

中华人民共和国国家环境保护标准

HJ 759-2015

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Ambient air-Determination of volatile organic compounds- Collected by

		ii
1		1
2		1
3		1
4		1
5		2
6		2
7		4
8		6
9		7
10		7
11		8
A		9
B		11
C		27
D		29

/ -

A B~ D

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1

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4.4			5.6		4.3		4.8
	100 nmol/mol		20 d				
4.5	4-		1 μmol/mol		4.3		
		1.0 MPa	1				
4.6	4-			5.6	4-		4.5
	4.8	100 nmol/mol		20 d			
4.7		≥ 99.999%					
4.8		≥99.999%					
4.9		≥99.999%					
4.10							
5							
5.1	-						
			70 eV	EI	/		SIM
	/						
5.2		60 m × 0.25 mm	1.4 μm	6%		-94%	
5.3							
		-180				-50	
		-180				-	
		50	150				
5.4							
5.5			10 Pa				
5.6			1000				
5.7				3.2 L	6 L		241 kPa
5.8			100 L ~200 L				
5.9							
5.10		0.5 ml/min	10.0 ml/min	10 ml/min	500 ml/min		
5.11		≤ 7 kPa(1 psi),		: -101 kPa	202 kPa		
5.12		≤ 10 μm					
6							
6.1							
			5.5				

			10 Pa		
	20				
6.2					
				5.12	
			5.7	5.12	
				HJ/T 194	
			5.7		5.9
	5.12				
	HJ/T 194	5.7	3.2 L	6 L	1

1			
3.2 L		6 L	
ml/min		ml/min	
48 ml/min	1	90 ml/min	1
6.2 ml/min	8	12 ml/min	8
2.1 ml/min	24	3.8 ml/min	24

6.3					
			20		
6.4					
			5.11		83 kPa
	101 kPa	1			
	$f = \frac{Y_a}{X_a}$			1	
	f —				
	X_a —	kPa			
	Y_a —	kPa			

6.5					
6.5.1					
			5.7	5.6	
4.8	4.9			101 kPa	
6.5.2					

	4.8	4.9	5.7	5.7
7				
7.1				
7.1.1				
	400 ml		50 ml	1000 ml
		-150	100 ml/min	10
100	150	15 min		
		-15	10 ml/min	5 min
180	3.5 min	190	15 min	
		-160	2.5 min	200
5 min				
	120			
7.1.2				
	35			

96	95 5% 9%	177	176 5% 9%
173	174 2%		

7.3

7.3.1

10 nmol/mol 4.1 4.8

5.6

5.7 5.6

172 kPa

7.3.2

100 nmol/mol 4.3 7.3.1

7.3.3

50.0 ml 100 ml 200 ml 400 ml 600 ml 800 ml 4.2

50.0 ml 4.4 1.25 nmol/mol 2.5 nmol/mol

5.0 nmol/mol 10.0 nmol/mol 15.0 nmol/mol 20.0 nmol/mol

12.5 nmol/mol

$$\pm 3.0 \%$$

$$\pm 30 \%$$

$$4$$

$$RRT$$

$$RRT = \frac{RT_c}{RT_{is}}$$

$$RRT$$

$$RT_c$$

$$RT_{is}$$

$$5$$

$$\min$$

$$\min$$

$$\frac{\min}{RRT}$$

$$\frac{\overline{RRT}}{RRT} = \frac{\sum_i^n RRT_i}{n}$$

$$:$$

$$\overline{RRT}$$

$$RRT_i$$

$$n$$

$$6$$

$$Q = \frac{A_q}{A_t}$$

$$Q$$

$$A_t$$

$$A_q$$

$$Q$$

$$Q$$

$$(4)$$

$$(5)$$

$$(6)$$

$$7$$

$$C$$

$$\mu g / m^3$$

$$7$$

$$\rho = \frac{A_x}{A_{is}} \times \frac{\varphi_{is}}{RRF} \times \frac{M}{22.4} \times f$$

$$:$$

$$\rho$$

$$A_x$$

$$A_{is}$$

$$\mu g / m^3$$

$$7$$

[illegible]

10.3

20 s

60%~140%

10.4

5

RSD

30

10.5

24 h

30%

11

11.1

11.2

11.3

11.4

11.5

A

400 ml

,

A

A

A()

		$\mu\text{g}/\text{m}^3$	$\mu\text{g}/\text{m}^3$
32		0.3	1.2
33	1,2-	0.7	2.8
34		0.4	1.6
35		0.6	2.4
36	1,2-	0.6	2.4
37		0.5	2.0
38	1,4-	0.5	2.0
39		0.6	2.4
40	-1,3- -1-	0.6	2.4
41		0.6	2.4
42	4- -2-	0.6	2.4
43		0.5	2.0
44	-1,3- -1-	0.5	2.0
45	1,1,2-	0.5	2.0
46		1	4.0
47	2-	0.9	3.6
48		0.7	2.8
49	1,2-	2	8.0
50		0.7	2.8
51		0.6	2.4
52/53	/	0.6	2.4
54		0.6	2.4
55		0.6	2.4
56		0.9	3.6
57		1	4.0
58	4-	0.9	3.6
59	1,3,5-	1	4.0
60	1,2,4-	0.7	2.8
61	1,3-	0.5	2.0
62	1,4-	0.7	2.8
63		0.7	2.8
64	1,2-	2	8.0
65	1,2,4-	1	4.0
66	1,1,2,3,4,4- -1,3-	2	8.0
67		0.7	2.8

B

B.1

B.2

B.1

		nmol/mol	nmol/mol	%	%	^r μg/m ³	R μg/m ³
1		0.5	0.5	2.5~7.4	9.4	0.2	0.3
		2.5	2.4	2.5~9.6	7.9	1.0	1.4
		5.0	5.1	1.7~4.0	7.2	0.8	2.1
		20.0	19.8	1.0~5.7	7.3	3.1	8.2
2		0.5	0.5	1.9~4.8	4.8	0.3	0.4
		2.5	2.6	4.0~7.1	4.8	2.2	2.7
		5.0	4.7	1.5~2.2	4.7	1.4	3.6
		20.0	19.0	0.5~4.0	2.7	6.8	9.9
3	1,1,2,2- -1,2-	0.5	0.4	3.0~5.5	7.3	0.4	0.8
		2.5	2.7	3.6~6.0	4.9	2.8	3.8
		5.0	4.5	1.2~2.2	4.9	1.6	4.9
		20.0	18.3	0.8~2.1	5.7	9.6	23.7
4		0.5	0.5	1.9~6.0	8.6	0.2	0.3
		2.5	2.7	2.4~5.8	8.7	0.8	1.7
		5.0	4.8	1.7~6.6	5.3	0.9	1.8
		20.0	18.9	1.2~1.4	7.2	1.6	8.7
5		0.5	0.5	4.5~5.6	6.2	0.2	0.3
		2.5	2.8	3.0~5.4	8.5	1.0	2.1
		5.0	4.8	1.7~4.3	4.5	1.6	2.2
		20.0	19.3	0.7~3.4	5.5	3.0	8.6

B.1 ()

				r	R
	nmol/mol	nmol/mol	%	%	$\mu\text{g}/\text{m}^3$
6	0.5	0.5	2.5~5.8	7.3	0.2
	2.5	2.8	1.8~5.8	9.1	0.9
	5.0	4.8	1.8~4.7	4.8	1.0
	20.0	19.3	0.9~5.5	4.3	3.6
	0.5	0.5	4.2~7.8	9.5	0.2
7					0.4

B.1 ()

		nmol/mol	nmol/mol	%	%	^r μg/m ³	^R μg/m ³
13	1,1-	0.5	0.5	3.3~7.4	6.5	0.3	0.5
		2.5	2.5	1.6~6.0	12.9	1.4	4.2
		5.0	4.6	0.7~7.2	5.9	2.0	3.7
		20.0	18.2	3.6~7.7	4.7	13.9	16.3
14		0.5	0.5	4.1~9.7	10.0	0.24	0.4
		2.5	2.5	2.1~5.7	11.3	0.8	2.2
		5.0	4.7	2.1~7.0	8.0	1.8	3.2
		20.0	20.7	1.1~6.4	9.0	5.9	14.5
15		0.5	0.5	5.4~10.1	8.0	0.3	0.4
		2.5	2.4	1.3~8.9	7.5	1.0	1.7
		5.0	5.0	1.4~5.7	3.7	1.6	2.1
		20.0	19.5	2.3~7.1	7.9	6.7	13.5
16		0.5	0.5	8.3~13.1	9.9	0.4	0.5
		2.5	2.6	3.3~9.6	10.7	1.2	2.3
		5.0	5.0	2.6~6.4	3.7	1.7	2.1
		20.0	18.5	1.6~8.2	4.3	7.9	9.4
17		0.5	0.5	3.9~7.7	8.9	0.3	0.5
		2.5	2.6	1.3~5.6	6.4	1.1	1.9
		5.0	4.8	0.6~3.4	4.3	1.0	2.2
		20.0	18.8	0.8~5.7	2.1	7.1	7.5
18		0.5	0.5	4.1~8.5	8.1	0.3	0.5
		2.5	2.4	1.0~5.3	6.1	1.0	1.8
		5.0	5.0	0.6~5.3	4.3	1.7	2.8
		20.0	19.1	0.7~6.3	3.5	9.2	10.9
19	1,2-	0.5	0.5	2.3~7.6	9.4	0.3	0.6
		2.5	2.4	1.4~5.5	6.2	1.3	2.2
		5.0	4.7	0.6~2.6	2.7	1.0	1.8
		20.0	19.0	1.1~4.7	4.4	5.5	11.1

B.1 ()

		nmol/mol	nmol/mol	%	%	r μg/m ³	R μg/m ³
20	2- -	0.5	0.5	1.3~6.3	9.9	0.3	0.6
		2.5	2.5	1.3~6.2	9.1	1.3	2.8
		5.0	4.7	0.6~6.2	3.2	2.0	2.5
		20.0	18.0	2.7~7.4	7.2	11.7	17.9
21		0.5	0.5	1.6~5.2	5.0	0.2	0.3
		2.5	2.3	1.8~7.9	4.8	1.3	1.7
		5.0	4.9	0.6~3.8	3.5	1.2	2.1
		20.0	19.1	1.4~3.1	4.8	4.5	10.7
22	1,1-	0.5	0.5	6.0~8.5	11.4	0.4	0.8
		2.5	2.4	4.9~7.3	9.5	1.8	3.2
		5.0	4.8	0.7~8.6	5.4	2.9	4.2
		20.0	19.5	1.4~5.4	2.9	8.6	10.6
23		0.5	0.5	4.4~7.7	8.5	0.3	0.5
		2.5	2.4	1.1~5.7	6.1	1.1	1.9
		5.0	4.7	0.8~7.1	5.4	1.8	3.2
		20.0	19.3	1.2~5.1	3.0	8.6	10.0
24	2-	0.5	0.5	2.6~9.0	10.1	0.3	0.5
		2.5	2.4	4.1~6.3	9.7	1.3	2.4
		5.0	5.0	1.4~3.2	3.4	1.1	1.8
		20.0	19.3	1.3~5.8	3.6	5.1	7.8
25	1,2-	0.5	0.5	4.8~6.2	3.9	0.3	0.4
		2.5	2.5	3.3~6.3	4.4	1.6	2.0
		5.0	5.0	0.6~4.7	3.3	1.5	2.5
		20.0	18.7	1.3~7.5	2.9	14.2	14.5
26		0.5	0.5	3.6~9.1	8.6	0.4	0.6
		2.5	2.4	2.1~7.8	7.5	1.4	2.3
		5.0	4.6	2.6~5.9	3.2	1.9	2.4
		20.0	19.1	1.4~5.5	3.4	6.4	9.3

B.1 ()

		nmol/mol	nmol/mol	%	%	^r μg/m ³	^R μg/m ³
27		0.5	0.5	3.1~11.4	11.1	0.3	0.6
		2.5	2.3	3.5~6.6	9.5	1.1	2.2
		5.0	5.0	3.2~4.7	4.5	1.7	2.6
		20.0	19.3	1.4~5.2	8.2	6.9	15.6
28		0.5	0.5	2.1~5.6	6.3	0.3	0.6
		2.5	2.3	1.5~5.9	4.5	1.6	2.1
		5.0	4.8	0.6~5.2	4.2	2.1	3.6
		20.0	18.9	2.2~5.0	6.9	10.9	21.5
29	1,1,1-	0.5	0.5	2.1~3.7	4.7	0.2	0.4
		2.5	2.5	2.2~9.1	6.3	2.2	3.3
		5.0	4.7	0.6~2.7	2.7	1.1	2.4
		20.0	19.4	0.8~3.9	3.8	9.4	14.9
30		0.5	0.5	2.3~6.4	6.2	0.2	0.4
		2.5	2.6	3.3~6.3	8.3	1.5	2.6
		5.0	4.8	0.7~3.7	5.7	1.0	3.0
		20.0	18.9	0.7~4.0	5.8	5.0	12.4
31		0.5	0.5	2.6~7.8	11.3	0.5	1.1
		2.5	2.4	5.6~6.8	8.5	3.0	4.8
		5.0	4.8	0.6~3.8	2.8	1.9	3.1
		20.0	19.1	1.0~3.6	6.2	9.9	24.2
32		0.5	0.6	2.8~4.7	8.9	0.2	0.5
		2.5	2.5	2.3~6.2	5.2	1.2	1.6
		5.0	5.0	1.2~2.3	3.2	1.0	1.8
		20.0	19.4	1.4~4.1	3.9	5.2	8.7
33	1,2-	0.5	0.5	2.9~8.5	8.9	0.4	0.6
		2.5	2.5	4.0~7.0	8.0	1.7	2.9
		5.0	4.7	0.4~1.9	3.8	0.6	2.3
		20.0	19.2	0.9~3.3	2.5	6.9	8.7

B.1 ()

nmol/mol

nmol/mol

B.1 ()

		nmol/mol	nmol/mol	%	%	^r μg/m ³	^R μg/m ³
41		0.5	0.5	2.9~8.8	11.3	0.4	0.7
		2.5	2.6	3.2~6.6	10.2	1.6	3.5
		5.0	4.3	0.7~6.5	4.6	1.9	1.9
		20.0	19.5	1.0~5.2	3.0	8.1	10.1
42	4- -2-	0.5	0.5	2.2~10.2	8.6	0.3	0.6
		2.5	2.4	3.0~6.8	6.9	1.7	2.6
		5.0	4.8	0.6~2.9	4.6	1.2	3.0
		20.0	19.1	1.2~3.5	3.4	8.5	11.2
43		0.5	0.5	1.6~4.7	6.9	0.2	0.4
		2.5	2.4	1.8~4.9	4.8	1.1	1.6
		5.0	4.3	0.7~3.2	2.7	0.5	1.0
		20.0	19.4	0.9~3.8	4.6	4.5	11.0
44	-1,3- -1-	0.5	0.5	0.8~4.6	10.4	0.2	0.7
		2.5	2.4	2.0~6.1	7.6	1.6	2.9
		5.0	5.0	0.6~5.2	4.0	2.2	2.9
		20.0	20.3	1.0~2.9	5.0	5.4	14.9
45	1,1,2-	0.5	0.5	1.6~6.0	7.5	0.3	0.6
		2.5	2.4	1.9~6.3	4.8	1.9	2.5
		5.0	4.9	0.6~2.7	4.0	1.4	3.5
		20.0	20.1	0.9~2.8	5.0	8.1	18.1
46		0.5	0.5	2.7~7.9	5.6	0.4	0.7
		2.5	2.5	1.6~5.3	4.2	2.2	3.0
		5.0	4.9	0.6~5.6	3.7	3.0	3.9
		20.0	20.2	1.9~3.3	1.2	10.4	10.5
47	2-	0.5	0.5	4.2~7.9	11.2	0.3	0.7
		2.5	2.4	4.2~6.8	8.7	1.7	3.0
		5.0	5.2	0.6~3.8	3.0	0.6	2.0
		20.0	19.8	0.4~5.0	1.1	7.3	8.0

B.1 ()

		nmol/mol	nmol/mol	%	%	^r μg/m ³	^R μg/m ³
48		0.5	0.5	1.2~6.8	8.2	0.5	1.1
		2.5	2.3	1.9~4.6	7.3	2.5	4.9
		5.0	4.5	0.7~2.8	7.9	2.0	9.3
		20.0	18.9	1.0~3.2	1.5	12.7	13.4
49	1,2-	0.5	0.5	1.5~6.4	12.3	0.4	1.4
		2.5	2.4	2.2~5.9	8.9	2.5	5.4
		5.0	4.3	0.8~5.9	4.6	3.3	5.5
		20.0	18.3	0.6~4.4	3.8	9.0	18.0
50		0.5	0.5	1.1~7.6	10.8	0.3	0.8
		2.5	2.6	2.4~6.2	6.8	1.7	2.9
		5.0	5.0	0.6~3.9	2.4	1.9	2.4
		20.0	19.4	0.5~4.6	3.9	9.3	13.7
51		0.5	0.5	0.9~5.5	9.9	0.2	0.7
		2.5	2.5	3.7~5.7	5.6	1.6	2.4
		5.0	5.0	1.4~3.5	3.3	1.9	2.8
		20.0	19.3	0.6~4.8	4.0	7.5	12.3
52		0.5	0.4	2.8~5.7	7.5	0.3	0.5
		2.5	2.7	1.2~5.1	5.1	1.4	2.2
		5.0	5.1	0.8~4.2	5.4	2.0	4.1
		20.0	19.7	2.2~3.3	2.2	7.5	8.9
53		0.5	0.4	2.8~5.7	7.5	0.3	0.5
		2.5	2.7	1.2~5.1	5.1	1.4	2.2
		5.0	5.1	0.8~4.2	5.4	2.0	4.1
		20.0	19.7	2.2~3.3	2.2	7.5	8.9
54		0.5	0.4	2.4~5.6	8.9	0.3	0.6
		2.5	2.4	1.2~7.1	7.0	1.4	2.6
		5.0	5.0	0.8~4.7	5.5	2.1	4.1
		20.0	20.1	1.3~3.5	1.2	6.3	7.3

B.1 ()

		nmol/mol	nmol/mol	%	%	^r μg/m ³	^R μg/m ³
55		0.5	0.5	1.6~6.0	8.0	0.2	0.5
		2.5	2.7	1.5~5.2	5.7	1.4	2.4
		5.0	4.9	0.8~4.2	4.9	1.9	3.5
		20.0	20.1	2.4~6.3	1.9	9.3	9.9
56		0.5	0.5	2.5~8.0	8.8	0.7	1.5
		2.5	2.7	1.8~5.3	6.6	3.1	6.2
		5.0	4.8	0.6~3.3	3.3	2.8	5.5
		20.0	19.7	1.0~4.2	1.7	13.0	15.8
57		0.5	0.5	1.8~7.6	7.5	0.5	0.9
		2.5	2.5	1.2~4.9	6.1	2.0	3.6
		5.0	5.0	0.6~3.7	2.6	2.4	3.5
		20.0	20.0	0.7~3.5	1.9	11.9	13.4
58	4-	0.5	0.4	1.4~5.1	6.4	0.2	0.5
		2.5	2.6	1.1~5.2	5.4	1.5	2.5
		5.0	5.1	0.6~3.5	1.7	2.1	2.3
		20.0	20.0	0.8~5.2	1.8	9.2	9.9
59	1,3,5-	0.5	0.5	0.9~6.4	9.6	0.3	0.7
		2.5	2.8	2.1~5.4	5.5	1.8	2.8
		5.0	5.1	1.4~3.5	3.0	1.9	2.9
		20.0	19.7	0.5~4.8	1.7	8.3	9.2
60	1,2,4-	0.5	0.5	0.9~7.8	8.4	0.5	0.7
		2.5	2.6	1.3~5.2	5.5	1.6	2.6
		5.0	4.6	0.7~3.1	3.1	1.3	2.4
		20.0	19.7	1.8~6.0	1.7	10.6	10.9
61	1,3-	0.5	0.5	2.2~6.9	4.0	0.4	0.5
		2.5	2.6	2.5~7.3	6.4	2.4	3.8
		5.0	4.9	0.6~3.7	2.5	1.9	2.8
		20.0	19.8	1.5~5.1	1.4	9.8	10.3

B.1 ()

		nmol/mol	nmol/mol	%	%	^r μg/m ³	^R μg/m ³
62	1,4-	0.5	0.5	1.7~5.9	12.2	0.4	1.2
		2.5	2.5	0.6~6.1	7.2	1.9	3.7
		5.0	4.7	0.6~3.7	6.0	1.9	5.4
		20.0	19.5	0.7~7.2	3.0	9.3	11.1
63		0.5	0.4	3.1~8.8	2.8	0.4	0.4
		2.5	2.4	2.2~6.1	4.0	1.9	2.3
		5.0	4.9	0.8~3.3	3.4	1.6	3.0
		20.0	19.9	1.0~5.3	3.1	9.9	13.2
64	1,2-	0.5	0.4	2.3~6.3	4.5	0.3	0.5
		2.5	2.6	3.1~5.3	5.4	2.1	3.2
		5.0	4.9	0.6~2.3	2.1	1.4	2.3
		20.0	19.7	1.2~4.3	1.7	7.9	9.4
65	1,2,4-	0.5	0.5	3.5~8.8	8.4	0.7	1.1
		2.5	2.5	1.3~5.1	6.5	2.3	4.2
		5.0	4.5	0.7~5.5	5.3	2.9	5.9
		20.0	19.9	2.2~5.6	2.7	16.5	19.3
66	1,1,2,3,4,4- -1,3-	0.5	0.5	1.3~4.4	4.3	0.5	0.8
		2.5	2.4	1.6~5.2	5.5	3.3	5.3
		5.0	4.9	0.8~3.3	2.6	3.3	5.1
		20.0	19.4	0.9~3.9	2.1	18.1	21.0
67		0.5	0.4	4.1~7.7	5.8	0.4	0.5
		2.5	2.5	2.6~7.0	5.2	2.1	2.8
		5.0	5.0	0.5~3.5	4.4	1.8	3.9
		20.0	19.4	0.6~4.9	3.6	9.4	14.2

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B.2

	nmol/mol	$\overline{P\%}$	S_p^-	$\overline{p\%} \pm 2 S_p^-$
	2.5	83.3	1.6	83.3±3.2
	5.0	88.3	1.7	88.3±3.3
	20.0	89.5	1.7	89.5±3.4
	2.5	88.6	1.6	88.6±3.2
	5.0	93.9	1.7	93.9±3.4
	20.0	95.3	1.7	95.3±3.4
1,1,2,2- -1,2-	2.5	81.3	1.6	81.3±3.2
	5.0	86.2	1.7	86.2±3.3
	20.0	87.4	1.7	87.4±3.4
	2.5	89.9	1.6	89.9±3.2
	5.0	95.3	1.7	95.3±3.4
	20.0	96.6	1.7	96.6±3.4
	2.5	82.7	2.2	82.7±4.4
	5.0	87.2	1.8	87.2±3.6
	20.0	88.4	1.8	88.4±3.6
	2.5	81.5	1.6	81.5±3.2
	5.0	96.1	1.7	96.1±3.4
	20.0	104	1.7	104±3.4
	2.5	83.2	1.6	83.2±3.2
	5.0	88.2	1.7	88.2±3.4
	20.0	89.5	1.7	89.5±3.4
	2.5	83.4	1.6	83.4±3.2
	5.0	88.4	1.7	88.4±3.4
	20.0	89.7	1.7	89.7±3.4
	2.5	81.6	1.5	81.6±2.9
	5.0	86.5	1.5	86.5±3.1
	20.0	87.7	1.6	87.7±3.1
	2.5	80.7	1.6	80.7±3.1
	5.0	85.6	1.7	85.6±3.3
	20.0	86.8	1.7	86.8±3.4
	2.5	83.9	1.6	83.9±3.2
	5.0	88.9	1.7	88.9±3.4
	20.0	90.2	1.7	90.2±3.5
1,2,2- -1,1,2-	2.5	84.4	1.6	84.4±3.2
	5.0	89.5	1.7	89.5±3.3
	20.0	90.7	1.7	90.7±3.4
1,1-	2.5	89.1	1.6	89.1±3.2
	5.0	96.0	1.7	96.0±3.4
	20.0	98.4	1.7	98.4±3.4

B.2()

nmol/mol	$\overline{\overline{P\%}}$	S_p^-	$\overline{\overline{p\%}} \pm 2 S_p^-$
2.5	83.7	1.6	83.7±3.2
5.0	92.1	1.7	92.1±3.4
20.0	95.7	1.7	95.7±3.4
2.5	84.0	1.6	84.0±3.1
5.0	89.1	1.7	89.1±3.3
20.0	90.3	1.7	90.3±3.4
2.5	90.8	1.5	90.8±3.0
5.0	96.3	1.6	96.3±3.2
20.0	97.6	1.6	97.6±3.3
2.5	90.8	1.6	90.8±3.2
5.0	95.6	1.2	95.6±2.4
20.0	94.7	0.7	94.7±1.3
2.5	88.4	1.6	88.4±3.2
5.0	93.7	1.7	93.7±3.3
20.0	95.0	1.7	95.0±3.4
2.5			

1,2-

B.2()

	nmol/mol	$\overline{\overline{P\%}}$	S_p^-	$\overline{\overline{p\%}} \pm 2 S_p^-$
	2.5	85.4	1.6	85.4±3.2
	5.0	90.5	1.7	90.5±3.4
	20.0	91.8	1.7	91.8±3.4
	2.5	88.9	1.4	88.9±2.8
	5.0	106	1.5	106±3.0
	20.0	97.6	1.8	97.6±3.6
1,1,1-	2.5	93.7	1.6	93.7±3.2
	5.0	99.4	1.7	99.4±3.4
	20.0	101	1.7	101±3.4
	2.5	84.4	1.6	84.8±3.2
	5.0	89.9	1.7	89.9±3.4
	20.0	91.2	1.7	91.2±3.4
	2.5	86.3	1.6	86.3±3.2
	5.0	91.5	1.7	91.5±3.4
	20.0	92.8	1.7	92.8±3.4
	2.5	81.1	2.1	81.1±4.2
	5.0	95.4	2.7	95.4±5.4
	20.0	98.6	1.4	98.6±2.8
1,2-	2.5	88.8	1.6	88.8±3.2
	5.0	94.1	1.6	94.1±3.2
	20.0	95.4	1.7	95.4±3.4
	2.5	84.8	1.6	84.8±3.2
	5.0	89.9	1.7	89.9±3.7
	20.0	91.2	1.7	91.2±3.7
	2.5	95.8	1.6	95.8±3.2
	5.0	109	1.7	109±3.4
	20.0	105	1.7	105±3.4
1,2-	2.5	90.0	1.6	90.0±3.2
	5.0	86.0	4.7	86.0±9.4
	20.0	97.9	1.8	97.9±3.6
	2.5	88.6	1.3	88.6±2.6
	5.0	94.0	1.3	94.0±2.6
	20.0	95.3	1.3	95.3±2.6
1,4-	2.5	89.6	1.6	89.6±3.2
	5.0	95.0	1.7	95.0±3.4
	20.0	96.3	1.7	96.3±3.4
	2.5	83.3	1.6	83.3±3.2
	5.0	88.3	1.7	88.3±3.4
	20.0	89.6	1.7	89.6±3.4

B.2()

	nmol/mol	$\overline{P\%}$	S_p^-	$\overline{p\%} \pm 2 S_p^-$
-1,3- -1-	2.5	83.0	1.5	83.0±3.0
	5.0	88.0	1.6	88.0±3.2
	20.0	89.2	1.6	89.2±3.2
	2.5	82.2	1.6	82.2±3.2
	5.0	87.1	1.7	87.1±3.4
	20.0	88.4	1.7	88.4±3.4
4- -2-	2.5	83.5	1.6	83.5±3.2
	5.0	88.5	1.7	88.5±3.4
	20.0	89.7	1.7	89.7±3.4
	2.5	98.9	2.2	98.9±4.4
	5.0	91.9	2.2	91.9±4.4
	20.0	98.6	5.8	98.6±11.6
-1,3- -1-	2.5	85.5	1.6	85.5±3.2
	5.0	90.6	1.7	90.6±3.4
	20.0	91.9	1.7	91.9±3.4
1,1,2-	2.5	85.7	1.6	85.7±3.2
	5.0	90.8	1.7	90.8±3.4
	20.0	92.1	1.7	92.1±3.4
	2.5	88.1	1.6	88.1±3.2
	5.0	93.4	1.7	93.4±3.4
	20.0	94.7	1.7	94.7±3.4
2-	2.5	89.1	1.6	89.1±3.2
	5.0	94.4	1.7	94.4±3.4
	20.0	95.8	1.7	95.8±3.4
	2.5	87.2	1.6	87.2±3.2
	5.0	92.4	1.7	92.4±3.4
	20.0	93.8	1.7	93.8±3.4
1,2-	2.5	85.6	1.6	85.6±3.2
	5.0	90.8	1.7	90.8±3.4
	20.0	92.0	1.7	92.0±3.4
	2.5	91.6	1.6	91.6±3.2
	5.0	94.9	1.7	94.9±3.4
	20.0	93.8	1.7	93.8±3.4
	2.5	84.0	1.6	84.0±3.2
	5.0	89.1	1.7	89.1±3.4
	20.0	90.3	1.7	90.3±3.4
	2.5	85.7	1.6	85.7±3.2
	5.0	90.9	1.7	90.9±3.4
	20.0	92.1	1.7	92.1±3.4
	2.5	85.7	1.6	85.7±3.2
	5.0	90.9	1.7	90.9±3.4

B.2()

	nmol/mol	$\overline{P\%}$	S_p^-	$\overline{p\%} \pm 2 S_p^-$
	20.0	92.1	1.7	92.1±3.4
	2.5	86.9	1.6	86.9±3.2
	5.0	92.2	1.7	92.2±3.4
	20.0	93.5	1.7	93.5±3.4
	2.5	85.0	1.6	85.0±3.2
	5.0	90.1	1.7	90.1±3.4
	20.0	91.4	1.7	91.4±3.4
	2.5	79.7	1.6	79.7±3.2
	5.0	84.5	1.7	84.5±3.4
	20.0	85.7	1.7	85.7±3.4
	2.5	84.1	1.6	84.1±3.2
	5.0	89.1	1.7	89.1±3.4
	20.0	90.4	1.7	90.4±3.4
4-	2.5	84.5	1.6	84.5±3.2
	5.0	89.9	0.8	89.9±1.6
	20.0	90.8	1.7	90.8±3.4
1,3,5-	2.5	88.1	1.6	88.1±3.2
	5.0	91.7	0.8	91.7±1.6
	20.0	94.7	1.7	94.7±3.4
1,2,4-	2.5	82.9	1.6	82.9±3.2
	5.0	87.8	1.7	87.8±3.4
	20.0	89.1	1.7	89.1±3.4
1,3-	2.5	91.0	1.7	91.0±3.4
	5.0	94.0	1.2	94.0±2.4
	20.0	87.4	1.0	87.4±2.0
1,4-	2.5	83.3	1.7	83.3±3.4
	5.0	93.0	1.8	93.0±3.6
	20.0	89.1	1.0	89.1±2.0
	2.5	92.0	1.6	92.0±3.2
	5.0	97.5	1.7	97.5±3.4
	20.0	98.9	1.7	98.9±3.4
1,2-	2.5	94.5	1.6	94.5±3.2
	5.0	99.7	0.9	99.7±1.8
	20.0	91.0	1.7	91.0±3.4
1,2,4-	2.5	95.7	1.6	95.7±3.2
	5.0	102	1.7	102±3.4
	20.0	92.4	1.7	92.4±3.4
1,1,2,3,4,4- -1,3-	2.5	85.1	1.6	85.1±3.2
	5.0	90.3	1.7	90.3±3.4
	20.0	91.5	1.7	91.5±3.4

B.2()

	nmol/mol	$\overline{\overline{P}}\%$	S_p^-	$\overline{\overline{p}}\% \pm 2 S_p^-$
	2.5	91.2	1.7	91.2±3.2
	5.0	88.8	4.0	88.8±8.0
	20.0	81.9	0.9	81.9±1.8

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C

C

CAS

C

	min		,g/mol			CAS NO.
1	14.76	1	128	130	128,93	74-97-5
2	5.87		42	41	42,39	115-07-1
3	5.99		120	85	87,101	75-71-8
4	6.44	1,1,2,2- -1,2-	170	85	135,137,87	76-14-2
5	6.59		50	50	52	74-87-3
6	6.95		62	62	64,63	75-01-4
7	7.08		54	54	53,39	106-99-0
8	7.70		48	47	48,45	74-93-1
9	7.96		94	94	96,93,91	74-83-9
10	8.25		64	64	66,49	75-00-3
11	8.95		136	101	103,105	75-69-4
12	10.07		56	56	55,38	107-02-8
13	10.27	1,2,2- -1,1,2-	186	101	151,85	76-13-1
14	10.28	1,1-	96	61	96,98	75-35-4
15	10.45		58	43	58	67-64-1
16	10.57		62	62	47,45	75-18-3
17	10.80		60	45	43	67-63-0
18	10.82		76	76	78,77	75-15-0
19	11.44		84	49	86,84	75-09-2
20	12.06	1,2-	96	96	98,61	156-59-2
21	12.06	2- -	88	73	57,41	1634-04-4
22	12.62		86	57	41,86	110-54-3
23	13.00	1,1-	98	63	65,98	75-34-3
24	13.07		86	43	86	108-05-4
25	14.24	2-	72	43	72,57	78-93-3
26	14.27	1,2-	96	96	98,61	156-60-5
27	14.35		88	43	61,45	141-78-6
28	14.88		72	42	71,72,41	109-99-9
29	16.84	1,2- 2	114	114	88,63	367-11-3
30	14.90		118	83	85,47	67-66-3
31	15.32	1,1,1-	132	97	61,117	71-55-6
32	15.43		84	56	69,84	110-82-7
33	15.66		152	117	119,121	56-23-5

C()

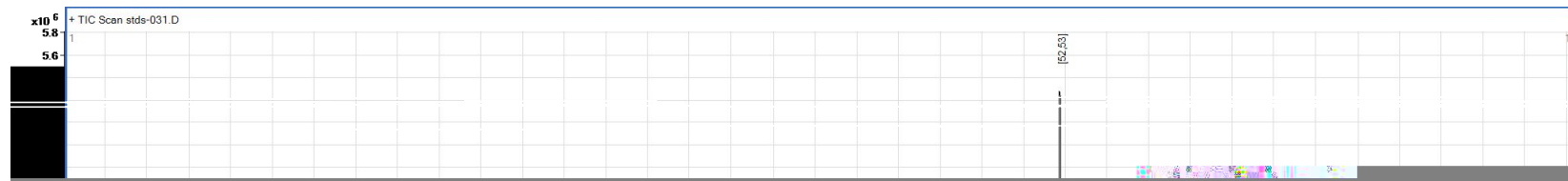
	,min					CAS NO.
34	16.11		78	78	77,52	71-43-2
35	16.14	1,2-	98	62	64,49	107-06-2
36	16.54		100	43	57,71	142-82-5
37	17.43		130	130	132,95,60	79-01-6
38	17.94	1,2-	112	63	76,41	78-87-5
39	18.07		100	69	41,39,100	80-62-6
40	18.21	1,4-	88	88	58,43	123-91-1
41	18.50		162	83	129,47	75-27-4
42	19.45	-1,3- -1-	110	75	110,39	10061-01-5
43	19.68		94	94	79,45	624-92-0
44	19.75	4- -2-	100	43	58,85,100	108-10-1
45	20.20		92	91	92	108-88-3
46	20.64	-1,3- -1-	110	75	110,39	10061-02-6
47	21.08	1,1,2-	132	97	83,61	79-00-5
48	21.43		164	166	131,94	127-18-4
49	21.58	2-	100	43	58,100	591-78-6
50	22.00		206	129	127,131	124-48-1
51	22.31	1,2-	186	107	109	106-93-4
52	23.33	-d5 3	117	117	82,119	3114-55-4
53	23.40		112	112	77,114	108-90-7
54	23.60		106	91	106	100-41-4
55	23.86		106	91	106,104	108-38-3
56	23.86		106	91	106,104	106-42-3
57	24.81		106	91	106,104	95-47-6
58	24.84		104	104	78,51	100-42-5
59	25.34		250	173	171,175	75-25-2
60	26.37		166	83	85,131,94	79-34-5
61	26.92	4-	120	105	120,91	622-96-8
62	27.07	1,3,5-	120	105	120,77	108-67-8
63	27.99	1,2,4-	120	105	120,77	95-63-6
64	28.75	1,3-	146	146	111,148	541-73-1
65	28.96	1,4-	146	146	111,148	106-46-7
66	29.28		126	91	126,65	100-44-7
67	29.92	1,2-	146	146	111,148	95-50-1
68	34.54	1,2,4-	180	180	145,182	120-82-1
69	34.96	1,1,2,3,4,4- -1,3-	258	225	190,118,260	87-68-3
70	35.24		128	128	64	465-73-6

D

D

7.1

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,min

1-	2-	3-1,1,2,2-		-1,2-	4-	5-	6-	7-	8-	9-	10-	11-	12-1,2,2-	-1,1,2-
	13-1,1-	14-	15-	16-	17-	18-	19-	1,2-	20-2-	-	21-	22- 1,1-	23-	
	24-2-	25-	1,2-	26-	IS ₁ -	27-	28-	29-1,1,1-	30-	31-	32-	33-1,2-		
34-	IS ₂ -1,2-	35-	36-1,2-	37-	38-1,4-	39-	40-	-1,3-	-1-	41-	42-4-	-2-		
43-	44-	-1,3-	-1-	45-1,1,2-	46-	47-2-	48-	49-1,2-	IS ₃ -	-d5	50-	51-	52/ 53-	/
54-	55-	56-	57-	58-4-	59-1,3,5-	60-1,2,4-	61-1,3-	62-1,4-	63-	64-1,2-				
				65-1,2,4-	66-1,1,2,3,4,4-	-1,3-	67-							

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