

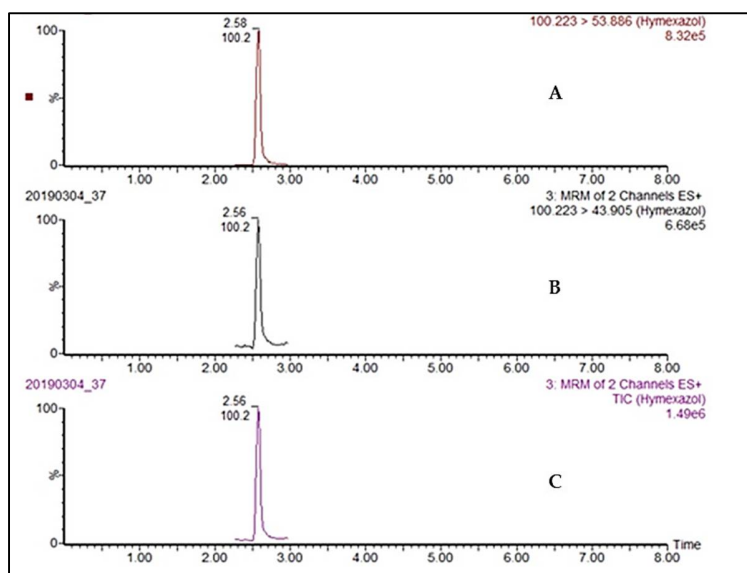
# Assessment of dissipation of hymexazol in strawberry (*Fragaria × ananassa*) Crop by a modified QuEChERS method and and Liquid Chromatography Tandem-Mass Spectrometry

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## Supplementary material

**Table S1.** Conditions of MS/MS

Analyte	Precursor m/z	Product m/z	Dwell (s)	Cone (V)	Collision (V)
Hymexazol	100.2	43.9	0.025	24	12
		53.8	0.025	24	10



**Figure S1.** Ion transitions. (A) Precursor (B, C) Products of hymexazol. A concentration of 1.0231 mg/L was injected.

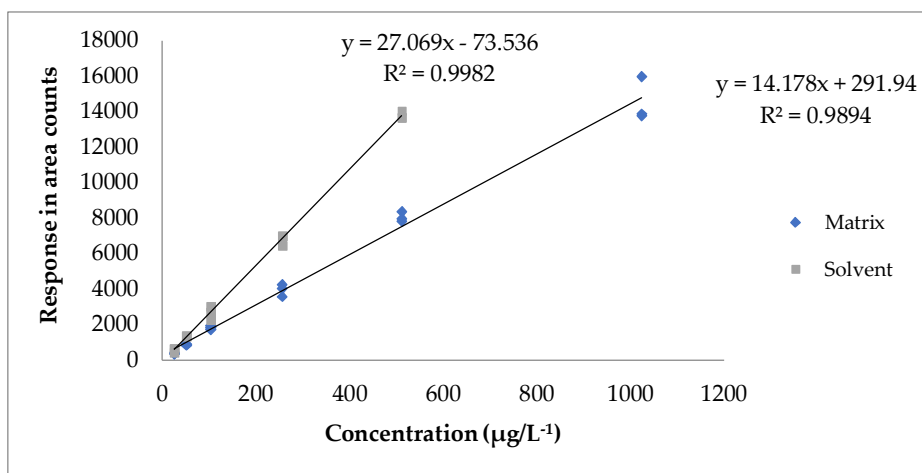


Figure S2. System linearity of matrix effect of strawberry fruit

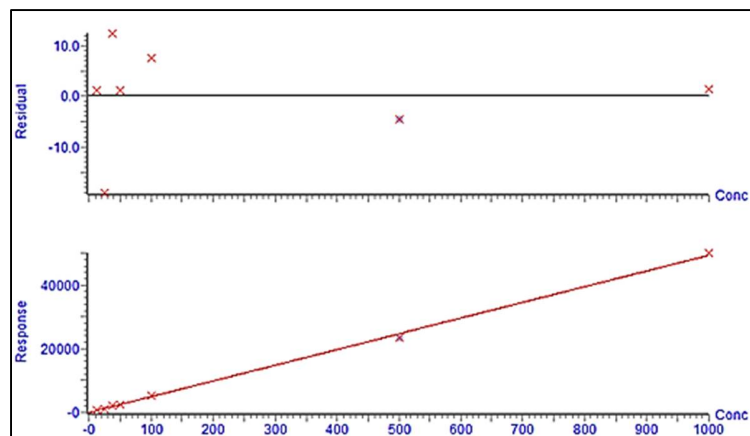


Figure S3. System Linearity

**Table S2.** Evaluation of the Chi square statistic for repeatability

Repeatability					
Identification	Level 1	Level 2	Level 3	Level 4	Level 5
A	123.14	89.66	100.91	95.32	107.57
B	72.18	91.97	100.06	92.74	108.81
C	77.42	98.27	101.57	93.97	109.49
Average	90.91	93.30	100.85	94.01	108.62
Standard deviation	28.03	4.45	0.76	1.29	0.98
Standard deviation ^2	785.542	19.839	0.573	1.662	0.952
Great average			97.54		
N			15		
n			3		
k			5		
gl			8		
σ2			161.714		
Identification	Level 1	Level 2	Level 3	Level 4	Level 5
A	655.14	62.05	11.39	4.92	100.53
B	642.94	30.99	6.36	22.99	126.98
C	404.72	0.53	16.26	12.73	142.83
SUM			2241.37		
S²			149.424		
X²calculated			12.94		
X²tables			15.51		
X²calculated< X² tables					

**Table S3.** Analysis of variance for one factor with random effects

Reproducibility					
	First test (% R1)	Second test (% R2)		First test (% R1)	Second test (% R2)
L-1 A	88.6	82.3	L-1 A	128.6	150.3
L-1 B	106.8	73.7	L-1 B	48.1	434.8
L-1 C	103.9	82.3	L-1 C	15.9	150.6
L-2 A	89.6	99.3	L-2 A	105.8	22.3
L-2 B	91.9	96.6	L-2 B	63.6	3.9
L-2 C	98.	101.3	L-2 C	2.8	45.6
L-3 A	104.0	95.5	L-3 A	16.9	0.8
L-3 B	103.1	98.7	L-3 B	10.4	16.6
L-3 C	104.7	101.1	L-3 C	22.9	42.3
L-4 A	95.3	98.3	L-4 A	21.4	14.0
L-4 B	92.7	98.4	L-4 B	51.8	14.6
L-4 C	93.9	101.3	L-4 C	35.7	45.5
L-5 A	107.5	96.2	L-5 A	58.0	2.4
L-5 B	108.8	95.2	L-5 B	78.4	0.3
L-5 C	109.4	98.	L-5 C	91.0	15.4
Average(xj)	99.9	94.6	Sum	1712.1	
Great mean	97.2		S <sub>DM</sub> <sup>2</sup>	68.3	
S <sub>EM</sub> <sup>2</sup>			211.7		
Fcalculated			3.098		
F <sub>tables</sub> (1,15,0.05)			4.543		
Fcalculated < F <sub>tables</sub>					

L (Level); 1 (25  $\mu$ L of mixture of concentration 10.2312 ng/ $\mu$ L); 2 (50  $\mu$ L of mixture of concentration 10.2312 ng/ $\mu$ L); 3 (100  $\mu$ L of mixture of concentration 10.2312 ng/ $\mu$ L); 4 (300  $\mu$ L of mixture of concentration 10.2312 ng/ $\mu$ L); 5 (500  $\mu$ L of mixture of concentration 10.2312 ng/ $\mu$ L). A (First replicate); B (Second replicate); C (Third replicate).

**Table S4.** Method accuracy

Accuracy			
Identification	First test (% R1)	Identification	Second test (% R2)
L-1 A	88.6	L-1 A	82.3
L-1 B	106.8	L-1 B	73.7
L-1 C	103.9	L-1 C	82.3
L-2 A	89.6	L-2 A	99.3
L-2 B	91.9	L-2 B	96.6
L-2 C	98.2	L-2 C	101.3
L-3 A	104.0	L-3 A	95.5
L-3 B	103.1	L-3 B	98.7
L-3 C	104.7	L-3 C	101.1
L-4 A	95.3	L-4 A	98.3
L-4 B	92.7	L-4 B	98.4
L-4 C	93.9	L-4 C	101.3
L-5 A	107.5	L-5 A	96.2
L-5 B	108.8	L-5 B	95.23
L-5 C	109.4	L-5 C	98.5
<b>Average</b>	99.9	<b>Average</b>	94.6
Standard deviation	7.3	Standard deviation	8.2
<b>CV</b>	7.3	<b>CV</b>	8.7
<b>IC</b>	3.7	<b>IC</b>	4.1
<b>IC (u) [-]</b>	96.2	<b>IC (u) [-]</b>	90.4
<b>IC (u) [+]</b>	103.6	<b>IC (u) [+]</b>	98.8
<b>n</b>	30	<b>Range Accuracy (90.443 - 103.657)</b>	
<b>Great mean</b>			97.2
<b>Total SD</b>			8.1
<b>Hypothesis u<sub>0</sub></b>			98
<b>t<sub>calculate</sub></b>			-0.477
<b>t<sub>tables</sub>(0.975,29)</b>			±2.045
<b>-2.045 ≤ t<sub>calculate</sub> ≤ 2.045</b>			

L (Level); 1 (25 µL of mixture of concentration 10.2312 ng/µL); 2 (50 µL of mixture of concentration 10.2312 ng/µL); 3 (100 µL of mixture of concentration 10.2312 ng/µL); 4 (300 µL of mixture of concentration 10.2312 ng/µL); 5 (500 µL of mixture of concentration 10.2312 ng/µL). A (First replicate); B (Second replicate); C (Third replicate).

**Table S5.** Equations for calculate the LOD and LOQ

Equations for calculate the LOD and LOQ
LOD = t <sub>0.99</sub> *SD
LOQ = 3*LOD

LOD= t<sub>0.99</sub>\*SD (t<sub>0.99</sub> = 3.365; one-tailed Student's t-table value with 5 degrees of freedom (n=6) and 99% confidence degree).