

圖 1-1-1 台南市城西里垃圾焚化爐空氣中戴奧辛毒性當量濃度  
(fg I-TEQ/Nm<sup>3</sup>)的擴散模擬圖

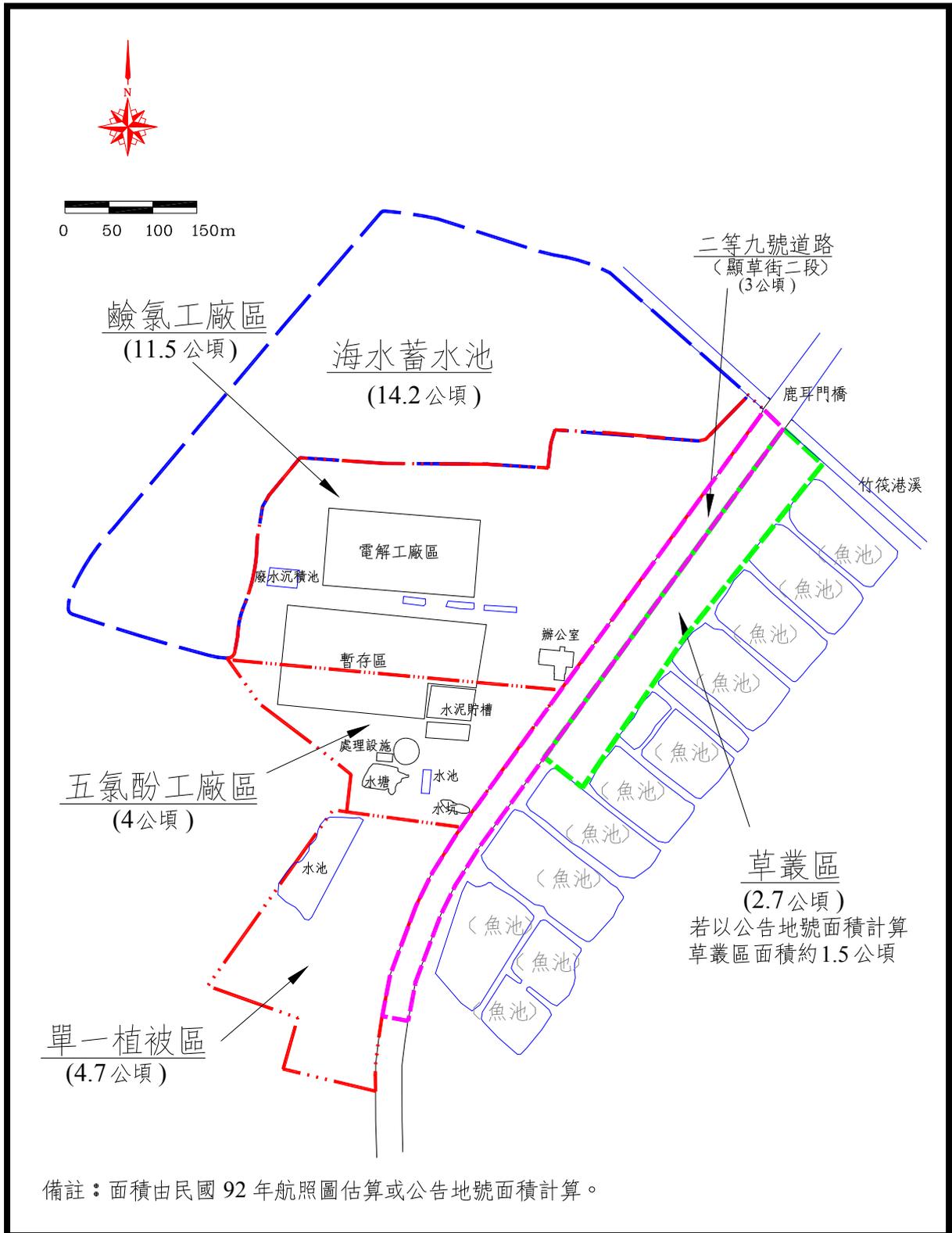


圖1-1-2場址已公告污染範圍分區示意圖

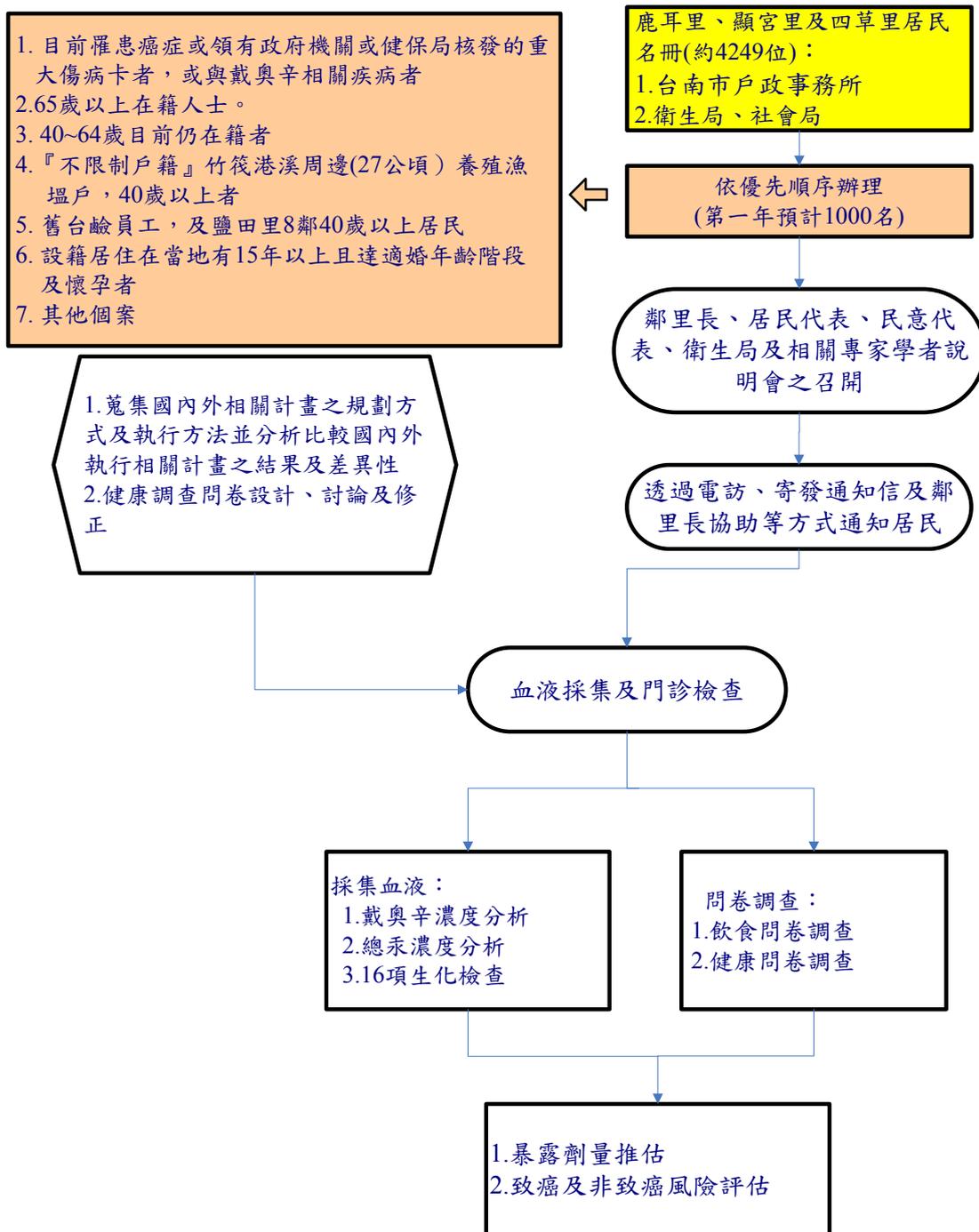
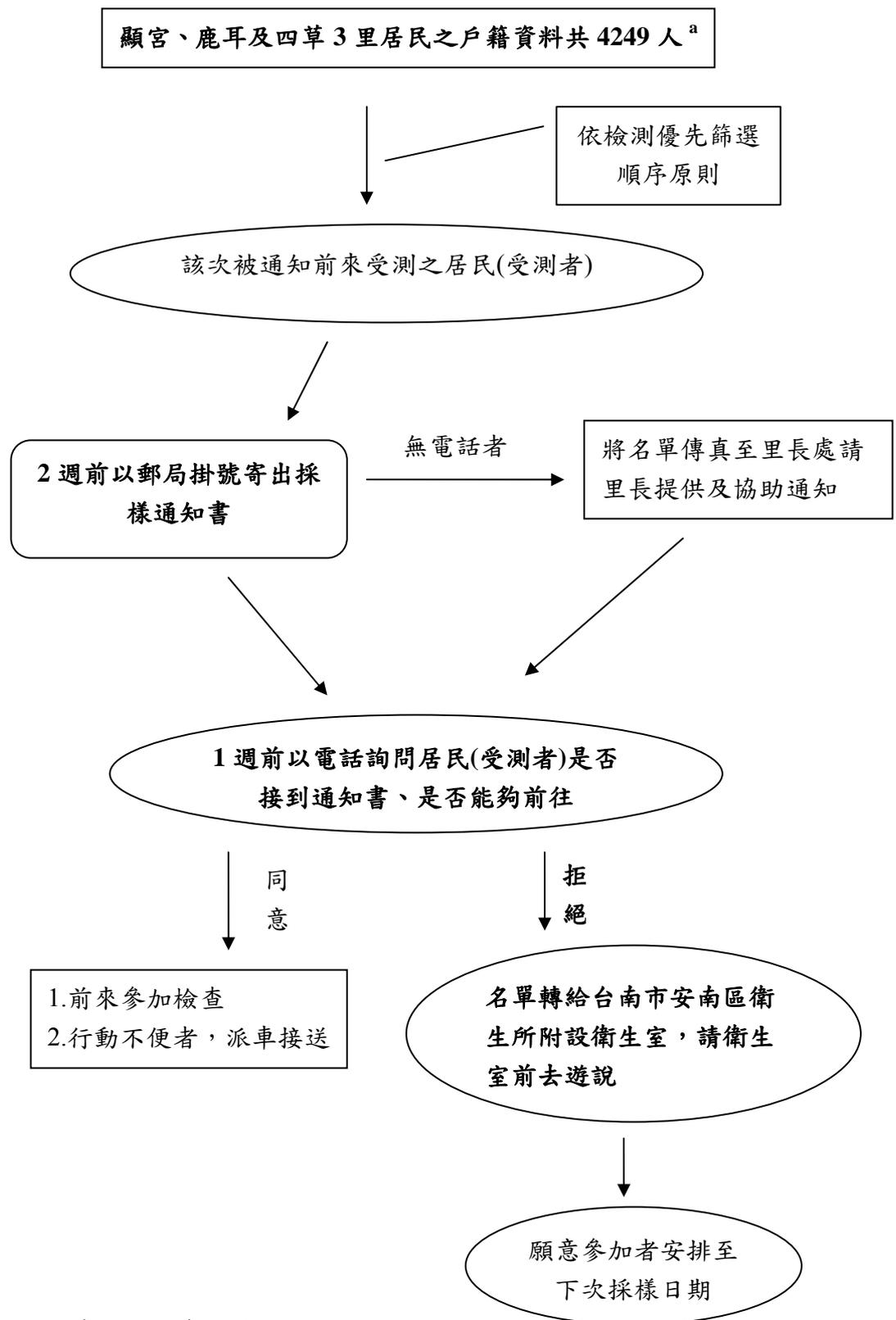


圖3-1-1 本計畫研究架構



a：台南市政府衛生局所提供

圖3-4-1 採樣對象通知流程圖

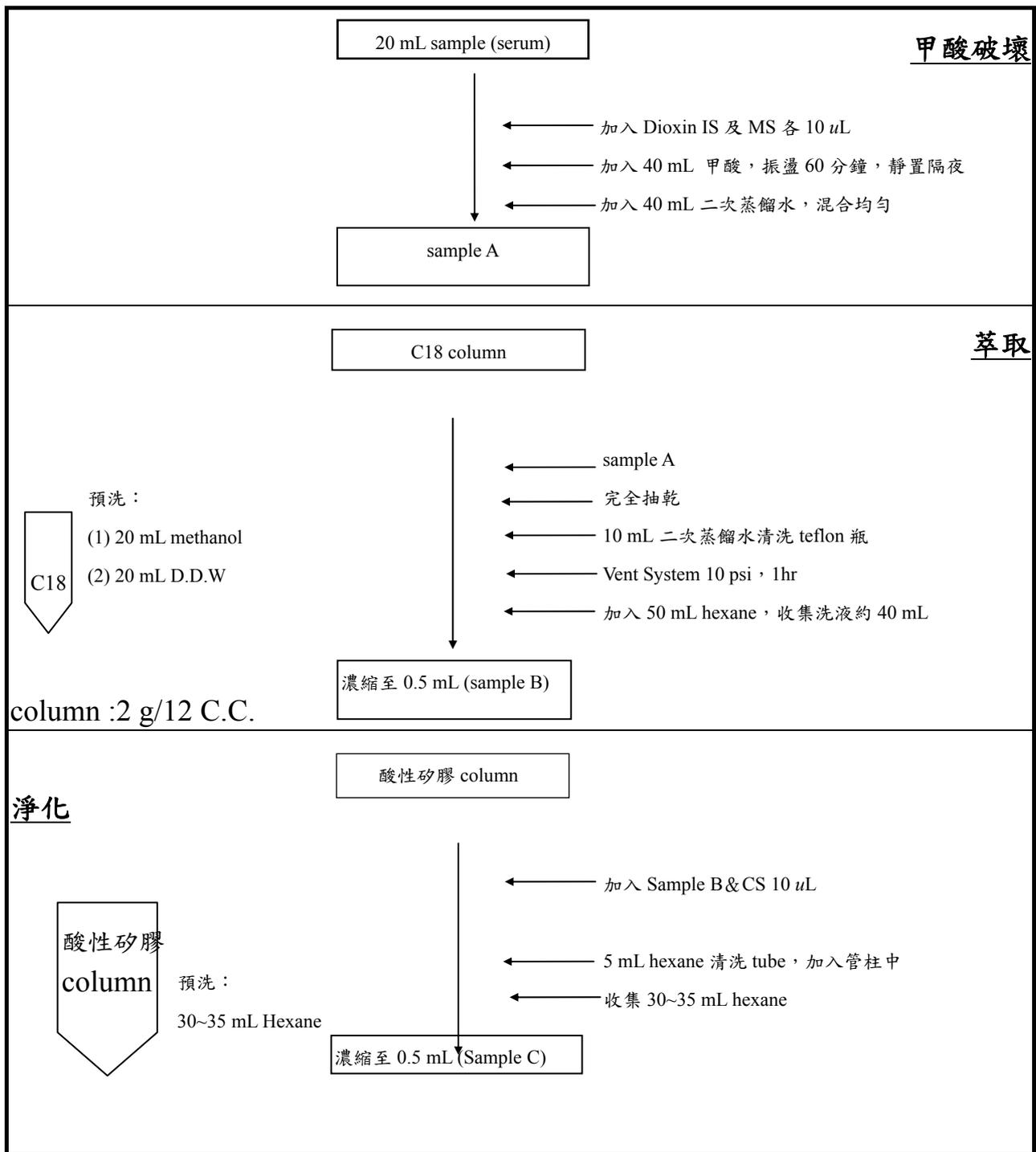


圖3-4-2 本研究計畫血液前處理流程圖

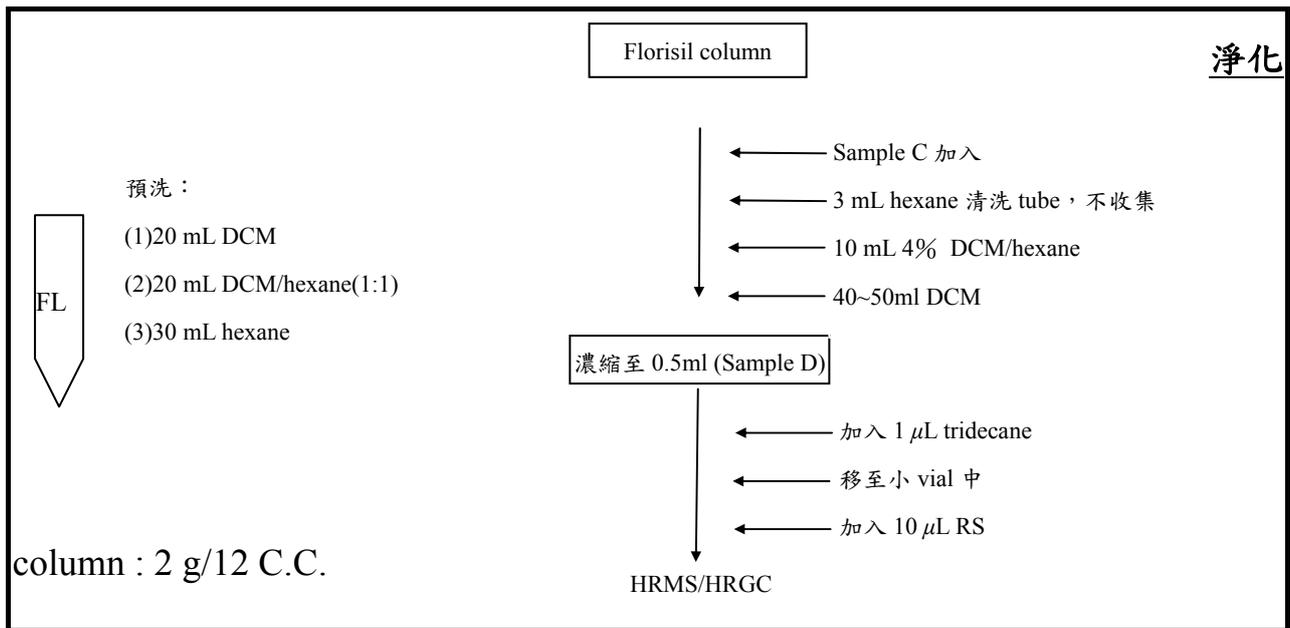


圖 3-4-2 本研究計畫血液前處理流程圖(續)

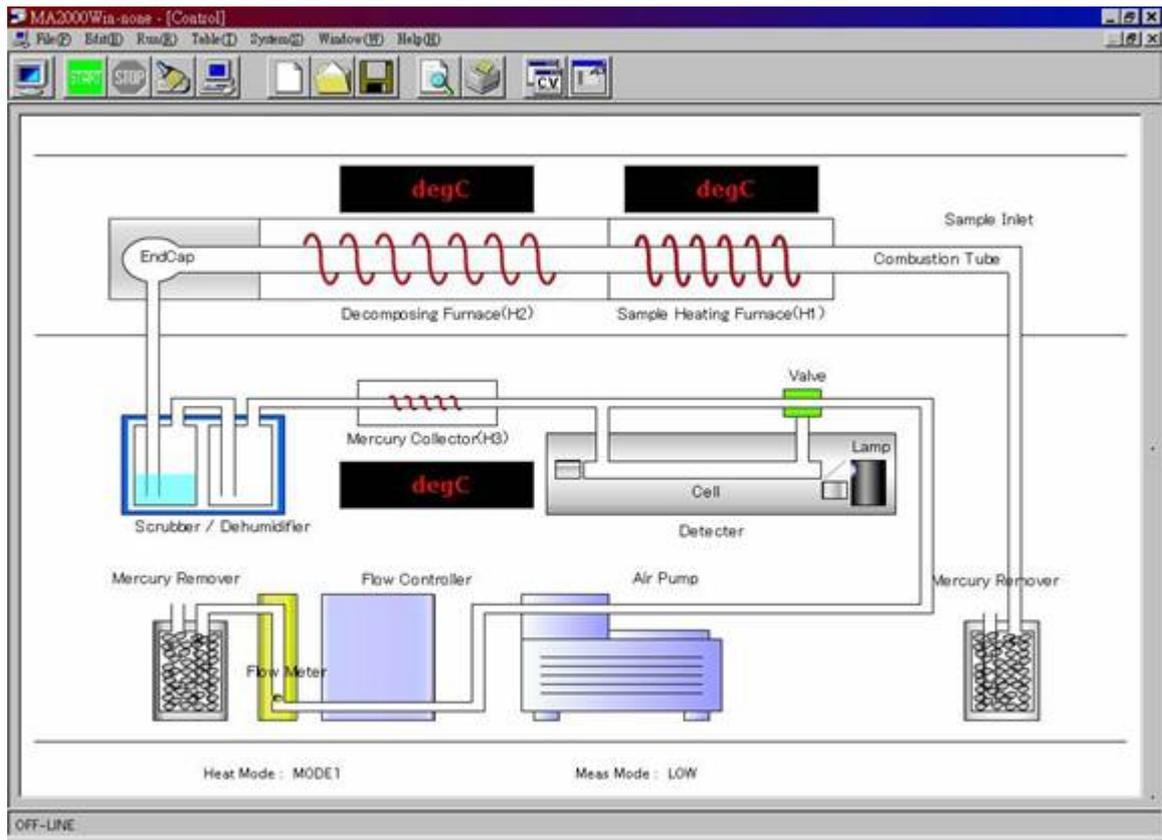


圖3-4-3 總汞分析儀元件配置圖

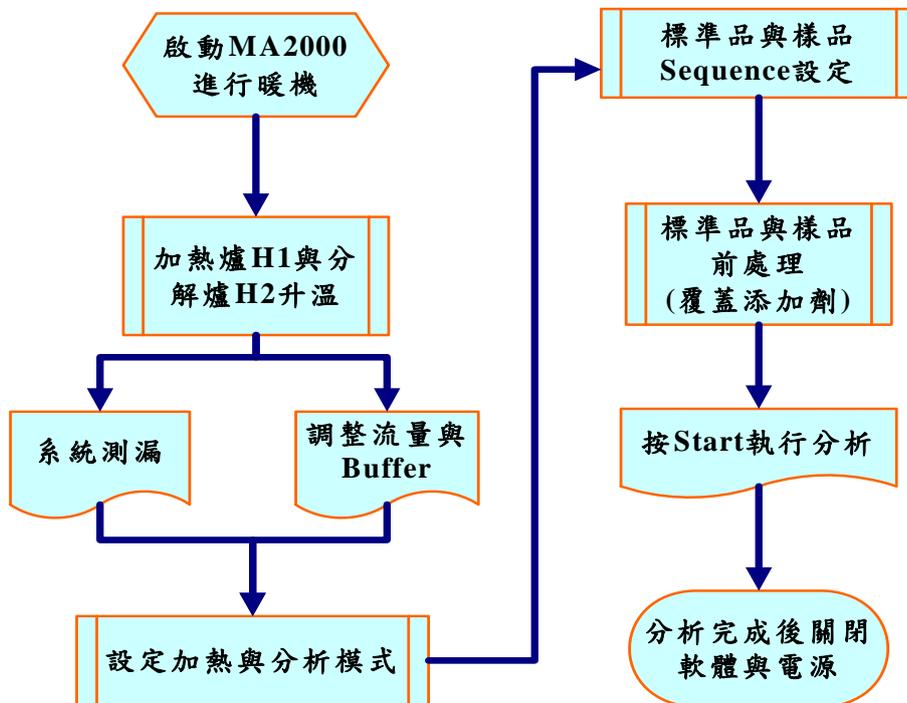


圖3-4-4 總汞分析儀操作流程

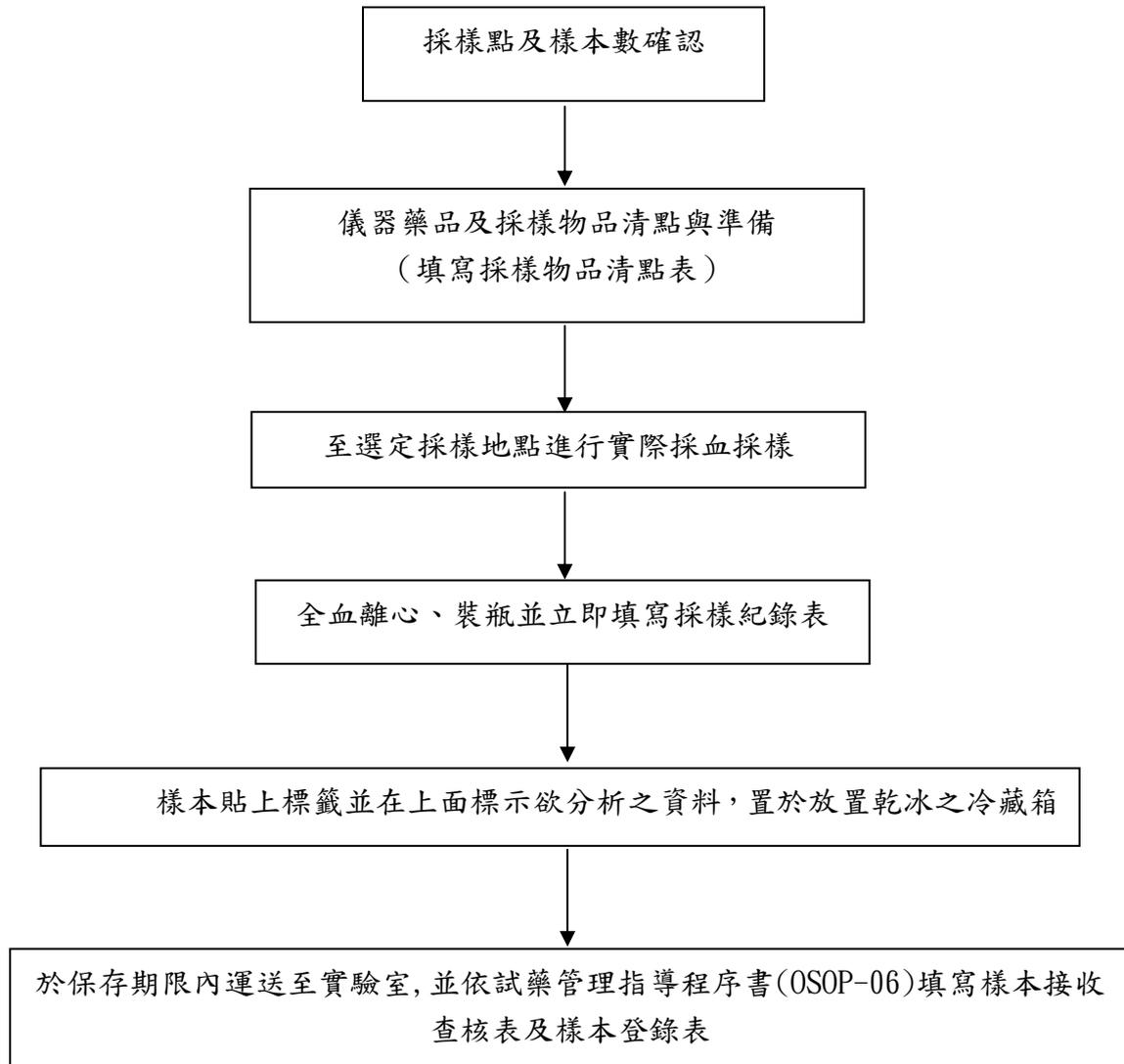


圖3-6-1 本研究計畫採樣作業圖表流程

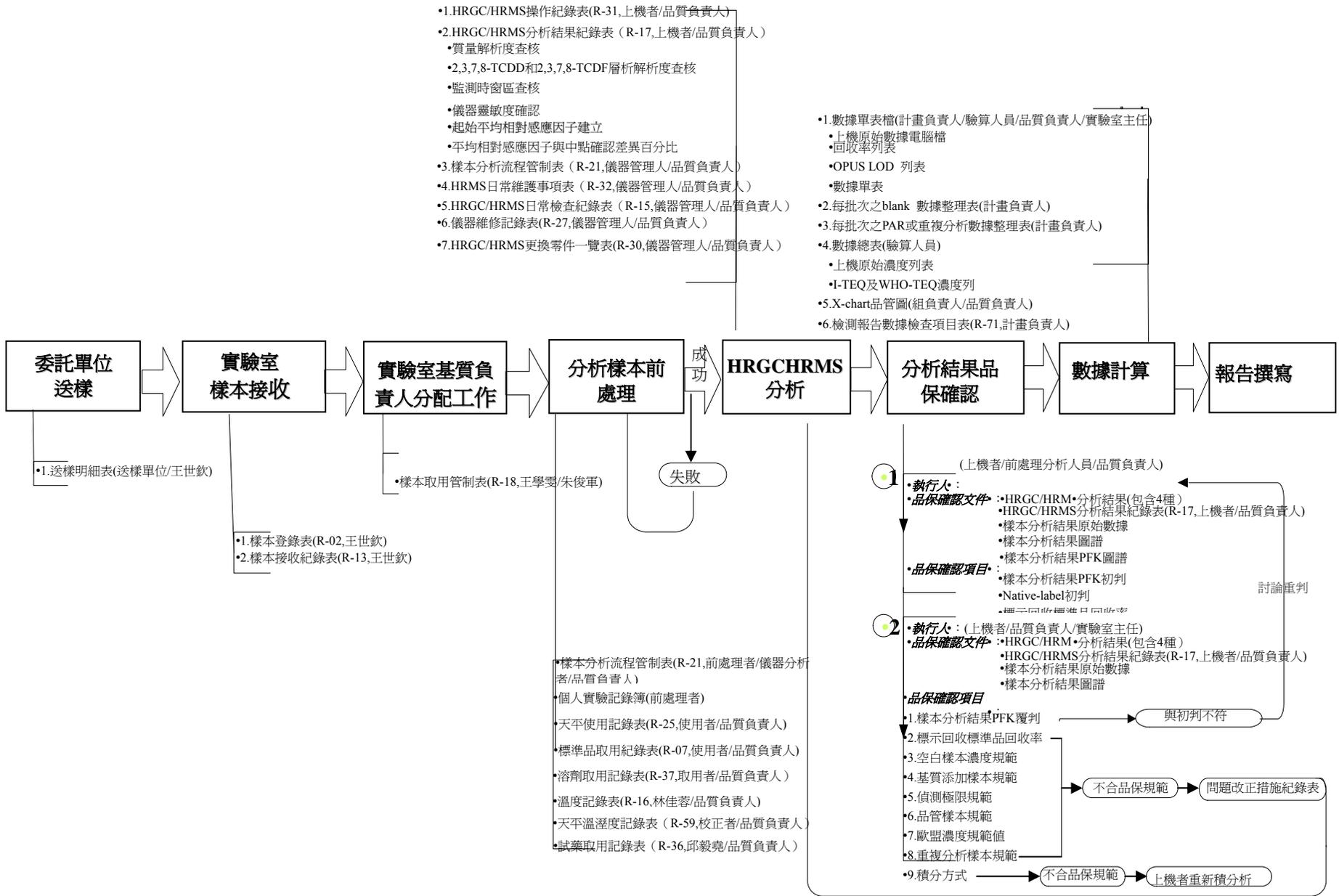


圖3-6-2 樣本檢驗品保流程圖

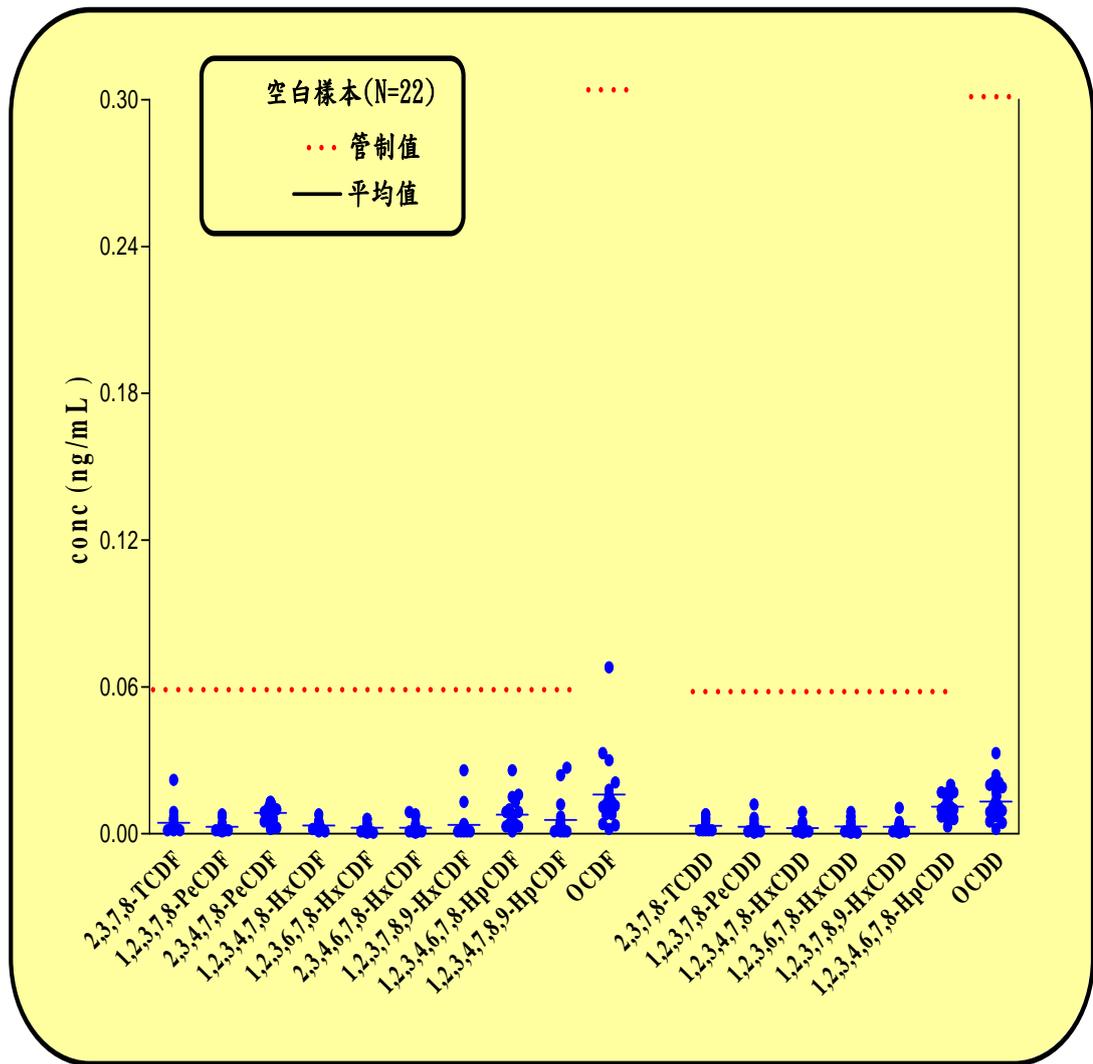


圖3-6-3 本計畫空白樣本原始上機濃度17種戴奧辛/呔喃同源物管制結果

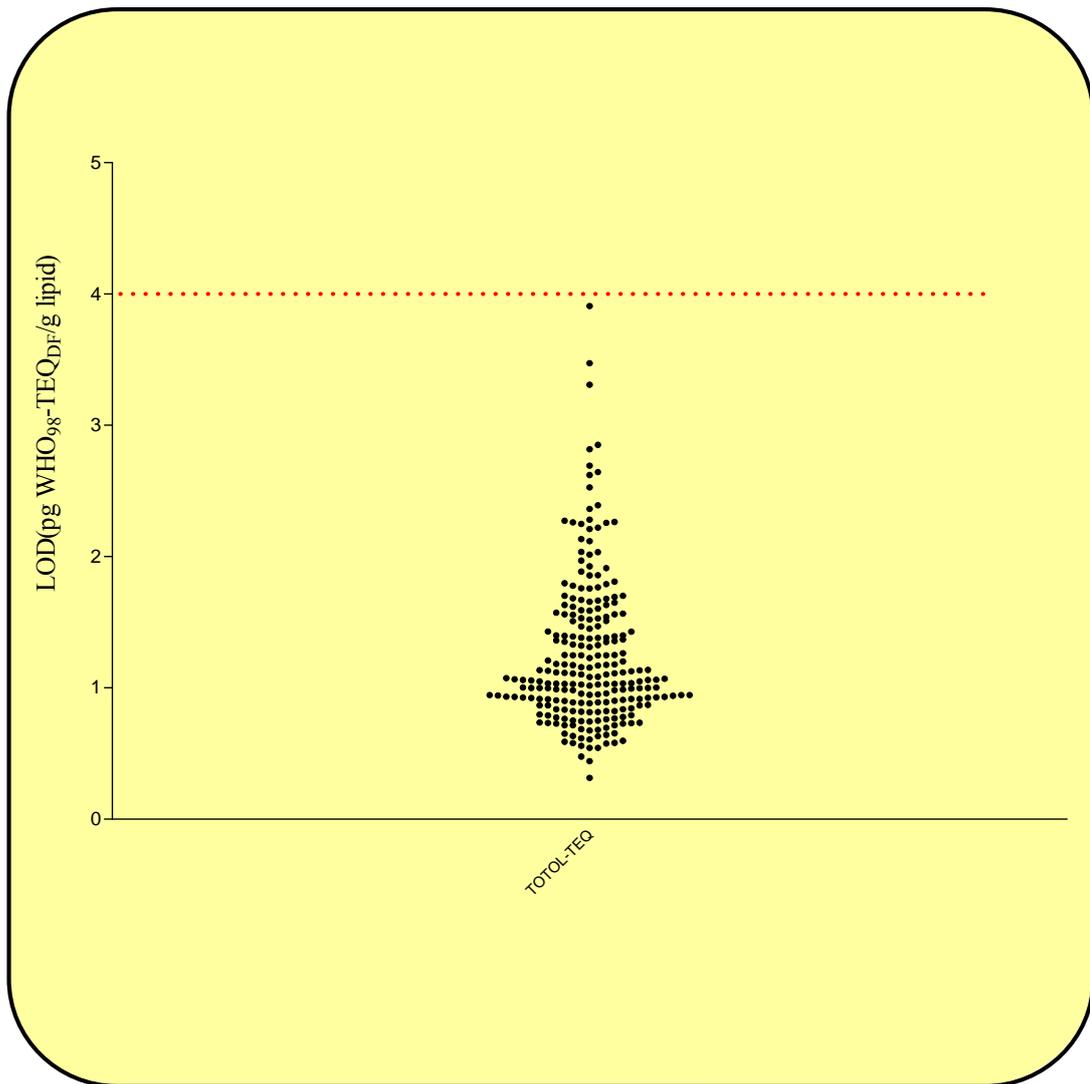


圖3-6-4 本計畫17種戴奧辛/呋喃同源物偵測極限總毒性當量濃度管制結果

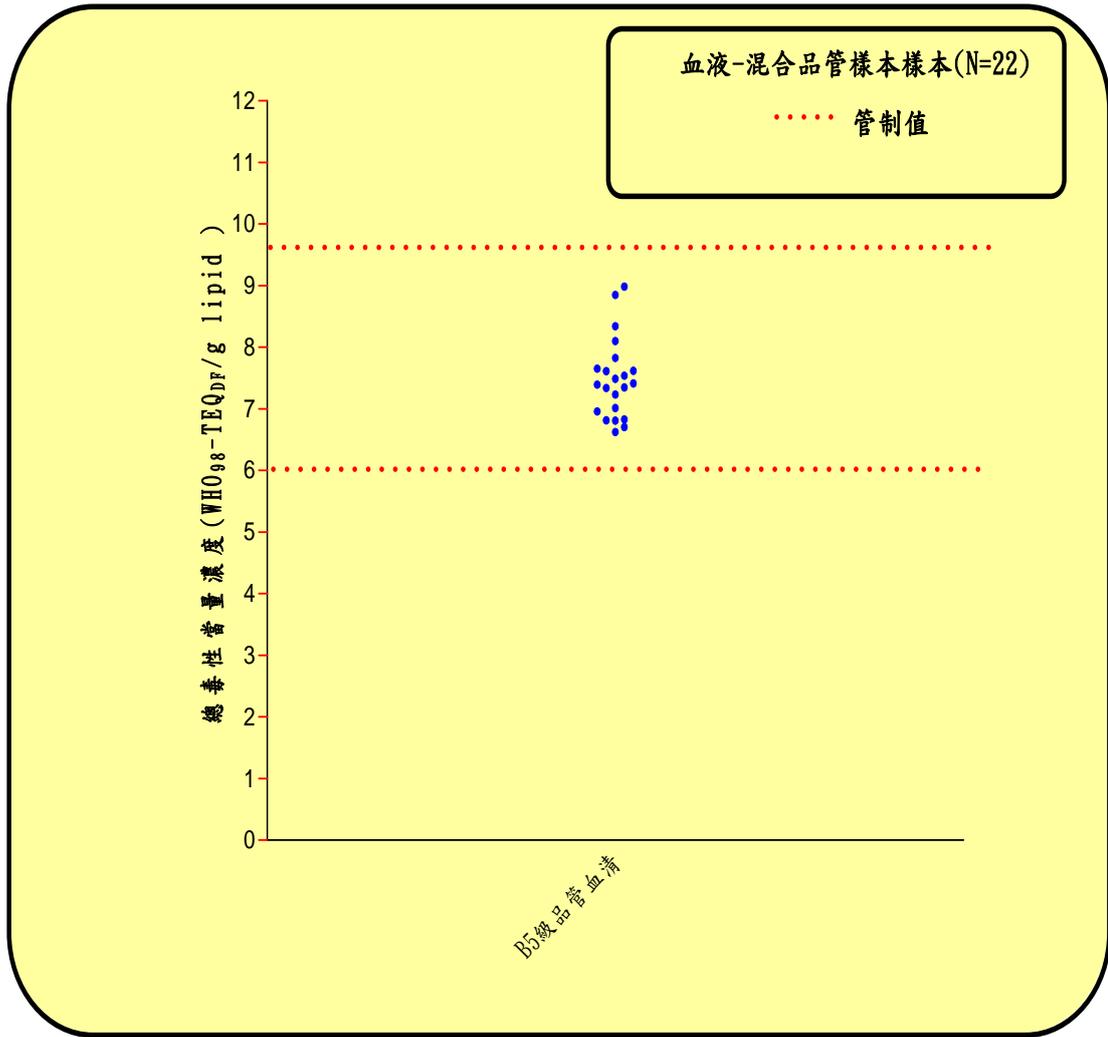


圖3-6-5 本計畫品管血清樣本17種戴奧辛/呋喃同源物總毒性當量  
濃度管制結果

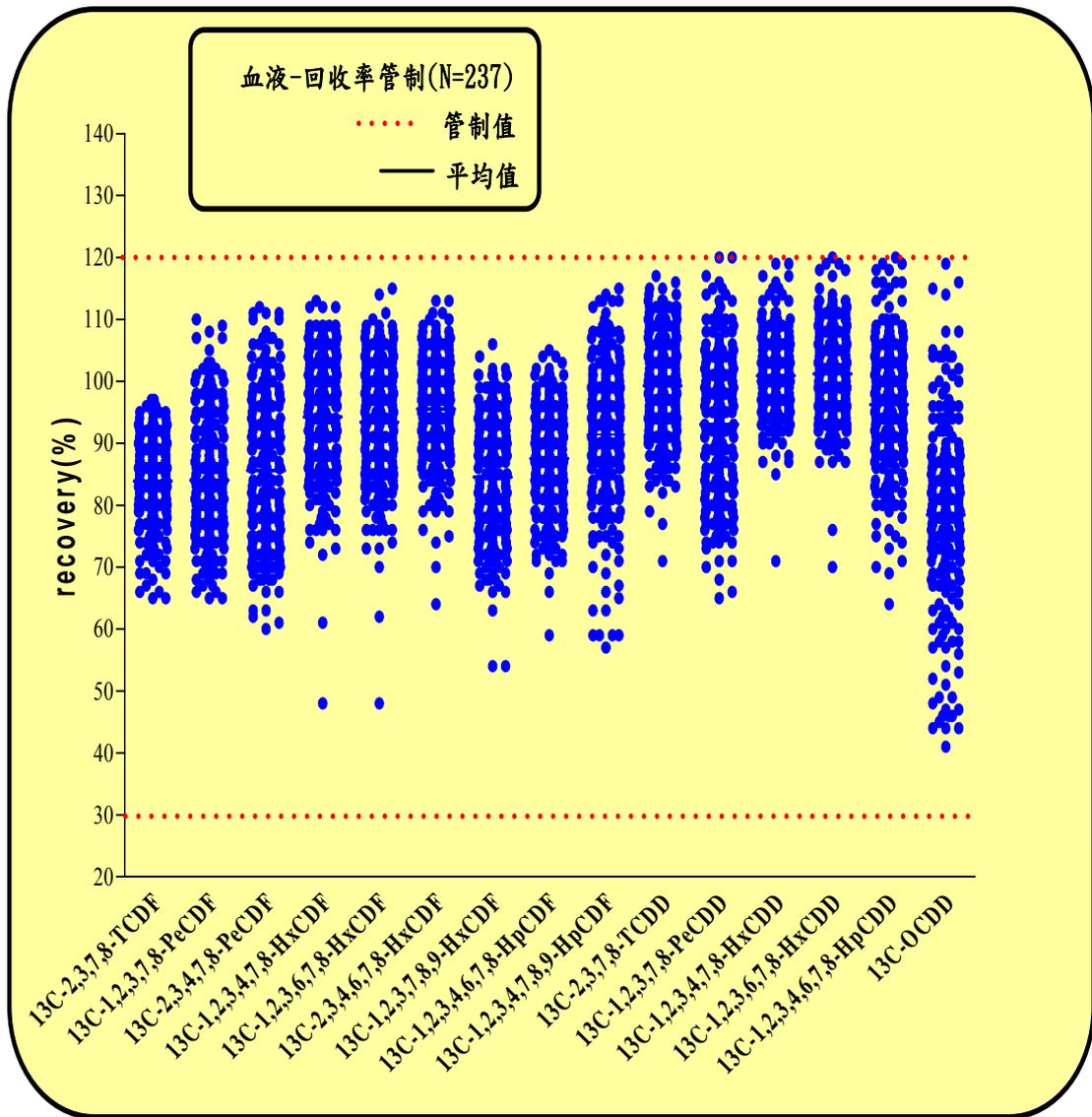


圖3-6-6 本計畫樣本17種戴奧辛/呔喃同源物同位素標記標準品

回收率管制結果

10:52:3319-Nov-2009WD

WD

16

1: Voltage SIR 11 Channels EI+  
305.8987  
4.20e5

2009/11/18

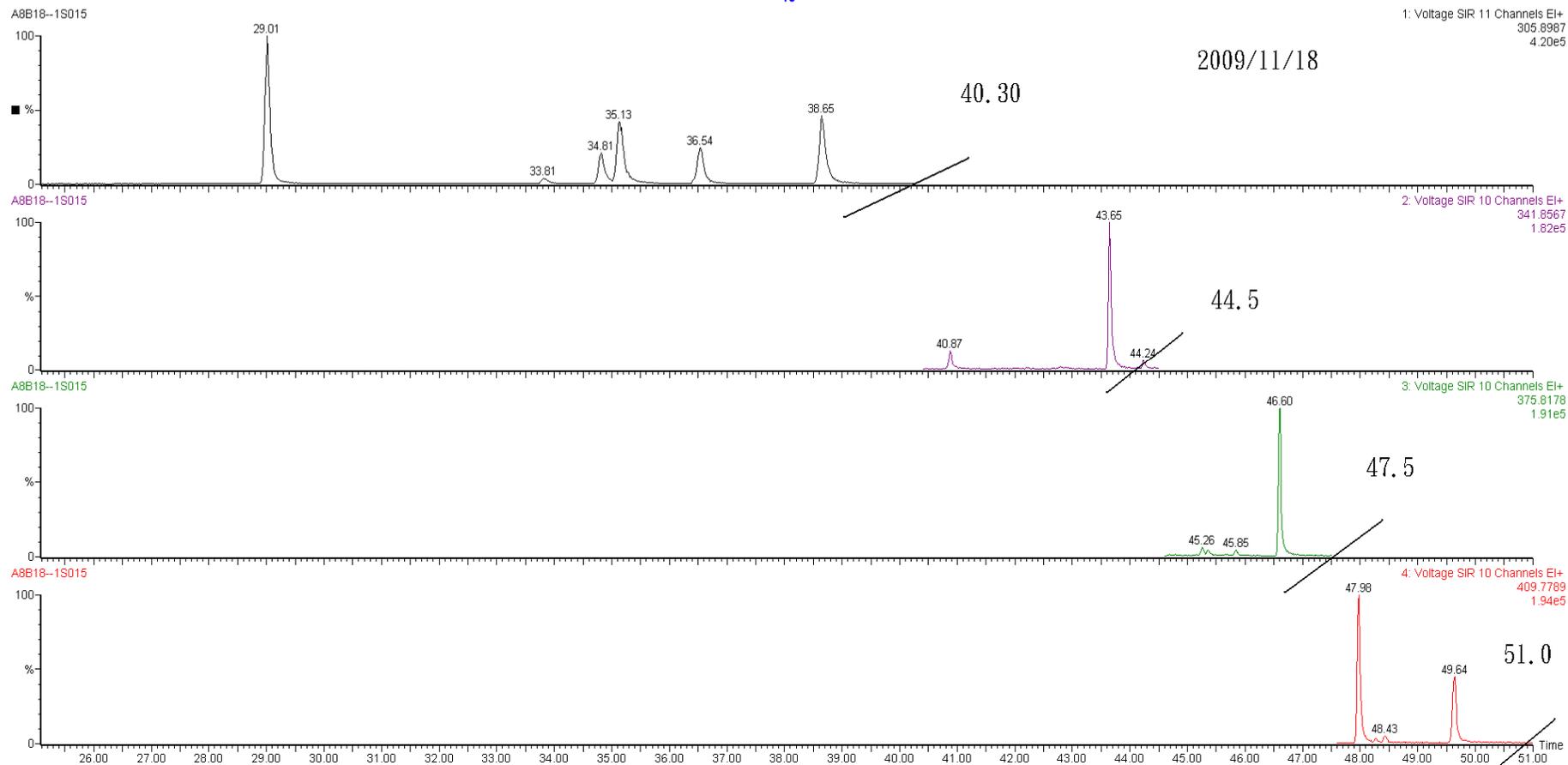


圖3-6-7 本計畫十七種多氯戴奧辛/呋喃同源物監測時窗區查核執行結果之一

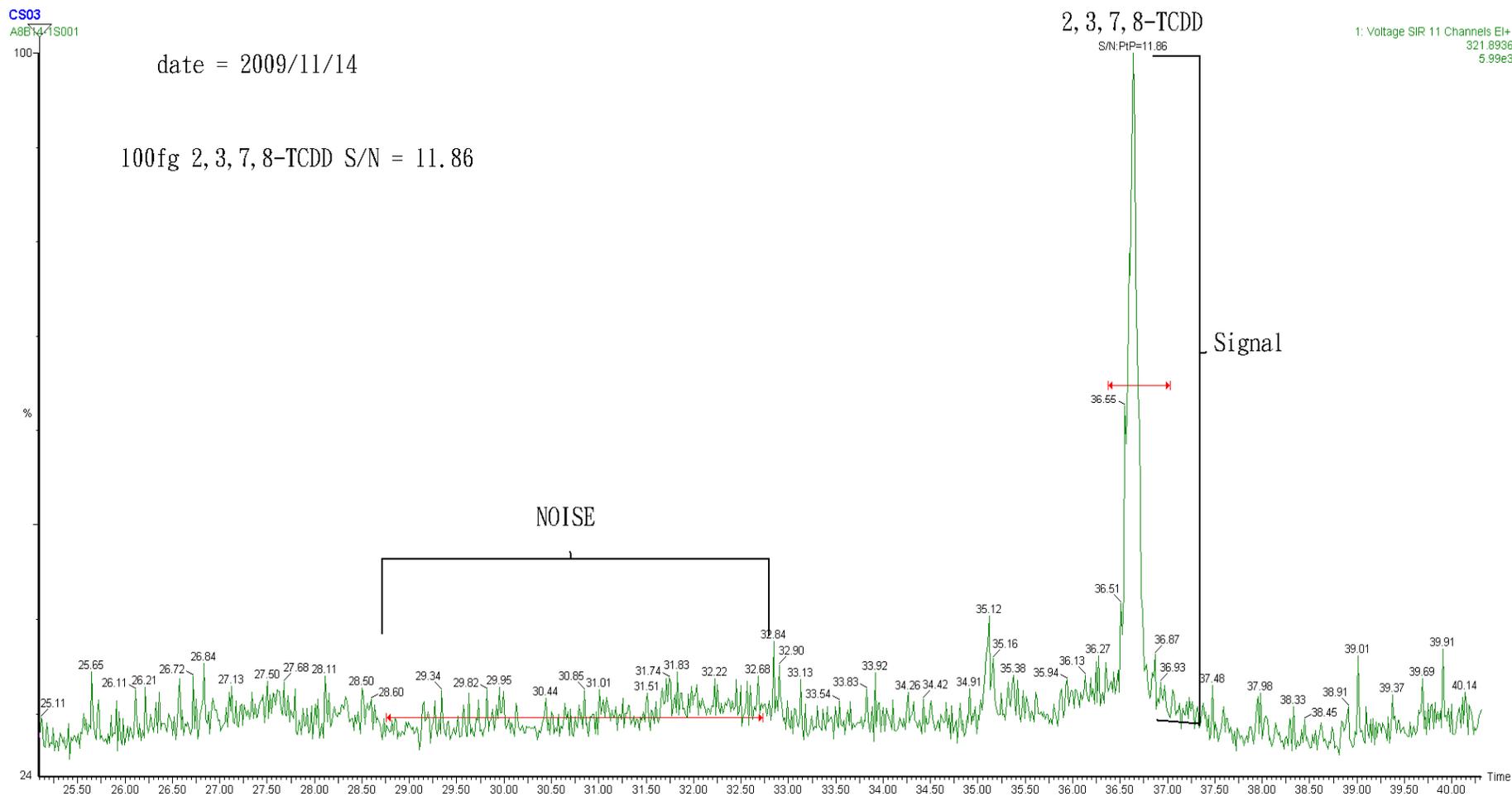


圖3-6-8 本計畫十七種多氯戴奧辛/呔喃同源物儀器靈敏度確認結果之一

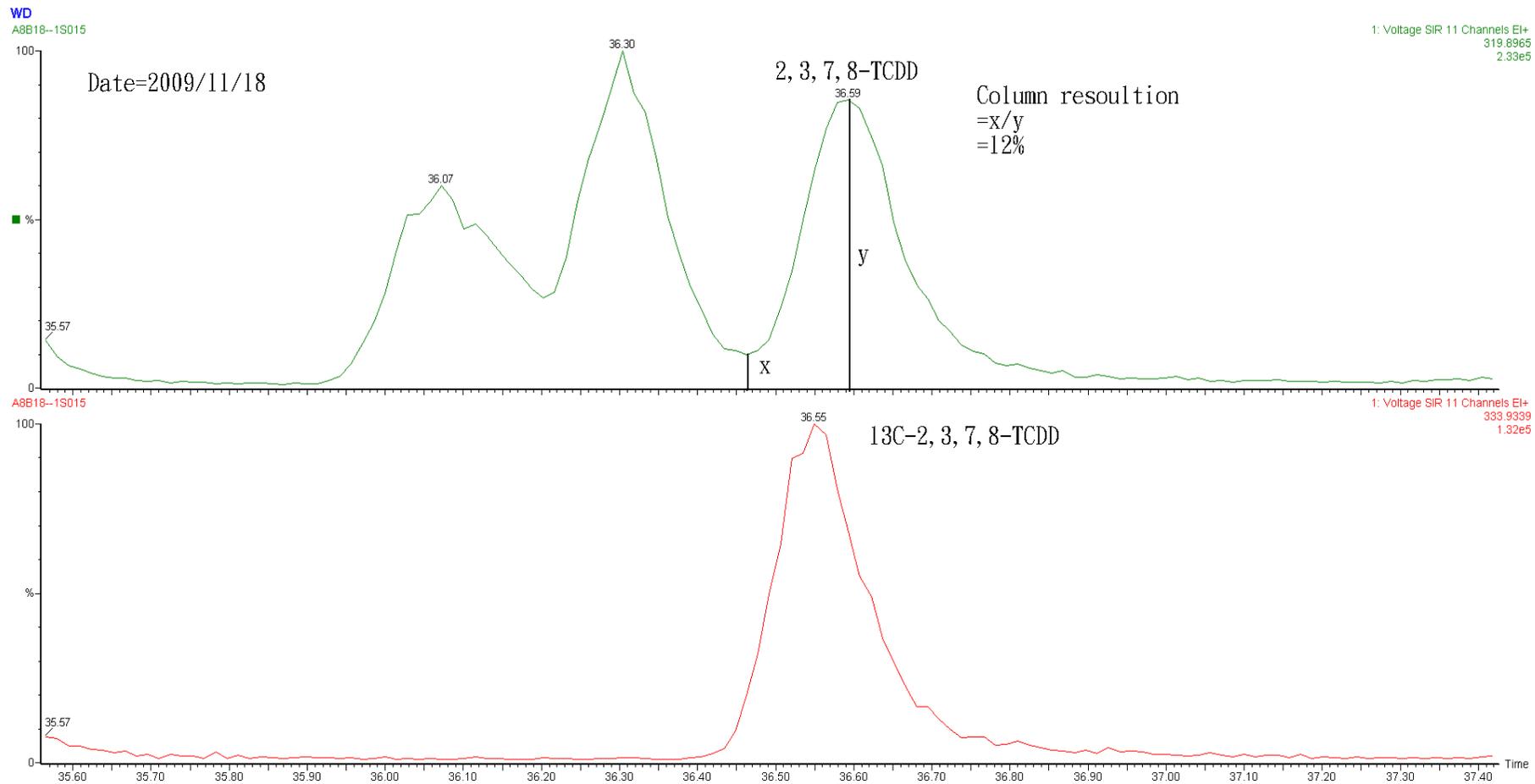


圖3-6-9 本計畫十七種多氯戴奧辛/呔喃同源物層析解析度執行結果之一

ABB18-1S015

16

1: Voltage SIR 11 Channels EI+  
305.8987  
1.76e5

2009/11/18

2, 3, 7, 8-TCDF

2, 3, 7, 8-TCDF  
Column resolution  
=x/y  
=7%

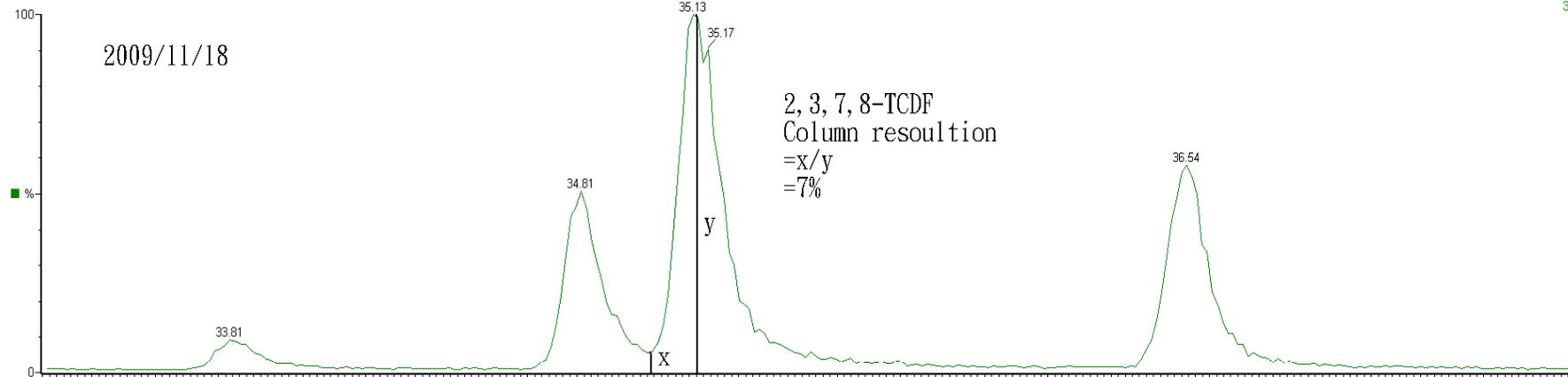


ABB18-1S015

1: Voltage SIR 11 Channels EI+  
317.9389  
5.07e4

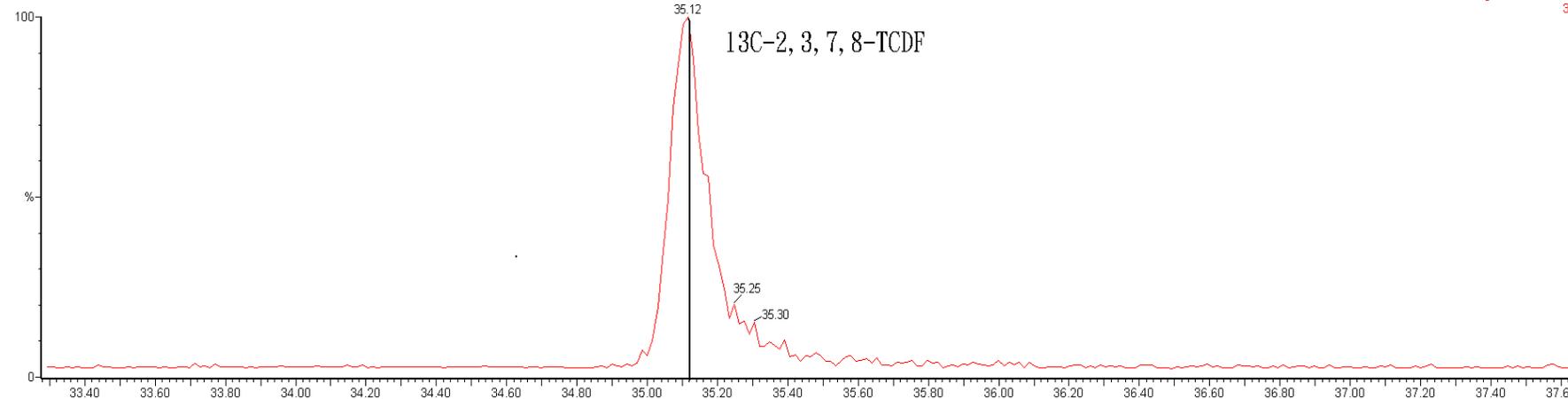


圖3-6-10 本計畫十七種多氯戴奧辛/呔喃同源物層析解析度執行結果之一(續)

Sample Name: A8B30-25001 Sample ID: VER

Acq.Date 30-Nov-09

Method: D:\MASSLYNX\PROJECT\M1613\A8B14-1PRO\MethDB\NIEA M1613A8B14-1MDB

Sample List: D:\MASSLYNX\PROJECT\M1613\A8B14-1.PRO\SampleDB\A8B30-2.RSL

Cal D:\MASSLYNX\PROJECT\M1613\A8B14-1PRO\SampleDB\A8B14-1CAL

Cal	Type	Name	Area	RA	Ratio Flag	RT	RRF	RRF Mean	Different%	Range	Mod	S/N	Sec. S/N	native-lable rt
1	Unk	2,3,7,8-TCDF	3963.58	0.78	YES	35.07	0.869	0.921	-6%	20%	bd	253.52	274.02	-0.03
2	Unk	1,2,3,7,8-PeCDF	21326.09	1.56	YES	41.92	0.808	0.867	-7%	20%	bd	1642.23	1209.89	-0.01
3	Unk	2,3,4,7,8-PeCDF	22486.50	1.54	YES	42.82	0.835	0.913	-9%	20%	bb	1898.34	1448.68	-0.01
4	Unk	1,2,3,4,7,8-HxCDF	22485.71	1.26	YES	45.20	1.074	1.055	2%	20%	bd	1407.33	1167.49	-0.01
5	Unk	1,2,3,6,7,8-HxCDF	24791.15	1.26	YES	45.30	0.997	0.984	1%	20%	db	1456.81	1222.64	-0.02
6	Unk	2,3,4,6,7,8-HxCDF	22060.15	1.27	YES	45.78	0.956	0.957	0%	20%	bb	1263.36	1087.27	-0.01
7	Unk	1,2,3,7,8,9-HxCDF	17601.19	1.31	YES	46.52	0.973	0.964	1%	20%	bd	924.16	772.17	-0.01
8	Unk	1,2,3,4,6,7,8-HpCDF	19509.64	1.06	YES	47.93	1.169	1.254	-7%	20%	bd	1308.71	1080.95	-0.03
9	Unk	1,2,3,4,7,8,9-HpCDF	12505.60	1.02	YES	49.56	0.980	1.069	-8%	20%	bb	708.51	585.43	-0.03
10	Unk	OCDF	14370.62	0.84	YES	52.74	0.984	0.886	11%	20%	bb	876.11	730.24	
11	Unk	2,3,7,8-TCDD	3210.76	0.68	YES	36.53	0.875	0.817	7%	20%	bb	214.59	301.49	-0.04
12	Unk	1,2,3,7,8-PeCDD	13819.57	1.60	YES	43.09	0.807	0.822	-2%	20%	bb	1483.15	1284.74	-0.01
13	Unk	1,2,3,4,7,8-HxCDD	11996.97	1.29	YES	45.92	0.766	0.757	1%	20%	bd	754.89	1322.51	-0.02
14	Unk	1,2,3,6,7,8-HxCDD	13491.90	1.30	YES	46.00	0.738	0.739	0%	20%	db	791.75	1424.49	-0.02
15	Unk	1,2,3,7,8,9-HxCDD	12864.34	1.29	YES	46.24	0.724	0.796	-9%	20%	bd	707.01	1301.32	0.00
16	Unk	1,2,3,4,6,7,8-HpCDD	11885.61	1.04	YES	48.99	0.935	0.990	-6%	20%	bb	835.12	901.09	-0.01
17	Unk	OCDD	14327.53	0.92	YES	52.51	0.909	0.903	1%	20%	bb	944.78	1091.42	-0.03
18	IS/RT	13C-2,3,7,8-TCDF	1049337.75	0.77	YES	35.04	1.518	1.445	5%	25%	bb	3194.04	5401.24	
19	IS	13C-1,2,3,7,8-PeCDF	1111592.53	1.58	YES	41.91	1.451	1.477	-2%	25%	bb	5786.70	5347.77	
20	IS	13C-2,3,4,7,8-PeCDF	1086499.31	1.57	YES	42.81	1.431	1.407	2%	25%	bb	6246.10	5933.42	
21	IS	13C-1,2,3,4,7,8-HxCDF	897004.06	0.53	YES	45.19	1.430	1.258	14%	25%	bd	4040.37	3509.10	
22	IS	13C-1,2,3,6,7,8-HxCDF	1050881.22	0.53	YES	45.28	1.625	1.468	11%	25%	dd	4049.89	3586.40	
23	IS	13C-2,3,4,6,7,8-HxCDF	950570.88	0.53	YES	45.77	1.495	1.346	11%	25%	bb	3919.75	3383.88	
24	IS	13C-1,2,3,7,8,9-HxCDF	777696.94	0.55	YES	46.51	1.206	1.148	5%	25%	bd	2863.18	2457.54	
25	IS	13C-1,2,3,4,6,7,8-HpCDF	664246.13	0.44	YES	47.90	1.051	0.972	8%	25%	bb	2226.30	4039.92	
26	IS	13C-1,2,3,4,7,8,9-HpCDF	507860.22	0.45	YES	49.53	0.804	0.730	10%	25%	bd	1442.36	2646.08	
27	IS	13C-2,3,7,8-TCDD	825674.25	0.78	YES	36.49	0.960	0.866	11%	25%	bb	4131.65	3074.49	
28	IS	13C-1,2,3,7,8-PeCDD	743388.56	1.59	YES	43.08	0.828	0.843	-2%	25%	bb	12306.38	6313.08	
29	IS	13C-1,2,3,4,7,8-HxCDD	655604.78	1.26	YES	45.90	0.940	0.896	5%	25%	bd	6390.13	4888.54	
30	IS	13C-1,2,3,6,7,8-HxCDD	765277.31	1.26	YES	45.98	1.020	0.998	2%	25%	db	6579.69	5192.07	
31	IS	13C-1,2,3,4,6,7,8-HpCDD	535699.14	1.06	YES	48.98	0.730	0.677	8%	25%	bb	2674.09	2750.97	
32	IS	13C-OCDD	674434.53	0.88	YES	52.48	0.479	0.439	9%	25%	bb	15122.65	14748.66	
33	RS	13C-1,2,3,4-TCDD13C-1,;	867437.84	0.79	YES	35.39	12427.156	21588.330			bb	4658.93	3470.36	
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	715755.03	1.26	YES	46.23	10113.938	19822.053			bb	5575.82	4541.16	
35	C/UP	37Cl-2,3,7,8-TCDD	3659.40			36.53	0.810	0.757	7%	25%	bb	274.61		

圖3-6-11 本計畫十七種多氯戴奧辛/呔喃同源物平均相對感應因子建立RRF相對平均標準差(RSD%)結果之一

Sample Name: A8B30-2S001 Sample ID: VER

Acq.Date 30-Nov-09

Method: D:\MASSLYNX\PROJECT\M1613\A8B14-1PRO\MethDB\NIEA M1613A8B14-1MDB

Sample List: D:\MASSLYNX\PROJECT\M1613\A8B14-1.PRO\SampleDB\A8B30-2.RSL

Cal D:\MASSLYNX\PROJECT\M1613\A8B14-1PRO\SampleDB\A8B14-1CAL

Cal	Type	Name	Area	RA	Ratio Flag	RT	RRF	RRF Mean	Different%	Range	Mod	S/N	Sec. S/N	native-label	rt
1	Unk	2,3,7,8-TCDF	3963.58	0.78	YES	35.07	0.869	0.921	-6%	20%	bd	253.52	274.02		-0.03
2	Unk	1,2,3,7,8-PeCDF	21326.09	1.56	YES	41.92	0.808	0.867	-7%	20%	bd	1642.23	1209.89		-0.01
3	Unk	2,3,4,7,8-PeCDF	22486.50	1.54	YES	42.82	0.835	0.913	-9%	20%	bb	1898.34	1448.68		-0.01
4	Unk	1,2,3,4,7,8-HxCDF	22485.71	1.26	YES	45.20	1.074	1.055	2%	20%	bd	1407.33	1167.49		-0.01
5	Unk	1,2,3,6,7,8-HxCDF	24791.15	1.26	YES	45.30	0.997	0.984	1%	20%	db	1456.81	1222.64		-0.02
6	Unk	2,3,4,6,7,8-HxCDF	22060.15	1.27	YES	45.78	0.956	0.957	0%	20%	bb	1263.36	1087.27		-0.01
7	Unk	1,2,3,7,8,9-HxCDF	17601.19	1.31	YES	46.52	0.973	0.964	1%	20%	bd	924.16	772.17		-0.01
8	Unk	1,2,3,4,6,7,8-HpCDF	19509.64	1.06	YES	47.93	1.169	1.254	-7%	20%	bd	1308.71	1080.95		-0.03
9	Unk	1,2,3,4,7,8,9-HpCDF	12505.60	1.02	YES	49.56	0.980	1.069	-8%	20%	bb	708.51	585.43		-0.03
10	Unk	OCDF	14370.62	0.84	YES	52.74	0.984	0.886	11%	20%	bb	876.11	730.24		
11	Unk	2,3,7,8-TCDD	3210.76	0.68	YES	36.53	0.875	0.817	7%	20%	bb	214.59	301.49		-0.04
12	Unk	1,2,3,7,8-PeCDD	13819.57	1.60	YES	43.09	0.807	0.822	-2%	20%	bb	1483.15	1284.74		-0.01
13	Unk	1,2,3,4,7,8-HxCDD	11996.97	1.29	YES	45.92	0.766	0.757	1%	20%	bd	754.89	1322.51		-0.02
14	Unk	1,2,3,6,7,8-HxCDD	13491.90	1.30	YES	46.00	0.738	0.739	0%	20%	db	791.75	1424.49		-0.02
15	Unk	1,2,3,7,8,9-HxCDD	12864.34	1.29	YES	46.24	0.724	0.796	-9%	20%	bd	707.01	1301.32		0.00
16	Unk	1,2,3,4,6,7,8-HpCDD	11885.61	1.04	YES	48.99	0.935	0.990	-6%	20%	bb	835.12	901.09		-0.01
17	Unk	OCDD	14327.53	0.92	YES	52.51	0.909	0.903	1%	20%	bb	944.78	1091.42		-0.03
18	IS/RT	13C-2,3,7,8-TCDF	1049337.75	0.77	YES	35.04	1.518	1.445	5%	25%	bb	3194.04	5401.24		
19	IS	13C-1,2,3,7,8-PeCDF	1111592.53	1.58	YES	41.91	1.451	1.477	-2%	25%	bb	5786.70	5347.77		
20	IS	13C-2,3,4,7,8-PeCDF	1086499.31	1.57	YES	42.81	1.431	1.407	2%	25%	bb	6246.10	5933.42		
21	IS	13C-1,2,3,4,7,8-HxCDF	897004.06	0.53	YES	45.19	1.430	1.258	14%	25%	bd	4040.37	3509.10		
22	IS	13C-1,2,3,6,7,8-HxCDF	1050881.22	0.53	YES	45.28	1.625	1.468	11%	25%	dd	4049.89	3586.40		
23	IS	13C-2,3,4,6,7,8-HxCDF	950570.88	0.53	YES	45.77	1.495	1.346	11%	25%	bb	3919.75	3383.88		
24	IS	13C-1,2,3,7,8,9-HxCDF	777696.94	0.55	YES	46.51	1.206	1.148	5%	25%	bd	2863.18	2457.54		
25	IS	13C-1,2,3,4,6,7,8-HpCDF	664246.13	0.44	YES	47.90	1.051	0.972	8%	25%	bb	2226.30	4039.92		
26	IS	13C-1,2,3,4,7,8,9-HpCDF	507860.22	0.45	YES	49.53	0.804	0.730	10%	25%	bd	1442.36	2646.08		
27	IS	13C-2,3,7,8-TCDD	825674.25	0.78	YES	36.49	0.960	0.866	11%	25%	bb	4131.65	3074.49		
28	IS	13C-1,2,3,7,8-PeCDD	743388.56	1.59	YES	43.08	0.828	0.843	-2%	25%	bb	12306.38	6313.08		
29	IS	13C-1,2,3,4,7,8-HxCDD	655604.78	1.26	YES	45.90	0.940	0.896	5%	25%	bd	6390.13	4888.54		
30	IS	13C-1,2,3,6,7,8-HxCDD	765277.31	1.26	YES	45.98	1.020	0.998	2%	25%	db	6579.69	5192.07		
31	IS	13C-1,2,3,4,6,7,8-HpCDD	535699.14	1.06	YES	48.98	0.730	0.677	8%	25%	bb	2674.09	2750.97		
32	IS	13C-OCDD	674434.53	0.88	YES	52.48	0.479	0.439	9%	25%	bb	15122.65	14748.66		
33	RS	13C-1,2,3,4-TCDD13C-1,;	867437.84	0.79	YES	35.39	12427.156	21588.330			bb	4658.93	3470.36		
34	RS/RT	13C-1,2,3,7,8,9-HxCDD	715755.03	1.26	YES	46.23	10113.938	19822.053			bb	5575.82	4541.16		
35	C/UP	37Cl-2,3,7,8-TCDD	3659.40			36.53	0.810	0.757	7%	25%	bb	274.61			

圖3-6-12 本計畫十七種多氯戴奧辛/呔喃同源物平均相對感應因子查核結果之一

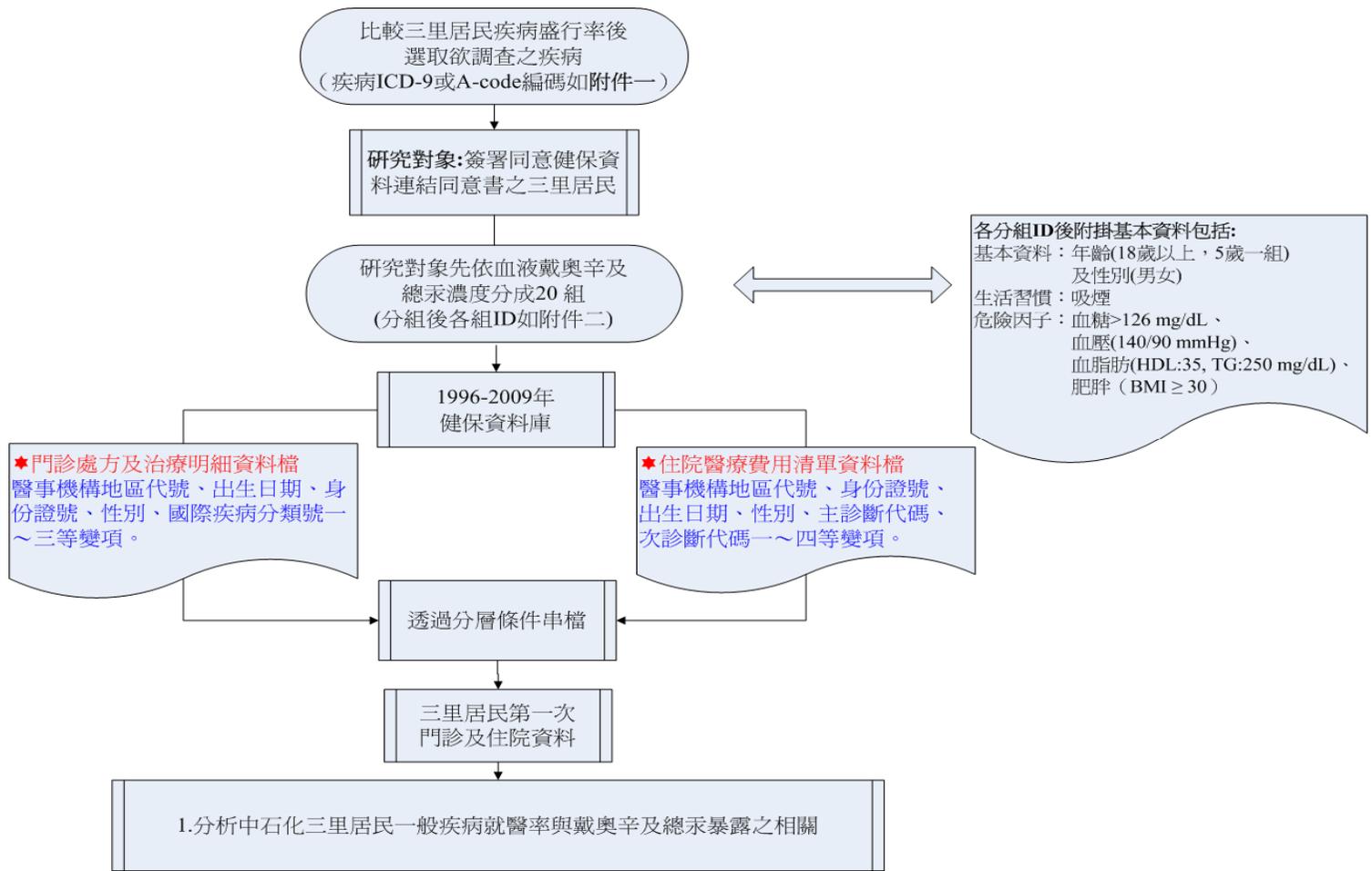


圖4-3-1 研究架構圖

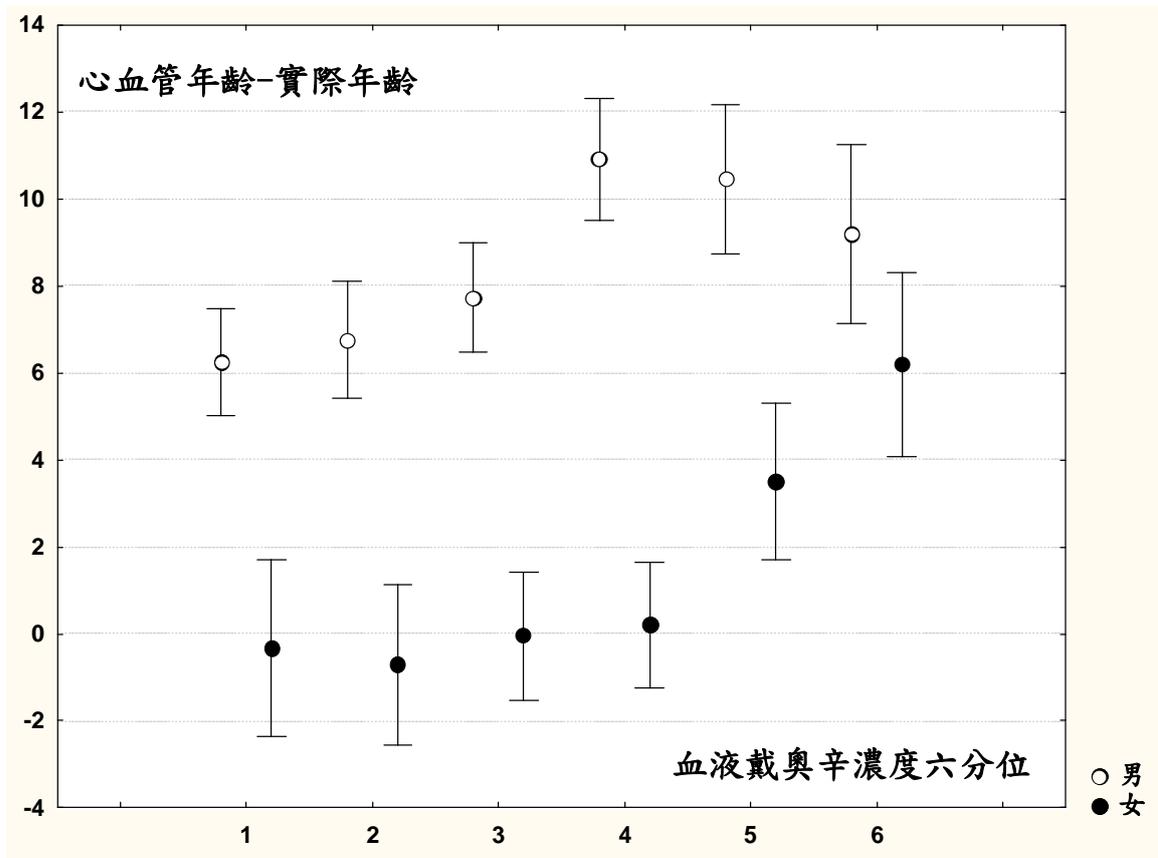


圖4-3-2 心血管年齡與實際年齡的差異

- (1) <第 10 百分位數: < 8.9 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid (對照組)
- (2) 第 10-25 百分位數: 8.9 至 12.9 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid
- (3) 第 25-50 百分位數: 12.9 至 20.7 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid
- (4) 第 50-75 百分位數: 20.7 至 34.7 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid
- (5) 第 75-90 百分位數: 34.7 至 59.1 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid
- (6) ≥第 90 百分位數: ≥ 59.1 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid

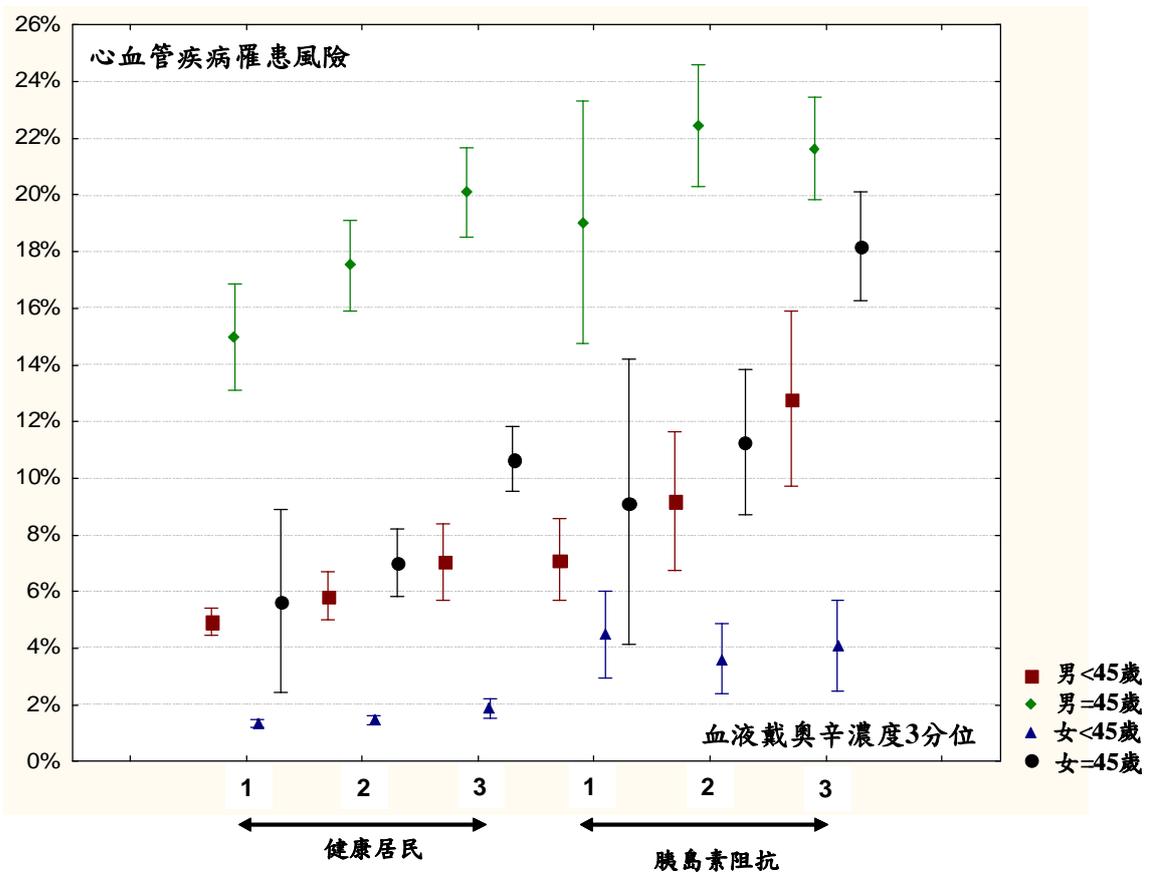


圖4-3-3 不同年齡層與性別下之血液戴奧辛濃度及胰島素

阻抗與心血管疾病罹患風險之關係

校正體脂肪

血液戴奧辛濃度: 第一三分位: < 15.0 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid;

第二三分位: 15.0 ≤ 血液戴奧辛濃度 < 28.4 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid;

第三三分位: 28.4 pg WHO<sub>98</sub>-TEQ<sub>DF</sub>/g lipid ≤ 血液戴奧辛濃度。

胰島素組抗 HOMA-IR ≥ 75th percentile: ≥3.00.