Preparation of a National Reference Material Organochlorine Pesticide Mixture for Residue Analysis

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Table S1. Some technical information of reference materials

No	Name of Compound	CAS	Product Code	Using

		No		Solvent
1	4,4'-DDT	50-29-3	DRE-C12082000	AL
2	2,4'-DDT	789-02-6	N-12708-50MG	AL
3	4,4'-DDD (4,4-TDE)	72-54-8	N-10874-250MG	AL
4	Aldrin (HHDN)	309-00-2	N-11049-250MG	AL
5	Dieldrin	60-57-1	N-11688-100MG	AL
6	*alpha*-endosulfan	959-98-8	N-10979-100MG	AL
7	*beta*-endosulfan	33213-65-9	DRE-C13122000	AL
8	Endrin	72-20-8	N-11854-100MG	AL
9	*alpha*-HCH (Alpha BHC)	319-84-6	N-11194-100MG	AL
10	*gamma*-HCH (Lindane, Gamma BHC)	58-89-9	DRE-C14073000	AL
11	Heptachlor	76-44-8	N-12147-100MG	AL
12	Heptachlor-*endo*-epoxide (Isomer A) (Trans-Heptachloroepoxide)	28044-83-9	N-13618-50MG	ME

Table S2. The concentration of individual solutions

	GRAVIMETRIC (Mix A and B)	VOLUMETRIC (Mix C)
Name	**Concentration (ppm)**	**Concentration (ppm)**
HCH-alpha (Alpha BHC)	17682	14148
HCH-gamma (Lindane, Gamma BHC)	10880	8646
Aldrin	11858	9320
Dieldrin	17682	14148
Endrin	14778	11790
4,4-DDD (4,4-TDE)	9411	7467
4,4-DDT	17682	14148
2,4-DDT	12833	10218
Endosulfan-alpha	19608	15720
Endosulfan-beta	16716	13362
Heptachlor	17682	14148
Heptachlor Endoepoxide (Isomer A) (Trans-Heptachloroepoxide)	17682	-

Table S3. Operation Parameters of Gas Chromatography – Mass Spectrometry

GC									
		Program: Column Oven Temperature				**Column:**			
				Final Temperature					
Column Oven Temperature	70°C		Rate	(°C)	Hold Time (min)	Name	HP 5 MS	Thickness	0.25 µm
Injection Temperature	240°C	0	-	70.0	2	Length	30 m	Diameter	0.25 mm
Injection Mode	Splitless	1	15	160.0	0				
Sampling Time	1.00 min	2	2	200.0	0				
Carrier Gas	Helium	3	10	250.0	0				
	Linear								
Flow Control Mode	Velocity	4	20	280.0	4				
Column Flow	1.00 mL/min								
Linear Velocity	36.7 cm/sec								
Purge Flow	3.0 mL/min								
MS									
Ion Source Temperature	230°C								
Interface Temperature	280°C								
Solvent Cut Time	6 min								

Table S4. The results of ANOVA

Name	F	$F_{criteria}$
alpha-HCH	4.29	5.32
gamma-HCH	0.18	5.32
Aldrin	0.46	5.32
Dieldrin	0.96	5.32
Endrin	0.20	5.32
4,4'-DDD	0.16	5.32
4,4'-DDT	0.81	5.32
2,4'-DDT	0.76	5.32
alpha-endosulfan	2.84	5.32
beta-endosulfan	0.93	5.32
Heptachlor	0.08	5.32
Heptachlor-*endo*-epoxide	2.01	5.32

Table S5. The results of homogeneity testing for mix A by gravimetrically

Name	ss_{within}	$ss_{between}$	MS_{within}	$MS_{between}$	u_{bb}	s_{bb}
alpha-HCH	0.005	0.003	0.001	0.003	0.009	0.02
gamma-HCH	0.004	0.000	0.001	0.000	0.009	-
Aldrin	0.005	0.000	0.001	0.000	0.009	-
Dieldrin	0.007	0.001	0.001	0.001	0.011	-
Endrin	0.007	0.000	0.001	0.000	0.011	-
4,4'-DDD	0.024	0.000	0.003	0.000	0.020	-
4,4'-DDT	0.032	0.003	0.004	0.003	0.024	-
2,4'-DDT	0.018	0.002	0.002	0.002	0.018	-
alpha-endosulfan	0.006	0.002	0.001	0.002	0.010	0.02
beta-endosulfan	0.005	0.001	0.001	0.001	0.009	-
Heptachlor	0.022	0.000	0.003	0.000	0.020	-
Heptachlor-*endo*-epoxide	0.004	0.001	0.000	0.001	0.008	0.01

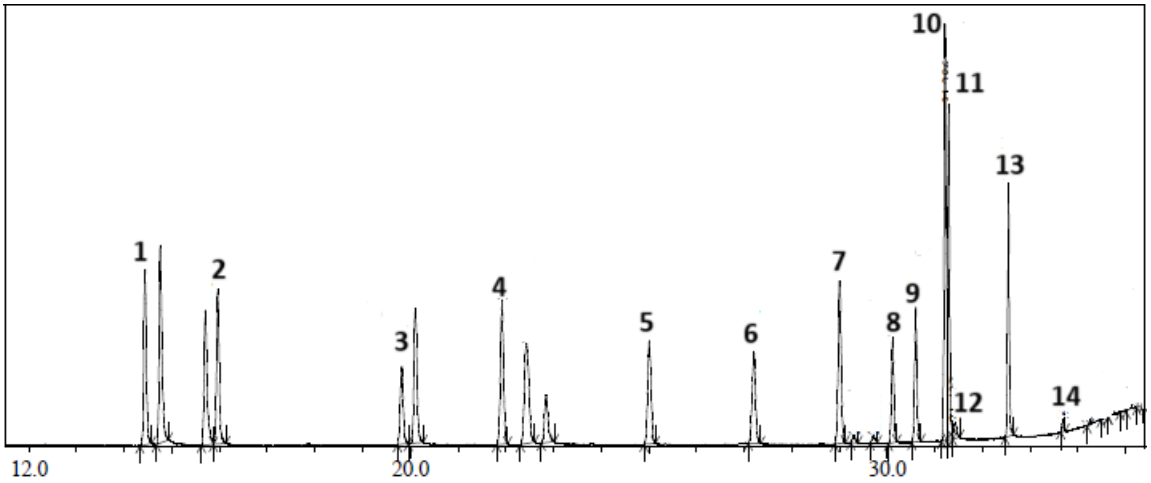


Fig. S1 The chromatogram of 2 ppm calibration standard (Peak 1: *alpha*-HCH, Peak 2: *gamma*-HCH, Peak 3: heptachlor, Peak 4: aldrin, Peak 5: heptachlor-*endo*-epoxide, Peak 6: *alpha*-endosulfan, Peak 7: dieldrin, Peak 8: endrin, Peak 9: *beta*-endosulfan, Peak 10: 4,4'-DDD, Peak 11: 2,4'-DDT, Peak 12: endrin aldehyde, Peak 13: 4,4'-DDT, Peak 14: endrin ketone)

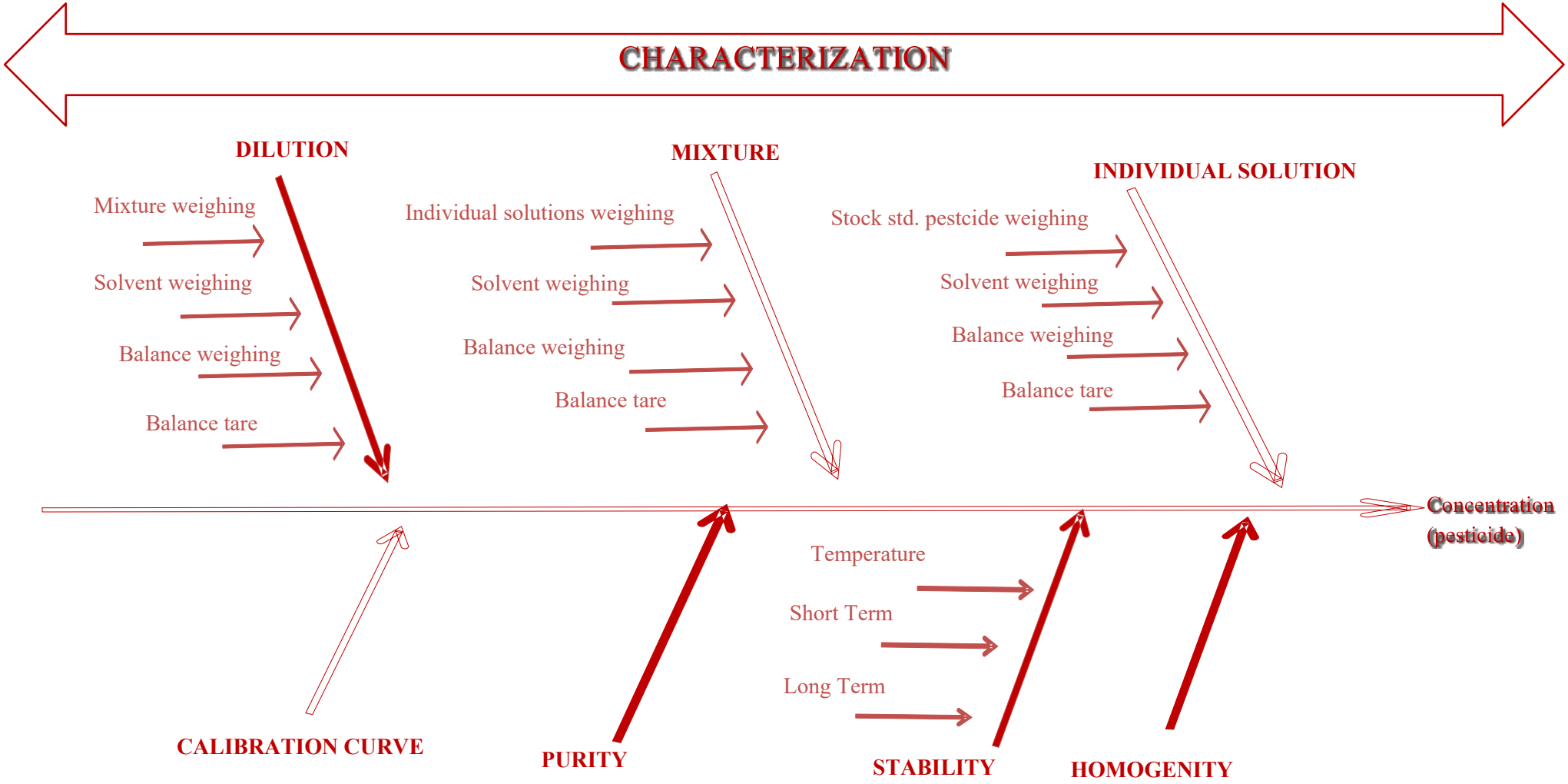


Fig. S2 Fish bone diagram of preparing CRM gravimetrically

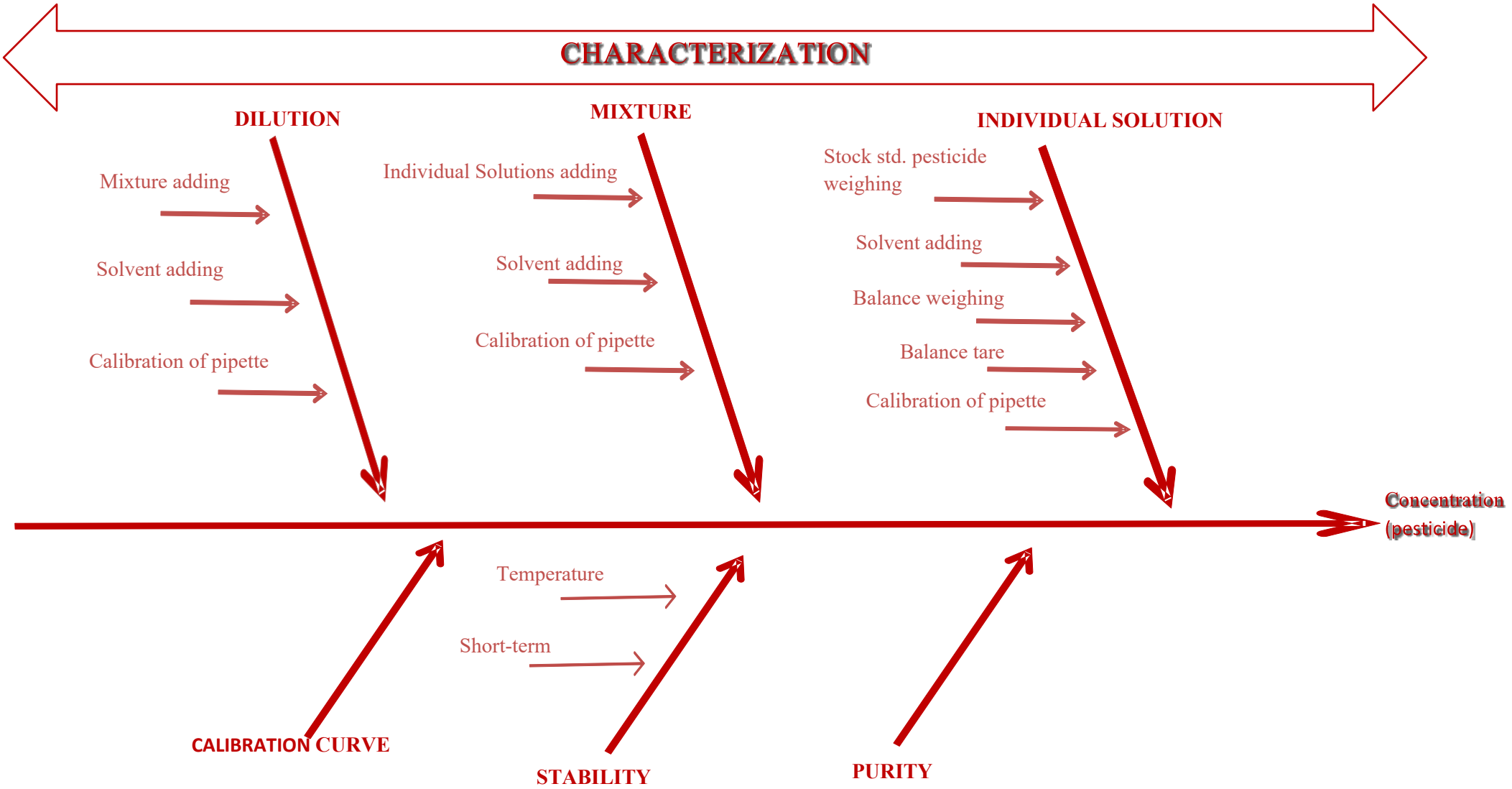
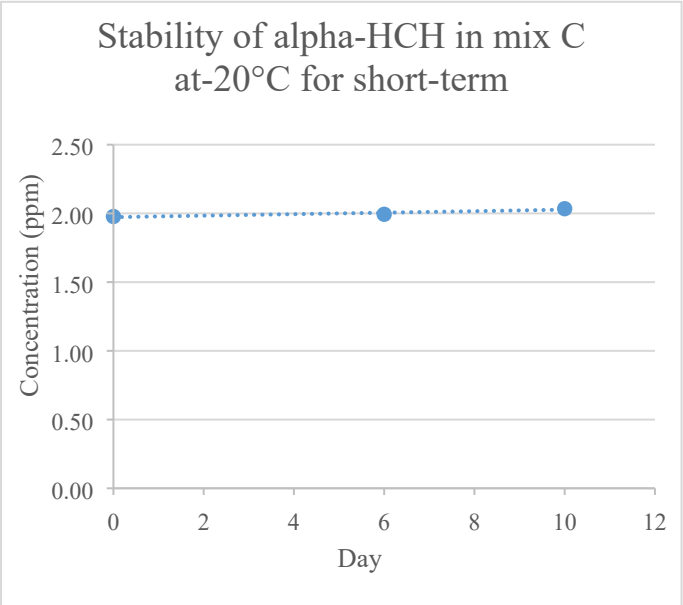
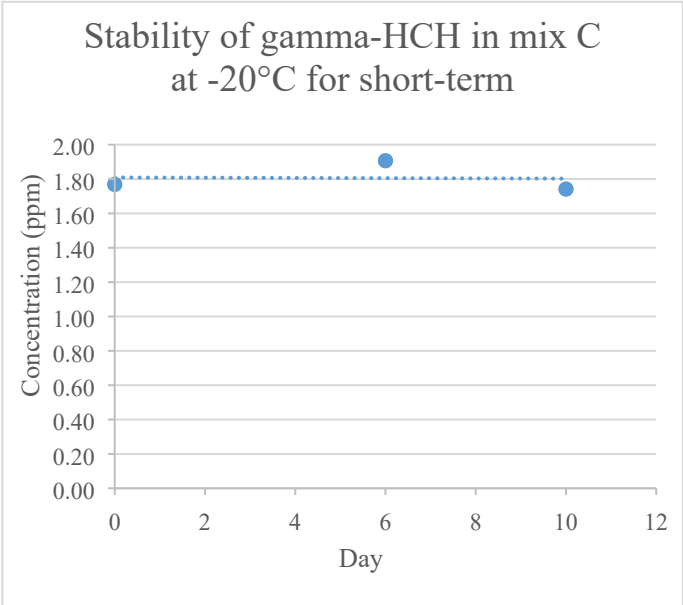
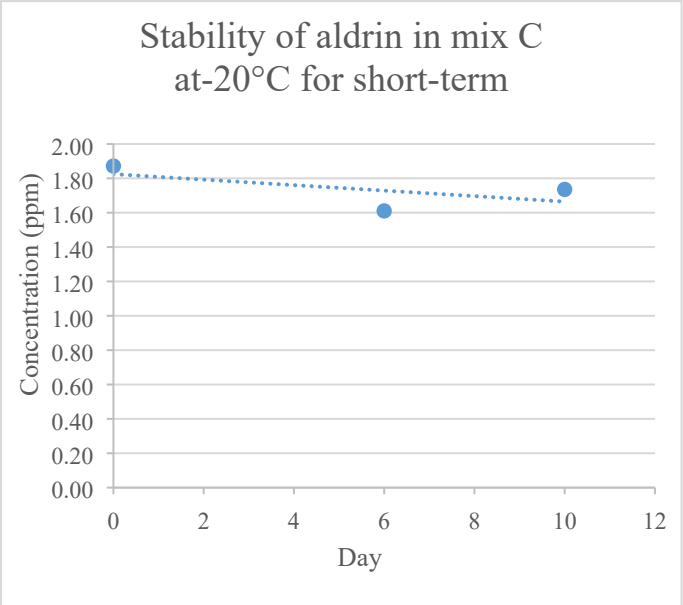
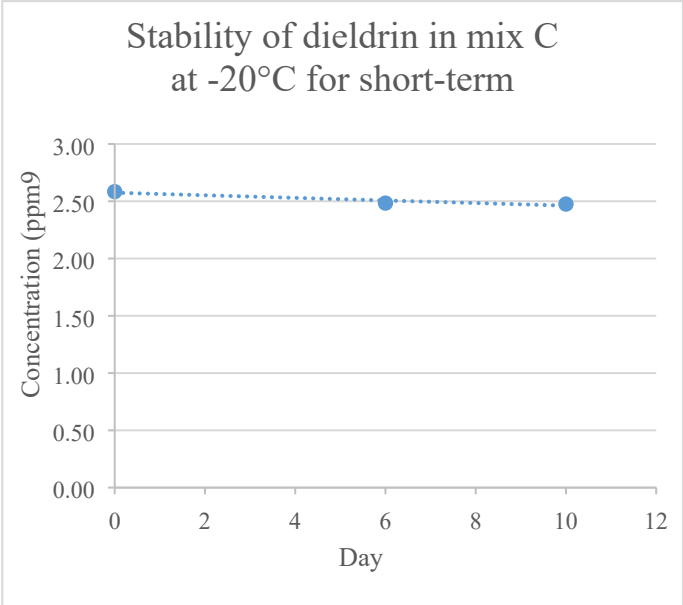


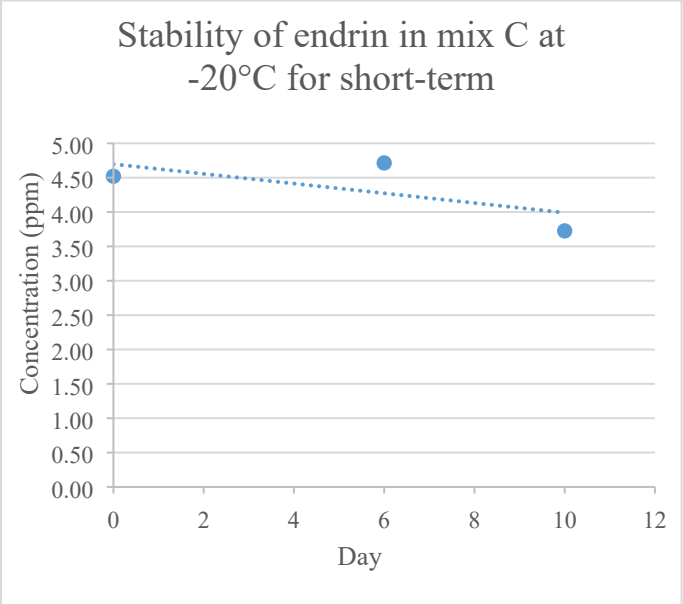
Fig. S3 Fish bone diagram of preparing CRM volumetrically

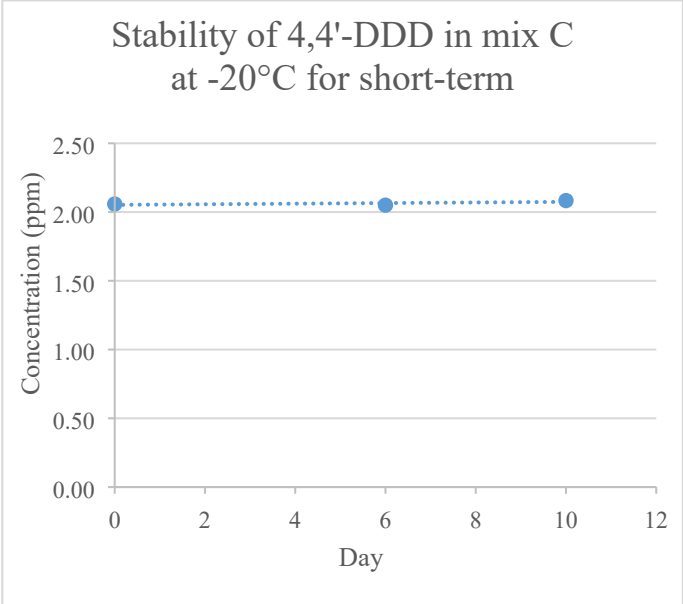

Stability of alpha-HCH in mix C at-20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
2
4
6
8
10
12
Day


Stability of gamma-HCH in mix C at -20°C for short-term
Concentration (ppm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0
2
4
6
8
10
12
Day


Stability of aldrin in mix C at-20°C for short-term
Concentration (ppm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0
2
4
6
8
10
12
Day


Stability of dieldrin in mix C at -20°C for short-term
Concentration (ppm9
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
2
4
6
8
10
12
Day


Stability of endrin in mix C at -20°C for short-term
Concentration (ppm)
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
2
4
6
8
10
12
Day


Stability of 4,4'-DDD in mix C at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
2
4
6
8
10
12
Day

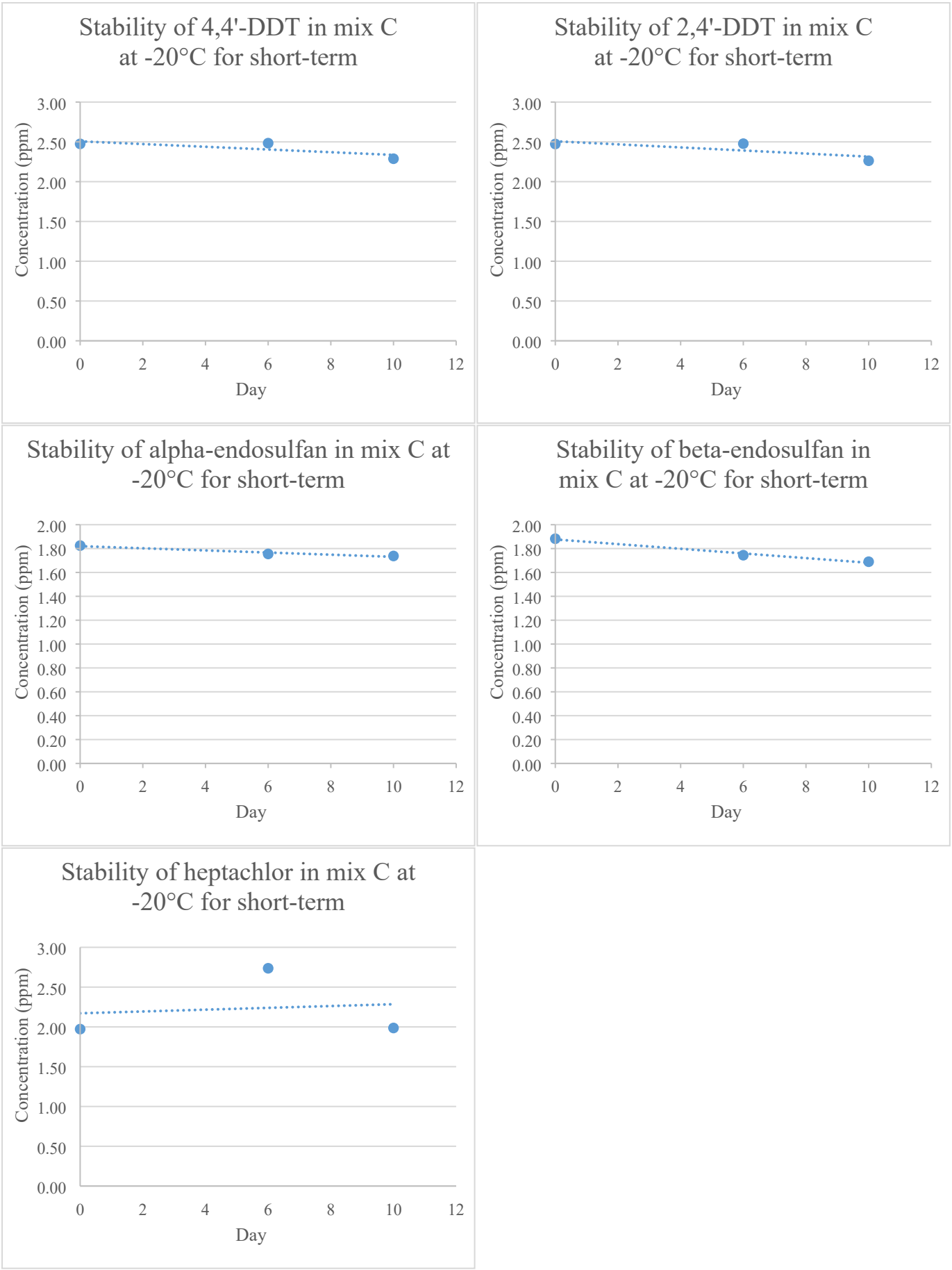
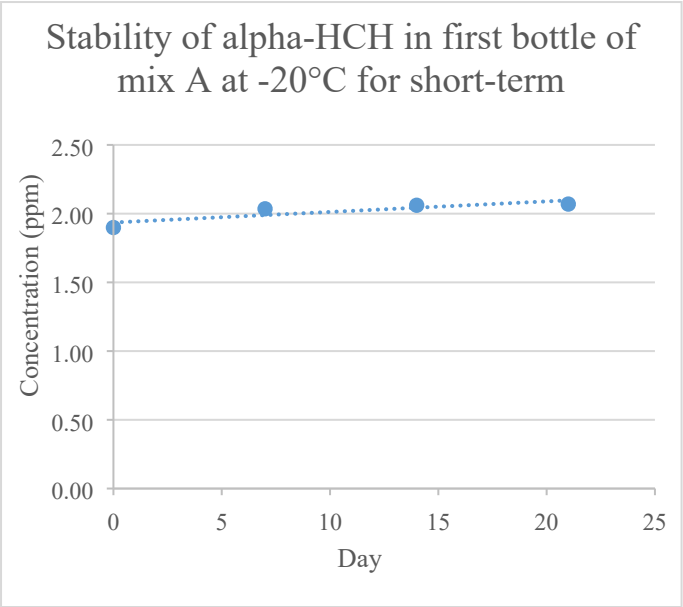
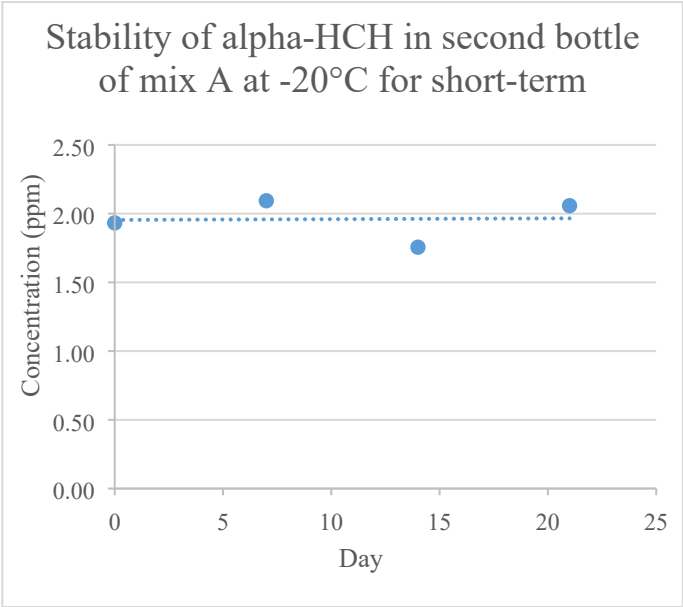
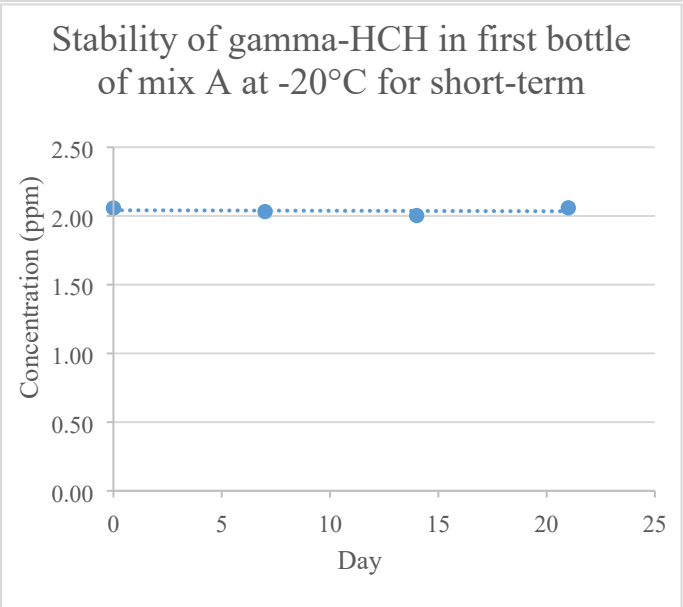
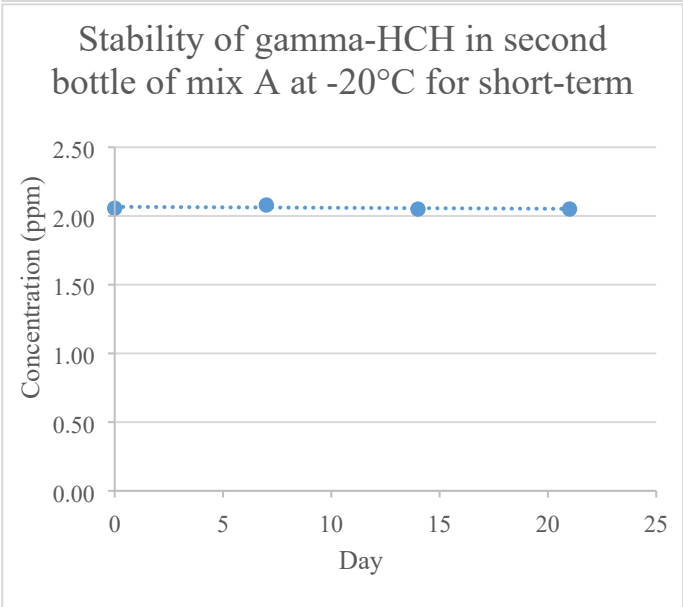


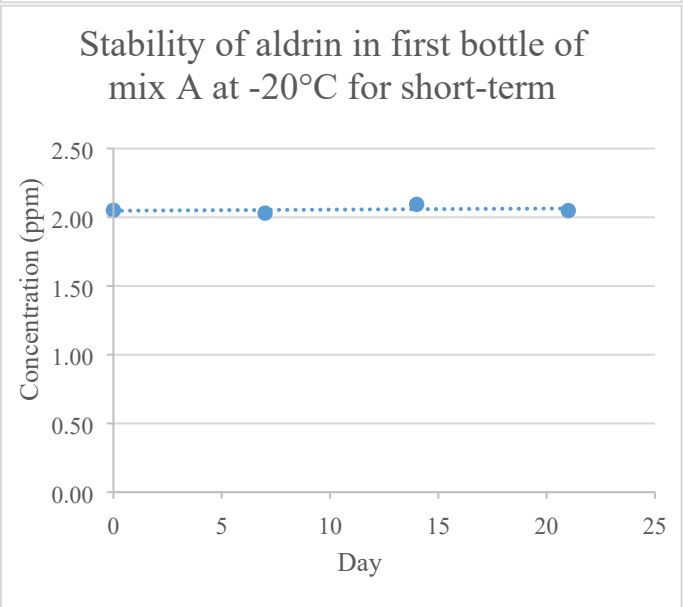
Fig. S4 The plots of volumetric mix C in short-term stability at -20°C for each pesticide

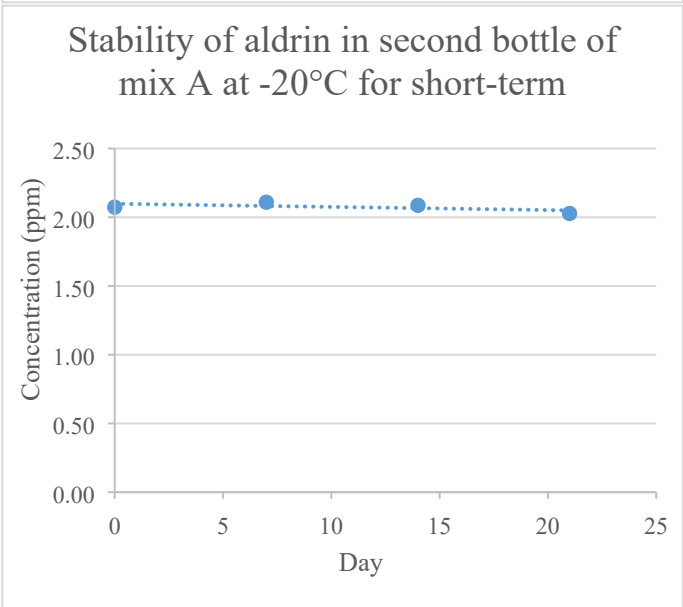

Stability of alpha-HCH in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

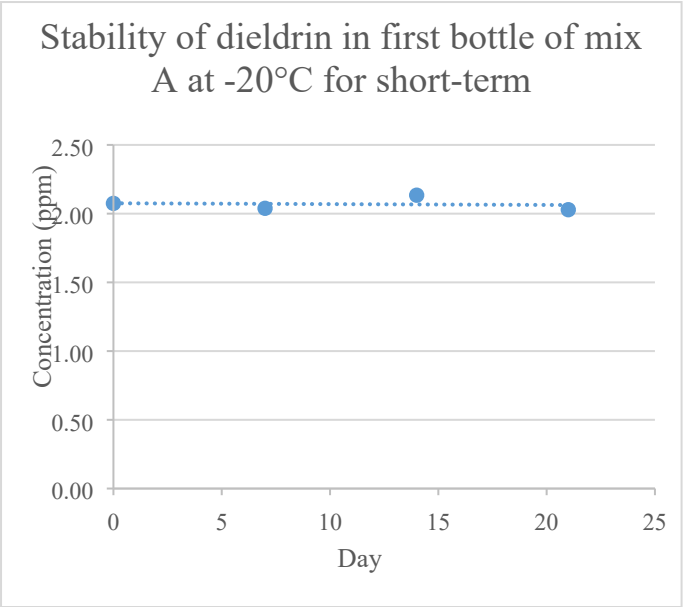

Stability of alpha-HCH in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

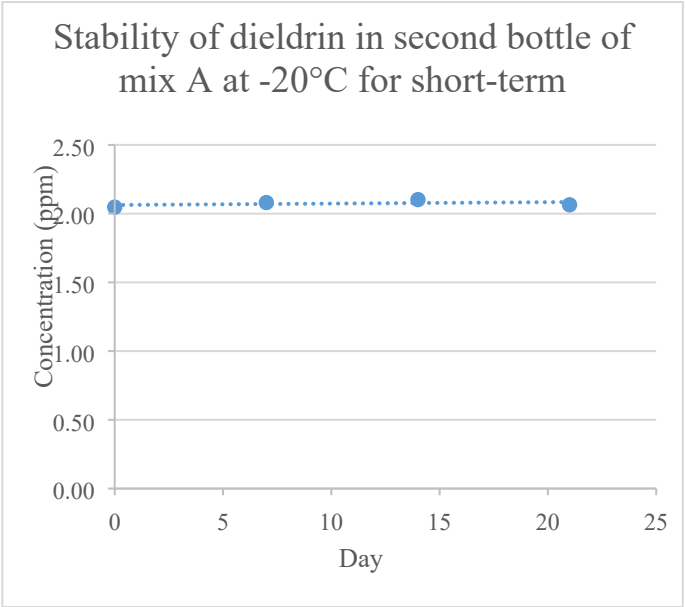

Stability of gamma-HCH in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

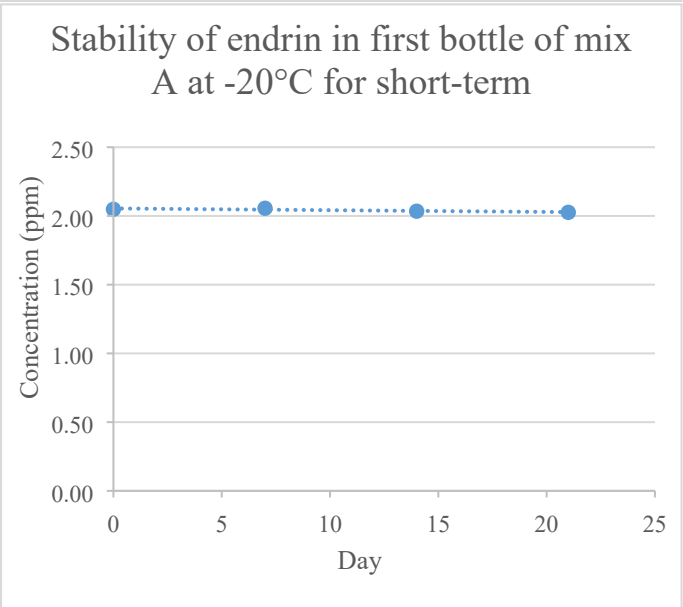

Stability of gamma-HCH in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

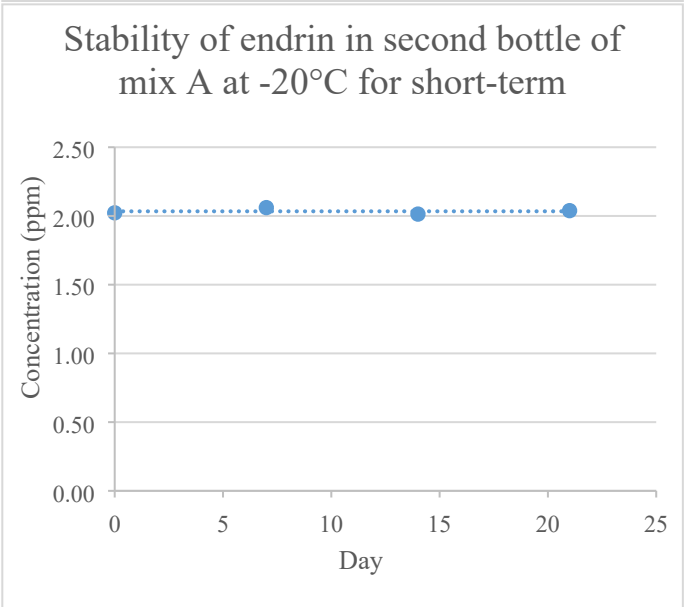

Stability of aldrin in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

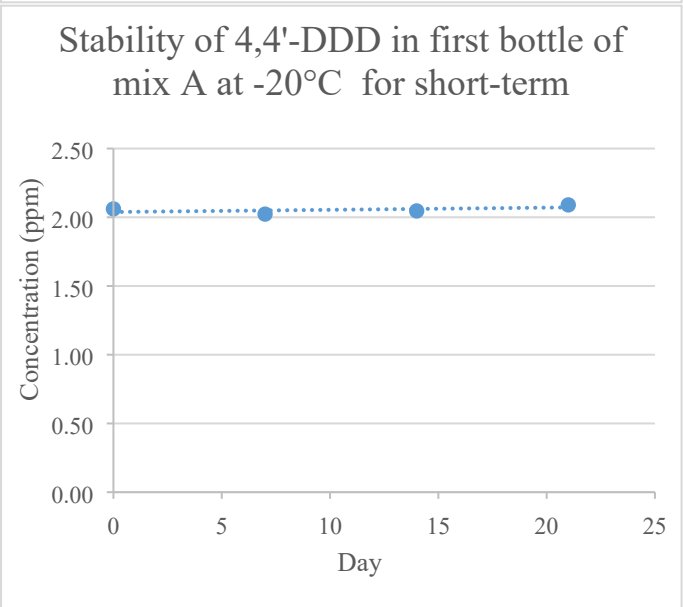

Stability of aldrin in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

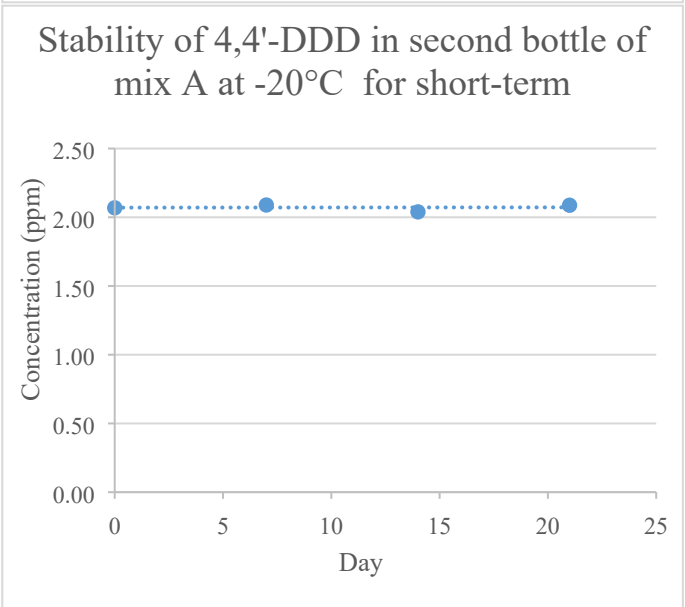

Stability of dieldrin in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

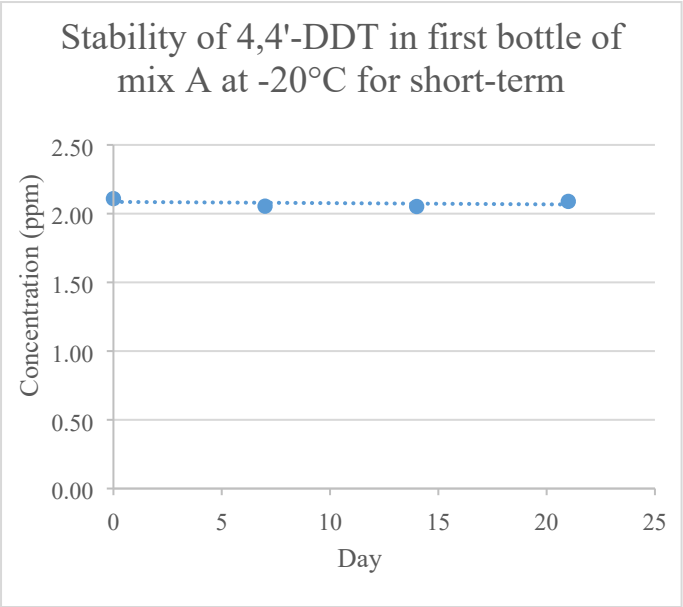

Stability of dieldrin in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

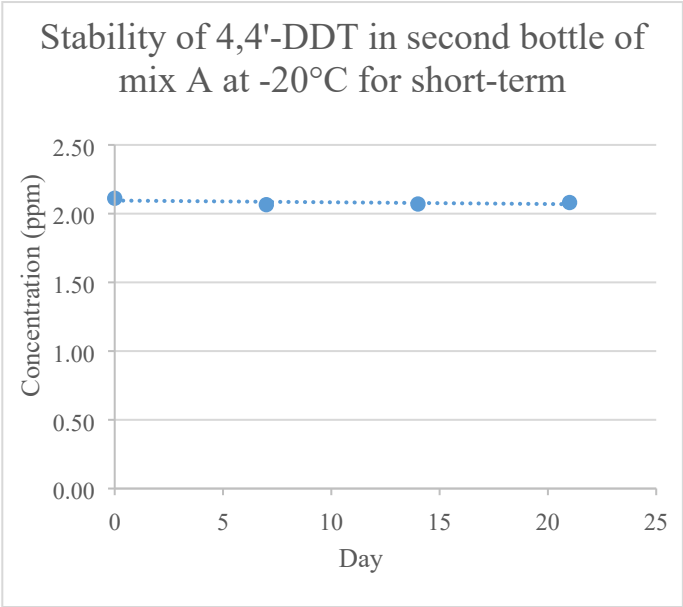

Stability of endrin in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

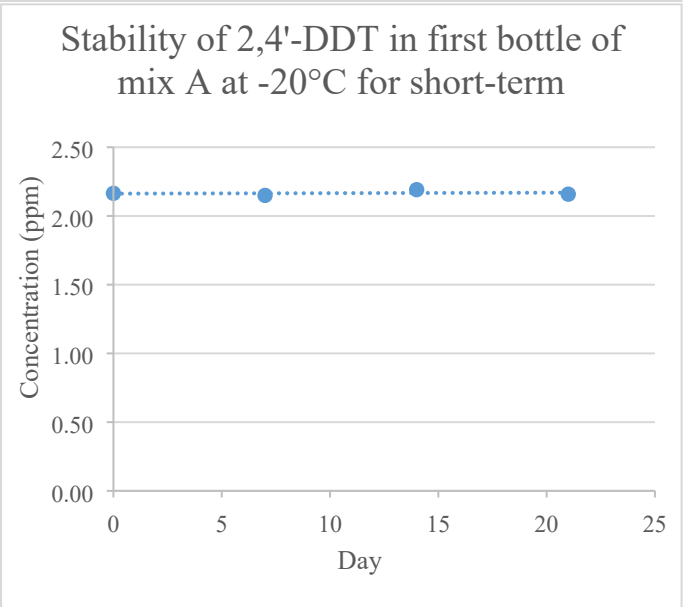

Stability of endrin in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

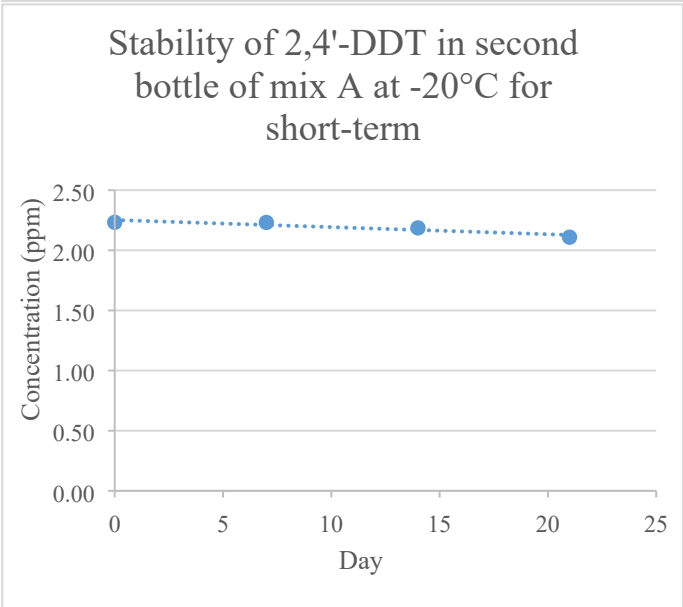

Stability of 4,4'-DDD in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

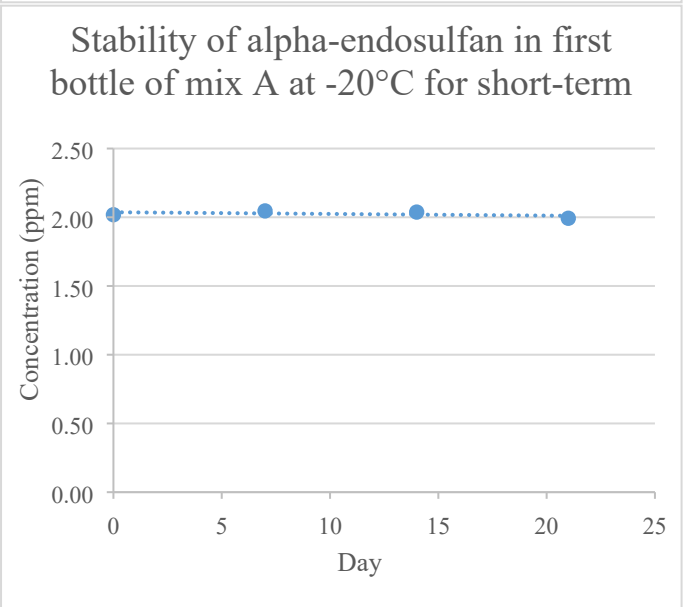

Stability of 4,4'-DDD in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

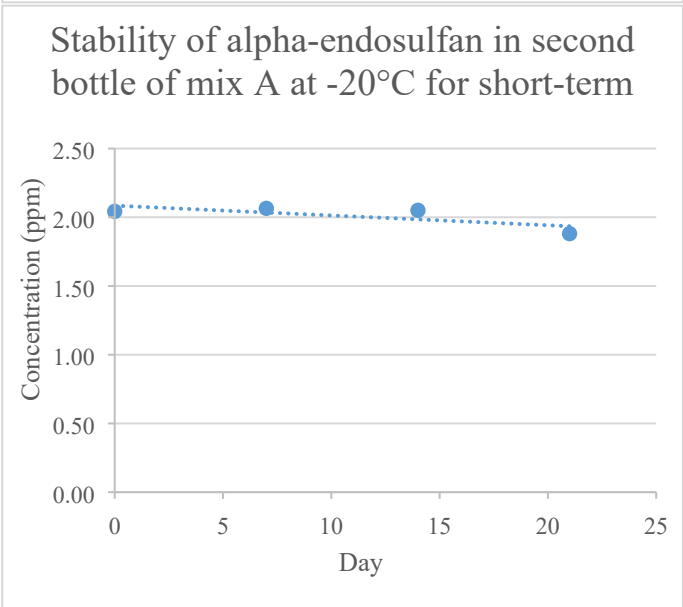

Stability of 4,4'-DDT in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

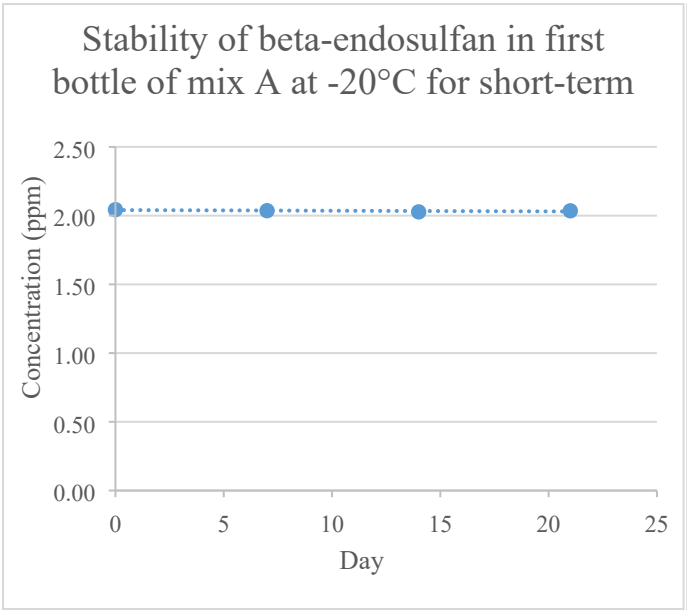

Stability of 4,4'-DDT in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

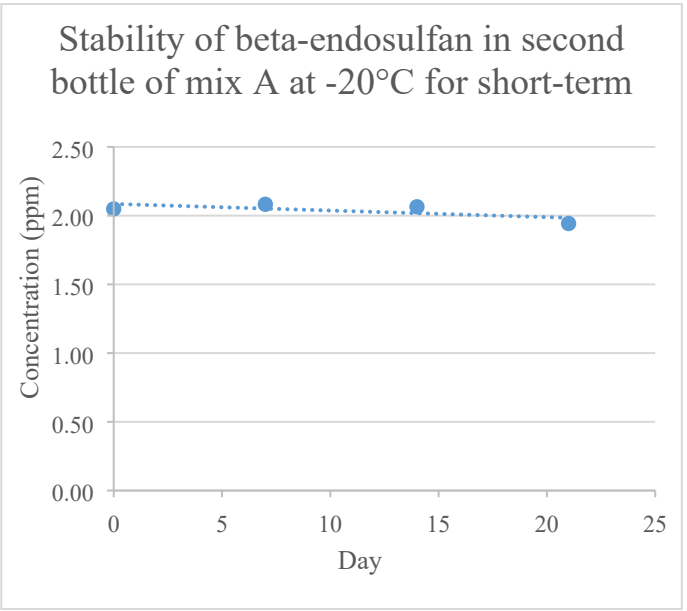

Stability of 2,4'-DDT in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

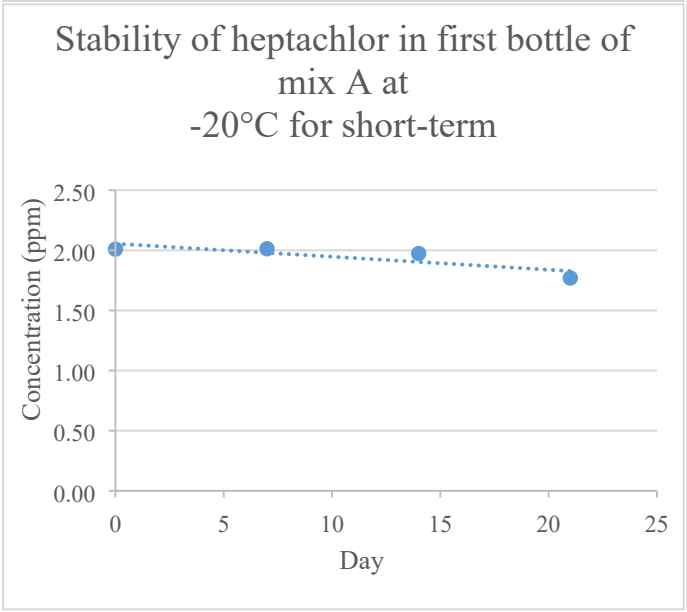

Stability of 2,4'-DDT in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

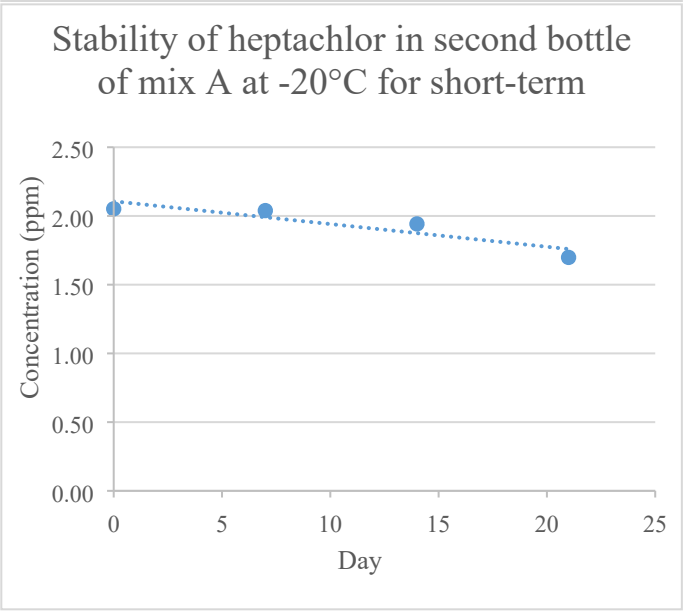

Stability of alpha-endosulfan in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

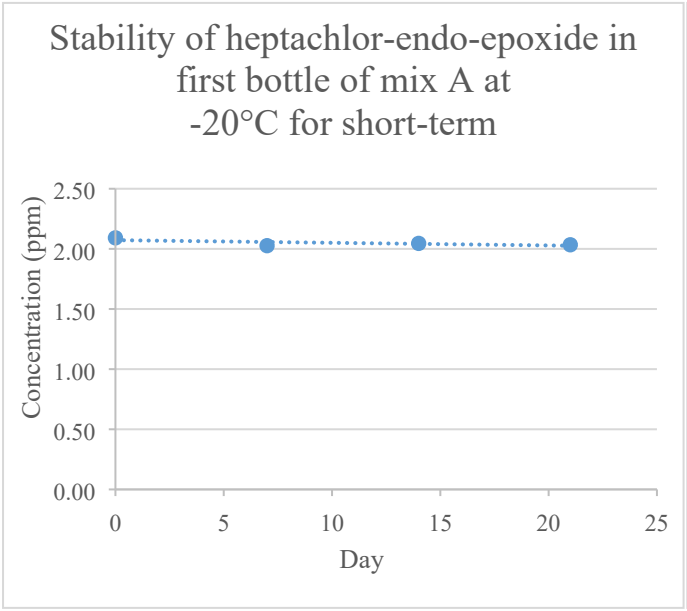

Stability of alpha-endosulfan in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

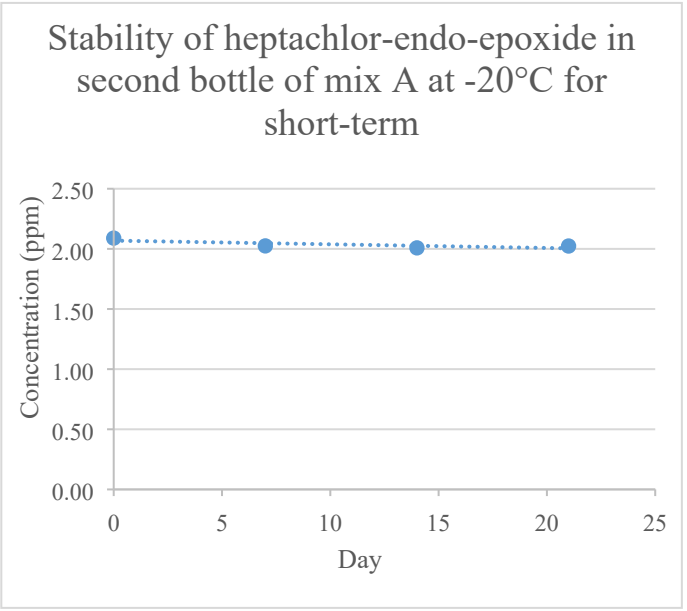

Stability of beta-endosulfan in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

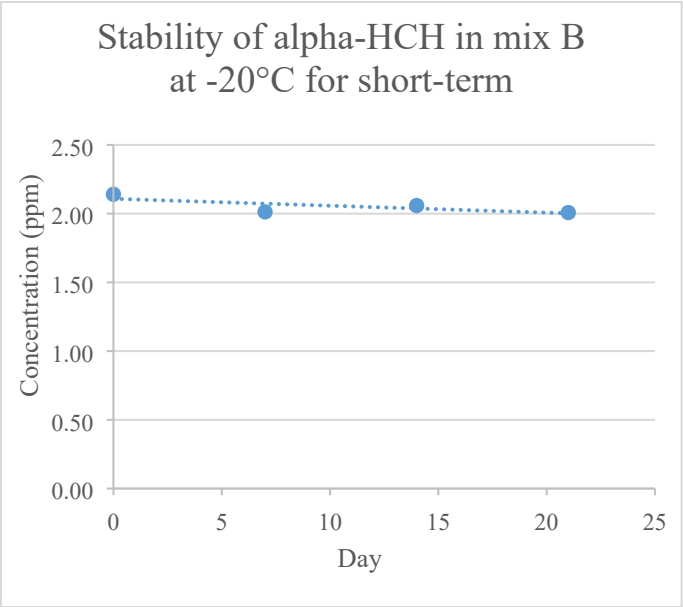

Stability of beta-endosulfan in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

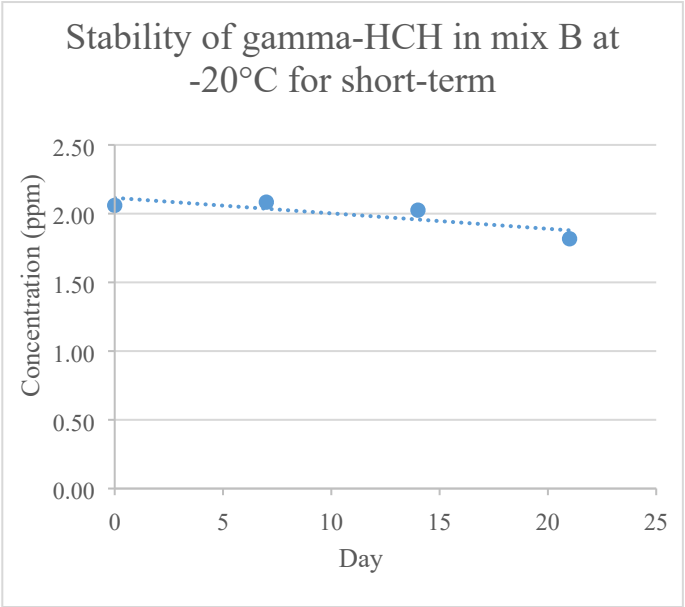

Stability of heptachlor in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

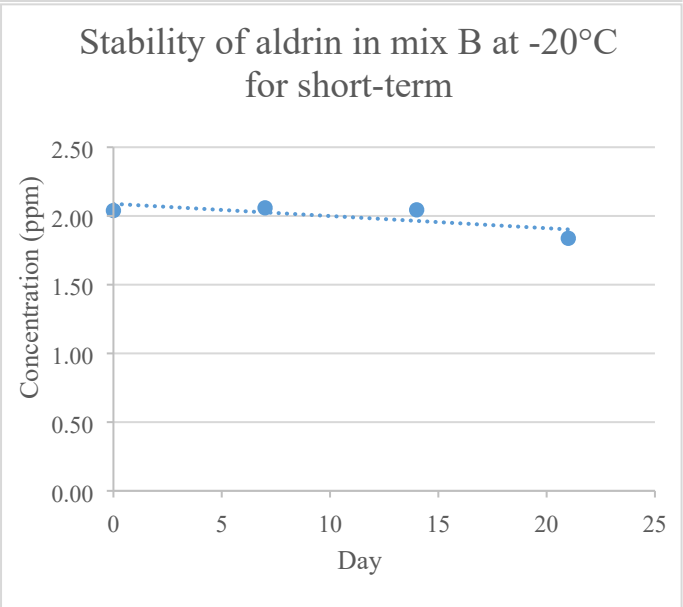

Stability of heptachlor in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

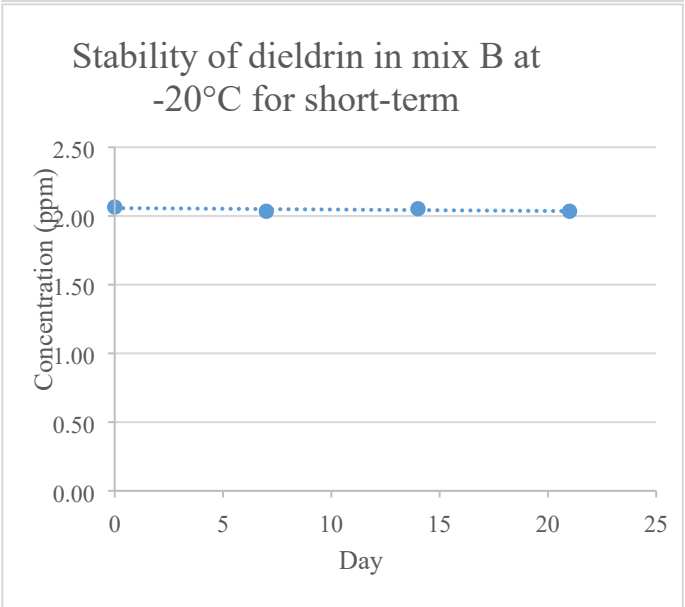

Stability of heptachlor-endo-epoxide in first bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

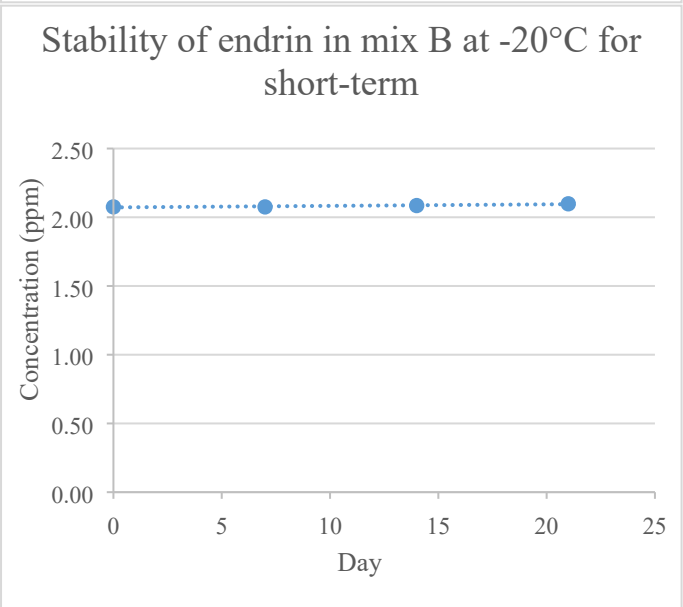

Stability of heptachlor-endo-epoxide in second bottle of mix A at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

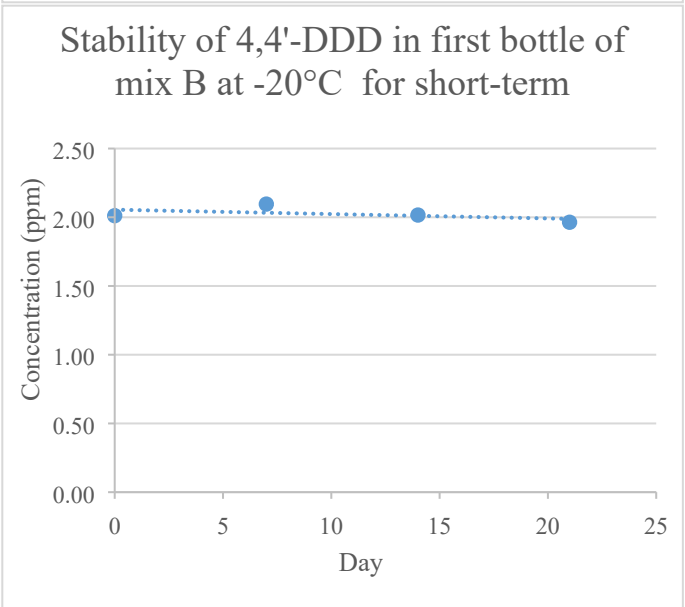

Stability of alpha-HCH in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

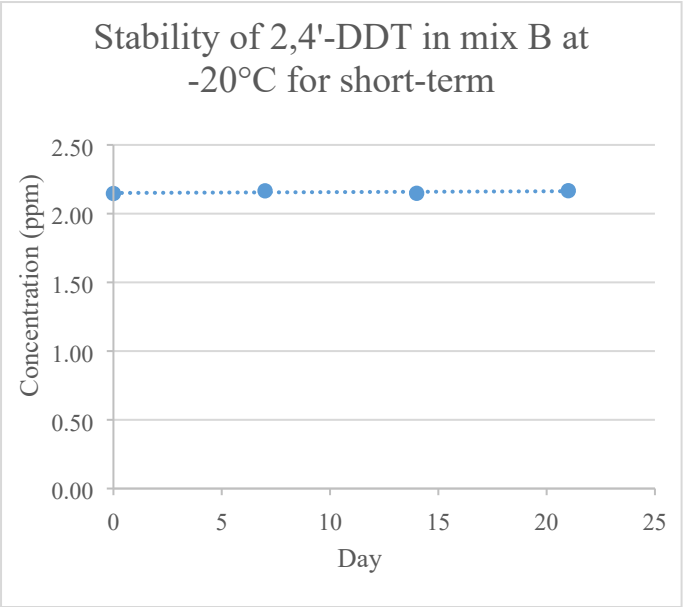

Stability of gamma-HCH in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

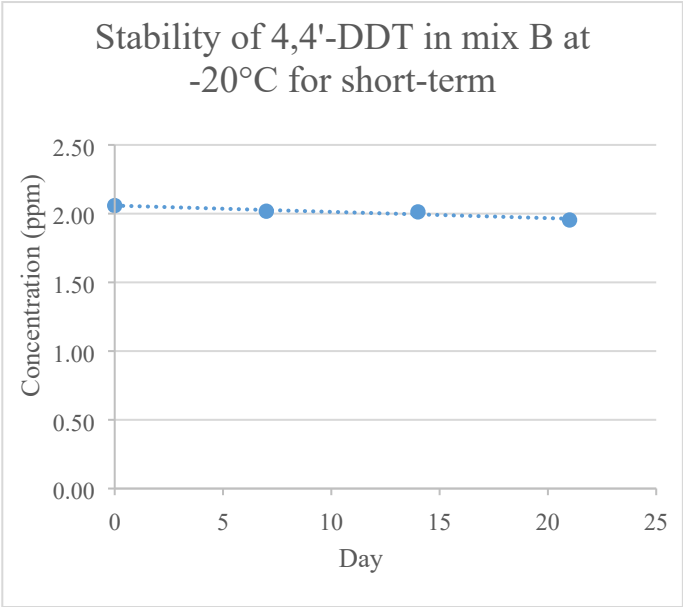

Stability of aldrin in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

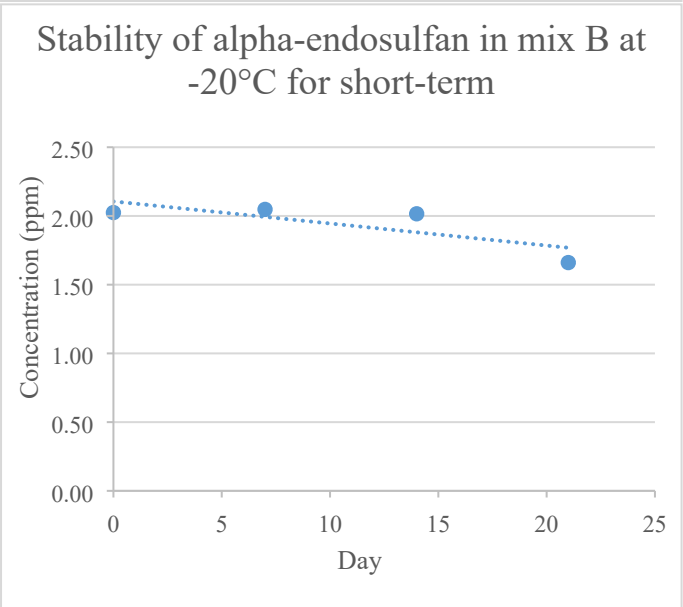

Stability of dieldrin in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

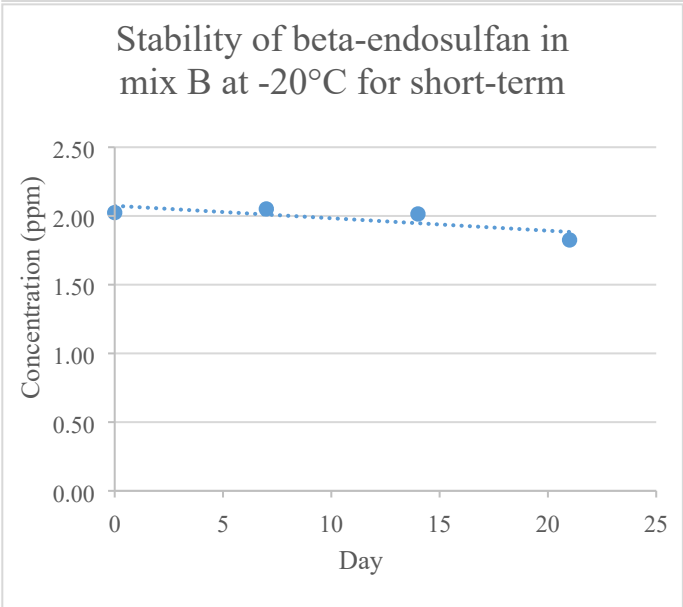

Stability of endrin in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

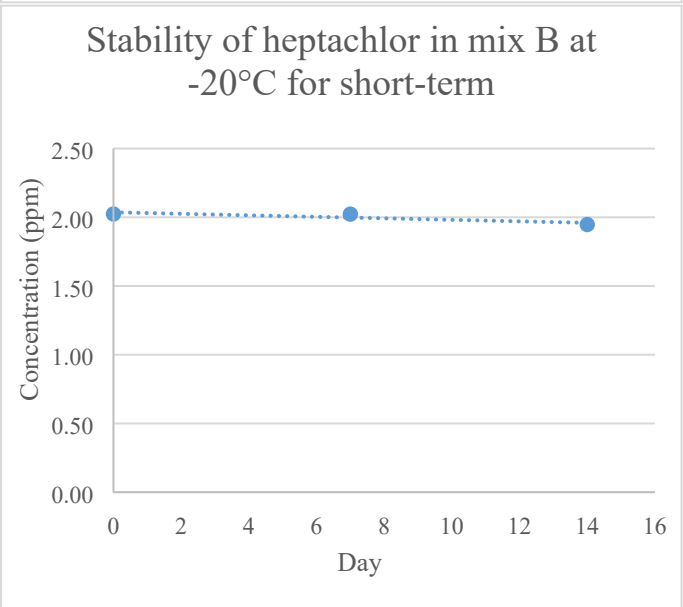

Stability of 4,4'-DDD in first bottle of mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

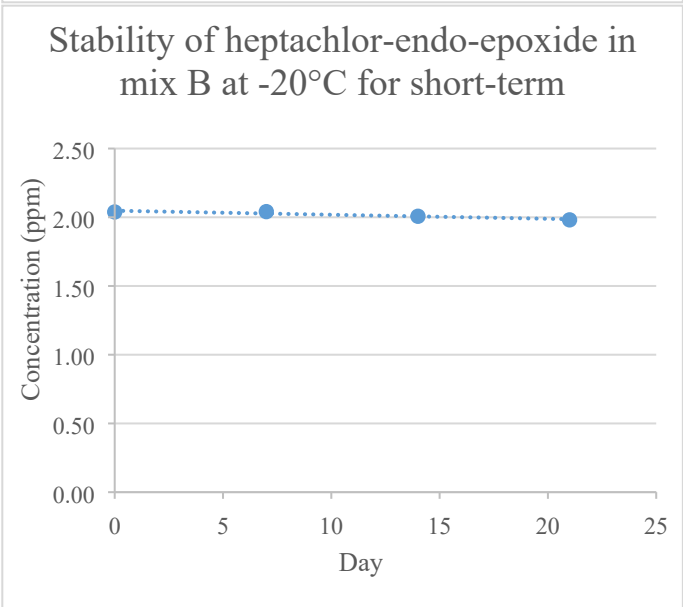

Stability of 2,4'-DDT in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

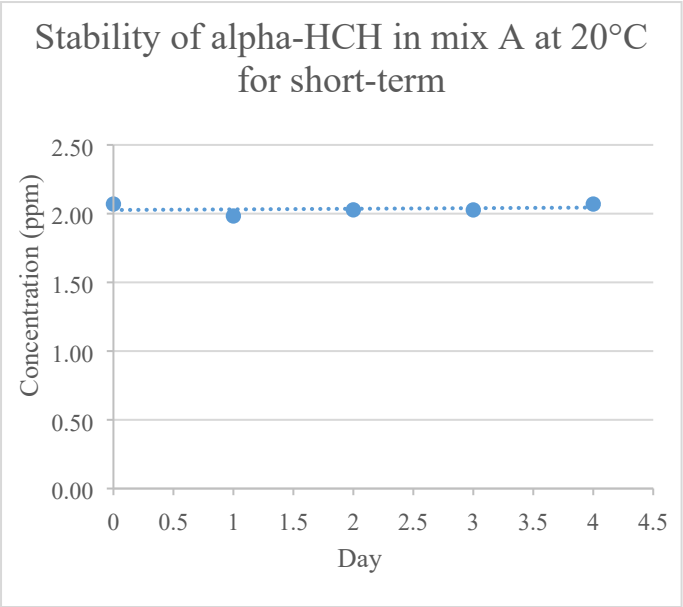

Stability of 4,4'-DDT in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

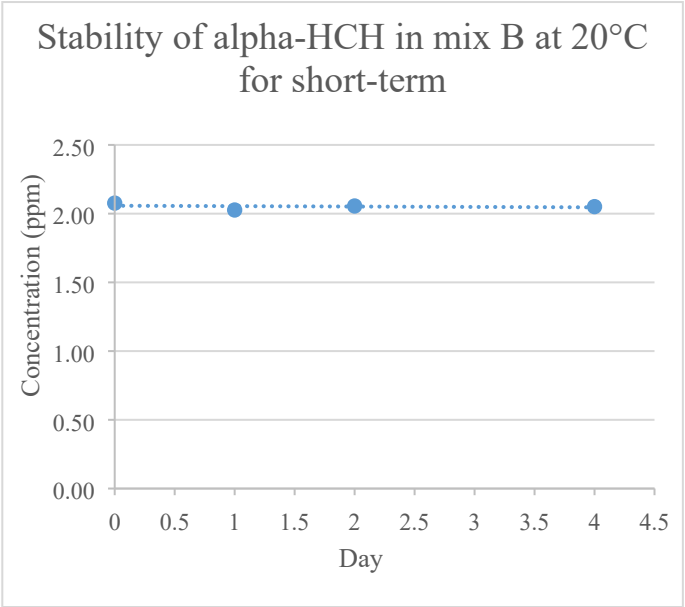

Stability of alpha-endosulfan in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

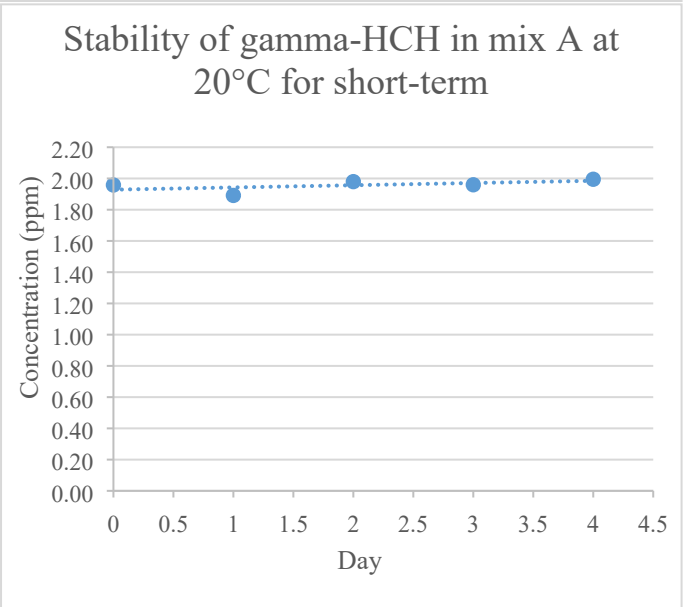

Stability of beta-endosulfan in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

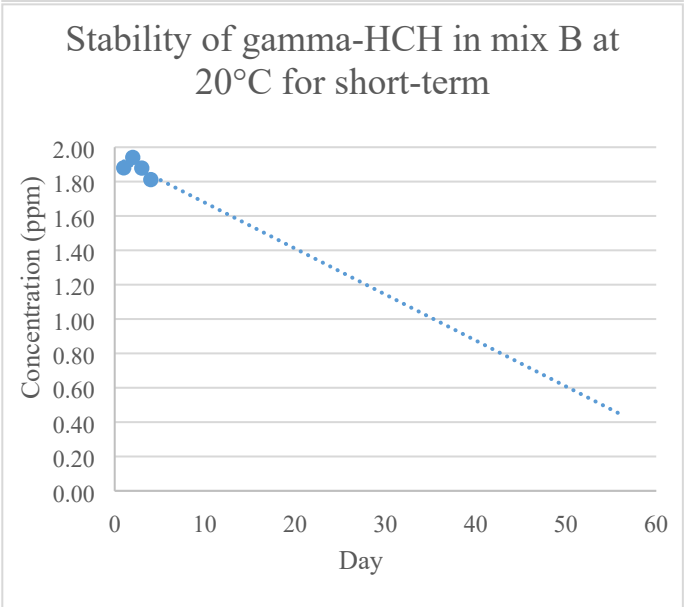

Stability of heptachlor in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
2
4
6
8
10
12
14
16
Day

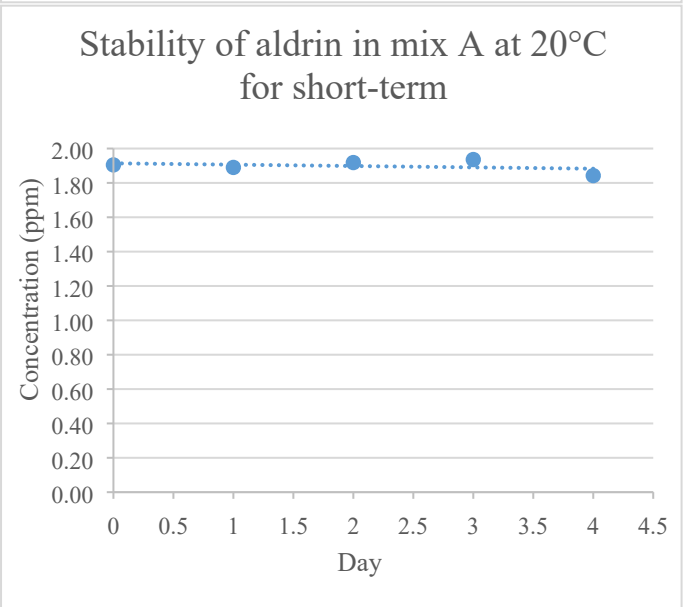

Stability of heptachlor-endo-epoxide in mix B at -20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
5
10
15
20
25
Day

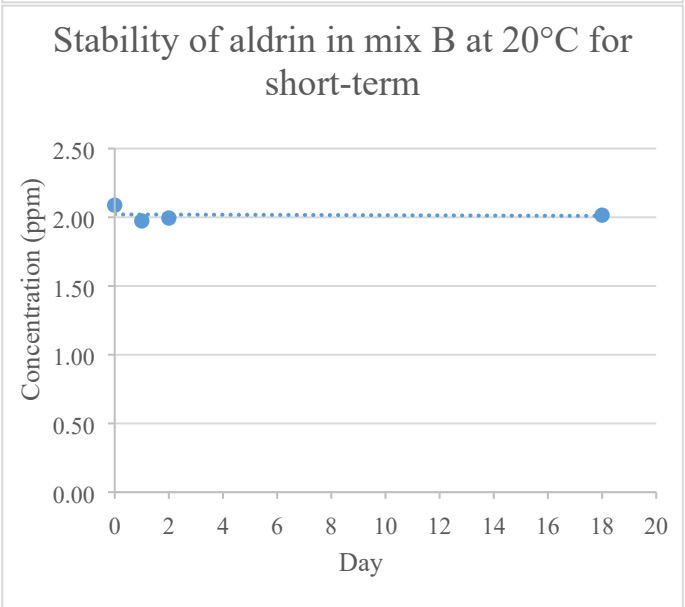

Stability of alpha-HCH in mix A at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

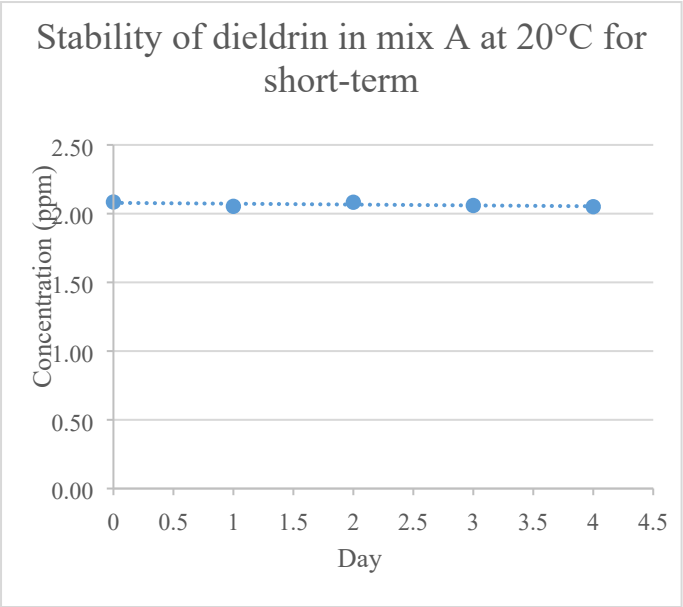

Stability of alpha-HCH in mix B at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

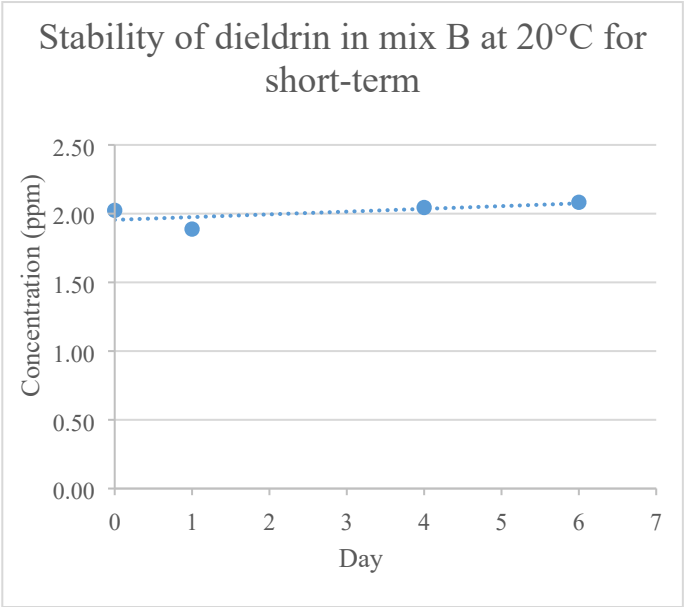

Stability of gamma-HCH in mix A at 20°C for short-term
Concentration (ppm)
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

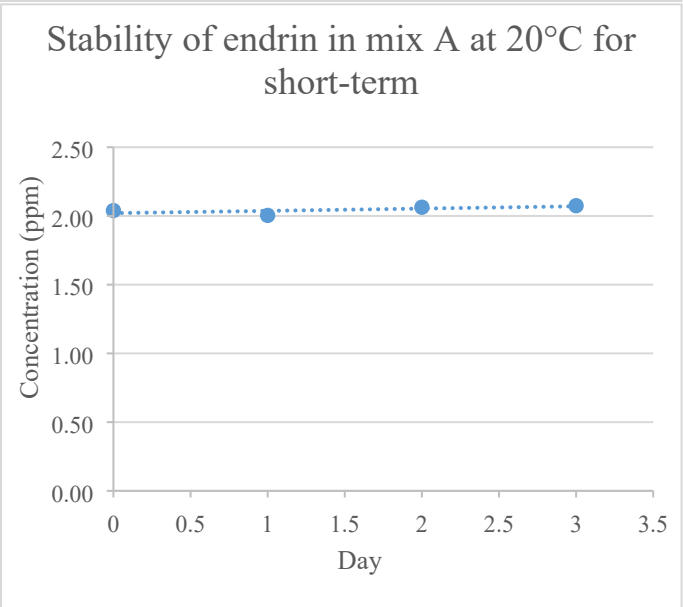

Stability of gamma-HCH in mix B at 20°C for short-term
Concentration (ppm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0 10 20 30 40 50 60
Day

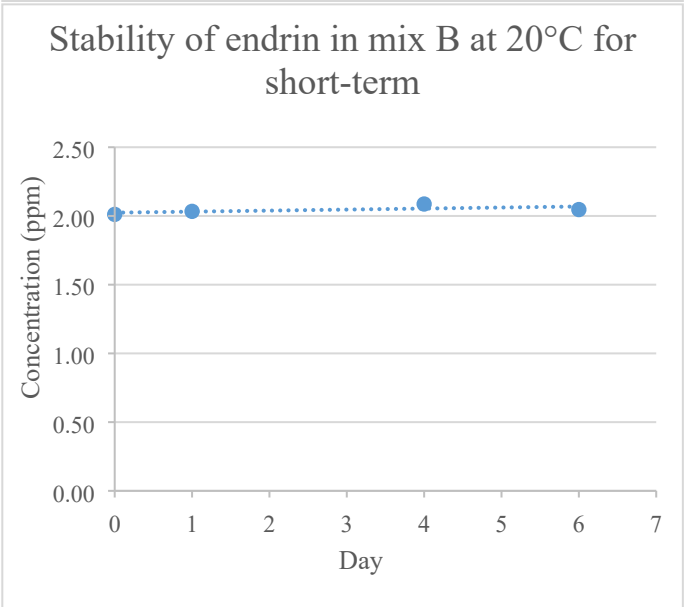

Stability of aldrin in mix A at 20°C for short-term
Concentration (ppm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

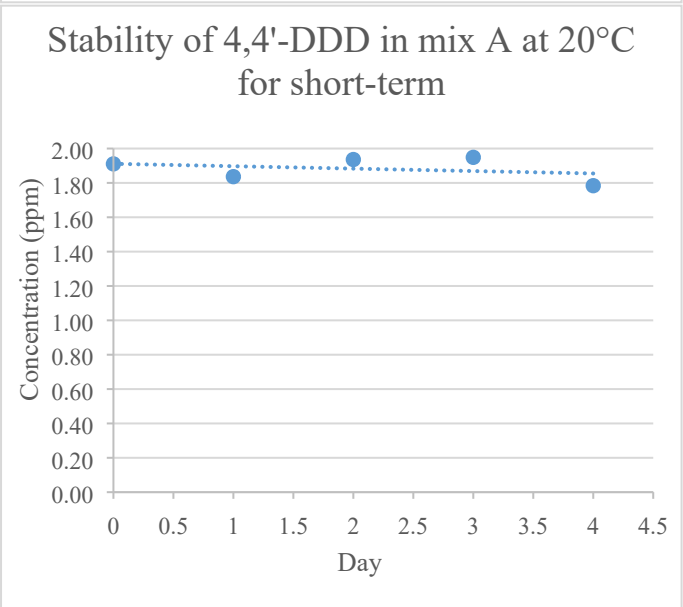

Stability of aldrin in mix B at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

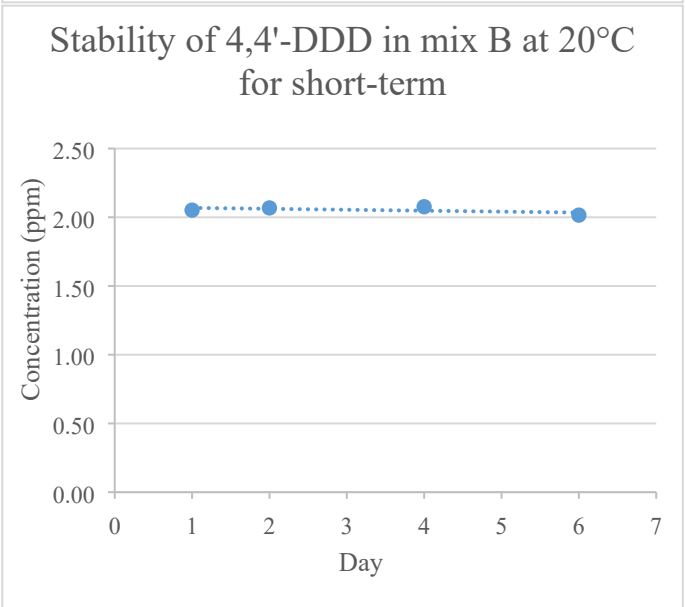

Stability of dieldrin in mix A at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

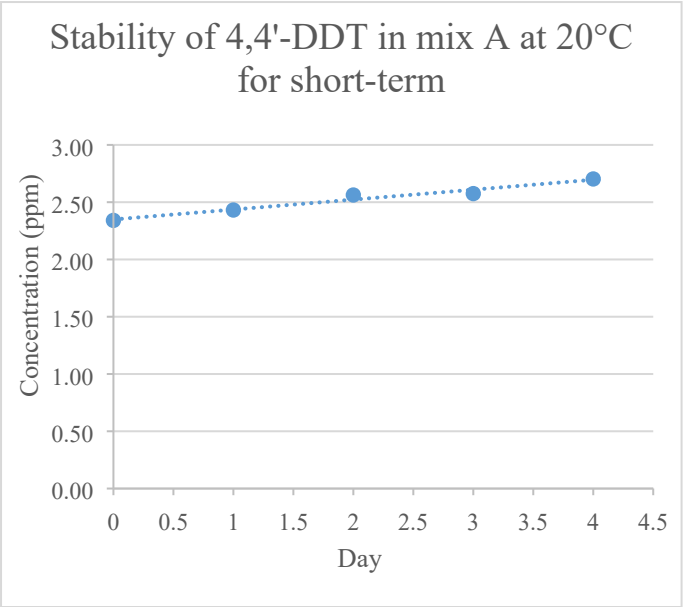

Stability of dieldrin in mix B at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

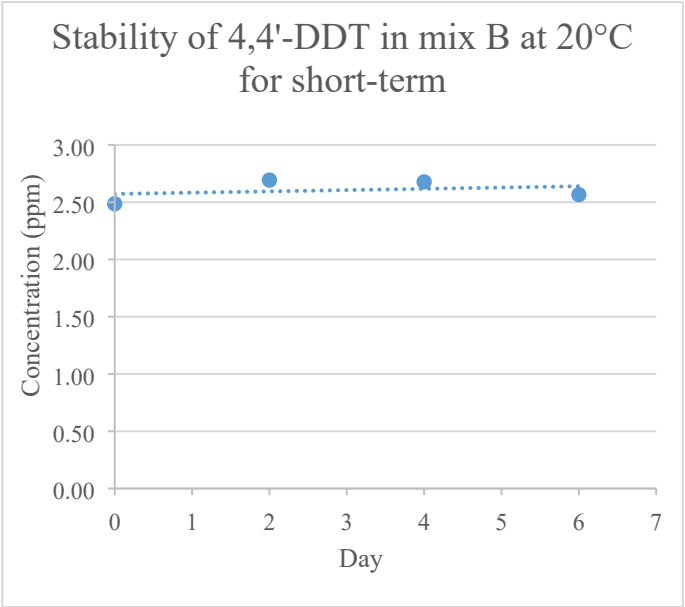

Stability of endrin in mix A at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 0.5 1 1.5 2 2.5 3 3.5
Day

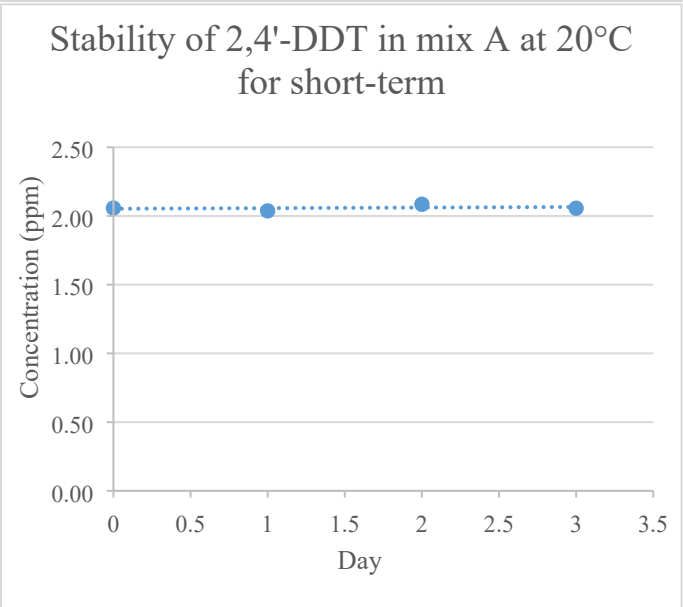

Stability of endrin in mix B at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

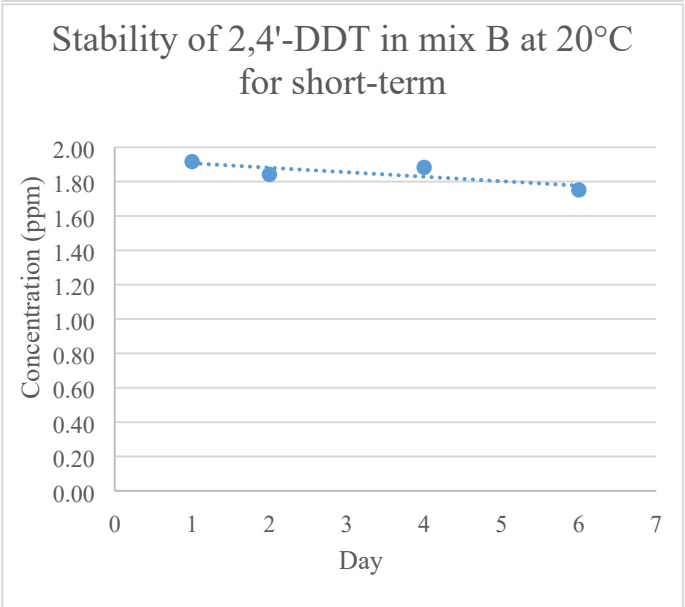

Stability of 4,4'-DDD in mix A at 20°C for short-term
Concentration (ppm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

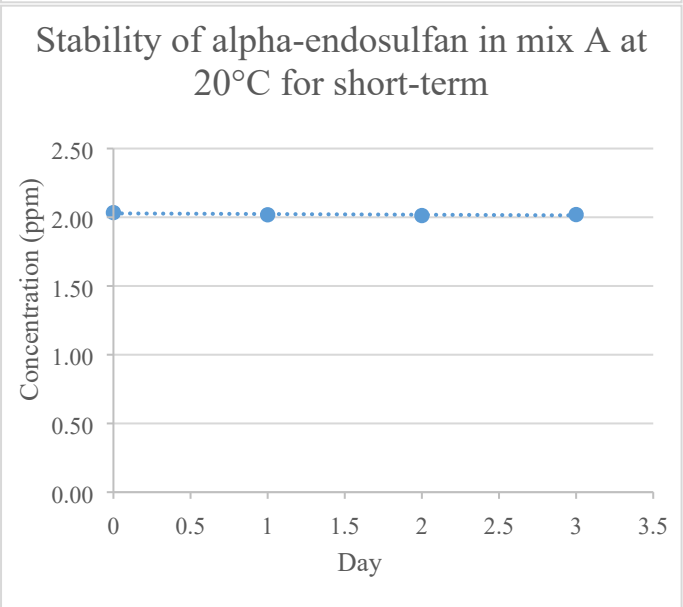

Stability of 4,4'-DDD in mix B at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

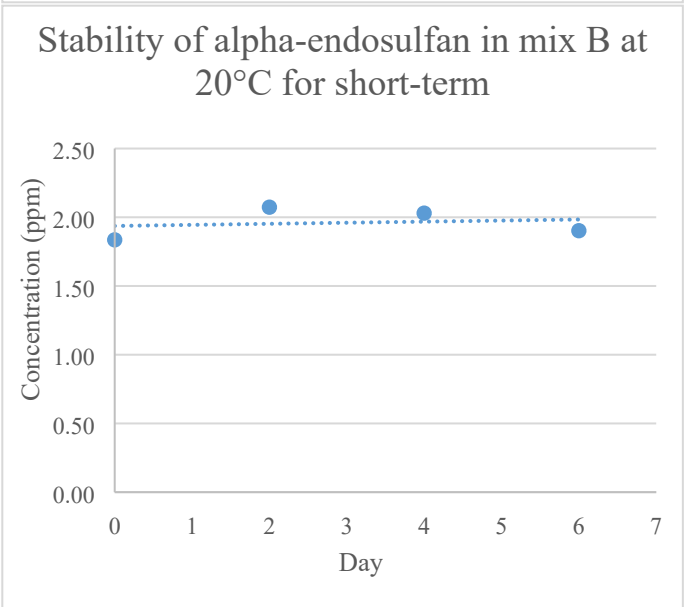

Stability of 4,4'-DDT in mix A at 20°C for short-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
0.5
1
1.5
2
2.5
3
3.5
4
4.5
Day


Stability of 4,4'-DDT in mix B at 20°C for short-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0
1
2
3
4
5
6
7
Day


Stability of 2,4'-DDT in mix A at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
0.5
1
1.5
2
2.5
3
3.5
Day


Stability of 2,4'-DDT in mix B at 20°C for short-term
Concentration (ppm)
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0
1
2
3
4
5
6
7
Day


Stability of alpha-endosulfan in mix A at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
0.5
1
1.5
2
2.5
3
3.5
Day


Stability of alpha-endosulfan in mix B at 20°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
1
2
3
4
5
6
7
Day

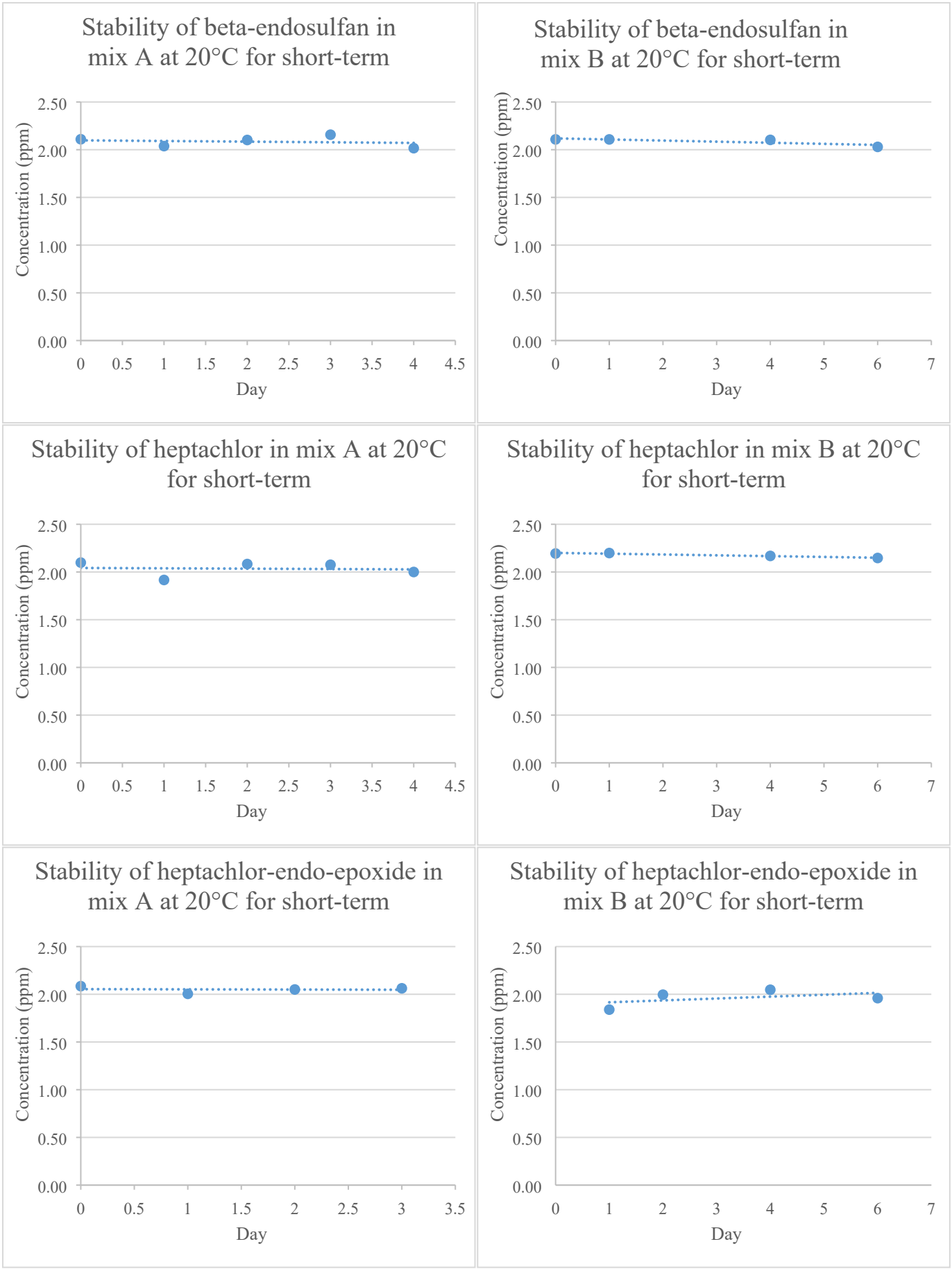
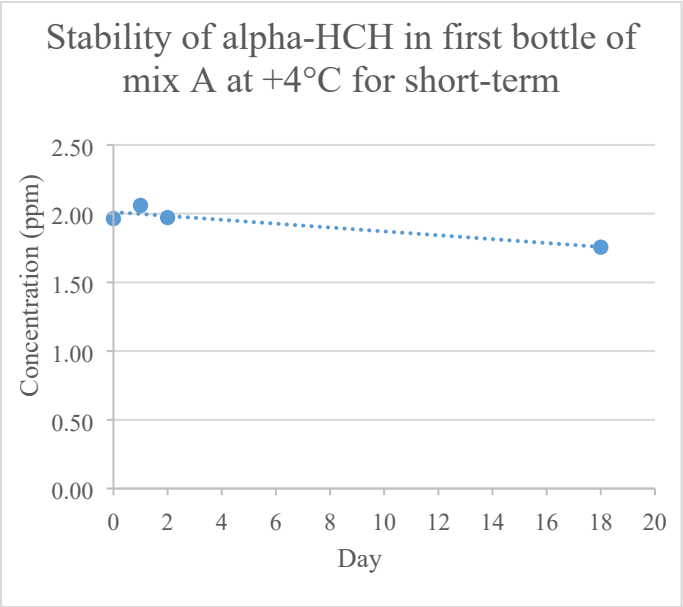
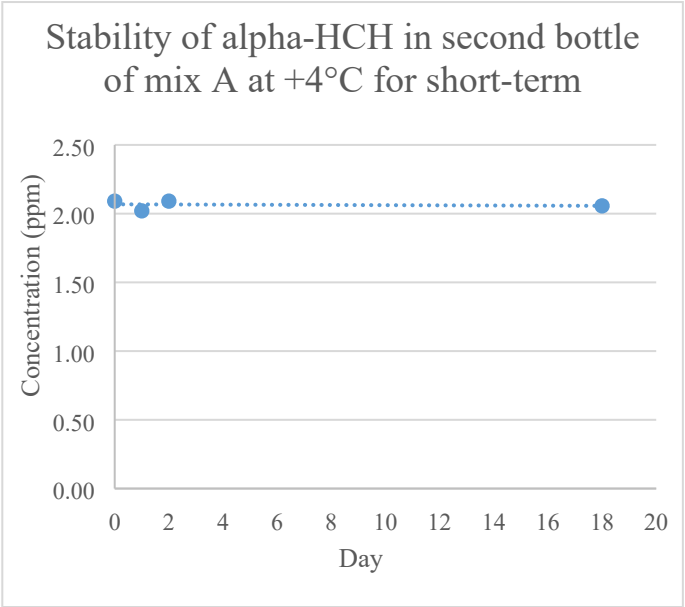
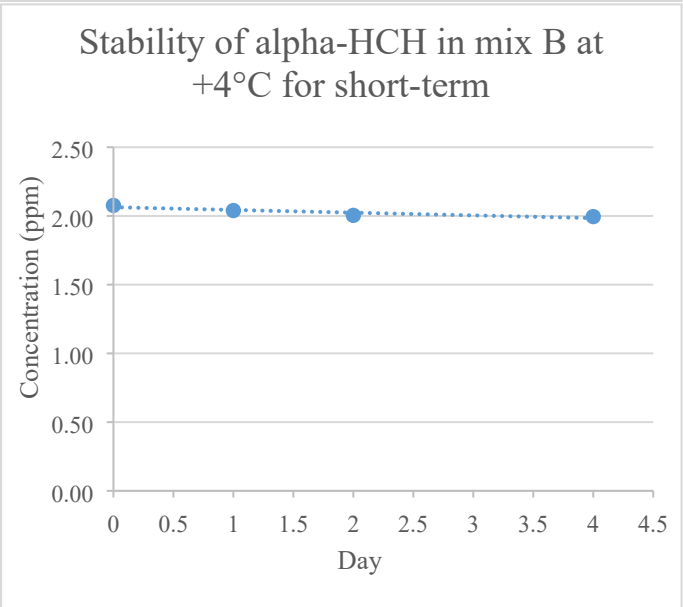
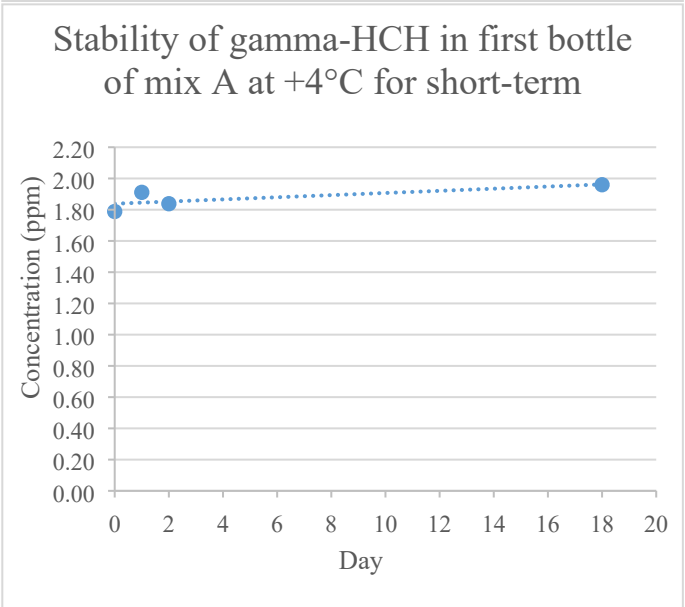


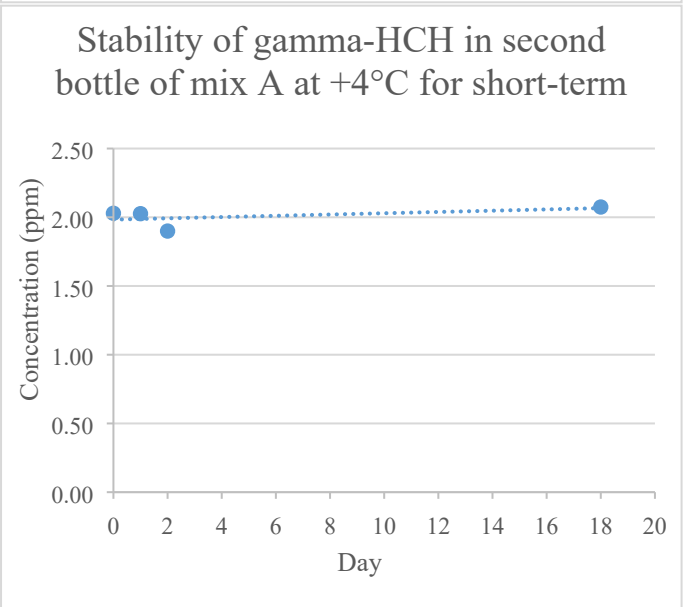
Fig. S5 The plots of gravimetric mixtures (A and B) in short term stability at 20°C for each pesticide

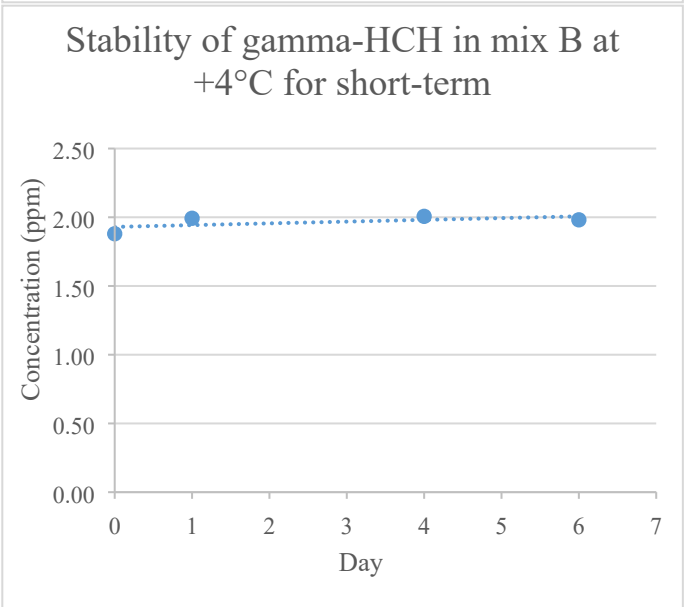

Stability of alpha-HCH in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

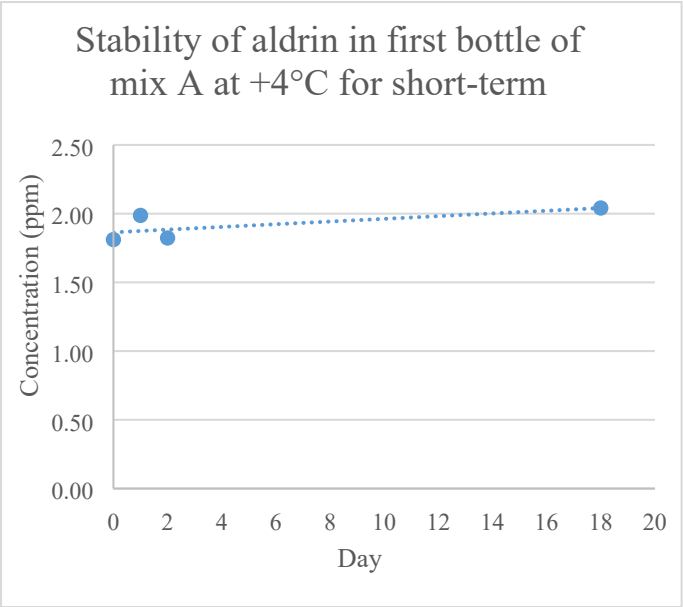

Stability of alpha-HCH in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

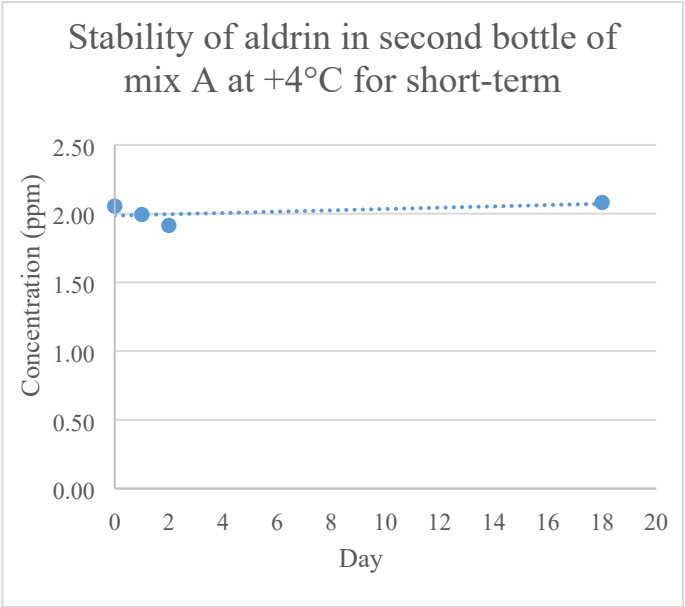

Stability of alpha-HCH in mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

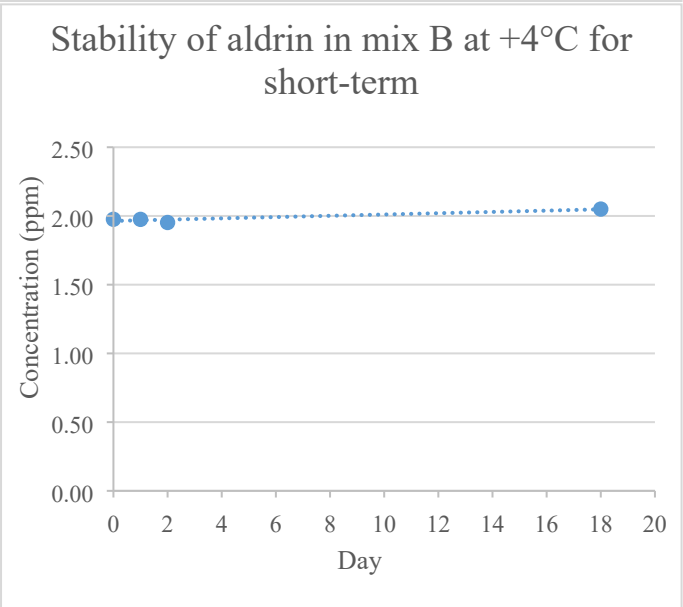

Stability of gamma-HCH in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

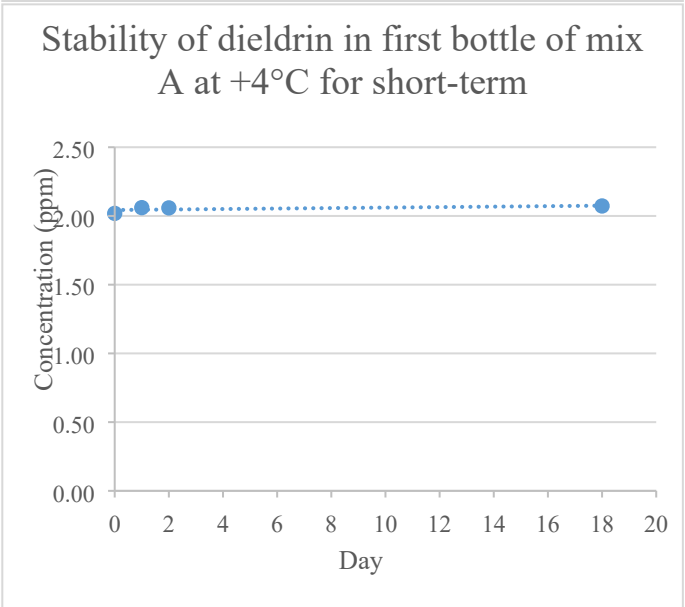

Stability of gamma-HCH in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

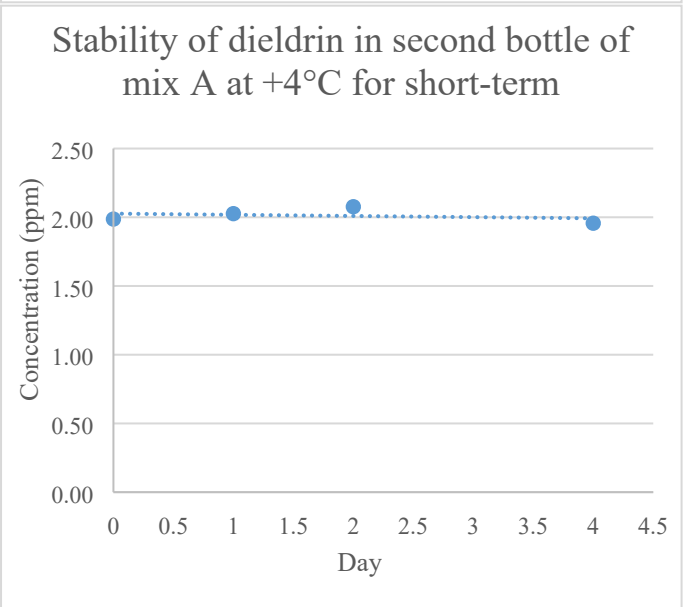

Stability of gamma-HCH in mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

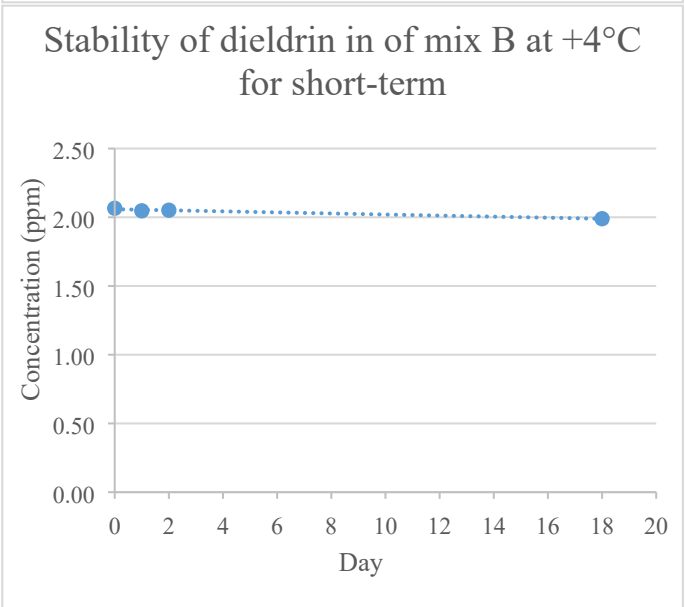

Stability of aldrin in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

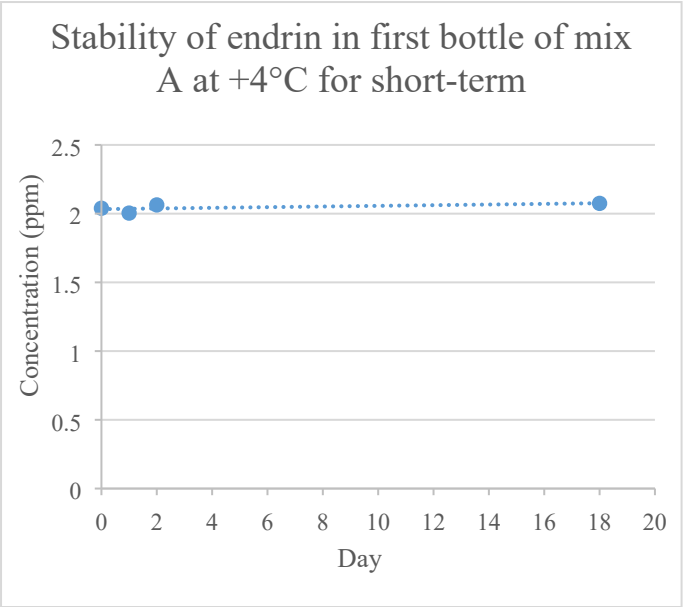

Stability of aldrin in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

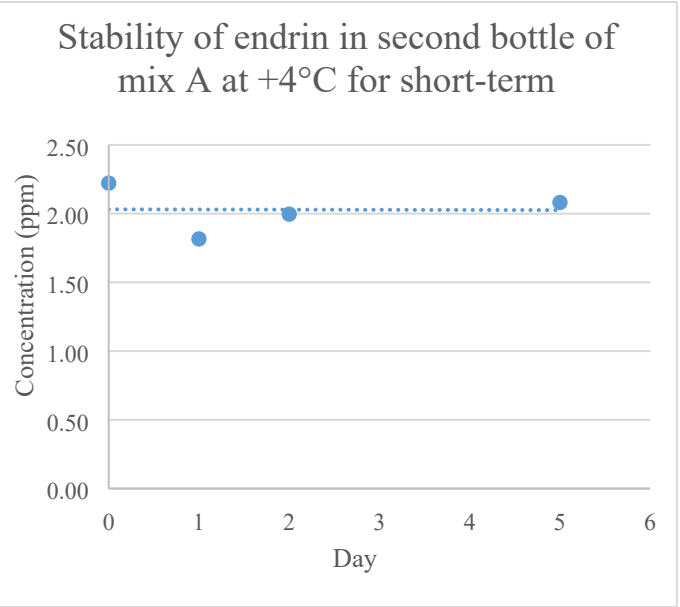

Stability of aldrin in mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

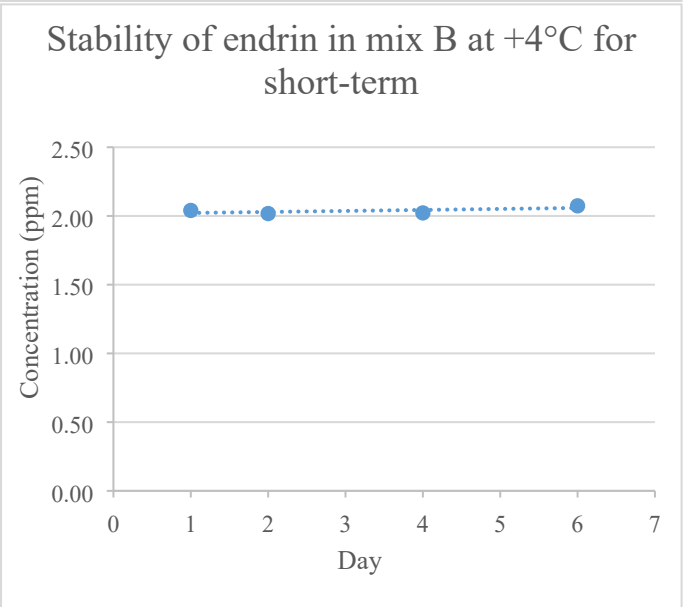

Stability of dieldrin in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

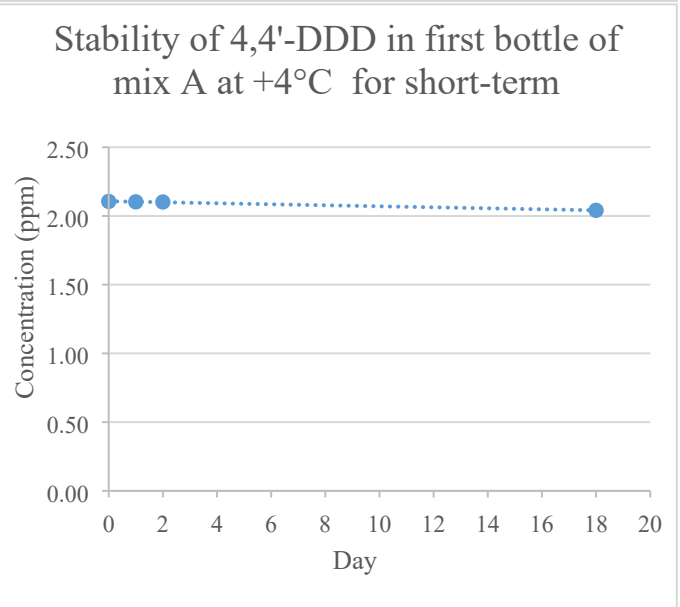

Stability of dieldrin in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day

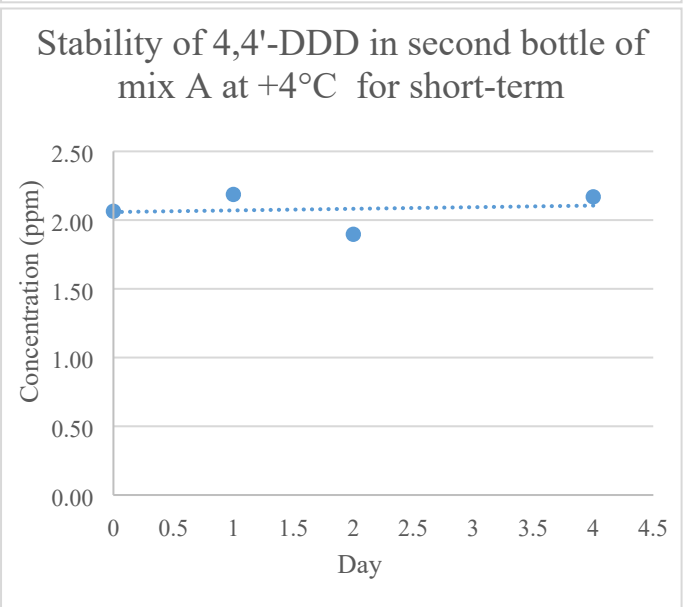

Stability of dieldrin in of mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

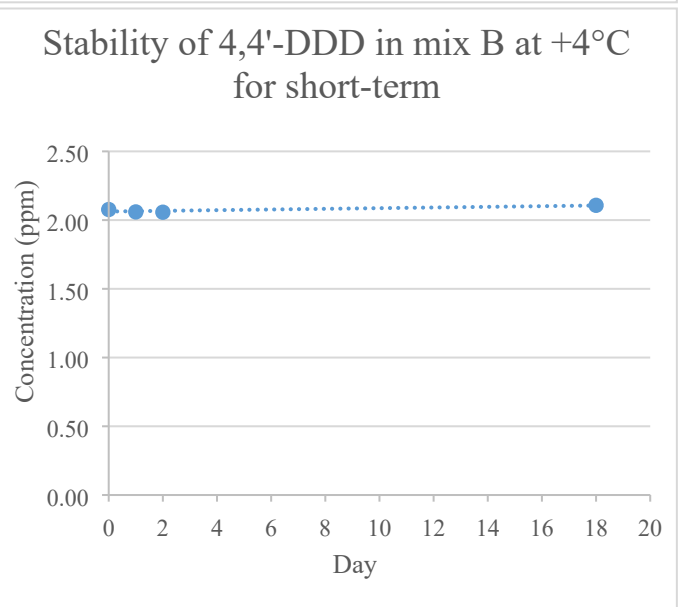

Stability of endrin in first bottle of mix A at +4°C for short-term
Concentration (ppm)
Day

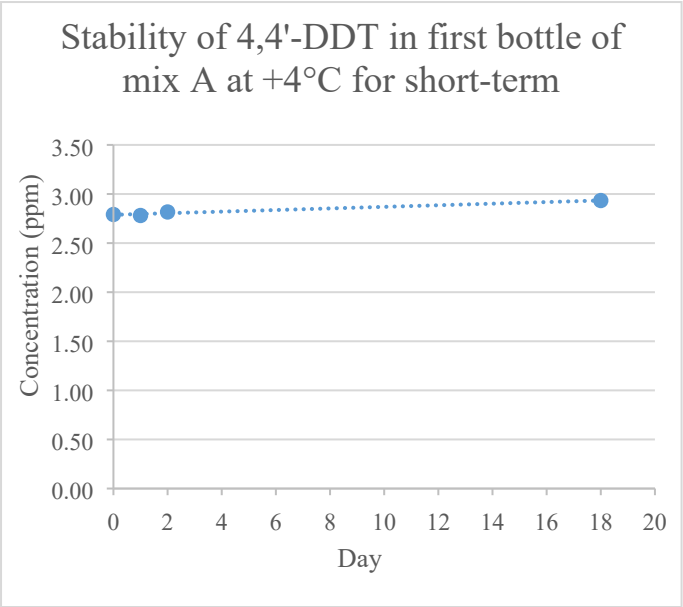

Stability of endrin in second bottle of mix A at +4°C for short-term
Concentration (ppm)
Day

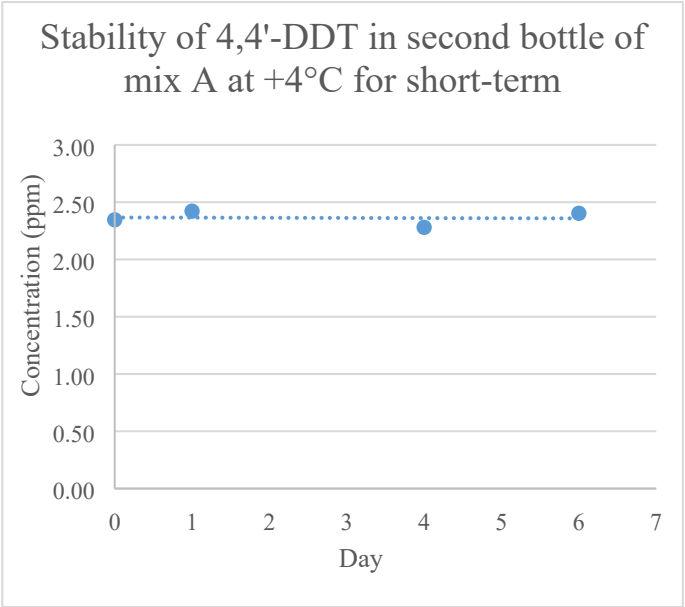

Stability of endrin in mix B at +4°C for short-term
Concentration (ppm)
Day

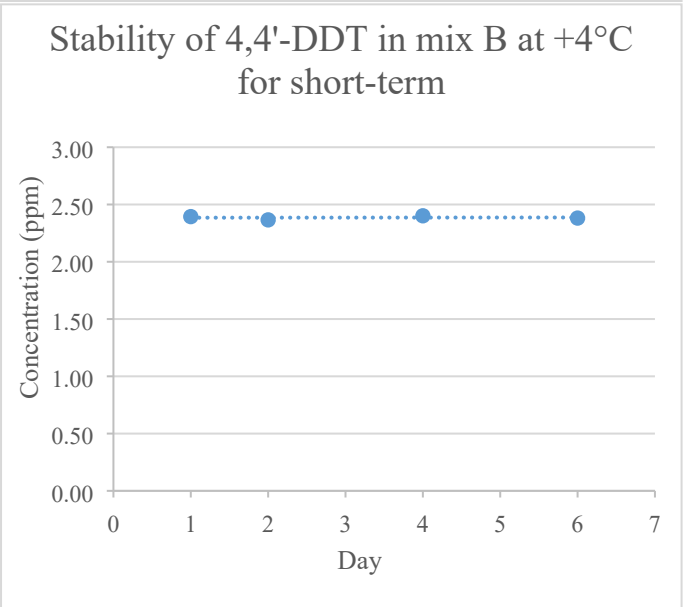

Stability of 4,4'-DDD in first bottle of mix A at +4°C for short-term
Concentration (ppm)
Day

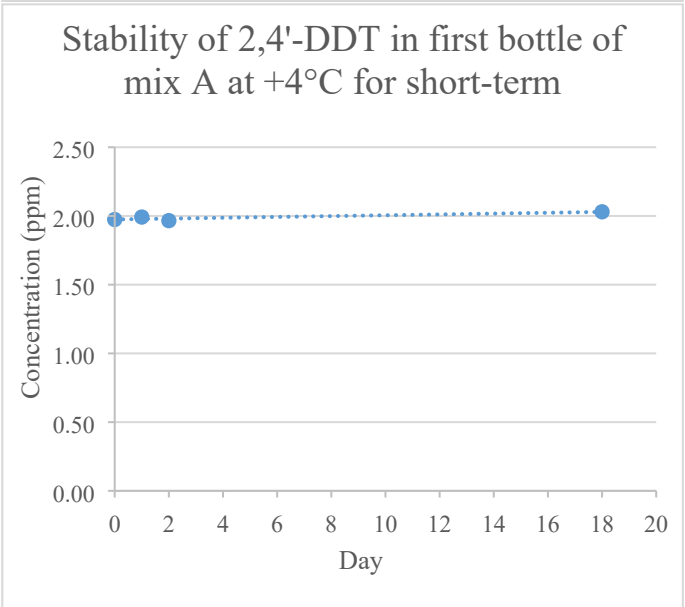

Stability of 4,4'-DDD in second bottle of mix A at +4°C for short-term
Concentration (ppm)
Day

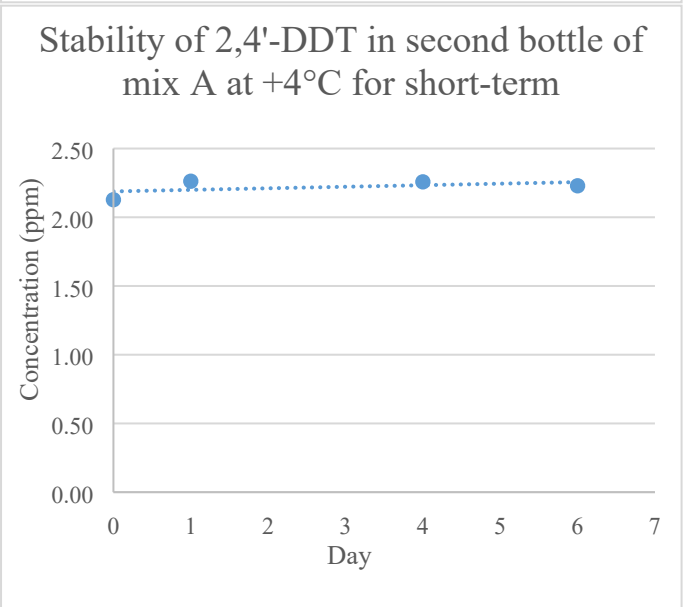

Stability of 4,4'-DDD in mix B at +4°C for short-term
Concentration (ppm)
Day

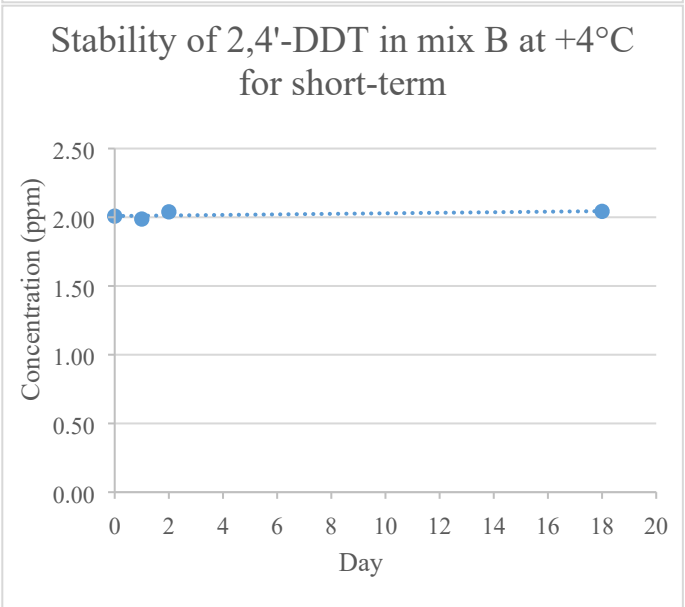

Stability of 4,4'-DDT in first bottle of mix A at +4°C for short-term
Concentration (ppm)
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

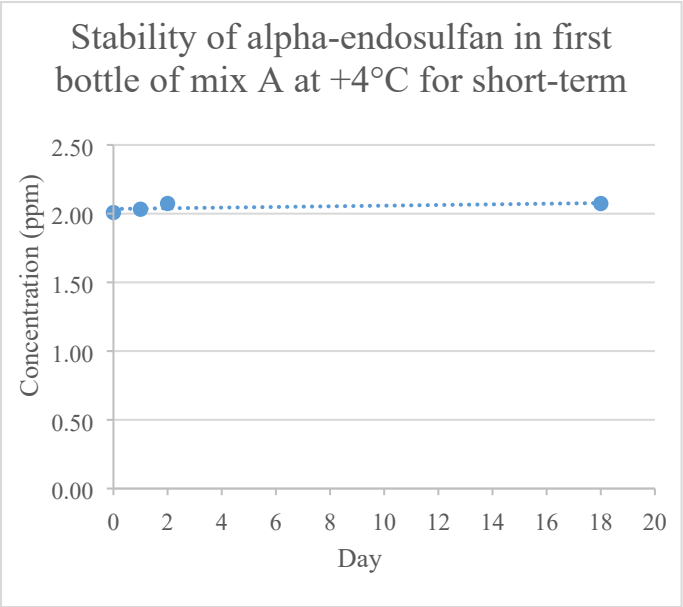

Stability of 4,4'-DDT in second bottle of mix A at +4°C for short-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

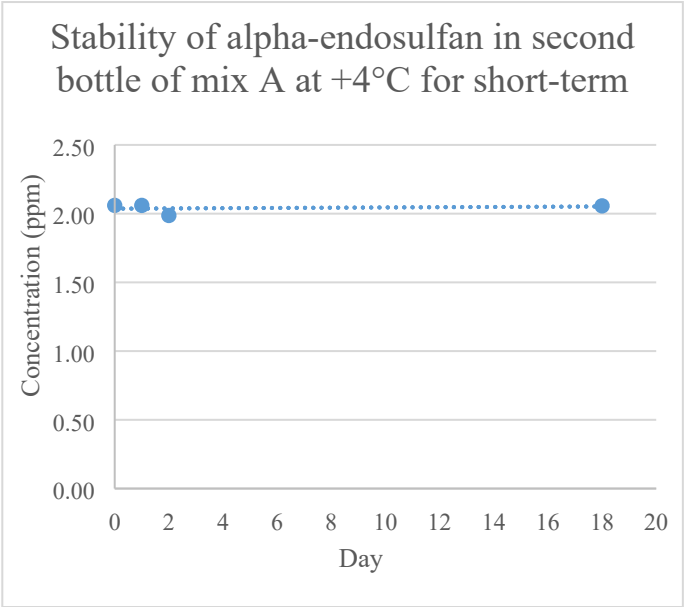

Stability of 4,4'-DDT in mix B at +4°C for short-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

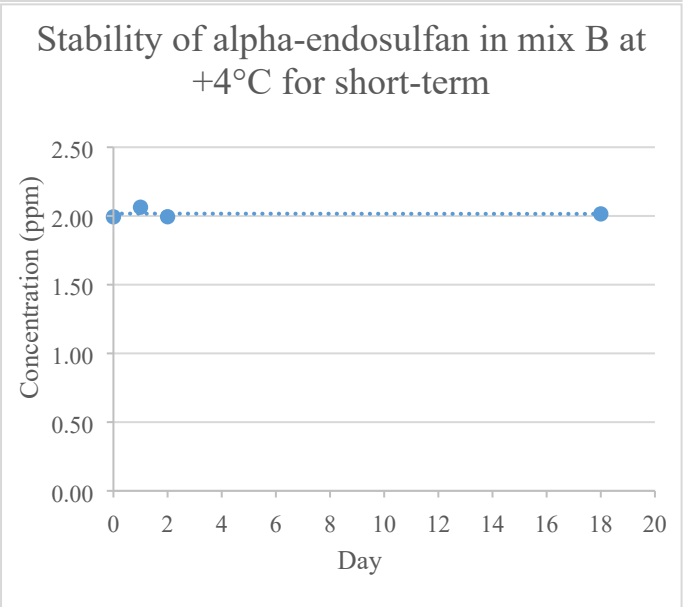

Stability of 2,4'-DDT in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

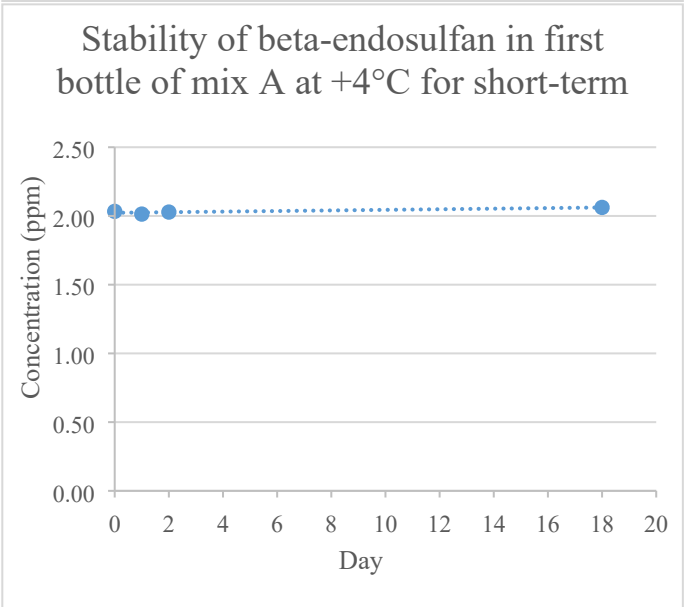

Stability of 2,4'-DDT in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 1 2 3 4 5 6 7
Day

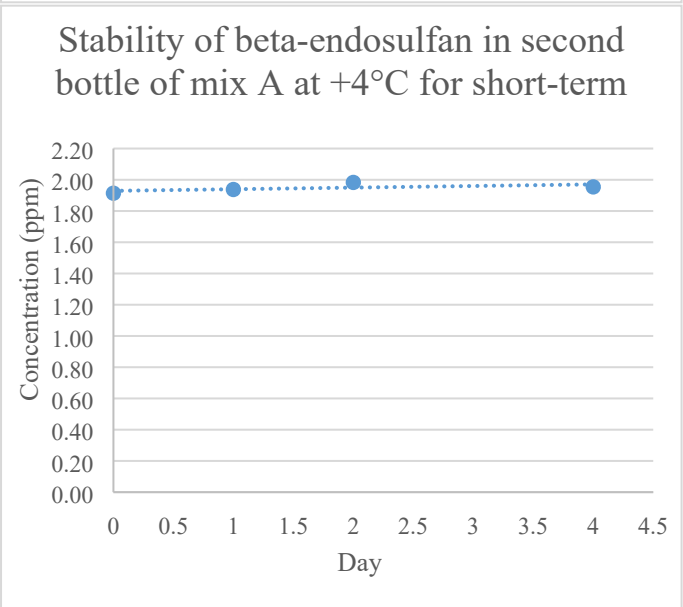

Stability of 2,4'-DDT in mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

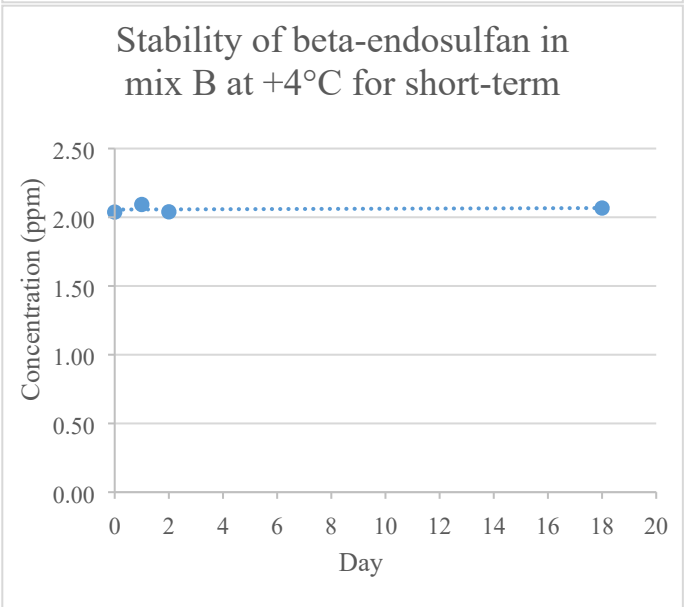

Stability of alpha-endosulfan in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day


Stability of alpha-endosulfan in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day


Stability of alpha-endosulfan in mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day


Stability of beta-endosulfan in first bottle of mix A at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day


Stability of beta-endosulfan in second bottle of mix A at +4°C for short-term
Concentration (ppm)
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0 0.5 1 1.5 2 2.5 3 3.5 4 4.5
Day


Stability of beta-endosulfan in mix B at +4°C for short-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 2 4 6 8 10 12 14 16 18 20
Day

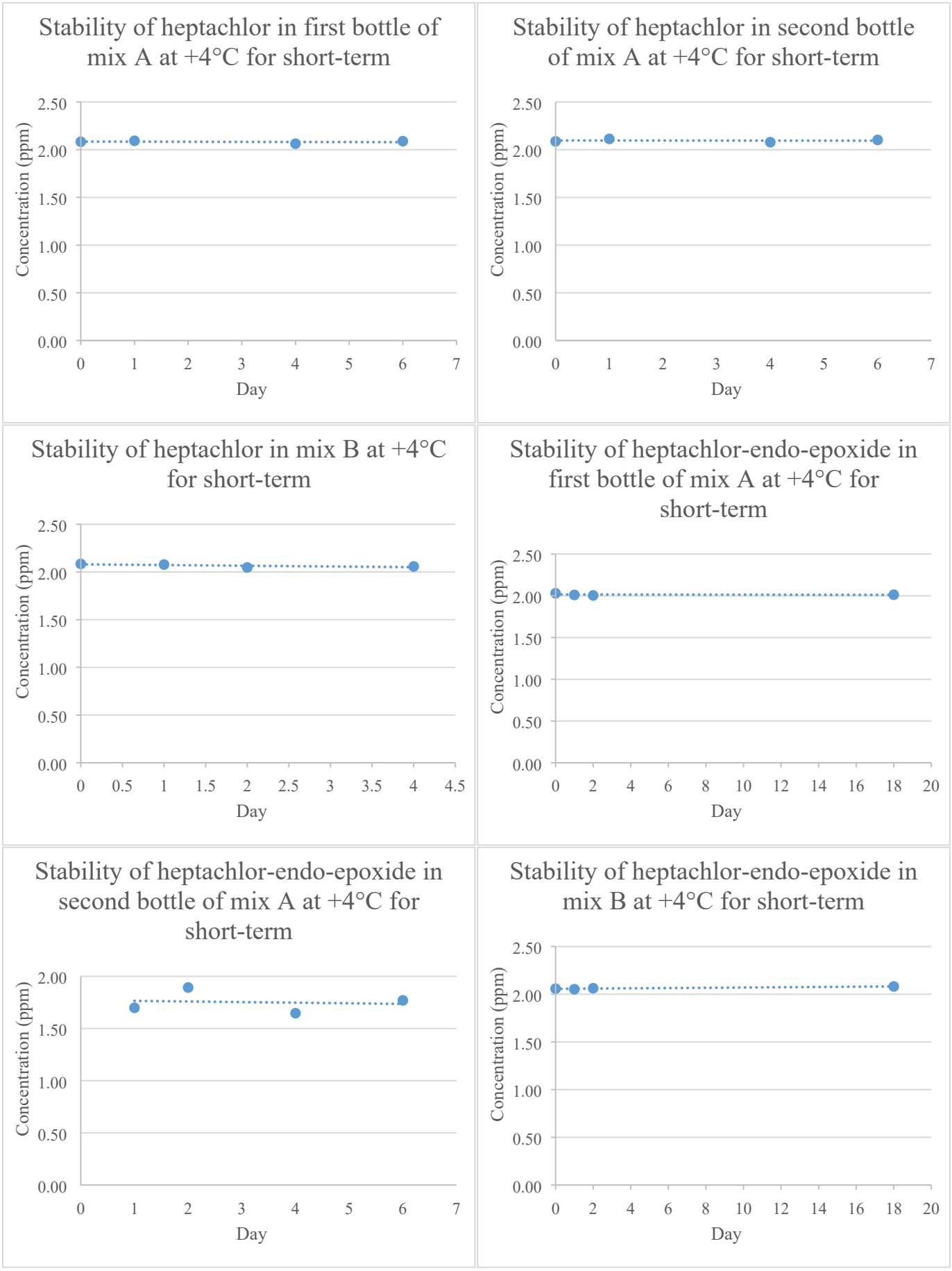
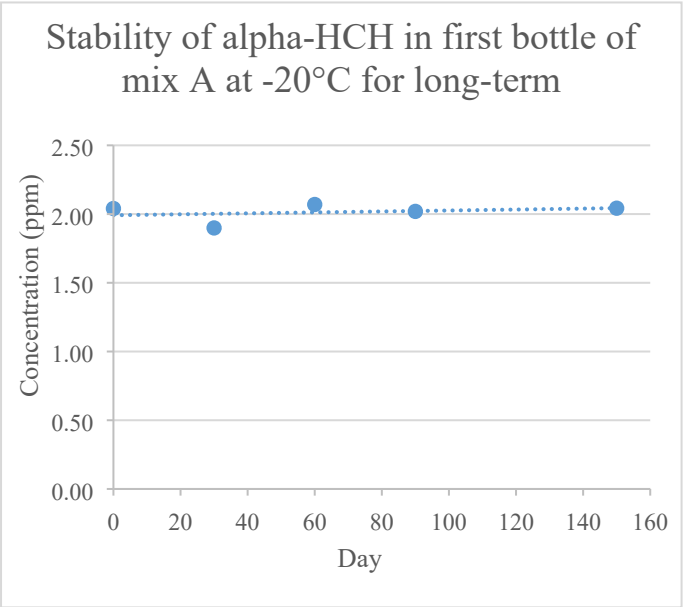
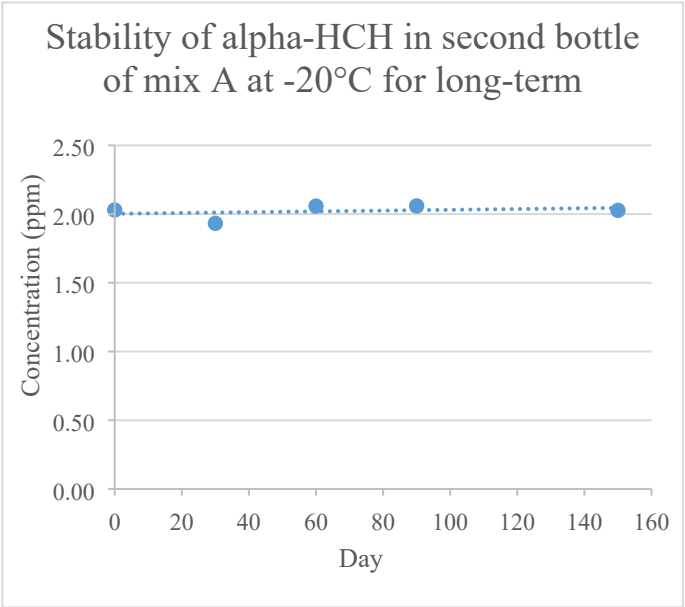
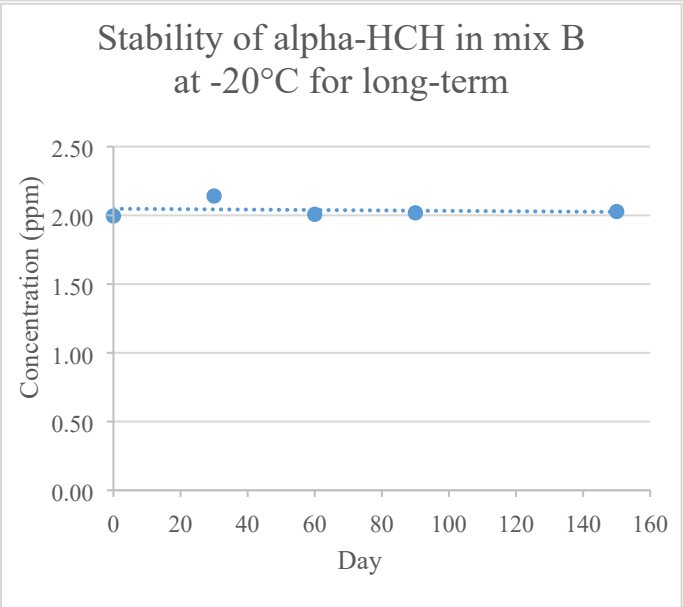
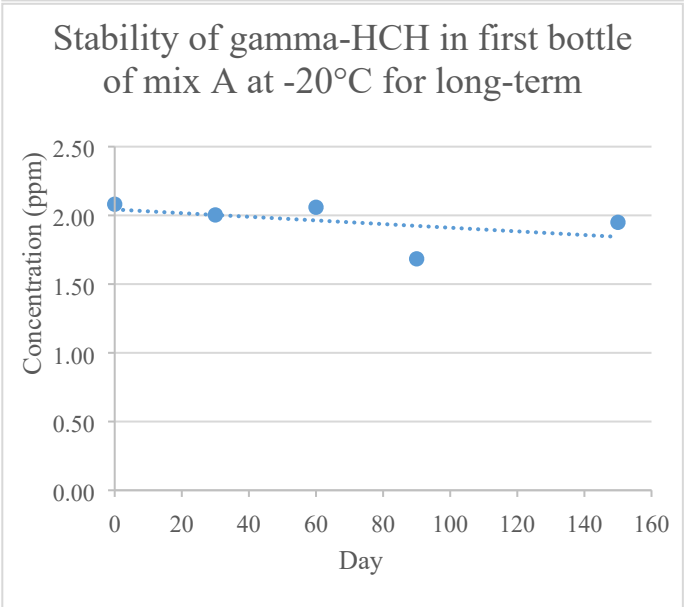


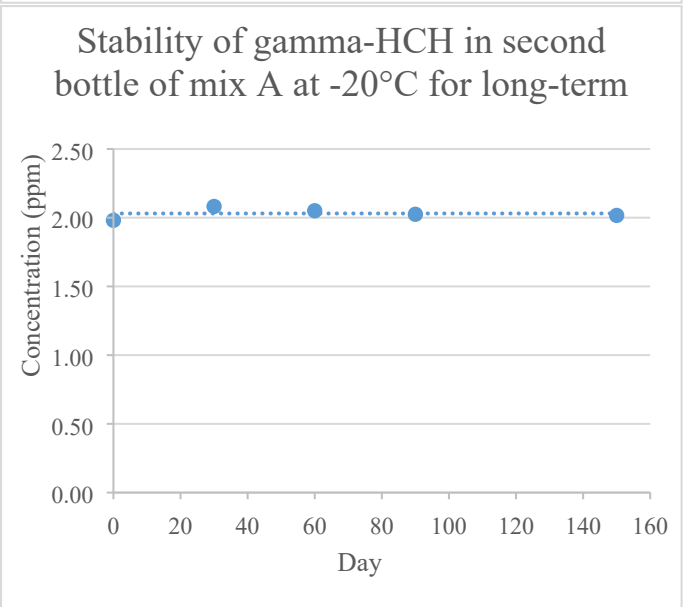
Fig. S6 The plots of gravimetric mixtures (A and B) in short term stability at +4°C for each pesticide

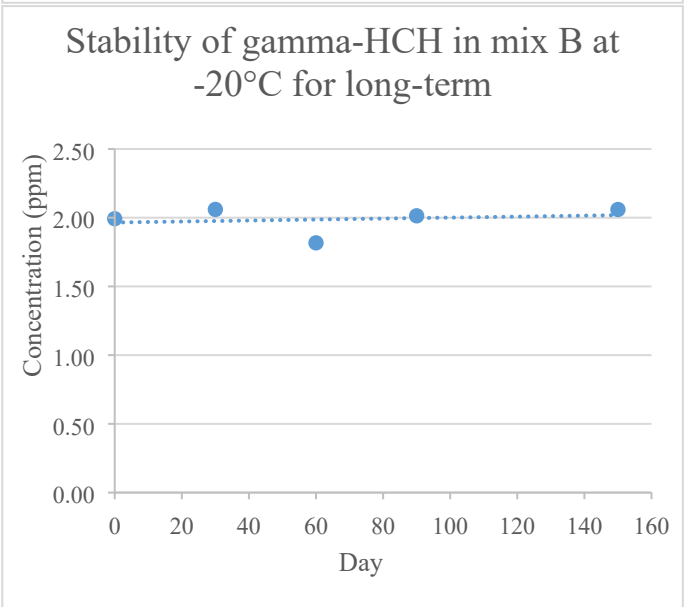

Stability of alpha-HCH in first bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

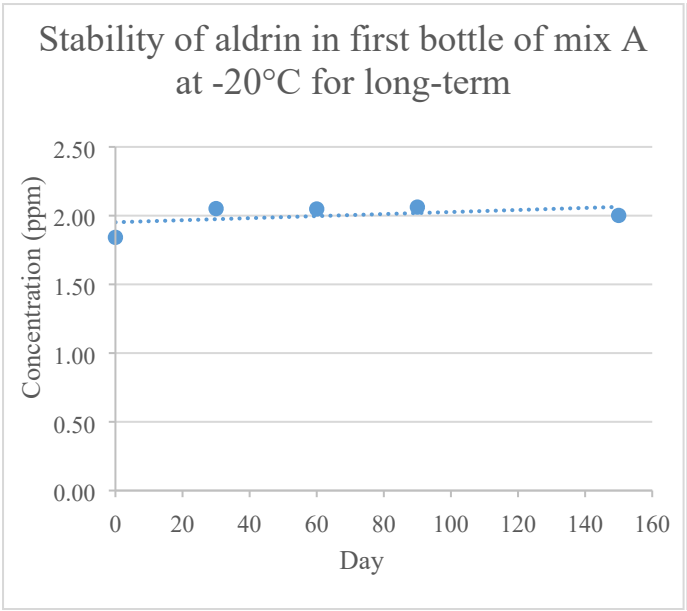

Stability of alpha-HCH in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

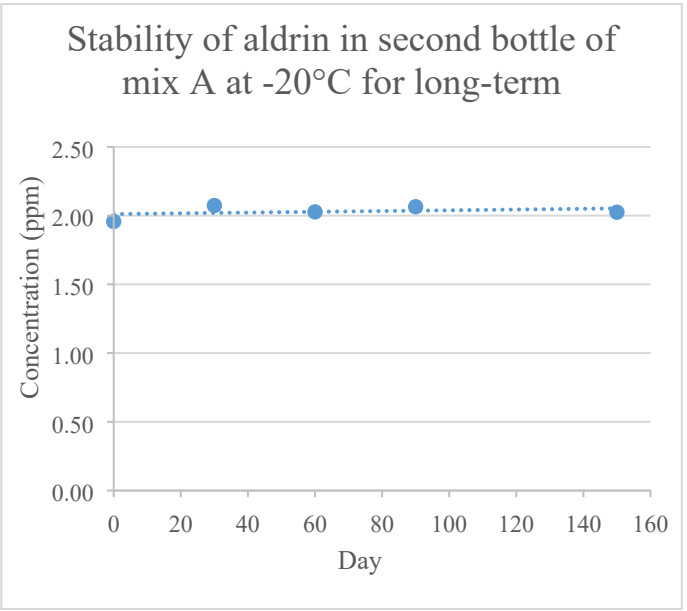

Stability of alpha-HCH in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

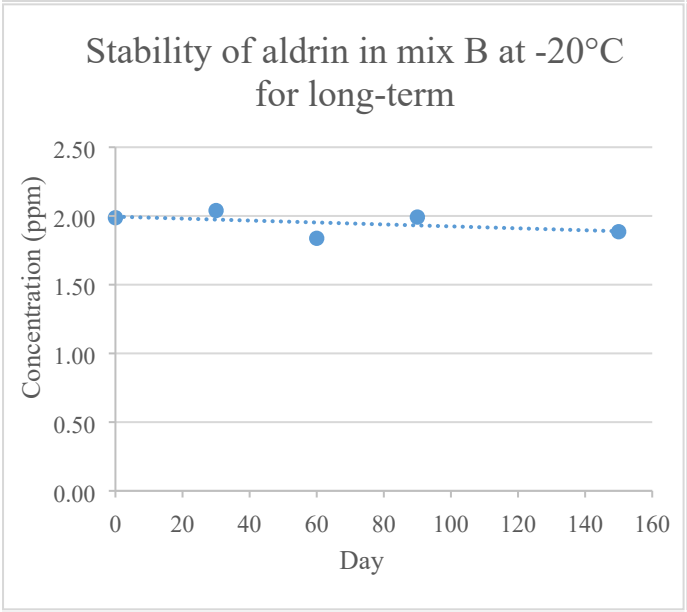

Stability of gamma-HCH in first bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

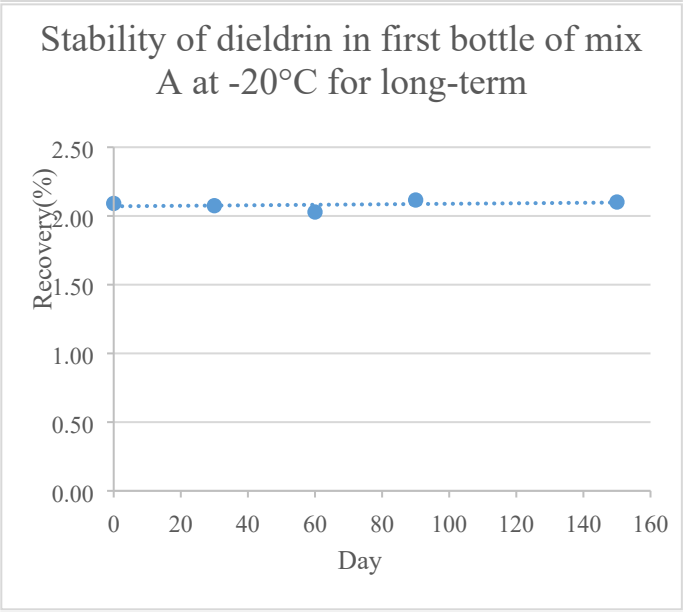

Stability of gamma-HCH in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

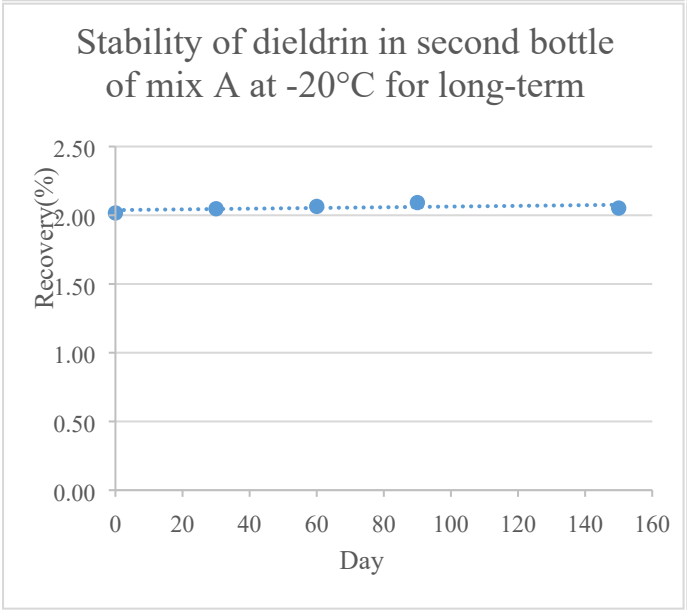

Stability of gamma-HCH in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

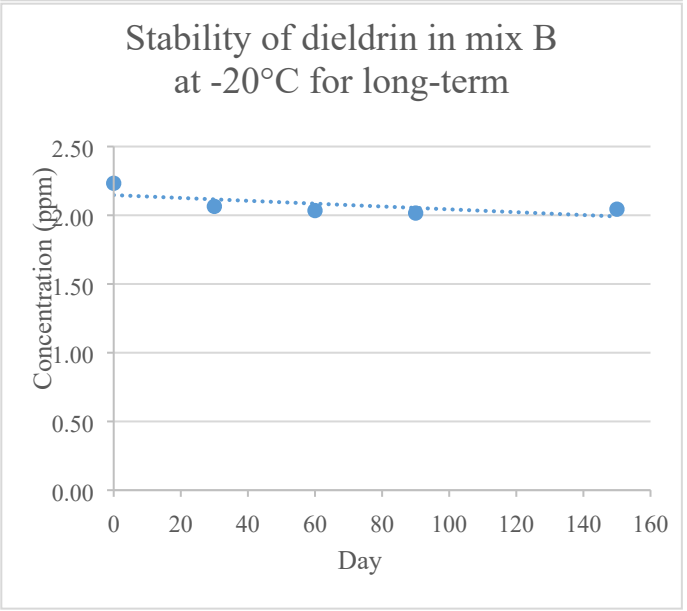

Stability of aldrin in first bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

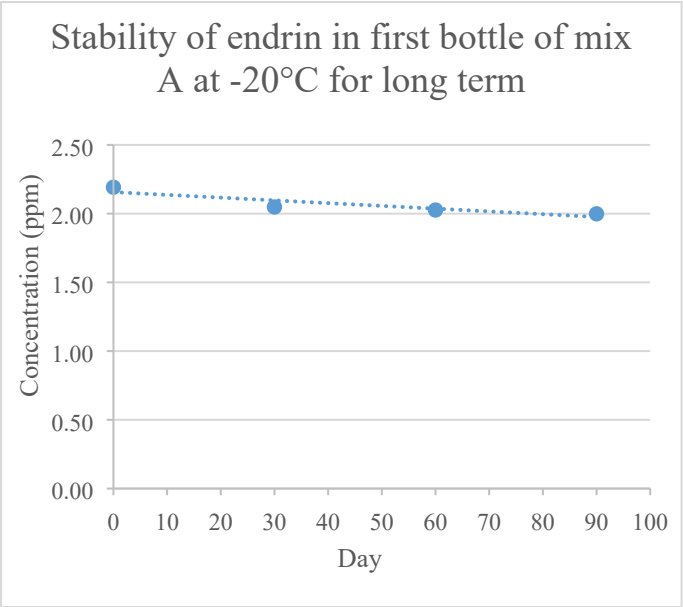

Stability of aldrin in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

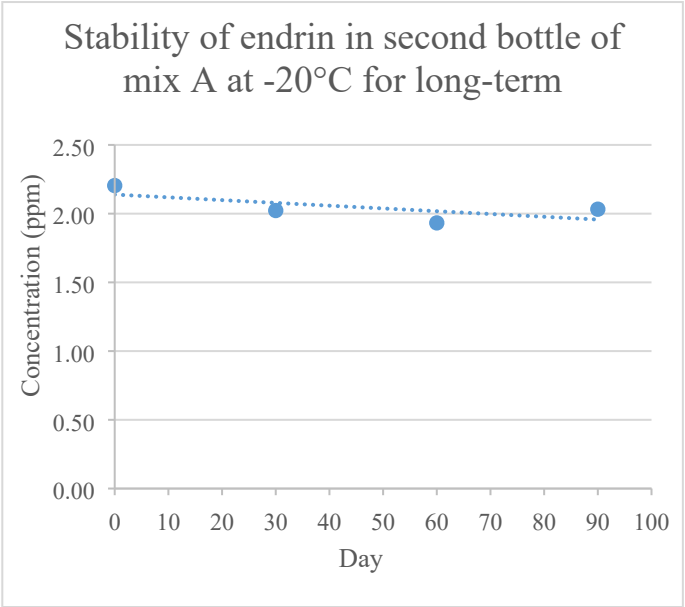

Stability of aldrin in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

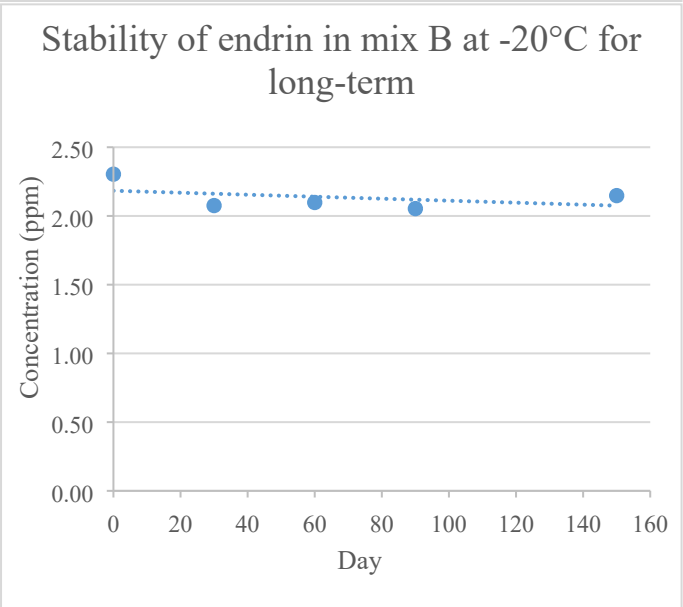

Stability of dieldrin in first bottle of mix A at -20°C for long-term
Recovery(%)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

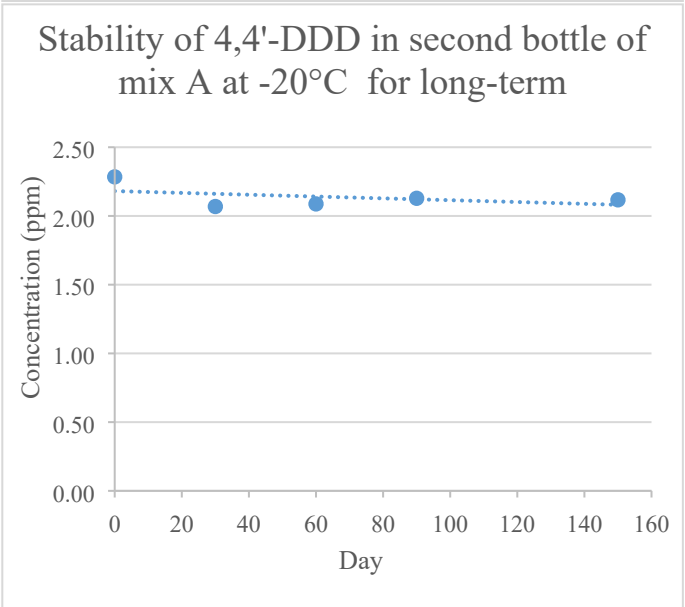

Stability of dieldrin in second bottle of mix A at -20°C for long-term
Recovery(%)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

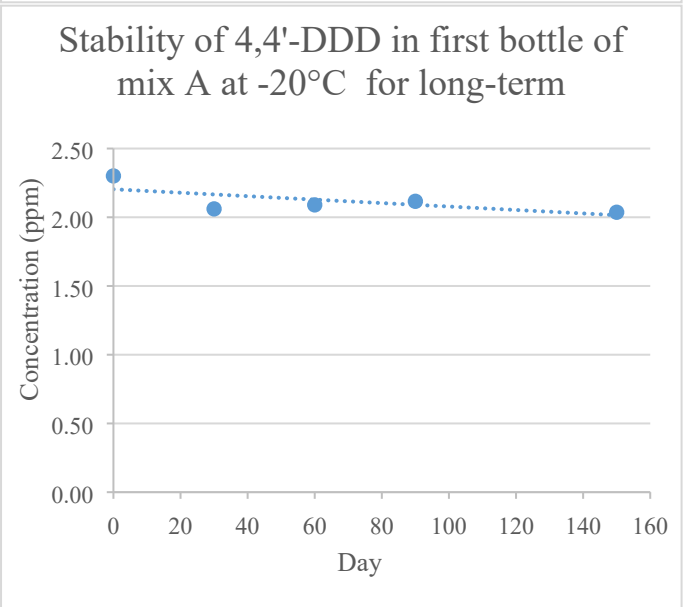

Stability of dieldrin in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

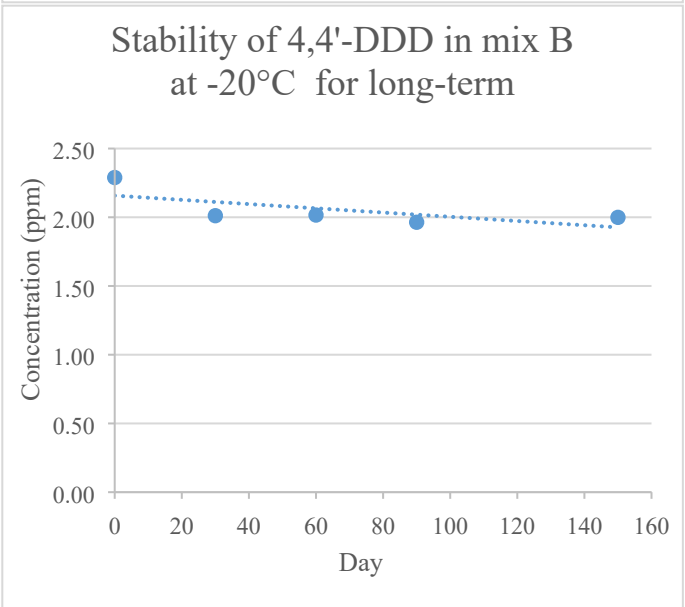

Stability of endrin in first bottle of mix A at -20°C for long term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 10 20 30 40 50 60 70 80 90 100
Day

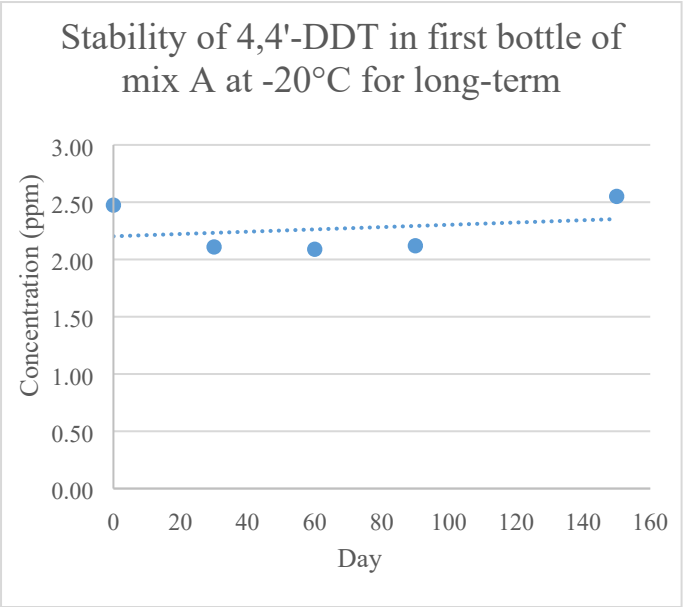

Stability of endrin in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 10 20 30 40 50 60 70 80 90 100
Day

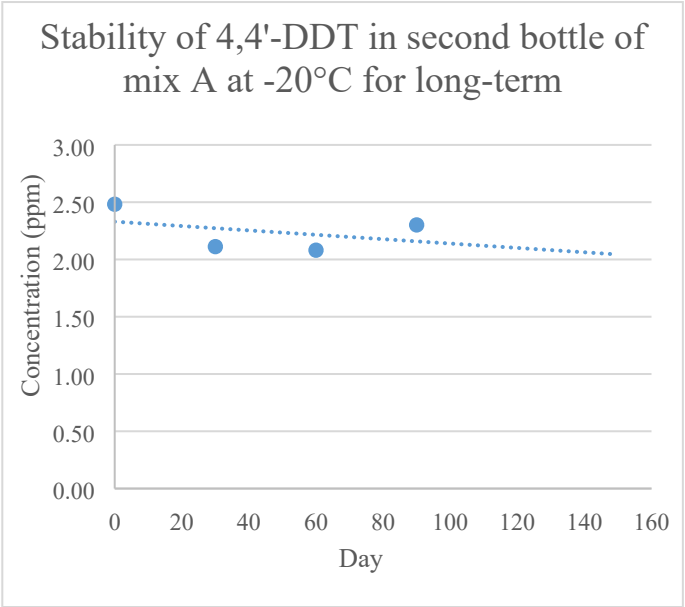

Stability of endrin in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

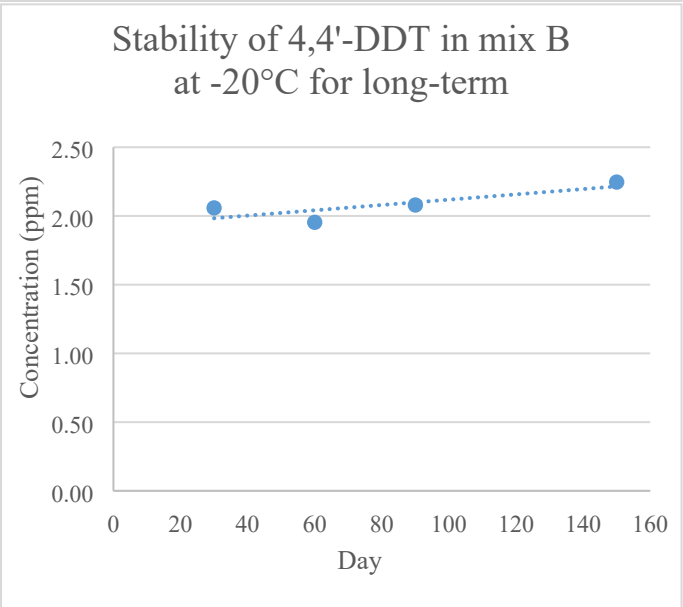

Stability of 4,4'-DDD in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

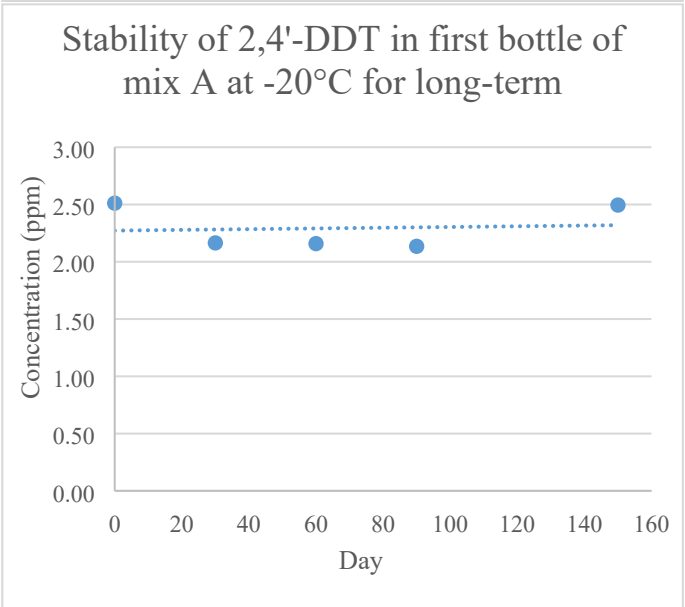

Stability of 4,4'-DDD in first bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

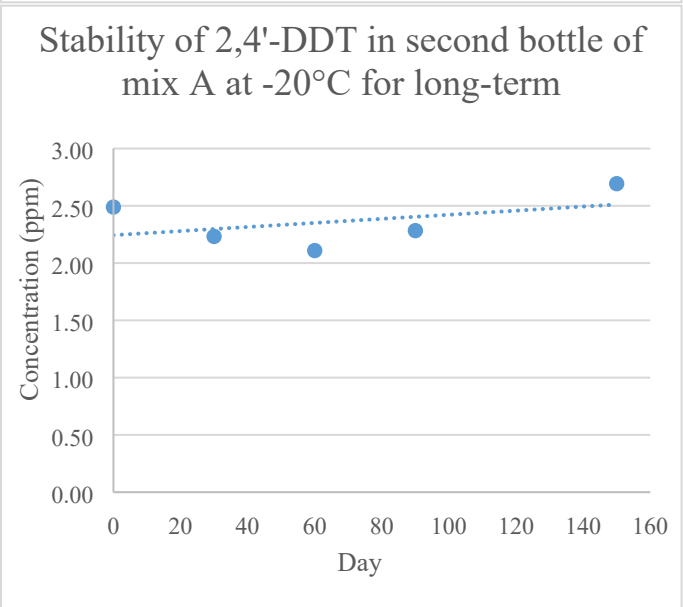

Stability of 4,4'-DDD in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

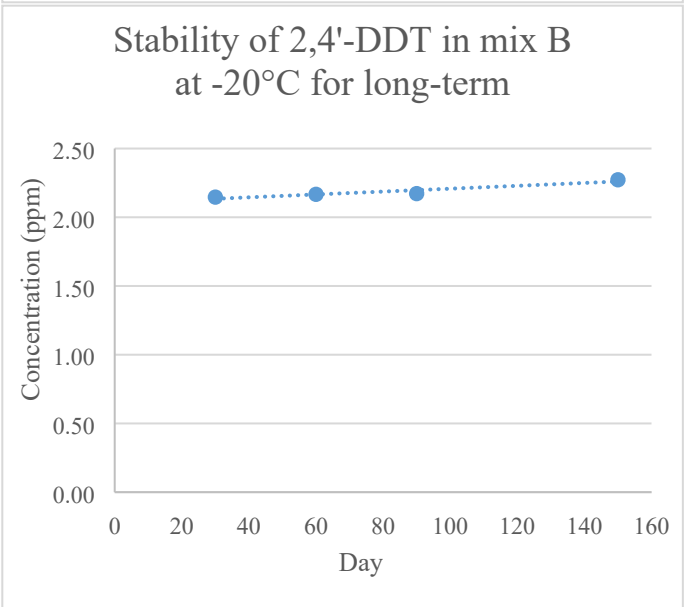

Stability of 4,4'-DDT in first bottle of mix A at -20°C for long-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

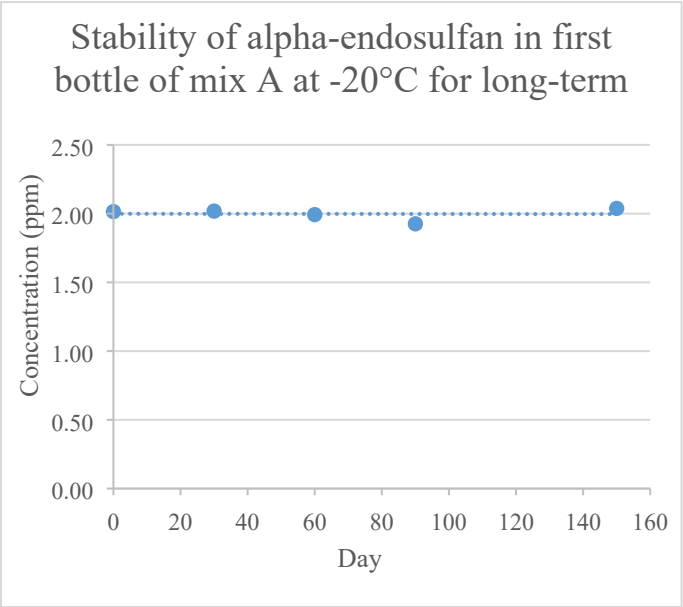

Stability of 4,4'-DDT in second bottle of mix A at -20°C for long-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

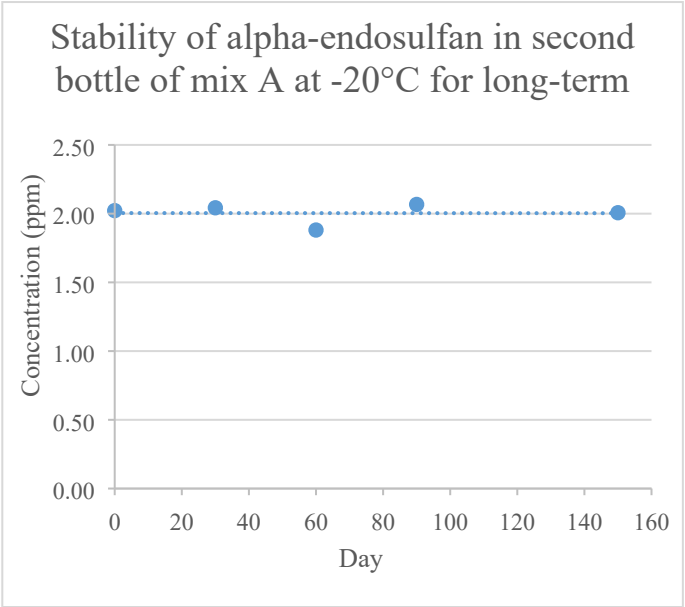

Stability of 4,4'-DDT in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

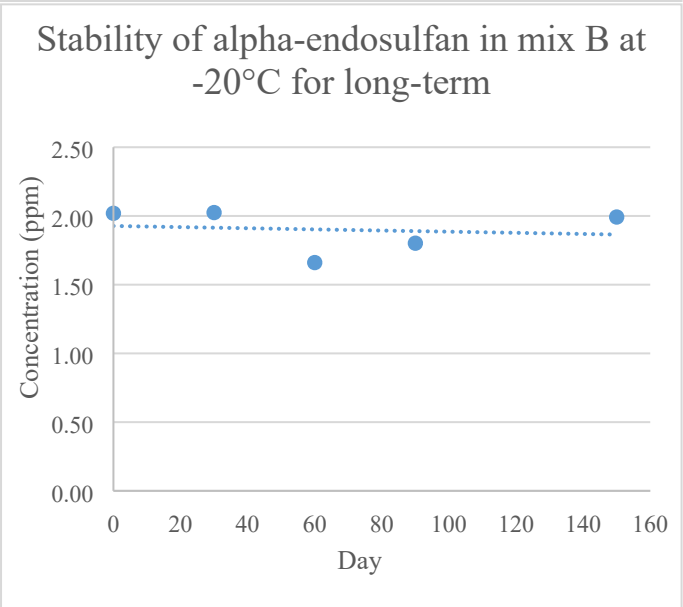

Stability of 2,4'-DDT in first bottle of mix A at -20°C for long-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

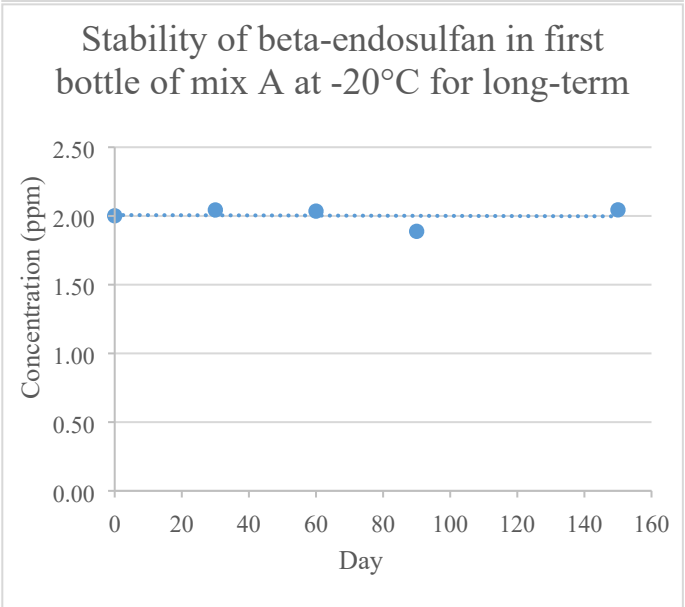

Stability of 2,4'-DDT in second bottle of mix A at -20°C for long-term
Concentration (ppm)
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

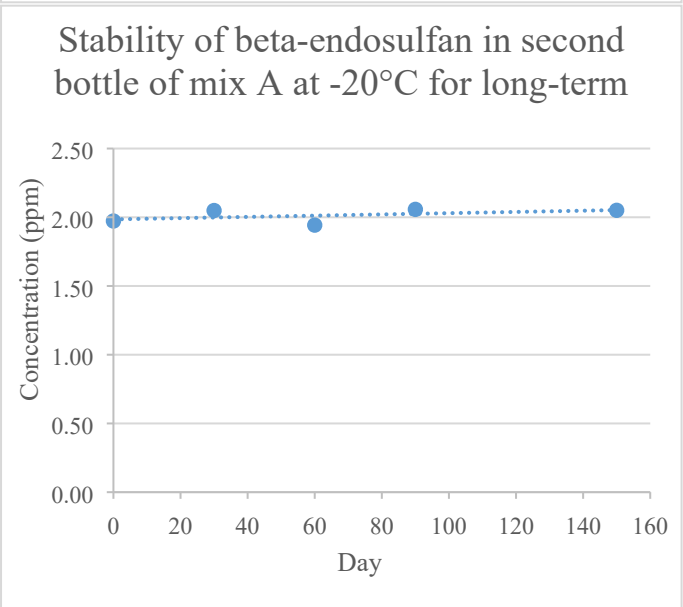

Stability of 2,4'-DDT in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0 20 40 60 80 100 120 140 160
Day

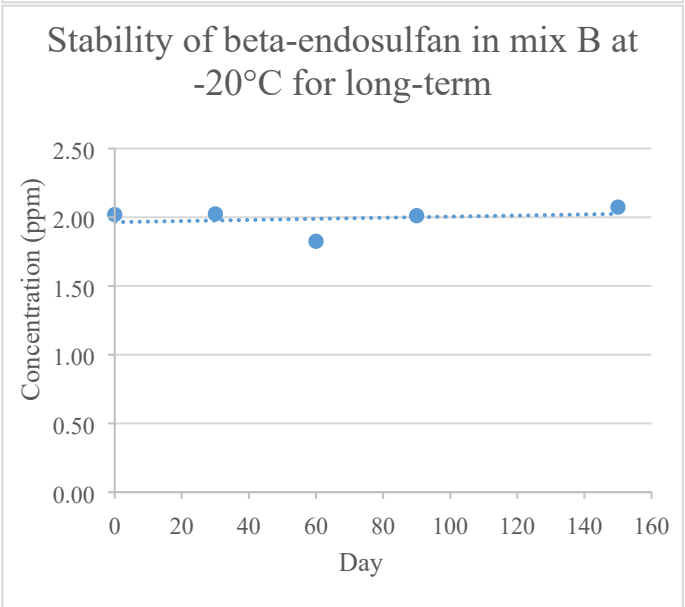

Stability of alpha-endosulfan in first bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day


Stability of alpha-endosulfan in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day


Stability of alpha-endosulfan in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day


Stability of beta-endosulfan in first bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day


Stability of beta-endosulfan in second bottle of mix A at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day


Stability of beta-endosulfan in mix B at -20°C for long-term
Concentration (ppm)
2.50
2.00
1.50
1.00
0.50
0.00
0
20
40
60
80
100
120
140
160
Day

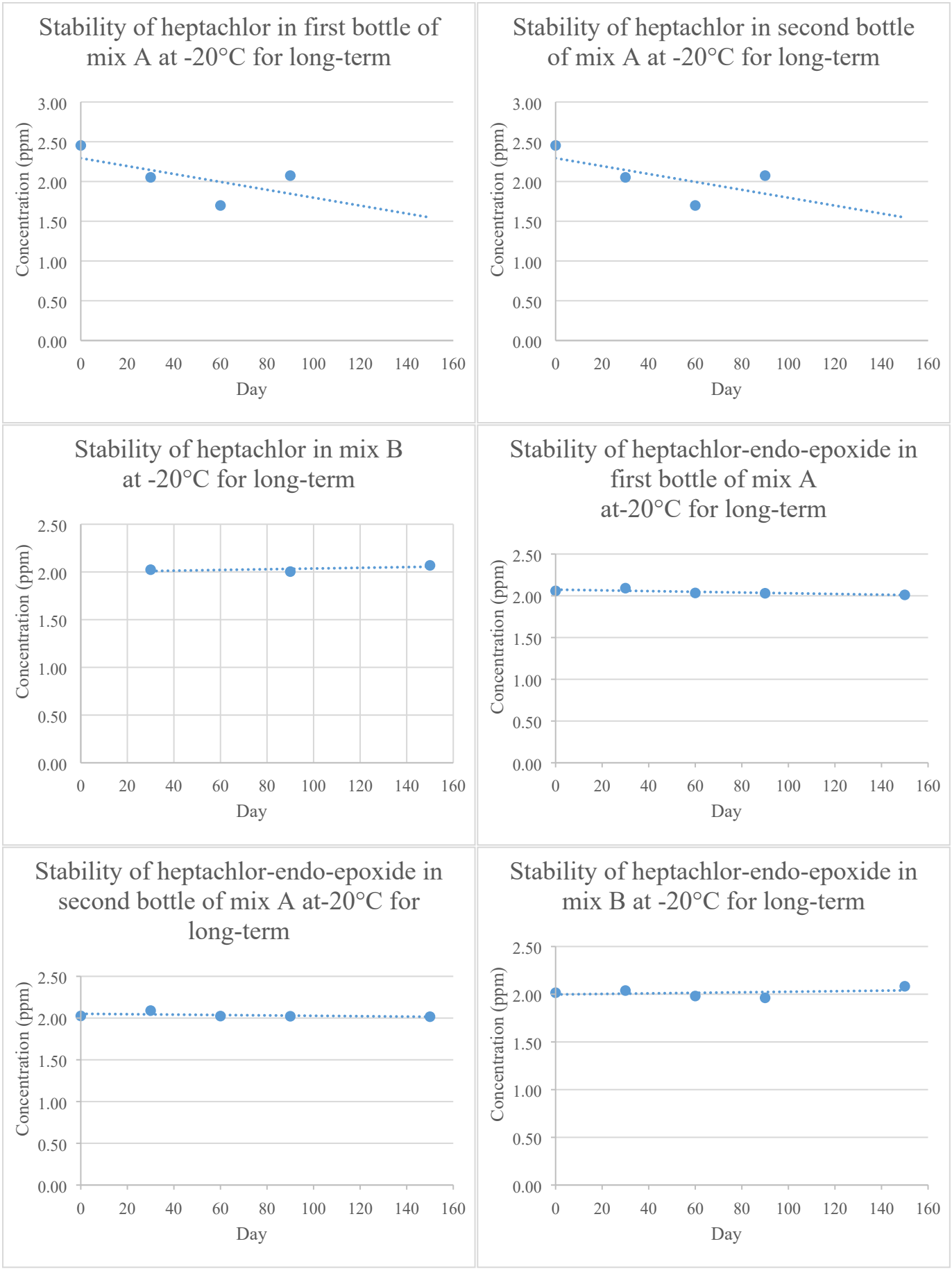


Fig. S7 The plots of gravimetric mixtures (A and B) in long-term stability at -20°C for each pesticide