142.0	94.2	125.1
Methidathion	4.97	[M+NH ₄] ⁺	320.0	145.1	85.1
Methiocarb	5.64	[M+H] ⁺	226.1	169.2	121.1
Methiocarb sulfone	2.35	[M+NH ₄] ⁺	275.0	122.1	201.1
Methiocarb sulfoxide	2.10	[M+H] ⁺	242.1	185.1	122.1
Methomyl	1.61	[M+H] ⁺	163.1	106.1	88.1
Methoxyfenozide	6.04	[M+H] ⁺	369.2	149.1	313.1
Metolcarb	3.28	[M+H] ⁺	166.1	109.1	94.1
Metribuzin	3.59	[M+H] ⁺	215.1	187.1	131.1
Mevinphos	2.70	[M+NH ₄] ⁺	242.1	193.1	127.1
Monocrotophos	1.71	[M+H] ⁺	224.1	193.0	127.0
Monolinuron	4.16	[M+H] ⁺	215.1	126.1	148.1
Myclobutanil	6.15	[M+H] ⁺	289.1	125.0	70.1
Nicosulfuron	3.45	[M+H] ⁺	411.1	182.0	213.0
Norflurazon	4.98	[M+H] ⁺	304.0	160.0	140.0
Norflurazon desmethyl	4.43	[M+H] ⁺	290.0	179.0	140.0
Omethoate	1.33	[M+H] ⁺	214.0	183.0	125.0
Oxamyl	1.48	[M+NH ₄] ⁺	237.1	72.0	90.0
Oxamyl oxime	1.34	[M+H] ⁺	163.1	72.1	90.1

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
Oxydemeton methyl	1.57	[M+H] ⁺	247.0	169.1	109.1
Oxydemeton methyl sulfone	1.62	[M+H] ⁺	263.0	169.0	109.0
Parathion methyl OA	3.10	[M+H] ⁺	248.0	202.0	109.1
Parathion OA	4.61	[M+H] ⁺	276.1	220.1	248.1
Pencycuron	7.50	[M+H] ⁺	329.1	125.1	89.1
Penflufen	6.95	[M+H] ⁺	318.2	234.1	141.0
Penthiopyrad	7.05	[M+H] ⁺	360.1	177.1	276.1
Phenothrin	9.56	[M+H] ⁺	351.2	183.1	168.0
Phenthoate	6.81	[M+H] ⁺	321.0	247.1	79.1
Phorate OA	5.10	[M+H] ⁺	245.0	75.2	47.2
Phorate OA Sulfone	2.51	[M+H] ⁺	277.0	155.0	127.0
Phorate OA Sulfoxide	2.31	[M+H] ⁺	261.0	153.0	81.0
Phorate Sulfone	4.61	[M+H] ⁺	293.0	114.9	171.0
Phorate Sulfoxide	4.49	[M+H] ⁺	277.0	170.9	199.0
Phosalone	7.35	[M+H] ⁺	368.0	182/0	111.1
Phosmet	5.21	[M+H] ⁺	318.0	160.1	133.1
Phosmet OA	3.12	[M+H] ⁺	302.0	160.0	133.0
Phosphamidon	3.43	[M+H] ⁺	300.1	127.1	174.1
Phoxim	7.25	[M+H] ⁺	299.1	77.2	129.1
Picoxystrobin	6.79	[M+H] ⁺	368.1	145.0	115.0
Pirimicarb	4.24	[M+H] ⁺	239.2	182.1	72.0
Pirimicarb Desmethyl	2.71	[M+H] ⁺	225.1	168.2	72.1
Pirimiphos Methyl	7.34	[M+H] ⁺	306.1	164.2	108.1
Prollethrin	7.69	[M+H] ⁺	301.2	133.0	151.2
Prochloraz	7.39	[M+H] ⁺	376.0	308.1	70.1
Profoxydim	7.71, 9.00	[M+H] ⁺	466.2	280.0	180.0
Promecarb	5.88	[M+H] ⁺	208.1	109.0	151.1
Propamocarb	1.41	[M+H] ⁺	189.1	102.0	144.0
Propaquizafop	8.21	[M+H] ⁺	444.1	299.2	371.2
Propargite	8.74	[M+NH ₄] ⁺	368.2	231.2	175.1
Propetamphos	6.13	[M+H] ⁺	282.1	138.1	156.1
Propoxur (S)	3.69	[M+H] ⁺	210.1	168.2	111.1

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
Prosulfuron	5.29	[M+H] ⁺	420.1	167.1	141.1
Pymetrozine	1.44	[M+H] ⁺	218.1	105.1	78.1
Pyraclostrobin	7.30	[M+H] ⁺	388.1	163.1	194.1
Pyraflufen Ethyl	7.13	[M+H] ⁺	413.0	339.0	253.1
Pyrazophos	7.31	[M+H] ⁺	374.1	222.2	194.1
Pyridaben	9.22	[M+H] ⁺	365.1	309.0	147.1
Pyridalyl	10.21	[M+2+H] ⁺	492.0	110.9	164.0
Pyrimethanil	5.45	[M+H] ⁺	200.1	107.1	168.1
Pyriproxyfen	8.39	[M+H] ⁺	322.1	96.0	227.1
Quinalphos	6.78	[M+H] ⁺	299.1	163.1	147.1
Quinoxifen	8.50	[M+H] ⁺	308.0	197.1	214.1
Quizalofop Ethyl	8.01	[M+H] ⁺	373.1	299.2	255.1
Resmethrin	9.40	[M+H] ⁺	339.2	128.1	171.1
Rimsulfuron	3.94	[M+H] ⁺	432.1	182.1	139.0
Rotenone	6.71	[M+H] ⁺	395.2	213.2	192.1
Saflufenacil	5.32	[M+H] ⁺	501.1	349.1	198.0
Sedaxane	6.20, 6.54	[M+H] ⁺	332.2	159.0	139.0
Sethoxydim	8.03	[M+H] ⁺	328.2	178.0	220.1
Simazine	3.66	[M+H] ⁺	202.1	104.1	132.1
Spinetoram	8.14	[M+H] ⁺	748.5	142.1	203.1
Spinosad A	7.69	[M+H] ⁺	732.5	142.1	98.0
Spinosad D	8.10	[M+H] ⁺	746.5	142.1	98.0
Spirodiclofen	8.91	[M+H] ⁺	411.1	313.1	71.1
Spiromesifen	8.66	[M+NH ₄] ⁺	388.1	273.1	187.0
Spiromesifen Alcohol	5.01	[M+H] ⁺	273.2	187.1	179.1
Spirotetramat	6.38	[M+H] ⁺	374.2	302.3	216.2
Spiroxamine	5.95	[M+H] ⁺	298.3	144.2	100.2
Sulfoxaflor	2.39	[M+NH ₄] ⁺	295.2	174.1	154.1
Sulprofos	8.56	[M+H] ⁺	323.0	219.1	139.1

Analyte	t _R mins	Adduct	Precursor Ion m/z	Quant Ion m/z	Conf Ion m/z
TCMTB	5.48	[M+H] ⁺	239.0	180.0	136.0
Tebufenozide	6.78	[M+H] ⁺	353.2	133.0	104.8
Tebufenpyrad	8.19	[M+H] ⁺	334.2	117.1	145.1
Tebuthiuron	3.89	[M+H] ⁺	229.1	172.0	116.0
Tepraloxymid	4.10, 6.19	[M+H] ⁺	342.2	250.1	166.1
Terbufos Sulfone	5.46	[M+H] ⁺	321.0	115.0	143.0
Terbufos Sulfoxide	5.49	[M+H] ⁺	305.1	97.0	187.0
Terbutylazine	5.71	[M+H] ⁺	230.1	174.1	104.1
Tetrachlorvinphos	6.86	[M+2+H] ⁺	366.9	127.1	206.0
Tetramethrin	7.91, 8.10	[M+H] ⁺	332.2	164.1	135.1
Thiabendazole	2.48	[M+H] ⁺	202.0	175.0	131.1
Thiacloprid	2.55	[M+H] ⁺	253.0	126.1	99.1
Thiamethoxam	1.65	[M+H] ⁺	292.0	211.1	181.1
Thifensulfuron Methyl	3.28	[M+H] ⁺	388.0	167.1	205.0
Thiobencarb	7.46	[M+H] ⁺	258.1	125.0	89.0
Thiodicarb	4.34	[M+H] ⁺	355.1	163.2	88.1
Thionazin	4.74	[M+H] ⁺	249.1	193.1	97.0
Topramezone	1.63	[M+H] ⁺	364.1	334.1	125.1
Triadimefon	6.07	[M+H] ⁺	294.1	197.0	225.0
Triadimenol	6.25	[M+H] ⁺	296.1	70.2	99.0
Triazophos	6.19	[M+H] ⁺	314.1	162.1	119.1
Tribenuron Methyl	4.59	[M+H] ⁺	396.1	155.1	181.1
Trichlorfon	2.26	[M+H] ⁺	256.9	109.0	221.0
Tricyclazole	2.80	[M+H] ⁺	190.0	163.1	136.1
Trifloxystrobin	7.78	[M+H] ⁺	409.1	186.2	206.2
Triflumizole	7.87	[M+H] ⁺	346.1	278.0	73.0
Triforine	5.23	[M+2+H] ⁺	434.9	213.0	98.2
Zoxamide	7.09	[M+H] ⁺	336.0	187.0	159.0