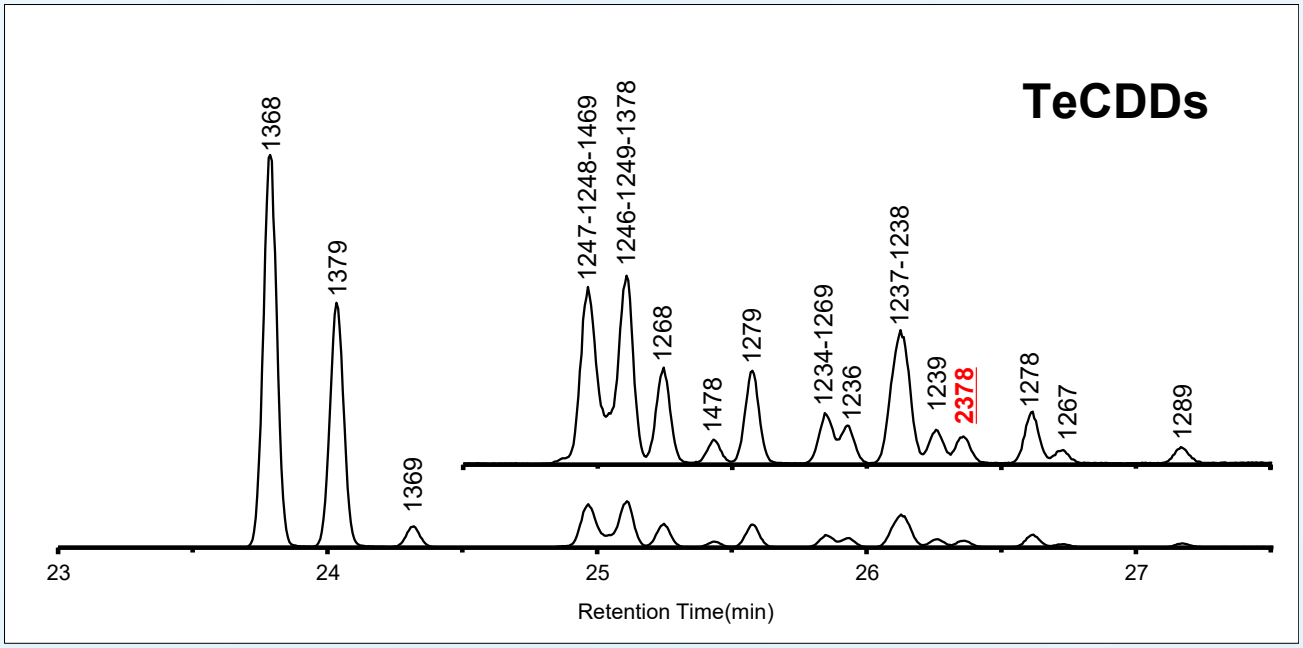
P/N:054234　BPX-DXN

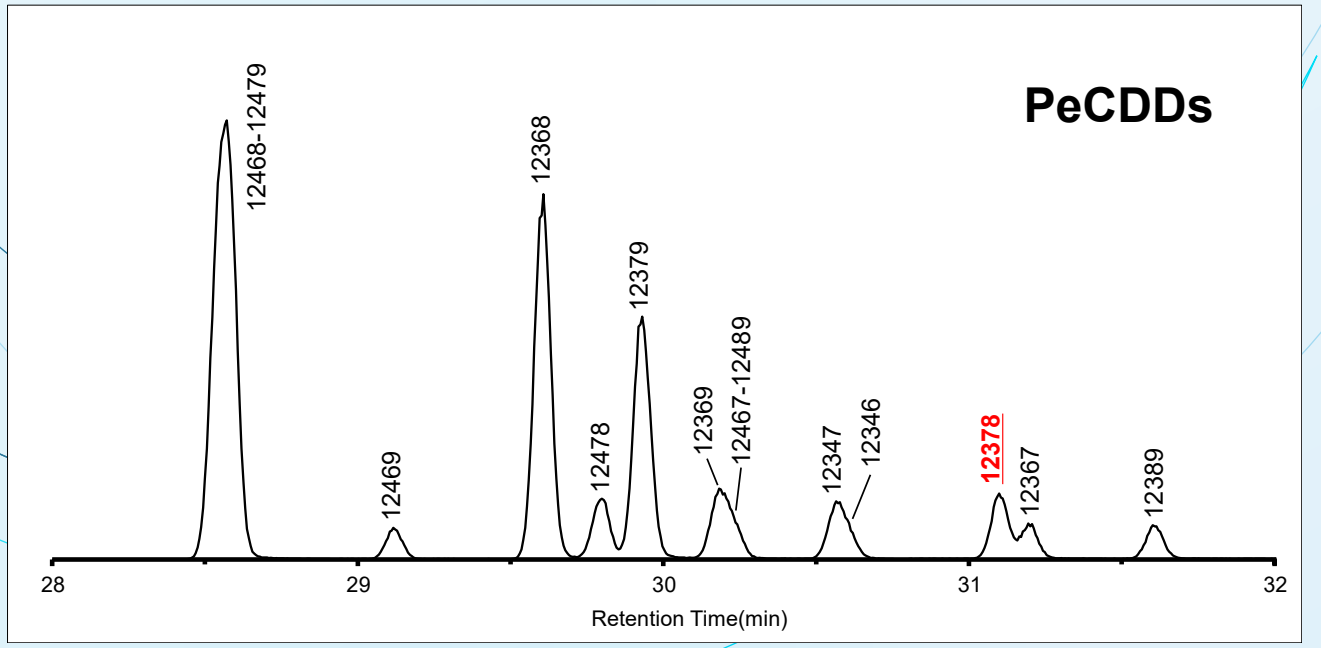
PCDDs/PCDFs分析用 ：4～8塩素化体の全異性体の溶出順位をアサイン
低ブリード　　：シルフェニレン骨格を導入。優れた耐熱性とノイズレベルを低減

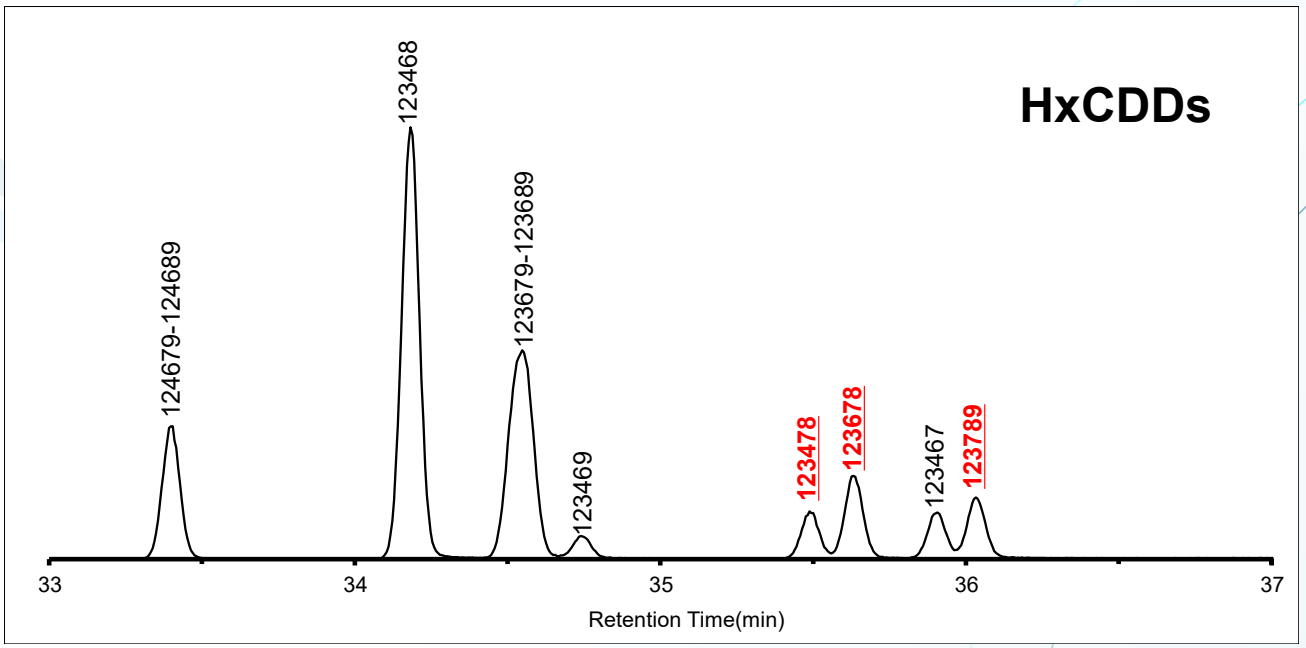
PCDDs/PCDFs分析におけるクロマトグラムの一例

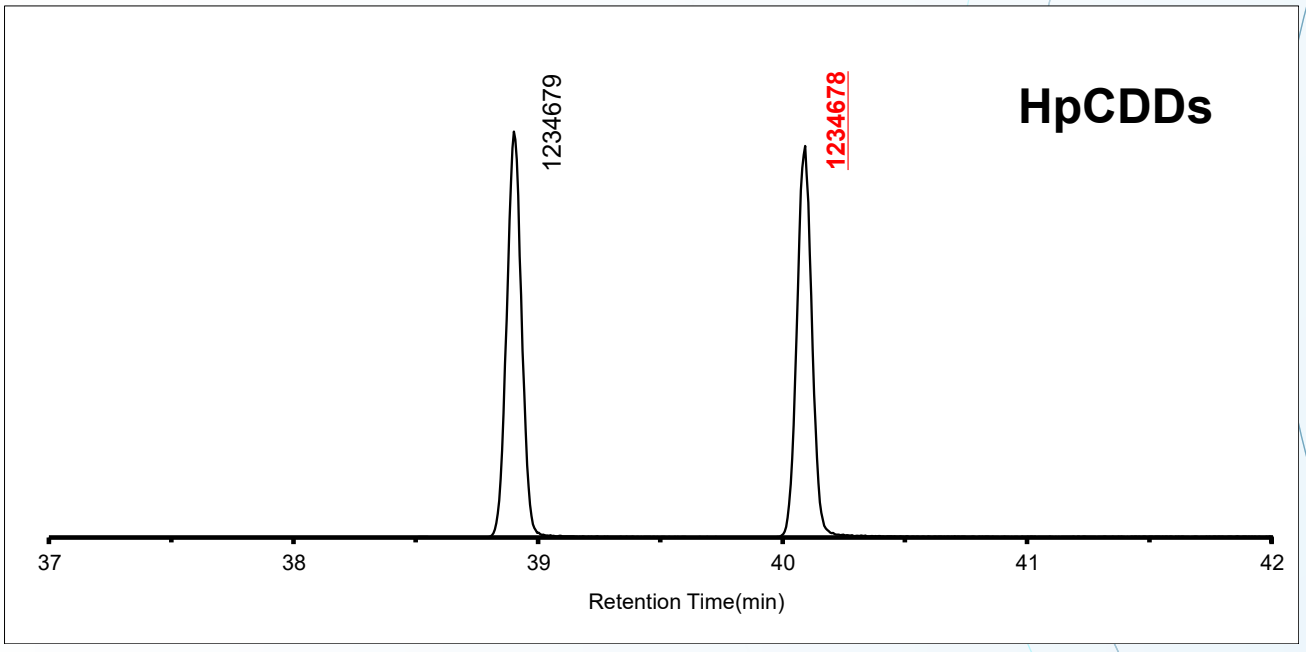
【GC 条件】
オーブン温度 : 130℃ (1min) ー 15℃ /min → 210℃ー 3℃ /min → 310℃ー 5℃ /min → 320℃
注入口温度　: 300℃
注入口圧力　: 25.4psi (Constant Pressure)

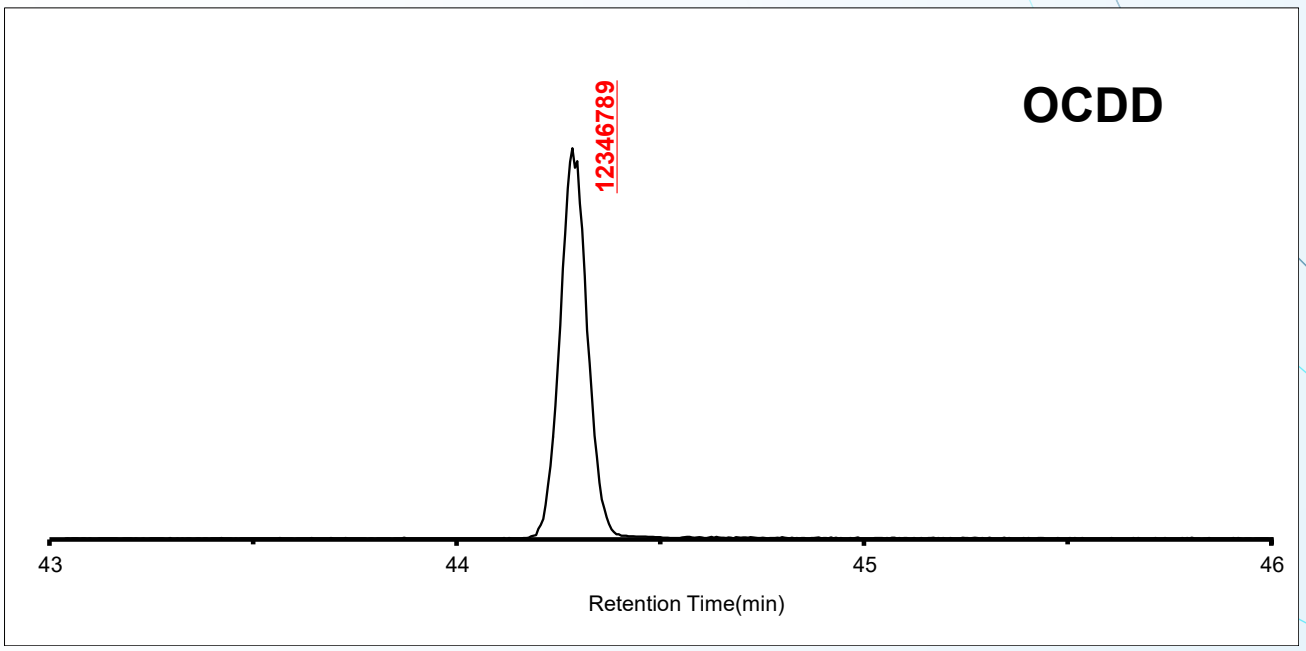
【PCDDsクロマトグラム】



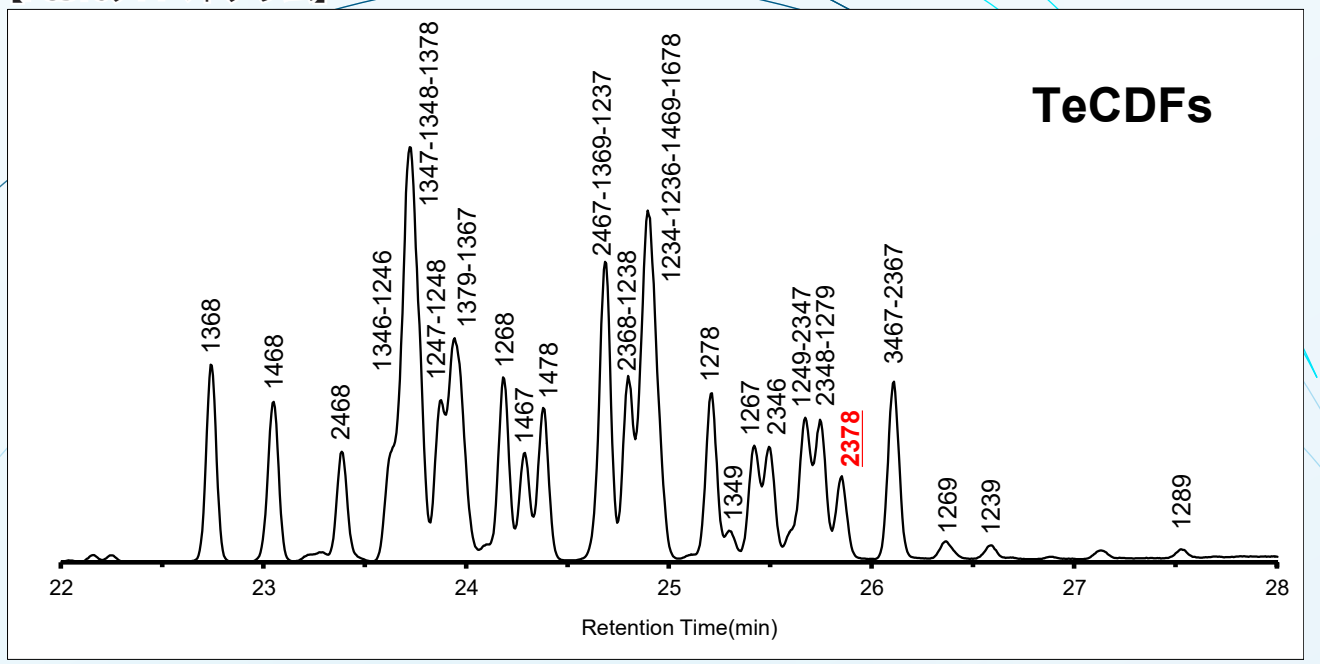


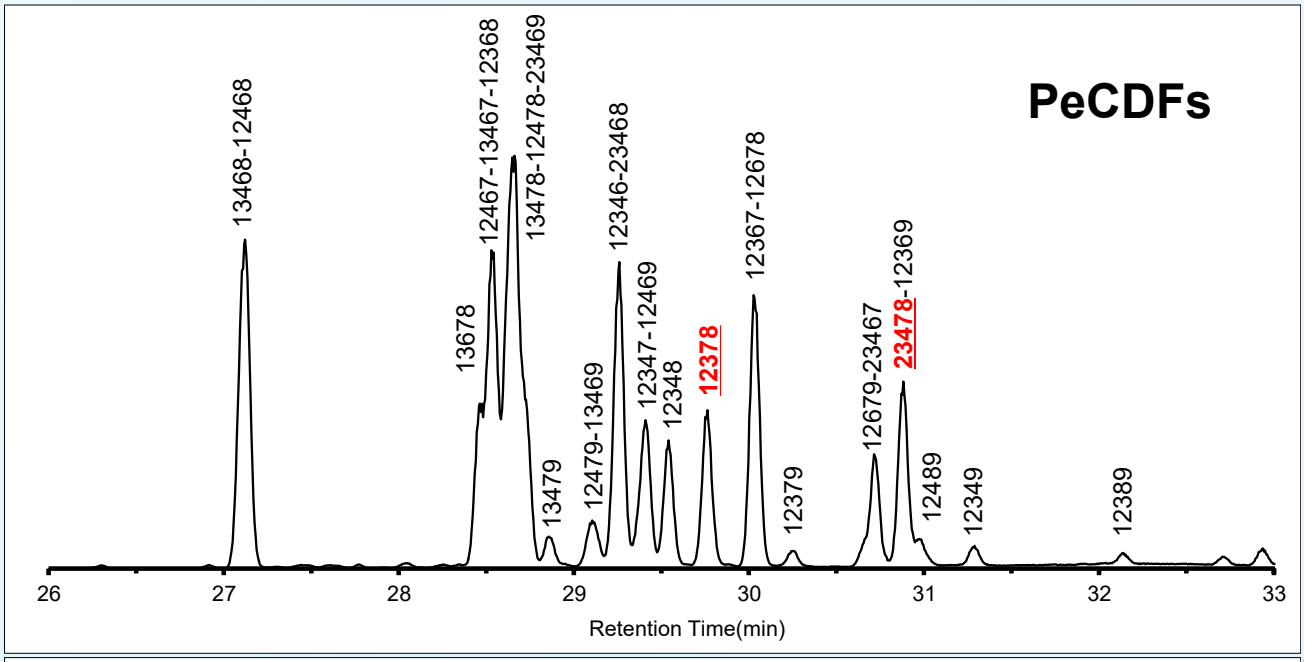

HxCDDs
124679-124689
123468
123679-123689
123469
123478
123678
123467
123789
33
34
35
36
37
Retention Time(min)

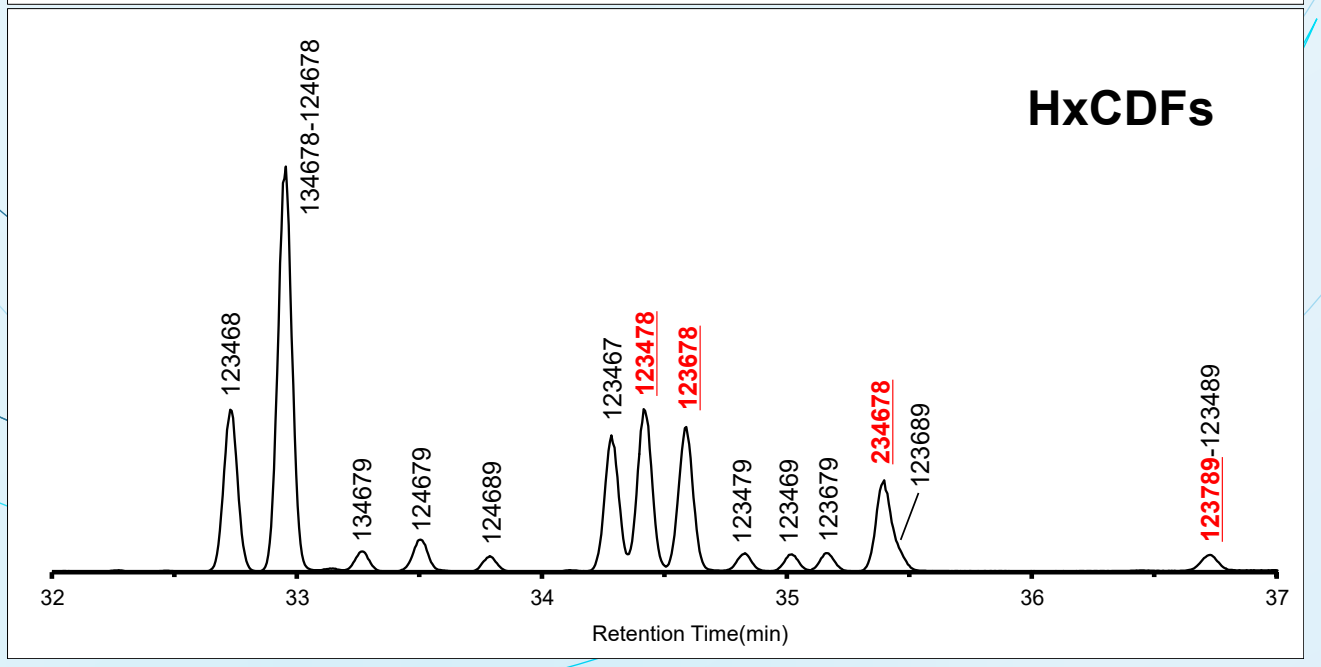

HpCDDs
1234679
1234678
37
38
39
40
41
42
Retention Time(min)

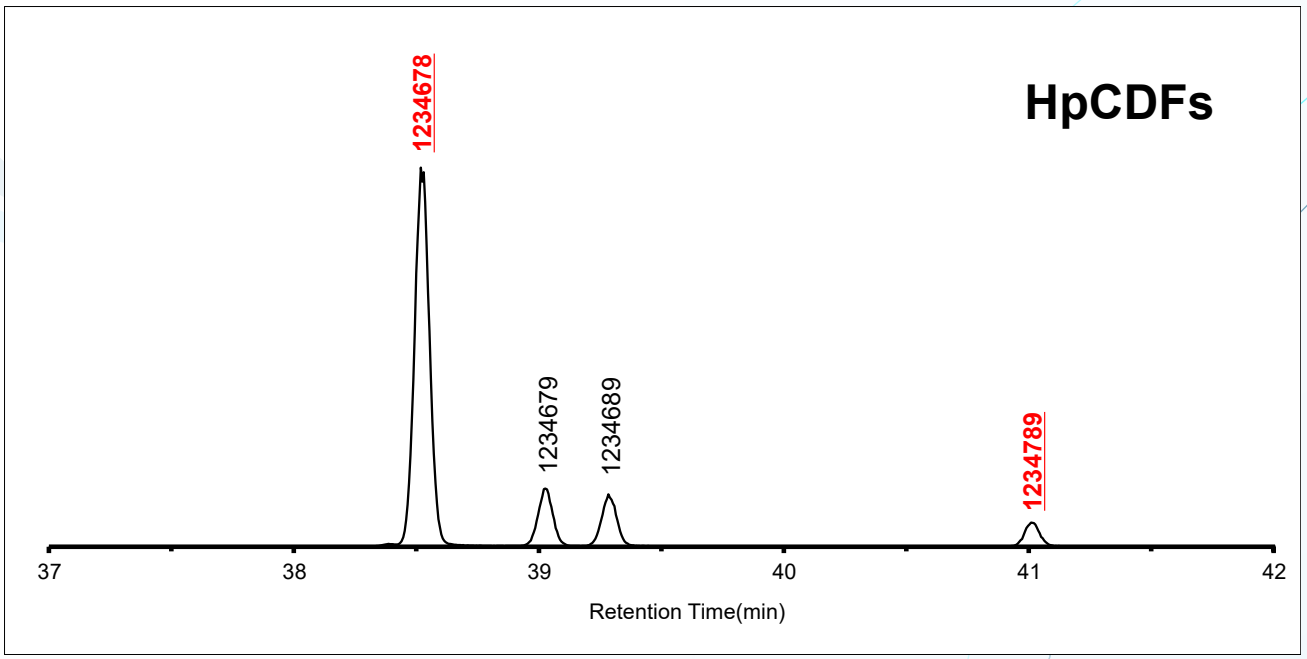

OCDD
12346789
43
44
45
46
Retention Time(min)

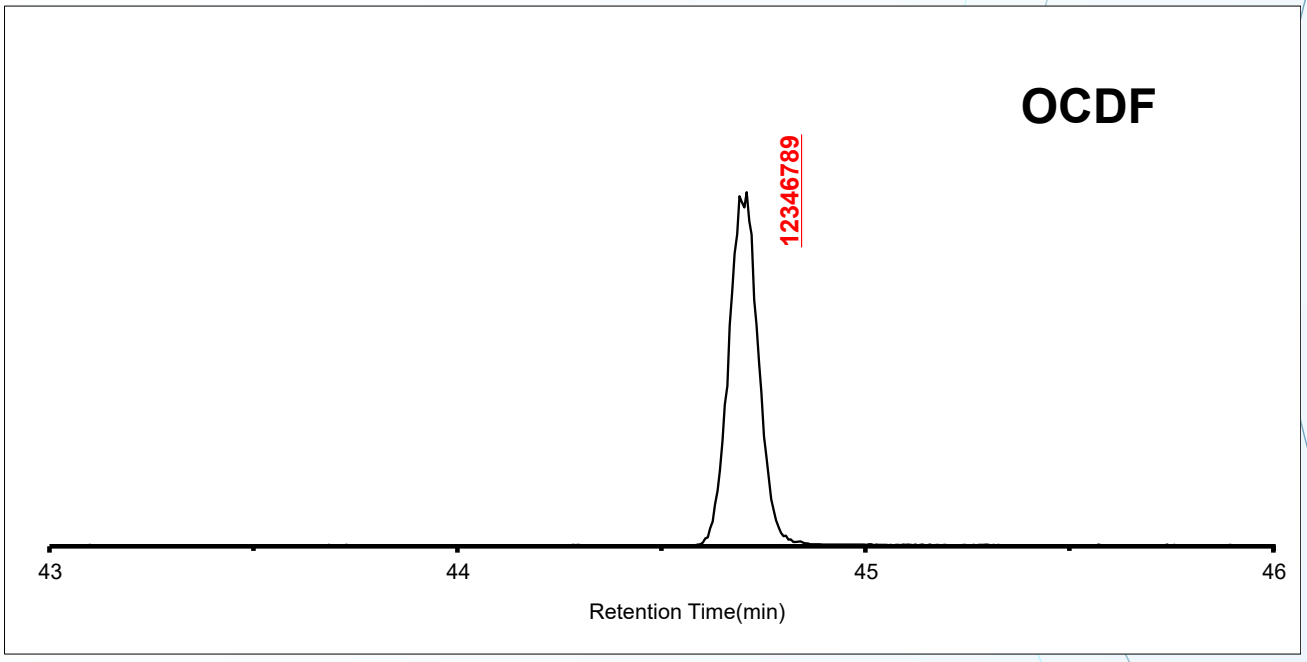
【PCDFsクロマトグラム】








HpCDFs
1234678
1234679
1234689
1234789
37
38
39
40
41
42
Retention Time(min)


OCDF
12346789
43
44
45
46
Retention Time(min)

Retention Index : PCDDs/PCDFs

TeCDDs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT* (A)	RRT* (B)
1	1	1368	23.78	1.000	1.000
2	2	1379	24.02	1.010	1.010
3	3	1369	24.32	1.022	1.022
4	4	1247	24.95	1.049	1.049
5	5	1248	24.95	1.049	1.049
6	6	1469	24.95	1.049	1.049
7	7	1246	25.10	1.055	1.055
8	8	1249	25.10	1.055	1.055
9	9	1378	25.10	1.055	1.055
10	10	1268	25.23	1.061	1.061
11	11	1478	25.42	1.069	1.069
12	12	1279	25.57	1.075	1.075
13	13	1234	25.83	1.086	1.086
14	14	1269	25.83	1.086	1.086
15	15	1236	25.92	1.090	1.090
16	16	1237	26.12	1.098	1.098
17	17	1238	26.12	1.098	1.098
18	18	1239	26.25	1.104	1.104
19	19	2378	26.35	1.108	1.108
20	20	1278	26.62	1.119	1.119
21	21	1267	26.72	1.123	1.123
22	22	1289	27.17	1.142	1.142
-	-	1368-TeCDF	22.73	0.956	0.956
-	-	13468-PeCDF	27.12	1.140	1.140
-	-	123468-HxCDF	32.72	1.376	1.376
-	-	1234678-HpCDF	38.53	1.620	1.620
-	-	OCDF	44.68	1.879	1.879

PeCDDs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	23	12468	28.57	1.000	1.201
2	24	12479	28.57	1.000	1.201
3	25	12469	29.10	1.019	1.224
4	26	12368	29.60	1.036	1.245
5	27	12478	29.78	1.043	1.252
6	28	12379	29.92	1.047	1.258
7	29	12369	30.17	1.056	1.268
8	30	12467	30.17	1.056	1.268
9	31	12489	30.17	1.056	1.268
10	32	12347	30.55	1.069	1.285
11	33	12346	30.55	1.069	1.285
12	34	12378	31.08	1.088	1.307
13	35	12367	31.18	1.092	1.311
14	36	12389	31.60	1.106	1.329

HxCDDs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	37	124679	33.40	1.000	1.404
2	38	124689	33.40	1.000	1.404
3	39	123468	34.17	1.023	1.437
4	40	123679	34.53	1.034	1.452
5	41	123689	34.53	1.034	1.452
6	42	123469	34.73	1.040	1.460
7	43	123478	35.48	1.062	1.492
8	44	123678	35.62	1.066	1.498
9	45	123467	35.90	1.075	1.509
10	46	123789	36.02	1.078	1.514

HpCDDs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	47	1234679	38.92	1.000	1.636
2	48	1234678	40.10	1.030	1.686

OCDD

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	49	12346789	44.27	1.000	1.861

*：Relative Retention Time
(A)：各同族体ごとに，一番早く溶出する異性体を 1 とした時の Elution Order No. 及び RRT
(B)：PCDF,PCDD それぞれの中で，一番早く溶出する異性体を 1 とした時の Elution Order No. 及び RRT

クロマトグラム・Retention Index データ提供：いであ株式会社　環境創造研究所様
注意：ここで示した保持時間は一例であり、これを保証するものではありません。

TeCDFs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT* (A)	RRT* (B)
1	1	1368	22.73	1.000	1.000
2	2	1468	23.03	1.013	1.013
3	3	2468	23.38	1.029	1.029
4	4	1346	23.63	1.040	1.040
5	5	1246	23.63	1.040	1.040
6	6	1347	23.72	1.043	1.043
7	7	1348	23.72	1.043	1.043
8	8	1378	23.72	1.043	1.043
9	9	1247	23.87	1.050	1.050
10	10	1248	23.87	1.050	1.050
11	11	1379	23.93	1.053	1.053
12	12	1367	23.93	1.053	1.053
13	13	1268	24.17	1.063	1.063
14	14	1467	24.28	1.068	1.068
15	15	1478	24.37	1.072	1.072
16	16	2467	24.68	1.086	1.086
17	17	1369	24.68	1.086	1.086
18	18	1237	24.68	1.086	1.086
19	19	2368	24.78	1.090	1.090
20	20	1238	24.78	1.090	1.090
21	21	1234	24.88	1.095	1.095
22	22	1236	24.88	1.095	1.095
23	23	1469	24.88	1.095	1.095
24	24	1678	24.88	1.095	1.095
25	25	1278	25.20	1.109	1.109
26	26	1349	25.28	1.112	1.112
27	27	1267	25.42	1.118	1.118
28	28	2346	25.48	1.121	1.121
29	29	1249	25.67	1.129	1.129
30	30	2347	25.67	1.129	1.129
31	31	2348	25.73	1.132	1.132
32	32	1279	25.73	1.132	1.132
33	33	2378	25.85	1.137	1.137
34	34	3467	26.10	1.148	1.148
35	35	2367	26.10	1.148	1.148
36	36	1269	26.35	1.159	1.159
37	37	1239	26.58	1.169	1.169
38	40	1289	27.52	1.210	1.210
-	-	1368-TeCDD	23.78	1.046	1.046
-	-	12468-PeCDD	28.57	1.257	1.257
-	-	124679-HxCDD	33.40	1.469	1.469
-	-	1234679-HpCDD	38.92	1.712	1.712
-	-	OCDD	44.27	1.947	1.947

PeCDFs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	38	13468	27.12	1.000	1.193
2	39	12468	27.12	1.000	1.193
3	41	13678	28.47	1.050	1.252
4	42	12467	28.52	1.052	1.254
5	43	13467	28.52	1.052	1.254
6	44	12368	28.52	1.052	1.254
7	45	13478	28.65	1.057	1.260
8	46	12478	28.65	1.057	1.260
9	47	23469	28.65	1.057	1.260
10	48	13479	28.85	1.064	1.269
11	49	12479	29.10	1.073	1.280
12	50	13469	29.10	1.073	1.280
13	51	12346	29.25	1.079	1.287
14	52	23468	29.25	1.079	1.287
15	53	12347	29.40	1.084	1.293
16	54	12469	29.40	1.084	1.293
17	55	12348	29.53	1.089	1.299
18	56	12378	29.75	1.097	1.309
19	57	12367	30.02	1.107	1.320
20	58	12678	30.02	1.107	1.320
21	59	12379	30.25	1.116	1.331
22	60	12679	30.70	1.132	1.350
23	61	23467	30.70	1.132	1.350
24	62	23478	30.87	1.138	1.358
25	63	12369	30.87	1.138	1.358
26	64	12489	30.97	1.142	1.362
27	65	12349	31.28	1.154	1.376
28	66	12389	32.13	1.185	1.413

HxCDFs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	67	123468	32.72	1.000	1.439
2	68	134678	32.95	1.007	1.449
3	69	124678	32.95	1.007	1.449
4	70	134679	33.25	1.016	1.463
5	71	124679	33.50	1.024	1.474
6	72	124689	33.78	1.033	1.486
7	73	123467	34.27	1.047	1.507
8	74	123478	34.40	1.051	1.513
9	75	123678	34.58	1.057	1.521
10	76	123479	34.82	1.064	1.532
11	77	123469	35.02	1.070	1.540
12	78	123679	35.15	1.074	1.546
13	79	234678	35.38	1.082	1.556
14	80	123689	35.38	1.082	1.556
15	81	123789	36.72	1.122	1.615
16	82	123489	36.72	1.122	1.615

HpCDFs

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	83	1234678	38.53	1.000	1.695
2	84	1234679	39.03	1.013	1.717
3	85	1234689	39.30	1.020	1.729
4	86	1234789	41.02	1.064	1.804

OCDF

Elution Order No.(A)	Elution Order No.(B)	Isomer	Retention Time(min.)	RRT (A)	RRT (B)
1	87	12346789	44.68	1.000	1.966