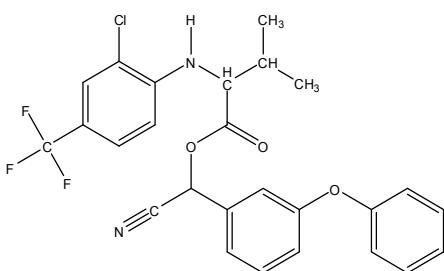
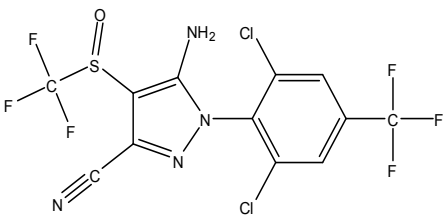
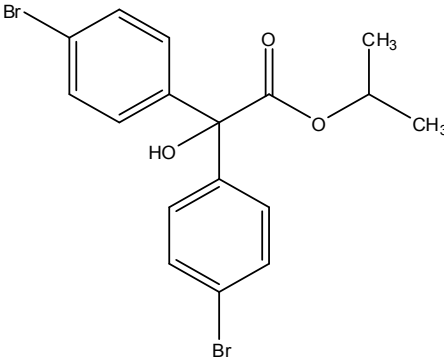
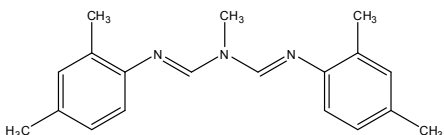
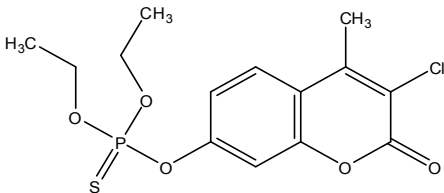


Electronic Supplementary Information

Trace Determination of Acaricides in Honey Samples by XAD-2 Adsorbent and Gas Chromatography coupled with Ion Trap Mass Spectrometer Detector

Ivan Notardonato¹, Pasquale Avino², Giuseppe Cinelli¹ and Mario Vincenzo Russo^{1*}

Table 1. Name, CAS number, chemical formula, Molecular Weight (MW), Selected Ion Monitoring (SIM) and median lethal dose (LD₅₀ expressed as mg kg⁻¹) in rat of each acaricide investigated in this paper along with the I.S.

Acaricide CAS number	Chemical structure	Formula	MW	SIM	LD ₅₀
Tau-Fluvalinate 102851-06-9		C ₂₆ H ₂₂ ClF ₃ N ₂ O ₃	502.92	250 181 252	261-281
Fipronil 120068-37-3		C ₁₂ H ₄ Cl ₂ F ₆ N ₄ OS	437.15	367 351 420	97-354
Bromopropilate 18181-80-1		C ₁₇ H ₁₆ Br ₂ O ₃	428.12	341 339 183	5000
Amitraz 33089-61-1		C ₁₉ H ₂₃ N ₃	293.45	162 132 293	800-1600
Coumaphos 56-72-4		C ₁₄ H ₁₆ ClO ₅ PS	362.77	226 362 210	13-41

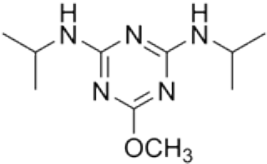
Prometon		$C_{10}H_{19}N_5O$	225.29	225	168	2980
1610-18-0				210		

Table 2. Recoveries (%) of each acaricide in relation to different solvents used.

	Recovery (%)				Total
	1.0 mL	1.0 mL	1.0 mL	1.0 mL	
Acetone					
Tau-fluvalinate	37.2	6.4	3.1	0.3	47.1
Fipronil	76.6	3.1	0.9	-	80.7
Bromopropylate	59.7	6.9	2.6	0.5	69.7
Amitraz	1.1	1.8	1.4	-	4.3
Coumaphos	21.0	4.1	0.6	-	25.7
n-Hexane					
Tau-fluvalinate	22.3	0.8	0.4	-	23.5
Fipronil	78.1	0.9	0.2	-	79.1
Bromopropylate	32.5	1.2	0.5	-	34.1
Amitraz	4.1	0.5	-	-	4.6
Coumaphos	18.2	2.2	-	-	20.4
iso-Octane					
Tau-fluvalinate	57.2	7.6	2.9	0.3	68.1
Fipronil	8.9	2.6	0.4	-	11.9
Bromopropylate	43.0	7.3	2.1	-	52.3
Amitraz	29.0	0.8	0.2	-	30.0
Coumaphos	4.4	-	-	-	4.4
CH ₂ Cl ₂					
Tau-fluvalinate	42.1	2.5	1.0	-	45.6
Fipronil	63.7	4.9	1.3	-	69.9
Bromopropylate	46.4	1.1	0.1	-	47.6
Amitraz	31.3	0.5	-	-	31.8
Coumaphos	99.7	-	-	-	99.7
Methanol					
Tau-fluvalinate	25.6	3.2	1.9	0.4	31.1
Fipronil	72.1	5.9	2.3	-	80.3
Bromopropylate	32.7	39.2	1.4		73.3
Amitraz	-	-	-	-	0.0
Coumaphos	28.8	1.1	-	-	29.8
acetone/CH ₂ Cl ₂ (3:1)					
Tau-fluvalinate	49.2	4.2	2.0	0.2	55.6
Fipronil	21.5	6.3	1.9	-	29.7
Bromopropylate	49.9	1.6	1.1	-	52.6
Amitraz	2.8	0.8	0.2	-	3.8
Coumaphos	94.3	10.1	2.0	-	106.4
acetone/CH ₂ Cl ₂ (1:1)					
Tau-fluvalinate	71.6	11.2	1.6	-	84.4
Fipronil	97.1	6.8	1.8	-	105.7
Bromopropylate	78.3	7.0	1.9	-	87.2
Amitraz	85.3	8.8	2.1	0.3	96.4
Coumaphos	85.1	5.6	0.9	-	91.6

acetone/CH ₂ Cl ₂ (1:3)					
Tau-fluvalinate	3.4	1.0	0.2	-	4.6
Fipronil	8.2	2.8	1.3	0.4	12.7
Bromopropylate	3.6	1.4	0.6	-	5.6
Amitraz	2.2	1.4	0.5	-	4.1
Coumaphos	1.5	0.7	-	-	2.1