

Summary of laboratory means

Sample 1

Laboratory	n-Butyl acetate	Z score	n-Heptane	Z score	Toluene	Z score	p-Xylene	Z score	n-Dodecane	Z score	n-Tetradecane	Z score
Unit	$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	
–	–	–	–	–	–	–	–	–	–	–	–	–
28	84,18	13,49	30,59	0,58	73,15	9,36	69,71	9,26	29,48	5,64	32,59	2,53
30												
34	22,75	-1,22	24,69	-0,82	24,45	-1,31	23,51	-1,30	14,39	-0,66	20,87	-0,78
46	21,70	-1,47	18,15	-2,36			21,20	-1,82	10,70	-2,20	15,65	-2,25
52	29,70	0,44	27,25	-0,21	30,20	-0,05	30,55	0,31	14,90	-0,45	16,90	-1,90
54					33,50	0,67	31,50	0,53	15,00	-0,41	19,00	-1,31
60	24,70	-0,75	28,95	0,20	27,40	-0,66	26,55	-0,60	18,35	0,99	22,40	-0,35
61	30,35	0,60	33,60	1,30	42,75	2,70	31,85	0,61	16,40	0,18	21,20	-0,69
68	27,75	-0,02	31,50	0,80	33,45	0,66	30,45	0,29	18,10	0,89	25,70	0,58
87												
92	38,10	2,45			40,30	2,16	42,70	3,09	32,10	6,73	30,60	1,97
95	25,20	-0,63	26,50	-0,38	25,00	-1,19	23,75	-1,24	13,95	-0,84	18,05	-1,57
104	25,10	-0,66	30,10	0,47	26,00	-0,97	25,50	-0,84	17,45	0,62	25,40	0,50
135	28,10	0,06	28,85	0,17	31,65	0,27	29,00	-0,04	16,50	0,22	25,85	0,63
145	44,50	3,99	25,50	-0,62	29,00	-0,31	23,50	-1,30	14,00	-0,82	19,00	-1,31
153	28,45	0,14	30,76	0,62	31,11	0,15	30,66	0,34	18,25	0,95	28,43	1,35
155	34,35	1,56	39,65	2,73	39,15	1,91	37,75	1,96	19,95	1,66	30,75	2,01
172	30,50	0,64	34,00	1,39	29,50	-0,20	34,00	1,10	17,50	0,64	27,00	0,95
175			16,50	-2,76	27,50	-0,64	30,50	0,30	15,00	-0,41	27,00	0,95
186	27,40	-0,11	31,70	0,85	34,45	0,88	30,60	0,32	16,85	0,37	20,80	-0,80
192	23,27	-1,10	29,95	0,43	25,87	-1,00	25,83	-0,77	13,10	-1,20	18,20	-1,53
194			18,50	-2,28	22,60	-1,72	23,90	-1,21	15,00	-0,41	24,00	0,10
208	25,50	-0,56	29,50	0,33	23,50	-1,52	26,50	-0,61	13,50	-1,03	20,00	-1,02
237	31,40	0,85	22,30	-1,38	31,45	0,22	32,55	0,77	19,55	1,49	29,30	1,60
267	26,00	-0,44	36,00	1,87	30,00	-0,09	30,00	0,19	18,00	0,85	26,00	0,67
–	–	–	–	–	–	–	–	–	–	–	–	–

Laboratory	n-Butyl acetate	Z score	n-Heptane	Z score	Toluene	Z score	p-Xylene	Z score	n-Dodecane	Z score	n-Tetradecane	Z score
Assessment	Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00	
Mean	27,85		28,12		30,43		29,18		15,97		23,63	
Reproducibility s.d.	4,45		5,95		5,79		5,24		2,59		5,01	
Rel. reproducibility s.d.	15,99 %		21,17 %		19,02 %		17,95 %		16,20 %		21,20 %	
Reference value	24,89		29,28		26,08		25,47		15,56		22,71	
Target s.d.	4,18		4,22		4,56		4,38		2,40		3,54	
Rel. target s.d.	15,00 %		15,00 %		15,00 %		15,00 %		15,00 %		15,00 %	
Lower limit of tolerance	19,49		19,69		21,30		20,43		11,18		16,54	
Upper limit of tolerance	36,20		36,56		39,56		37,93		20,77		30,72	
Type E outliers	4		8		7		5		7		7	
Type F outliers	0		0		0		0		1		0	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	18		21		21		22		21		23	

Explanation of outlier types

A: Single outlier

B: Differing laboratory mean

C: excessive laboratory s.d.

D: Excluded manually

E: score outside tolerance limits

F: |Score|>3,5

Laboratory	n-Butoxyethanol	Z score	1,2,3-Trimethylbenzene	Z score	3-Carene	Z score	Decamethylcyclopentasiloxane	Z score
Unit	µg/m ³		µg/m ³		µg/m ³		µg/m ³	
–	–	–	–	–	–	–	–	–
28	24,89	-0,39	30,80	1,15	25,25	1,57	20,70	0,34
30								
34	27,17	0,18	23,42	-0,73	18,91	-0,50	16,99	-0,92
46	21,10	-1,35	17,10	-2,33	13,30	-2,33	15,50	-1,42

Laboratory	n-Butoxyethanol	Z score	1,2,3-Trimethylbenzene	Z score	3-Carene	Z score	Decamethylcyclopentasiloxane	Z score
52	26,35	-0,03	26,80	0,13	24,75	1,40	18,50	-0,41
54			22,00	-1,09	18,00	-0,80	7,50	-4,13
60	12,60	-3,49	26,80	0,13	15,55	-1,60	13,40	-2,13
61	25,45	-0,25	25,05	-0,31	21,65	0,39	21,45	0,59
68	31,80	1,35	28,10	0,46	23,40	0,96	22,50	0,95
87								
92	31,80	1,35	34,60	2,11	25,15	1,53	19,00	-0,24
95	23,40	-0,77			12,70	-2,53	16,30	-1,15
104	35,10	2,18	22,35	-1,00	17,55	-0,94	24,85	1,74
135	30,80	1,10	25,60	-0,17	21,35	0,30	23,85	1,40
145	29,00	0,64	23,00	-0,83	17,50	-0,96	31,00	3,82
153	26,83	0,09	26,70	0,10	20,99	0,18	20,72	0,34
155	35,25	2,22	30,50	1,07	23,75	1,08	24,85	1,74
172	22,00	-1,12	28,50	0,56	23,50	1,00	21,00	0,44
175			29,00	0,69	19,00	-0,47	31,00	3,82
186	20,65	-1,46	30,45	1,06	22,80	0,77	19,40	-0,10
192			20,02	-1,59	17,48	-0,97	18,42	-0,43
194			22,40	-0,99	16,65	-1,24	7,25	-4,21
208	20,50	-1,50	30,00	0,94	25,50	1,65	16,50	-1,08
237	30,70	1,07	29,45	0,80	25,25	1,57	19,10	-0,20
267	28,00	0,39	25,00	-0,33	20,00	-0,14	23,00	1,12
-	-	-	-	-	-	-	-	-
Assessment	Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00	
Mean	26,45		26,29		20,44		19,70	
Reproducibility s.d.	5,87		4,40		4,03		3,30	
Rel. reproducibility s.d.	22,17 %		16,75 %		19,71 %		16,73 %	
Reference value	22,09		24,26		18,62		20,53	
Target s.d.	3,97		3,94		3,07		2,96	
Rel. target s.d.	15,00 %		15,00 %		15,00 %		15,00 %	
Lower limit of tolerance	18,52		18,40		14,31		13,79	
Upper limit of tolerance	34,39		34,17		26,58		25,62	
Type E outliers	6		3		5		9	

Laboratory	n-Butoxyethanol Z score	1,2,3-Trimethylbenzene Z score	3-Carene Z score	Decamethylcyclopentasiloxane Z score
Type F outliers	0	0	0	4
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	19	22	23	19
Explanation of outlier types				
A: Single outlier				
B: Differing laboratory mean				
C: excessive laboratory s.d.				
D: Excluded manually				
E: score outside tolerance limits				
F: Score >3,5				

Summary of laboratory means

Sample 2

Laboratory	n-Butyl acetate	Z score	n-Heptane	Z score	Toluene	Z score	p-Xylene	Z score	n-Dodecane	Z score	n-Tetradecane	Z score
Unit	$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$		$\mu\text{g}/\text{m}^3$	
–	–	–	–	–	–	–	–	–	–	–	–	–
28	148,97	11,02	52,93	0,27	144,46	10,43	125,30	7,61	82,94	4,38	48,52	1,56
30												
34	43,66	-1,48	44,55	-0,83	45,60	-1,27	46,88	-1,33	48,29	-0,24	34,75	-0,78
46	46,35	-1,16	38,95	-1,56			47,05	-1,31	39,25	-1,44	27,90	-1,94
52	60,90	0,57	50,80	-0,01	54,55	-0,21	60,80	0,26	31,15	-2,52	37,45	-0,32
54					67,00	1,26	65,00	0,74	52,50	0,32	34,00	-0,90
60	54,55	-0,19	56,80	0,77	53,25	-0,36	54,75	-0,43	50,65	0,08	36,55	-0,47
61	56,10	0,00	52,50	0,21	59,65	0,39	59,85	0,15	51,95	0,25	33,25	-1,03
68	52,10	-0,48	51,65	0,10	56,15	-0,02	55,60	-0,33	51,90	0,24	38,85	-0,08
87												
92	71,85	1,87			83,40	3,20	85,50	3,07	135,35	11,36	76,55	6,31
95	34,75	-2,54	35,40	-2,03	35,75	-2,44	31,05	-3,13	22,40	-3,68	16,15	-3,93
104	49,00	-0,85	53,75	0,37	49,35	-0,83	50,60	-0,90	53,85	0,50	41,60	0,38
135	64,95	1,05	58,05	0,94	63,90	0,90	67,10	0,98	64,20	1,88	47,00	1,30
145	77,00	2,48	44,00	-0,90	54,00	-0,28	52,00	-0,74	47,50	-0,34	34,00	-0,90
153	59,70	0,42	64,45	1,78	64,05	0,91	66,75	0,94	54,95	0,65	41,85	0,43
155	67,70	1,37	67,45	2,17	73,35	2,02	75,35	1,92	66,45	2,18	52,65	2,26
172	69,50	1,59	68,00	2,24	61,50	0,61	75,50	1,93	57,00	0,92	47,50	1,38
175			31,50	-2,54	55,50	-0,10	63,00	0,51	47,50	-0,34	47,00	1,30
186	55,50	-0,08	52,80	0,25	56,20	-0,01	59,90	0,16	48,95	-0,15	32,30	-1,19
192	47,44	-1,03	56,04	0,67	48,62	-0,91	50,93	-0,86	38,86	-1,49	29,88	-1,60
194			38,80	-1,58	48,15	-0,97	53,75	-0,54	51,50	0,19	45,05	0,97
208	55,00	-0,14	60,00	1,19	59,00	0,32	59,50	0,11	49,50	-0,08	39,50	0,03
237	69,05	1,53	49,85	-0,14	64,70	0,99	70,60	1,38	63,40	1,78	51,45	2,05
267	31,50	-2,93	40,50	-1,36	34,50	-2,58	36,00	-2,57	32,00	-2,41	25,00	-2,43
–	–	–	–	–	–	–	–	–	–	–	–	–

Laboratory	n-Butyl acetate	Z score	n-Heptane	Z score	Toluene	Z score	p-Xylene	Z score	n-Dodecane	Z score	n-Tetradecane	Z score
Assessment	Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00	
Mean	56,14		50,89		56,33		58,52		50,07		39,34	
Reproducibility s.d.	14,39		10,47		11,97		13,02		9,67		7,95	
Rel. reproducibility s.d.	25,64 %		20,58 %		21,26 %		22,24 %		19,32 %		20,22 %	
Reference value	54,27		58,71		54,54		55,62		54,74		40,04	
Target s.d.	8,42		7,63		8,45		8,78		7,51		5,90	
Rel. target s.d.	15,00 %		15,00 %		15,00 %		15,00 %		15,00 %		15,00 %	
Lower limit of tolerance	39,30		35,63		39,43		40,96		35,05		27,53	
Upper limit of tolerance	72,98		66,16		73,22		76,08		65,09		51,14	
Type E outliers	8		8		8		10		11		10	
Type F outliers	0		0		0		0		2		1	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	19		21		21		22		20		21	

Explanation of outlier types

A: Single outlier

B: Differing laboratory mean

C: excessive laboratory s.d.

D: Excluded manually

E: score outside tolerance limits

F: |Score|>3,5

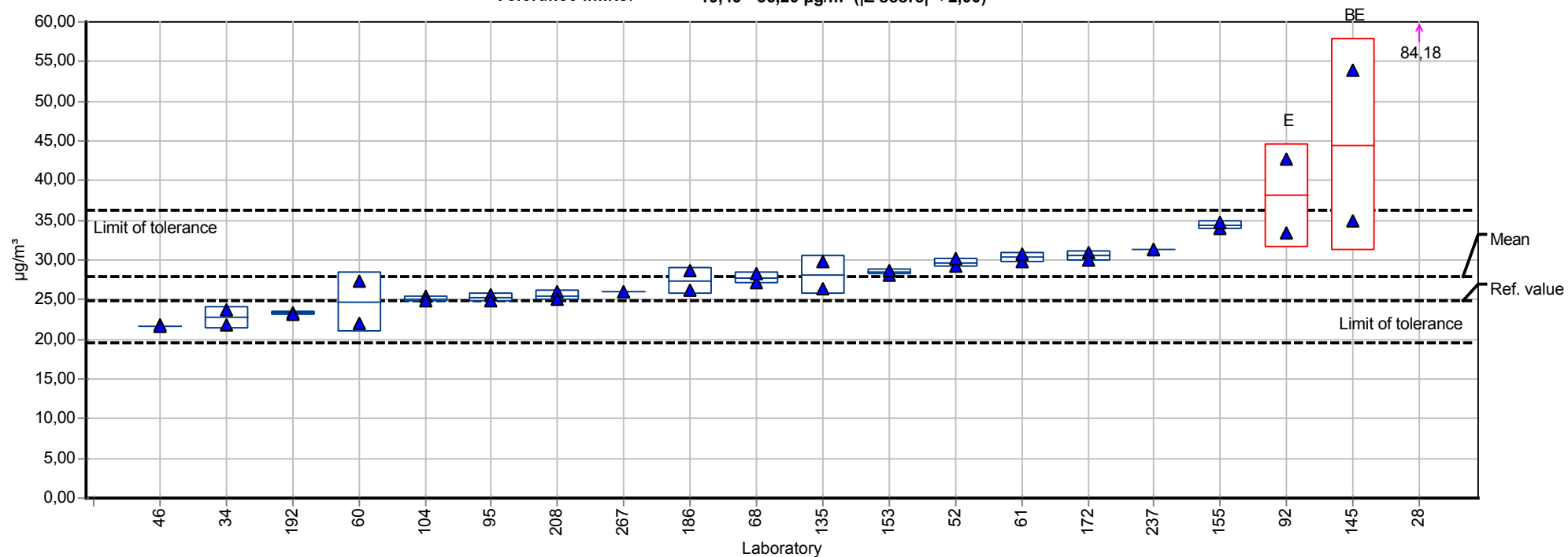
Laboratory	n-Butoxyethanol	Z score	1,2,3-Trimethylbenzene	Z score	3-Carene	Z score	Decamethylcyclopentasiloxane	Z score
Unit	µg/m ³		µg/m ³		µg/m ³		µg/m ³	
-	-	-	-	-	-	-	-	-
28	54,11	-0,34	56,08	0,41	40,10	0,85	37,58	0,29
30								
34	54,99	-0,24	47,98	-0,61	31,88	-0,69	30,49	-1,02
46	51,65	-0,63	35,80	-2,15	23,75	-2,22	28,85	-1,32

Laboratory	n-Butoxyethanol	Z score	1,2,3-Trimethylbenzene	Z score	3-Carene	Z score	Decamethylcyclopentasiloxane	Z score
52	59,85	0,33	52,50	-0,04	39,10	0,66	31,45	-0,84
54			46,00	-0,86	32,50	-0,58	12,50	-4,35
60	37,95	-2,23	49,60	-0,40	27,70	-1,48	31,60	-0,81
61	48,75	-0,97	49,05	-0,47	35,80	0,04	34,30	-0,31
68	61,00	0,47	51,20	-0,20	33,45	-0,40	33,45	-0,47
87								
92	62,90	0,69	62,45	1,22	40,75	0,97	41,00	0,93
95	24,30	-3,83			5,60	-5,62	15,30	-3,83
104	66,70	1,13	44,80	-1,01	30,75	-0,91	42,60	1,22
135	73,55	1,93	60,50	0,97	40,15	0,86	43,30	1,35
145	54,00	-0,35	54,50	0,21	36,00	0,08	51,00	2,78
153	65,20	0,96	58,55	0,73	37,50	0,36	34,65	-0,25
155	76,85	2,32	59,35	0,83	48,15	2,36	48,15	2,25
172	61,00	0,47	65,50	1,60	42,00	1,20	41,50	1,02
175			61,00	1,03	32,50	-0,58	56,00	3,71
186	46,80	-1,19	59,05	0,79	36,80	0,23	36,60	0,11
192			39,09	-1,73	29,04	-1,23	30,75	-0,97
194			50,60	-0,28	32,40	-0,60	14,25	-4,03
208	49,00	-0,94	64,50	1,48	48,50	2,42	32,00	-0,74
237	69,55	1,46	64,15	1,43	44,45	1,66	36,60	0,11
267	32,50	-2,87	29,50	-2,94	19,50	-3,01	18,00	-3,33
-	-	-	-	-	-	-	-	-
Assessment	Z <=2,00		Z <=2,00		Z <=2,00		Z <=2,00	
Mean	57,02		52,81		35,58		35,99	
Reproducibility s.d.	11,93		9,89		7,39		7,98	
Rel. reproducibility s.d.	20,92 %		18,73 %		20,78 %		22,16 %	
Reference value	50,44		52,86		32,26		39,66	
Target s.d.	8,55		7,92		5,34		5,40	
Rel. target s.d.	15,00 %		15,00 %		15,00 %		15,00 %	
Lower limit of tolerance	39,91		36,96		24,91		25,20	
Upper limit of tolerance	74,13		68,65		46,25		46,79	
Type E outliers	8		4		10		14	

Laboratory	n-Butoxyethanol Z score	1,2,3-Trimethylbenzene Z score	3-Carene Z score	Decamethylcyclopentasiloxane Z score
Type F outliers	1	0	0	4
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	18	22	22	19
Explanation of outlier types				
A: Single outlier				
B: Differing laboratory mean				
C: excessive laboratory s.d.				
D: Excluded manually				
E: score outside tolerance limits				
F: Score >3,5				

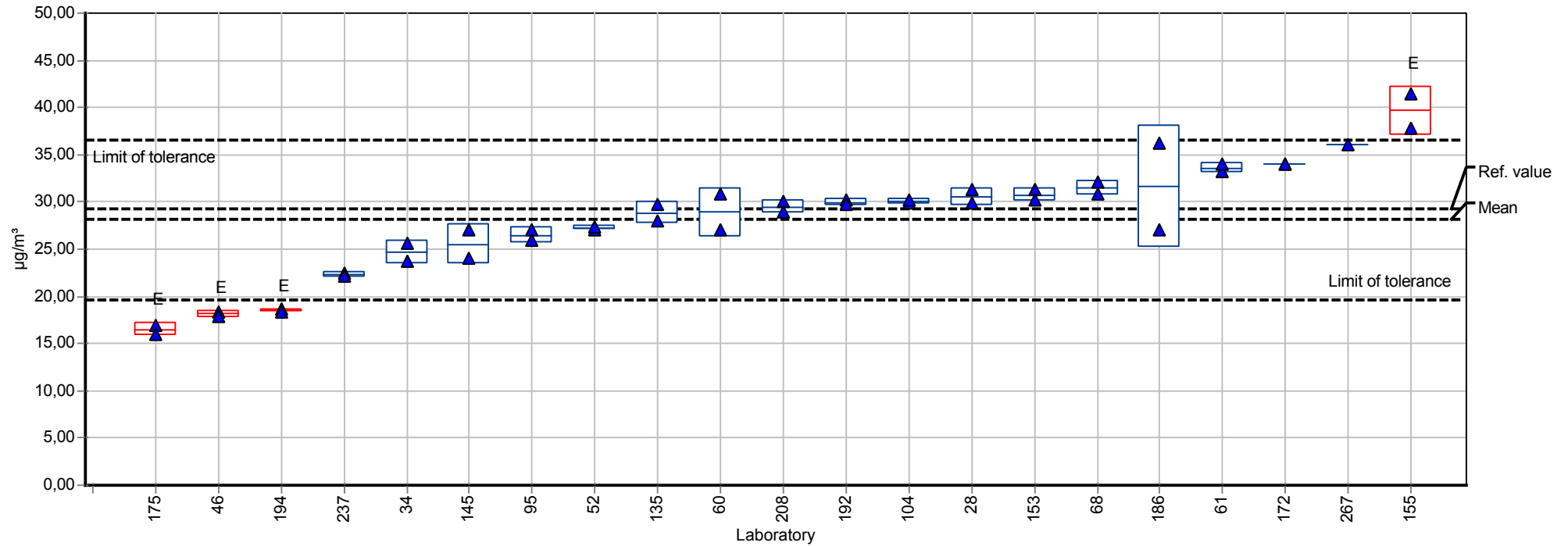
Summary results

Measurand:	n-Butyl acetate	Mean:	27,85 µg/m³
Sample:	1	Reproducibility s.d.:	4,45 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	15,99%
No. of laboratories:	18	Reference value:	24,89 µg/m³
		Tolerance limits:	19,49 - 36,20 µg/m³ (Z score < 2,00)



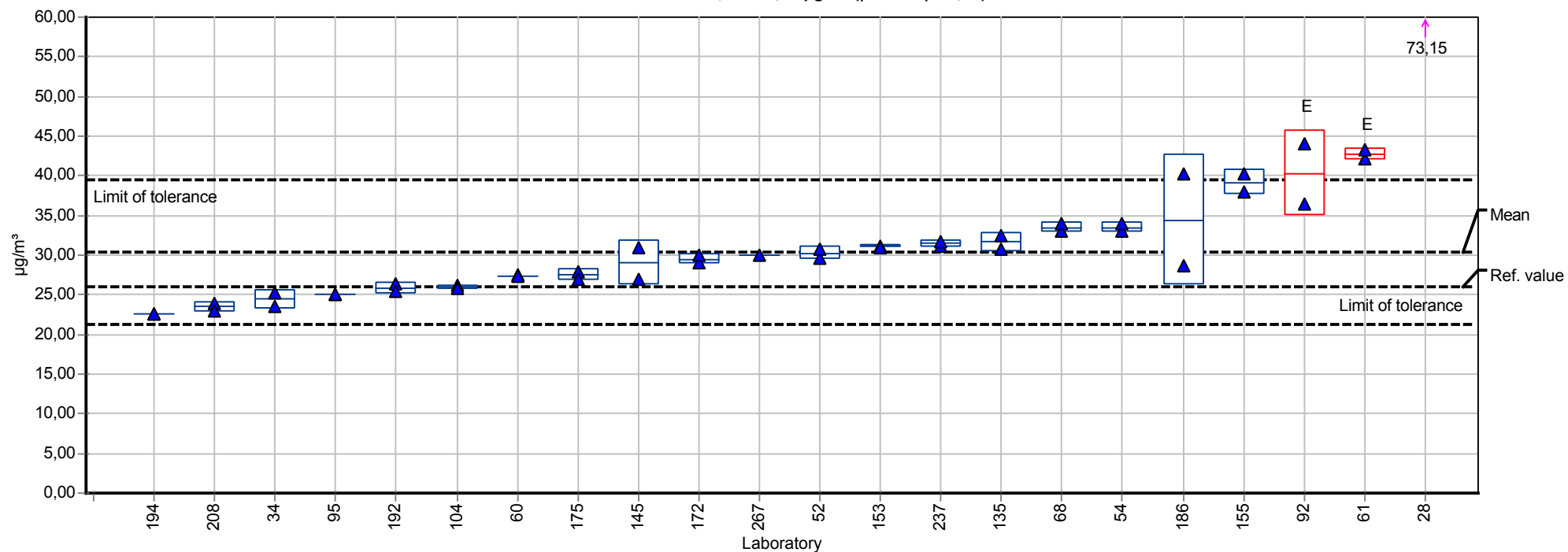
Summary results

Measurand:	n-Heptane	Mean:	28,12 µg/m³
Sample:	1	Reproducibility s.d.:	5,95 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	21,17%
No. of laboratories:	21	Reference value:	29,28 µg/m³
		Tolerance limits:	19,69 - 36,56 µg/m³ (Z score < 2,00)



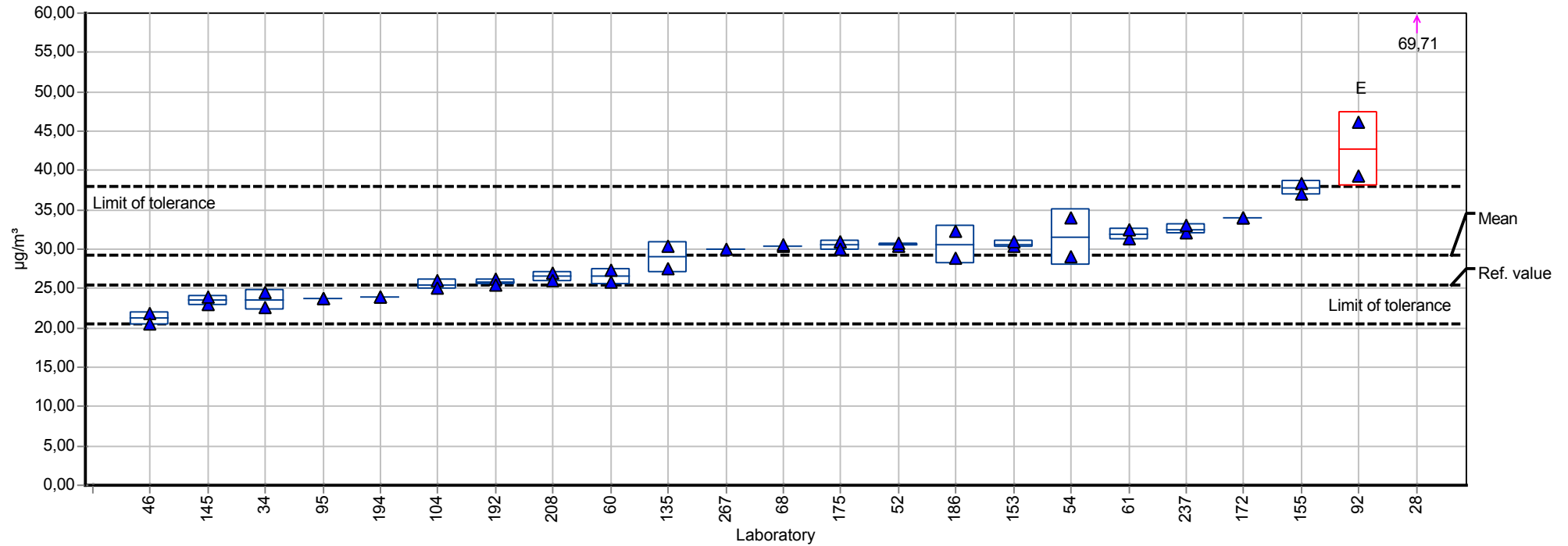
Summary results

Measurand:	Toluene	Mean:	30,43 µg/m³
Sample:	1	Reproducibility s.d.:	5,79 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	19,02%
No. of laboratories:	21	Reference value:	26,08 µg/m³
		Tolerance limits:	21,30 - 39,56 µg/m³ (Z score < 2,00)



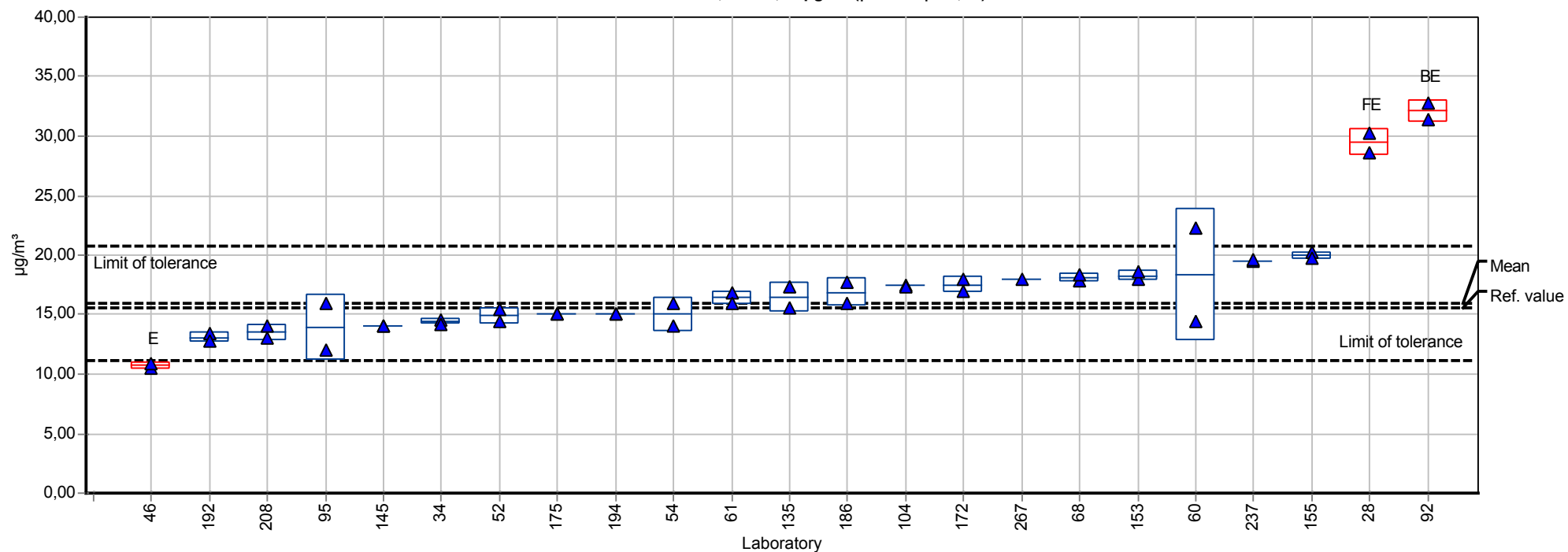
Summary results

Measurand:	p-Xylene	Mean:	29,18 µg/m ³
Sample:	1	Reproducibility s.d.:	5,24 µg/m ³
Method:	ISO 5725	Rel. reproducibility s.d.:	17,95%
No. of laboratories:	22	Reference value:	25,47 µg/m ³
		Tolerance limits:	20,43 - 37,93 µg/m ³ ($ Z \text{ score} < 2,00$)



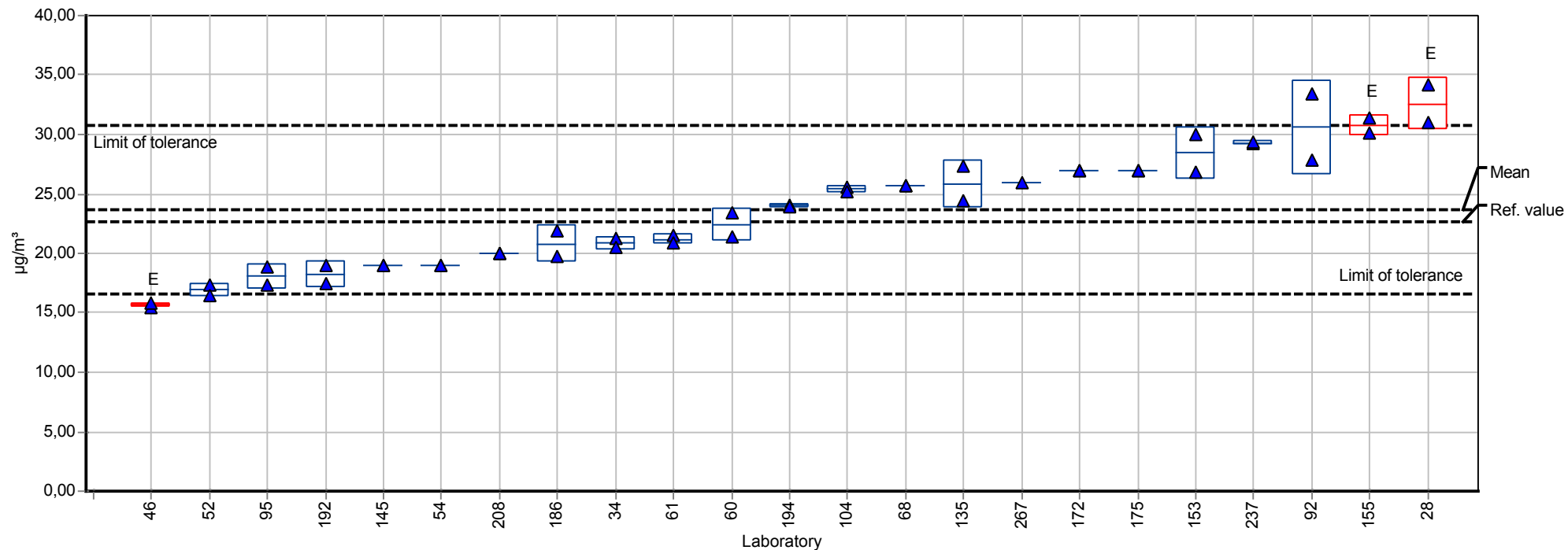
Summary results

Measurand:	n-Dodecane	Mean:	15,97 $\mu\text{g}/\text{m}^3$
Sample:	1	Reproducibility s.d.:	2,59 $\mu\text{g}/\text{m}^3$
Method:	ISO 5725	Rel. reproducibility s.d.:	16,20%
No. of laboratories:	21	Reference value:	15,56 $\mu\text{g}/\text{m}^3$
		Tolerance limits:	11,18 - 20,77 $\mu\text{g}/\text{m}^3$ ($ Z \text{ score} < 2,00$)



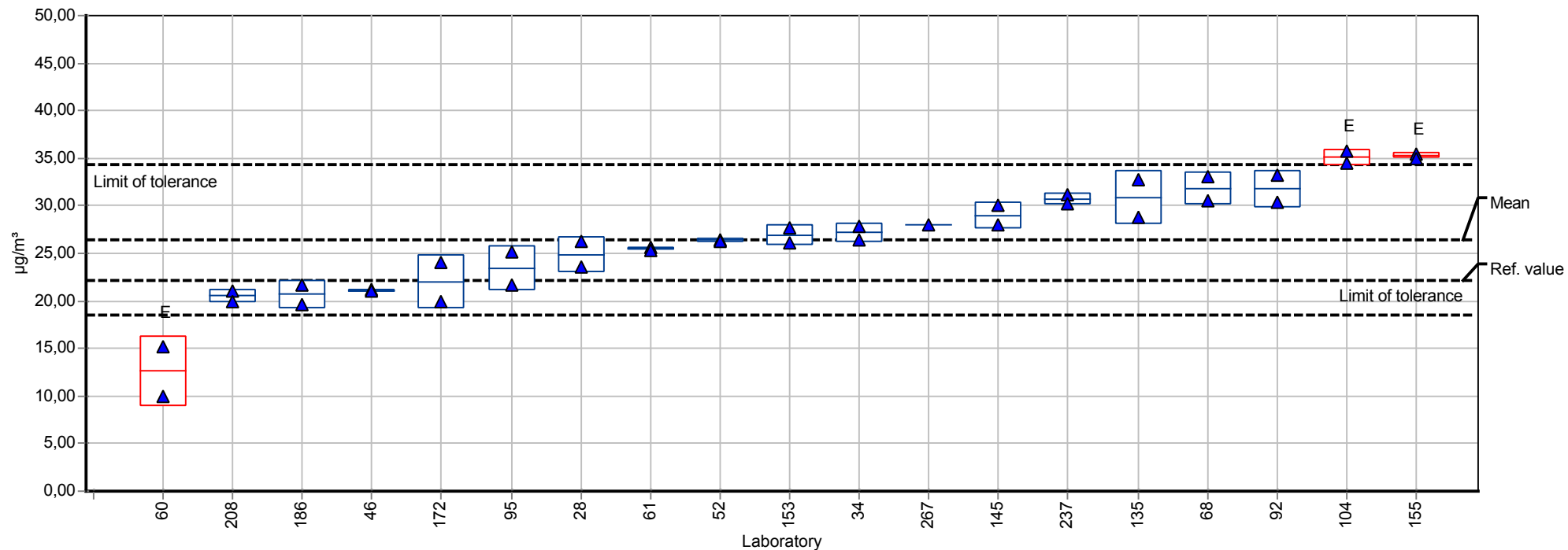
Summary results

Measurand:	n-Tetradecane	Mean:	23,63 µg/m³
Sample:	1	Reproducibility s.d.:	5,01 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	21,20%
No. of laboratories:	23	Reference value:	22,71 µg/m³
		Tolerance limits:	16,54 - 30,72 µg/m³ (Z score < 2,00)



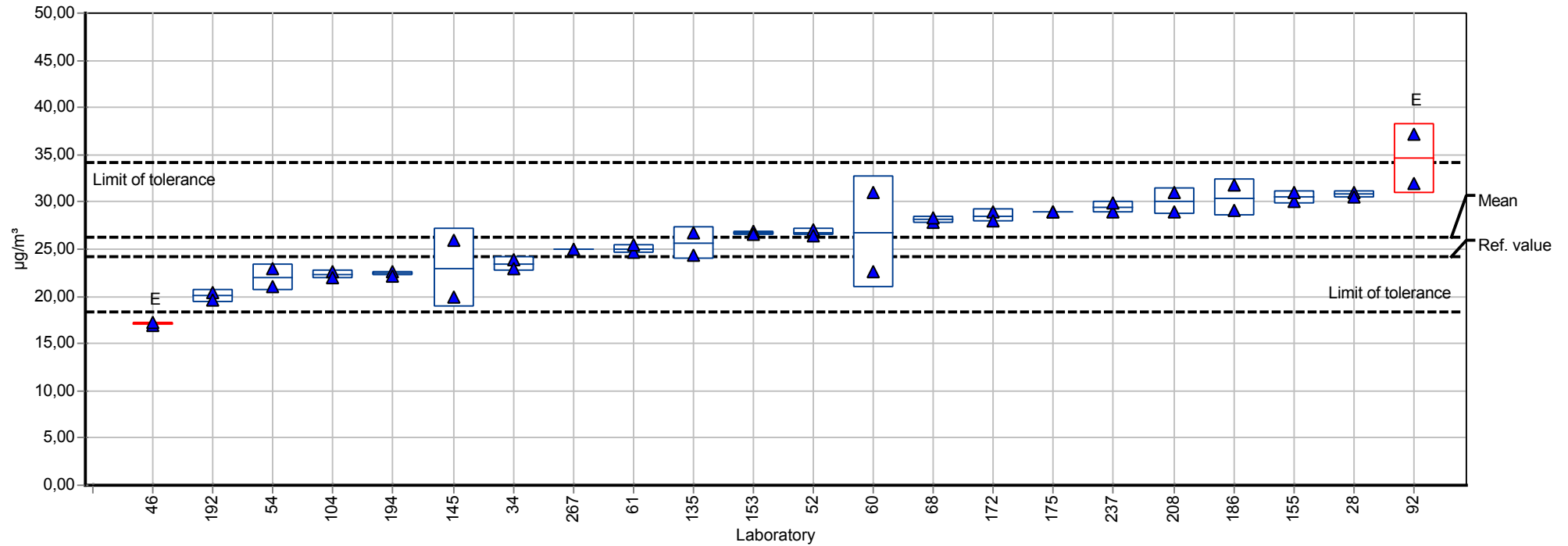
Summary results

Measurand:	n-Butoxyethanol	Mean:	26,45 µg/m³
Sample:	1	Reproducibility s.d.:	5,87 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	22,17%
No. of laboratories:	19	Reference value:	22,09 µg/m³
		Tolerance limits:	18,52 - 34,39 µg/m³ (Z score < 2,00)



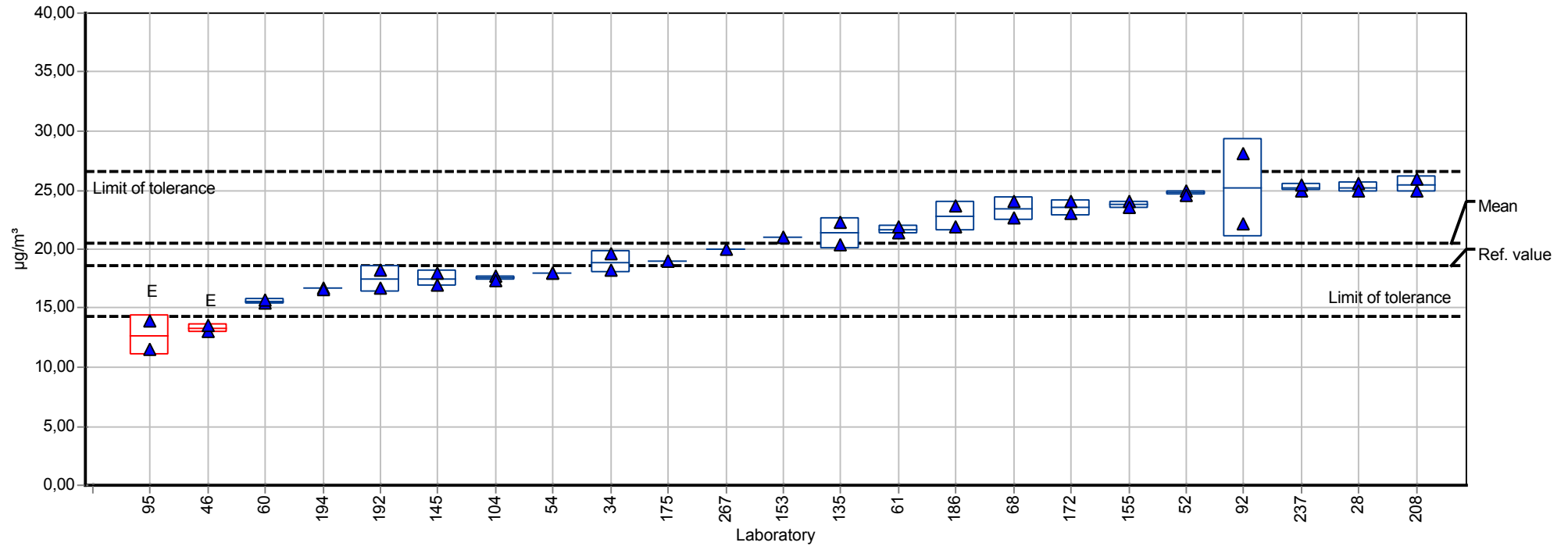
Summary results

Measurand:	1,2,3-Trimethylbenzene	Mean:	26,29 µg/m³
Sample:	1	Reproducibility s.d.:	4,40 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	16,75%
No. of laboratories:	22	Reference value:	24,26 µg/m³
		Tolerance limits:	18,40 - 34,17 µg/m³ (Z score < 2,00)



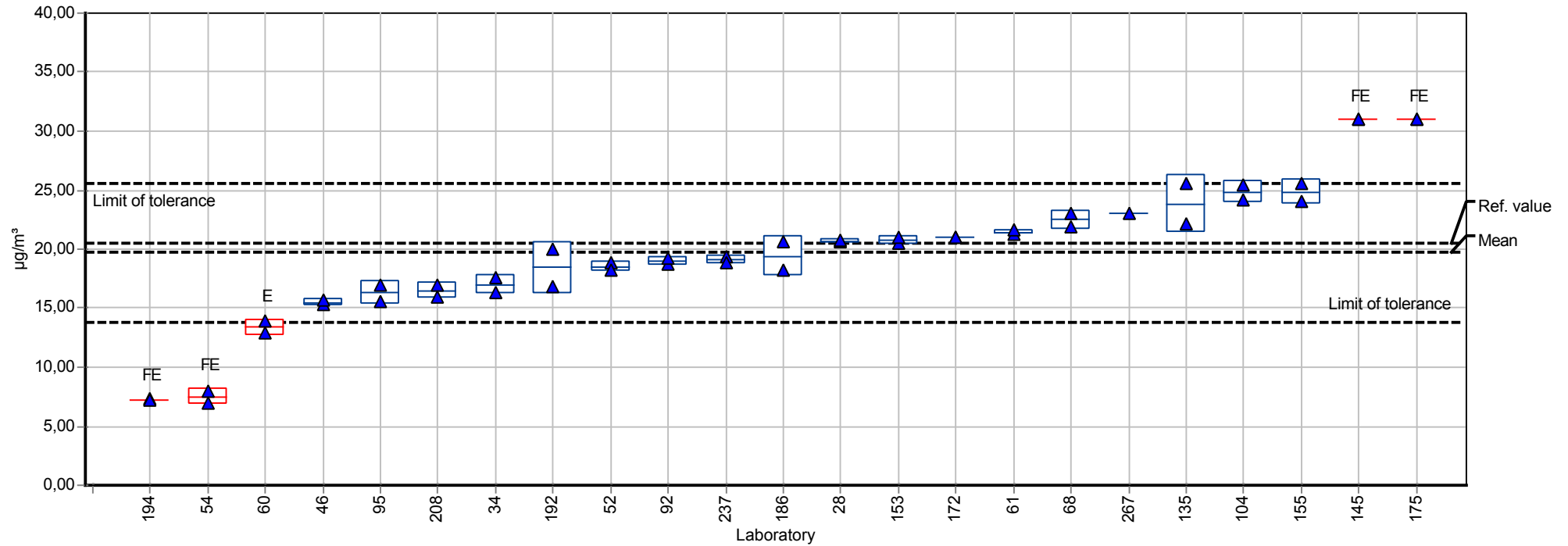
Summary results

Measurand:	3-Carene	Mean:	20,44 µg/m³
Sample:	1	Reproducibility s.d.:	4,03 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	19,71%
No. of laboratories:	23	Reference value:	18,62 µg/m³
		Tolerance limits:	14,31 - 26,58 µg/m³ (Z score < 2,00)



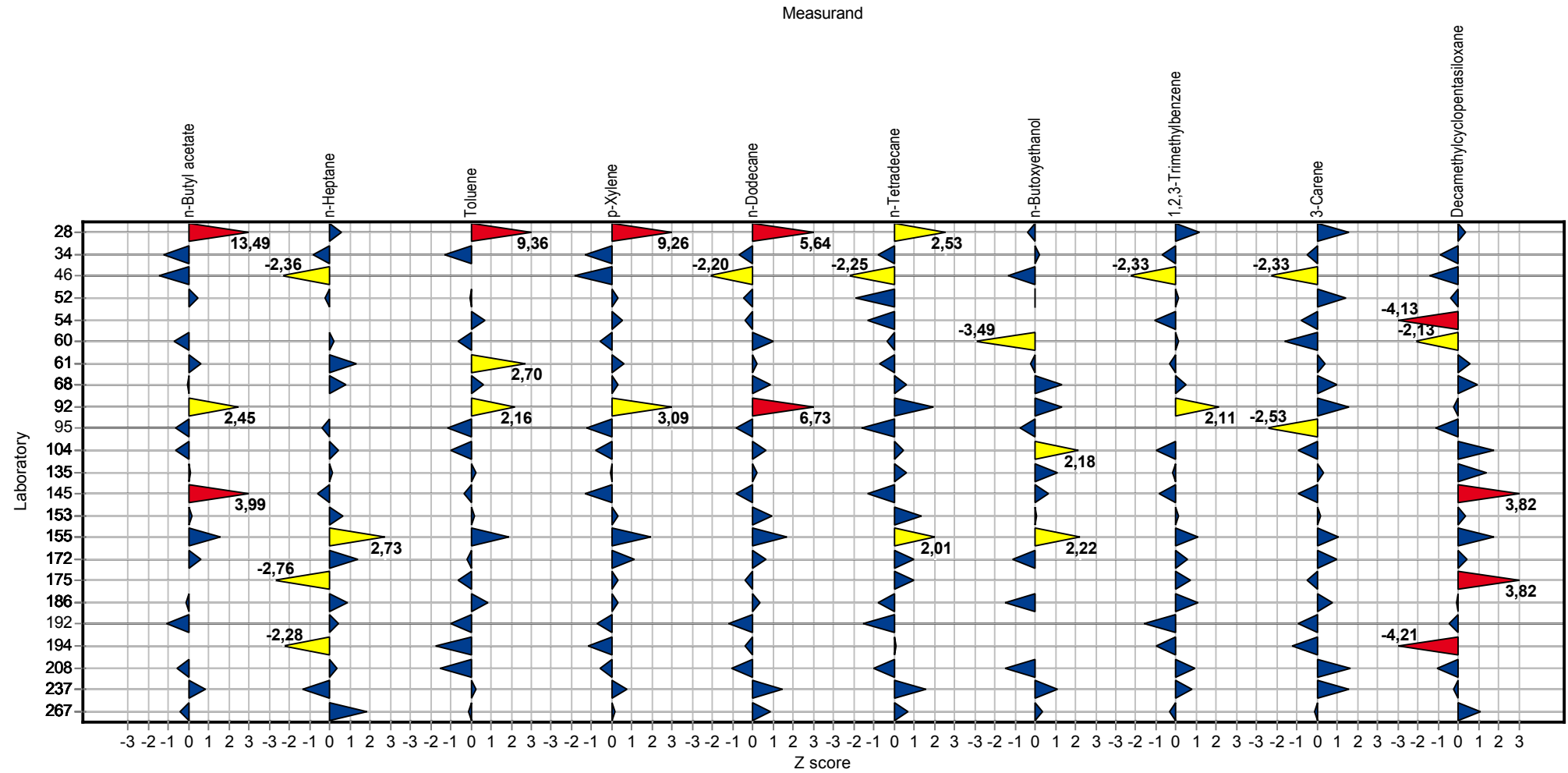
Summary results

Measurand:	Decamethylcyclopentasiloxane	Mean:	19,70 µg/m³
Sample:	1	Reproducibility s.d.:	3,30 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	16,73%
No. of laboratories:	19	Reference value:	20,53 µg/m³
		Tolerance limits:	13,79 - 25,62 µg/m³ (Z score < 2,00)



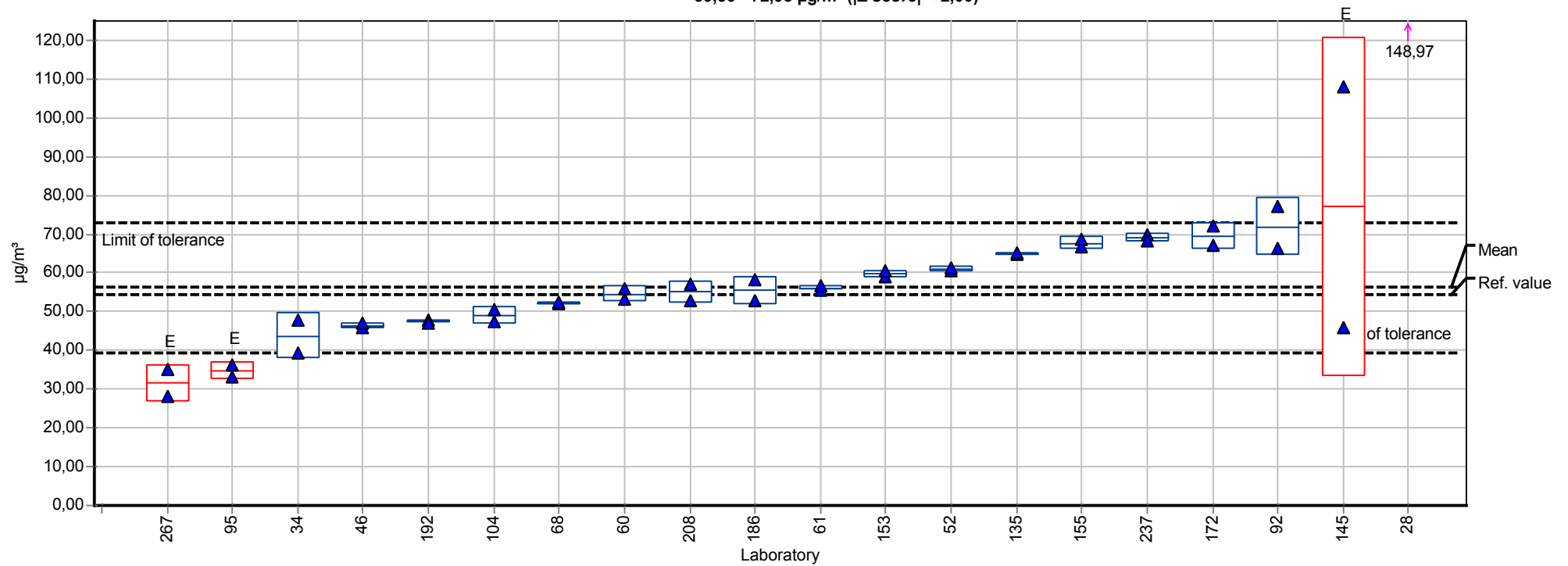
Sample chart of Z scores

Sample: 1



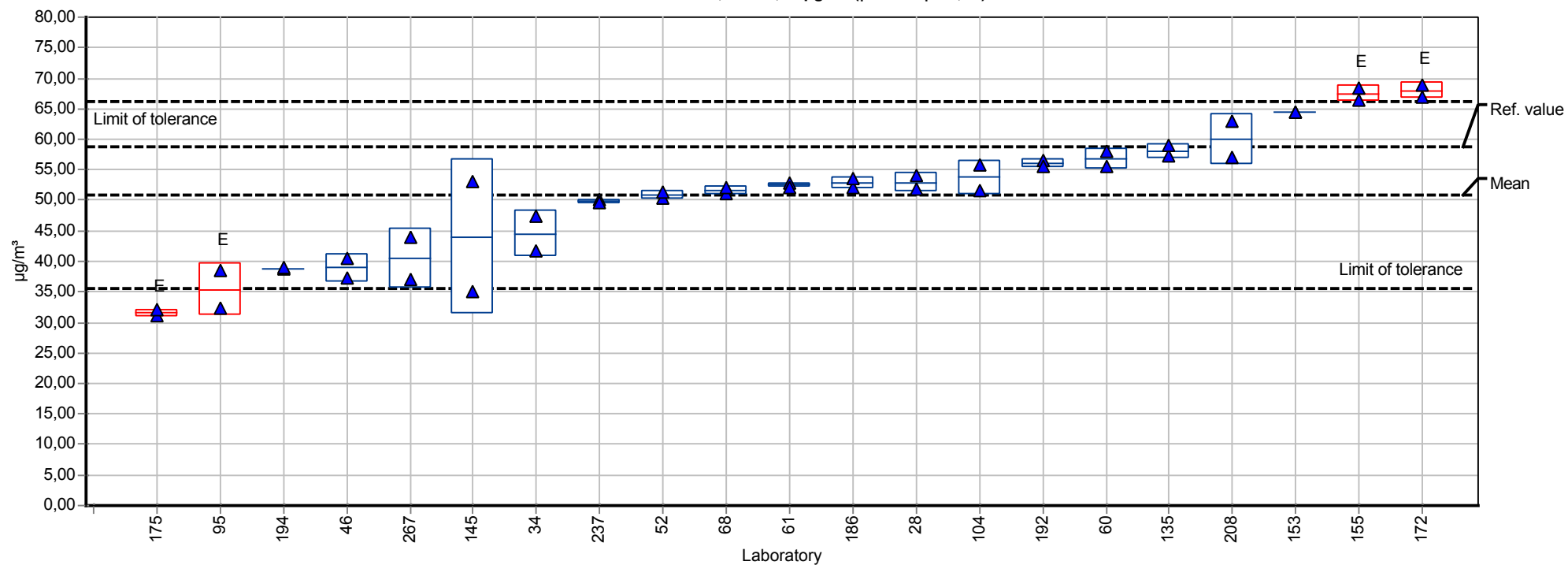
Summary results

Measurand:	n-Butyl acetate	Mean:	56,14 µg/m³
Sample:	2	Reproducibility s.d.:	14,39 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	25,64%
No. of laboratories:	19	Reference value:	54,27 µg/m³
		Tolerance limits:	39,30 - 72,98 µg/m³ (Z score < 2,00)



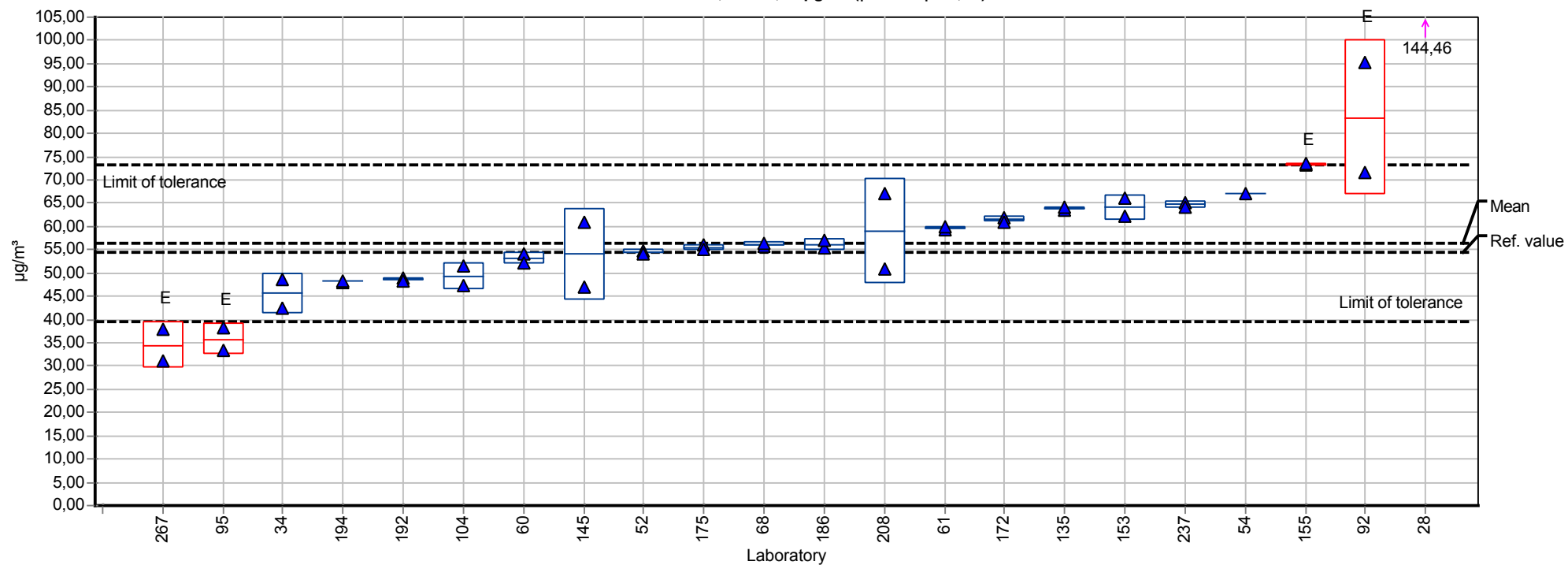
Summary results

Measurand:	n-Heptane	Mean:	50,89 µg/m³
Sample:	2	Reproducibility s.d.:	10,47 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	20,58%
No. of laboratories:	21	Reference value:	58,71 µg/m³
		Tolerance limits:	35,63 - 66,16 µg/m³ (Z score < 2,00)



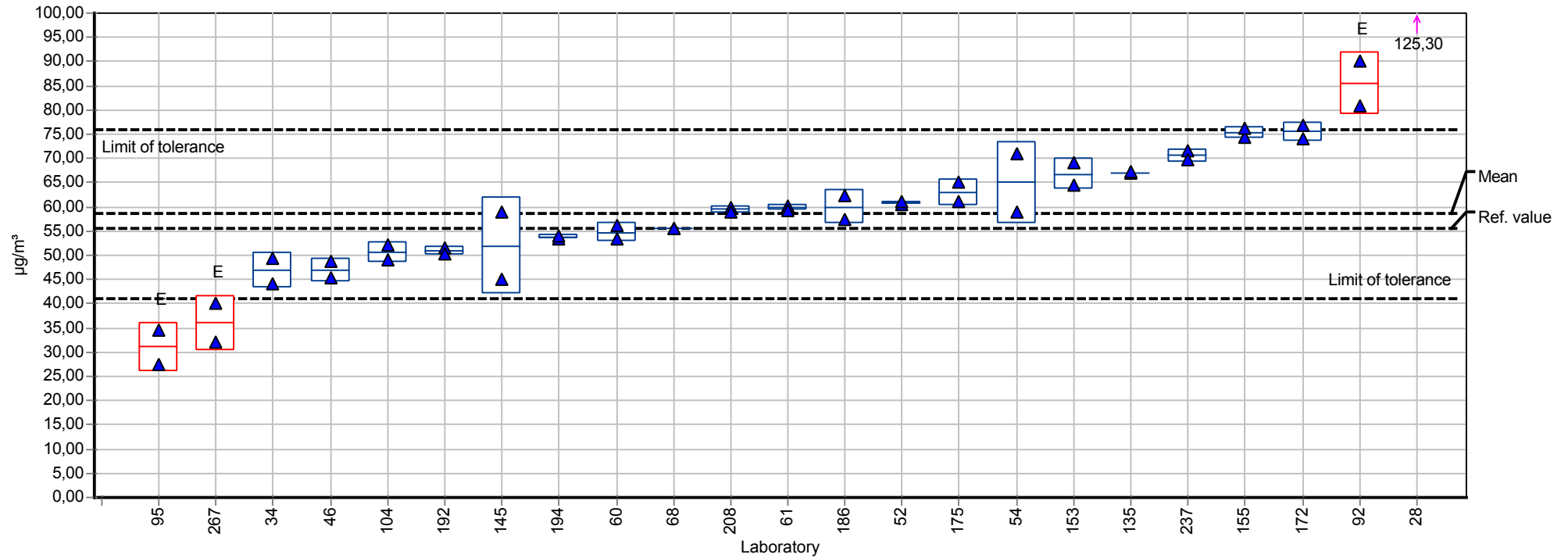
Summary results

Measurand:	Toluene	Mean:	56,33 µg/m³
Sample:	2	Reproducibility s.d.:	11,97 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	21,26%
No. of laboratories:	21	Reference value:	54,54 µg/m³
		Tolerance limits:	39,43 - 73,22 µg/m³ (Z score < 2,00)



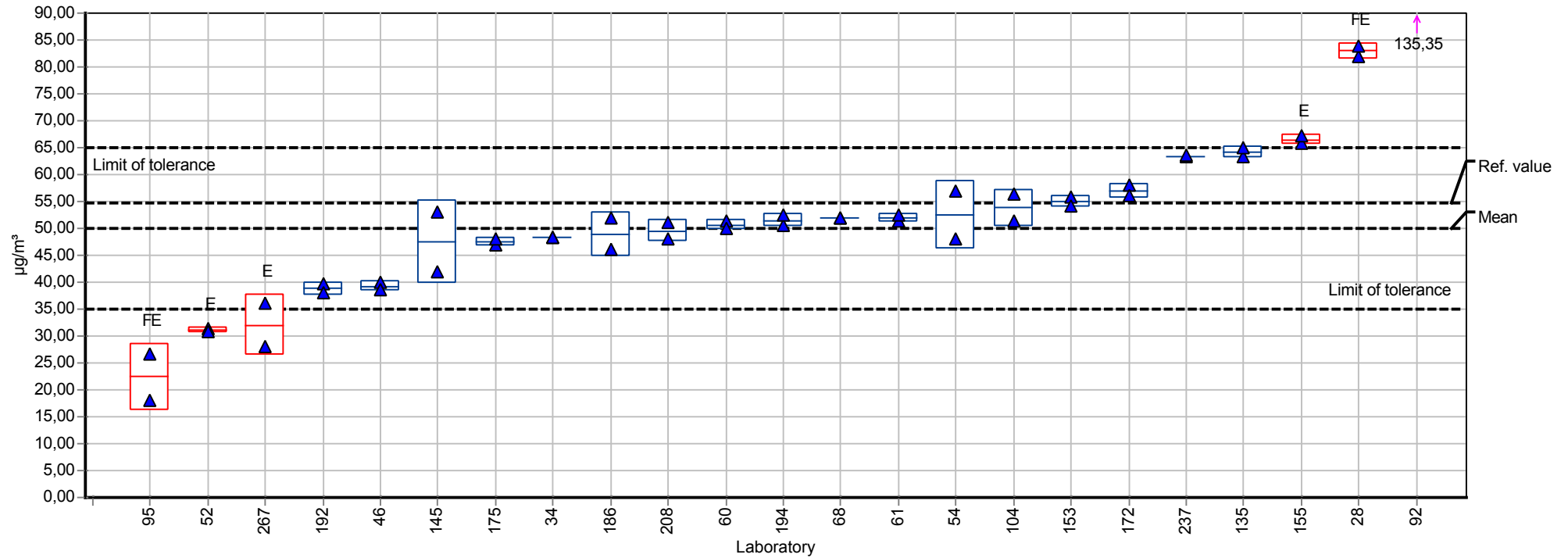
Summary results

Measurand:	p-Xylene	Mean:	58,52 µg/m³
Sample:	2	Reproducibility s.d.:	13,02 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	22,24%
No. of laboratories:	22	Reference value:	55,62 µg/m³
		Tolerance limits:	40,96 - 76,08 µg/m³ (Z score < 2,00)



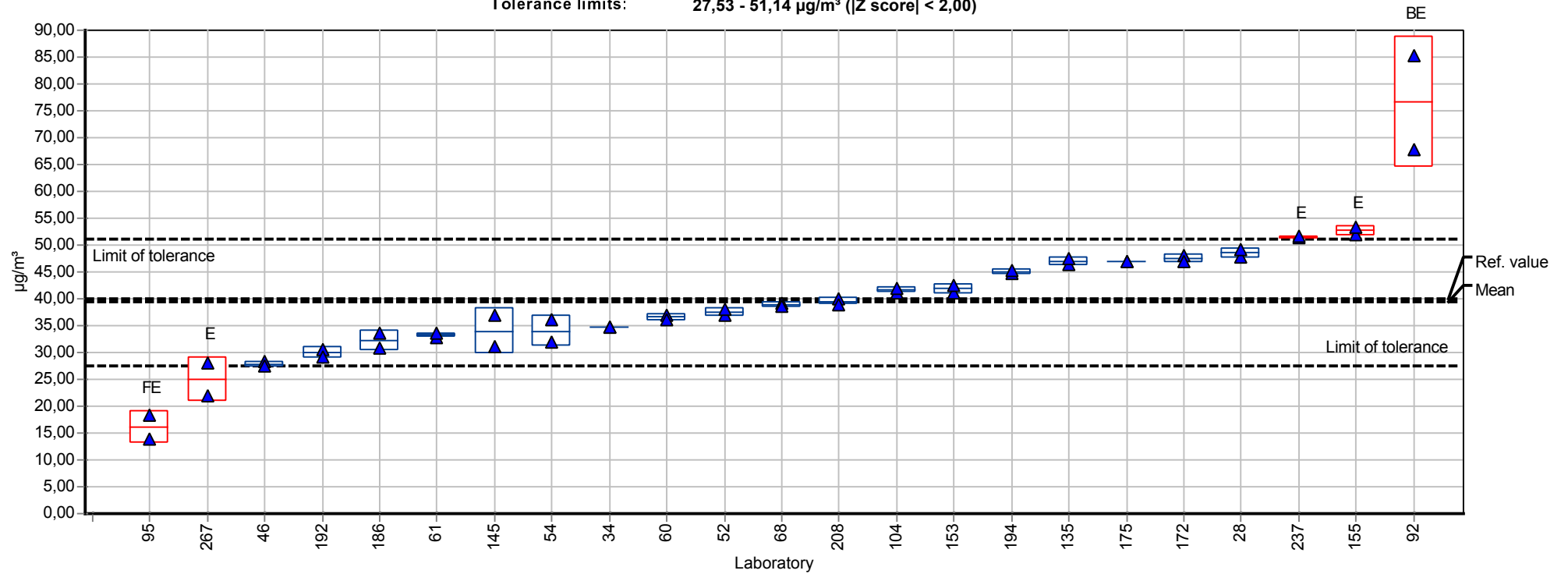
Summary results

Measurand:	n-Dodecane	Mean:	50,07 µg/m³
Sample:	2	Reproducibility s.d.:	9,67 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	19,32%
No. of laboratories:	20	Reference value:	54,74 µg/m³
		Tolerance limits:	35,05 - 65,09 µg/m³ (Z score < 2,00)



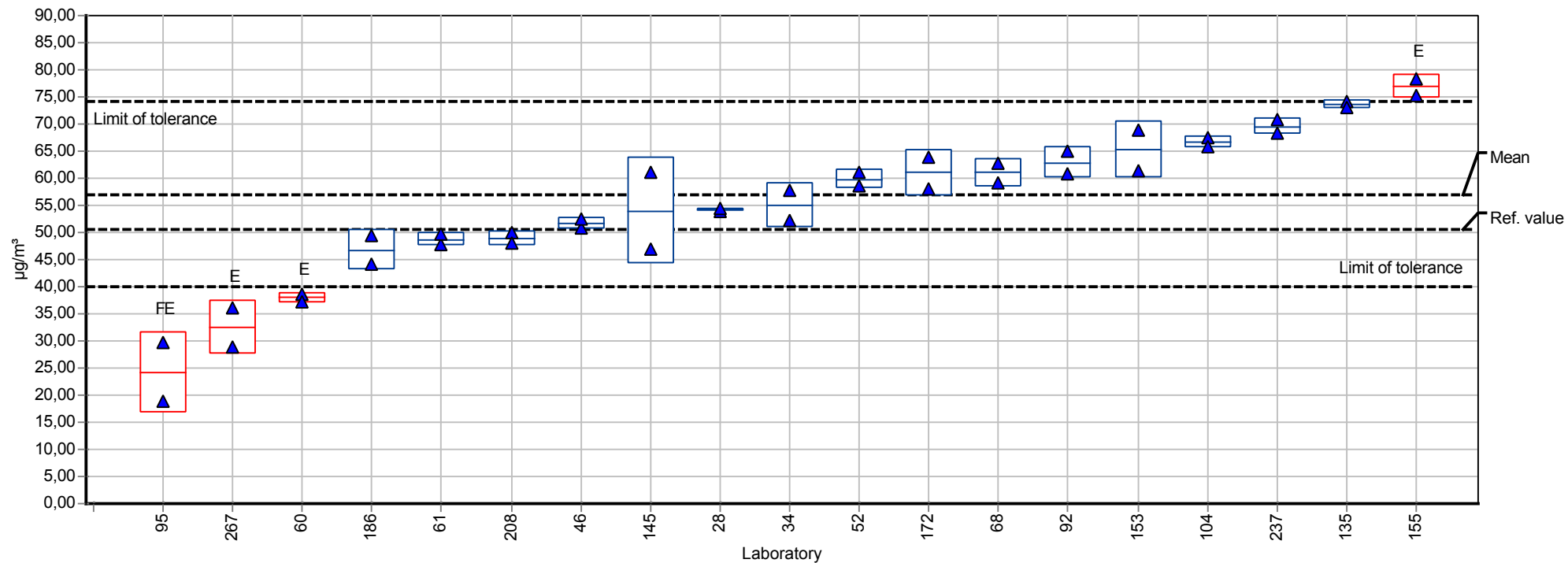
Summary results

Measurand:	n-Tetradecane	Mean:	39,34 µg/m³
Sample:	2	Reproducibility s.d.:	7,95 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	20,22%
No. of laboratories:	21	Reference value:	40,04 µg/m³
		Tolerance limits:	27,53 - 51,14 µg/m³ (Z score < 2,00)



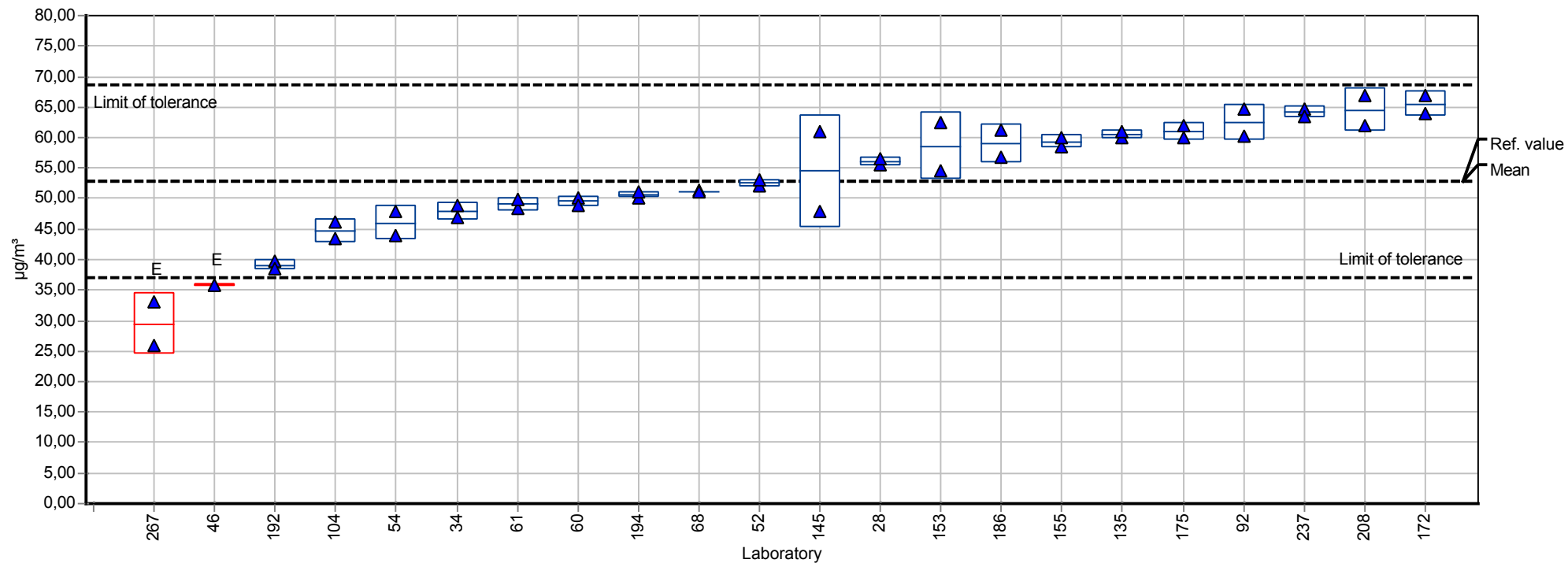
Summary results

Measurand:	n-Butoxyethanol	Mean:	57,02 µg/m³
Sample:	2	Reproducibility s.d.:	11,93 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	20,92%
No. of laboratories:	18	Reference value:	50,44 µg/m³
		Tolerance limits:	39,91 - 74,13 µg/m³ (Z score < 2,00)



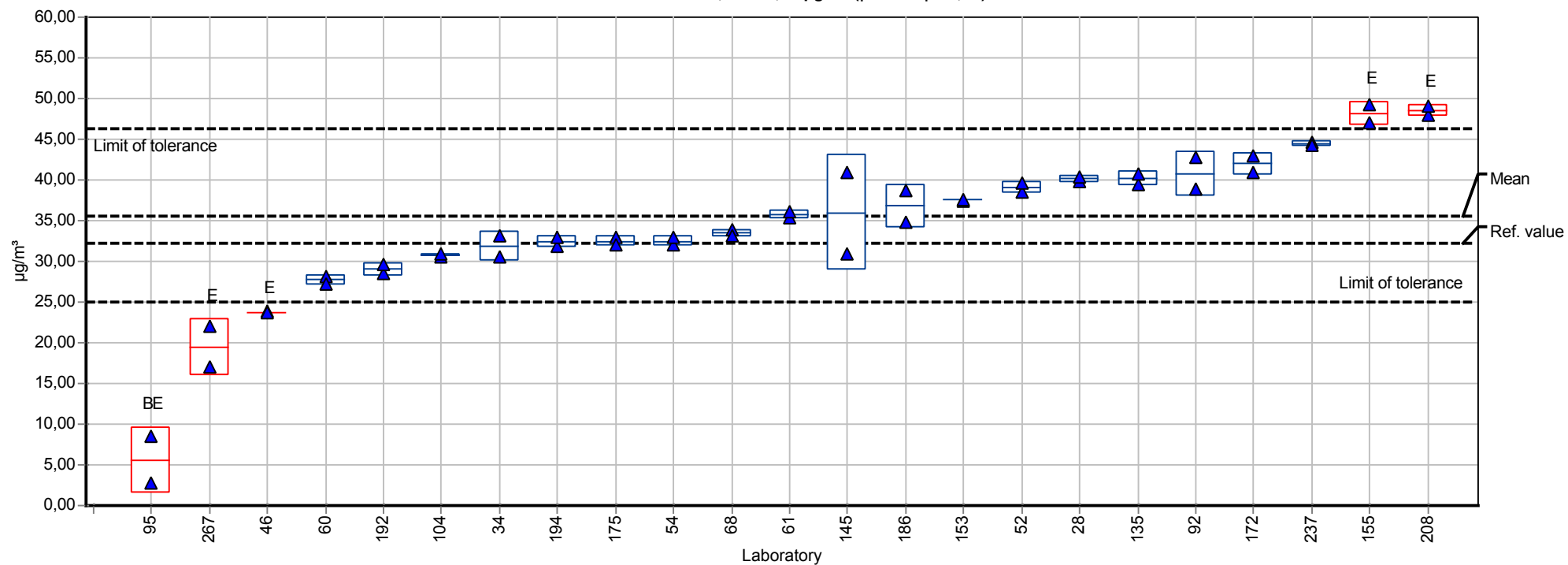
Summary results

Measurand:	1,2,3-Trimethylbenzene	Mean:	52,81 µg/m³
Sample:	2	Reproducibility s.d.:	9,89 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	18,73%
No. of laboratories:	22	Reference value:	52,86 µg/m³
		Tolerance limits:	36,96 - 68,65 µg/m³ ($ Z \text{ score} < 2,00$)



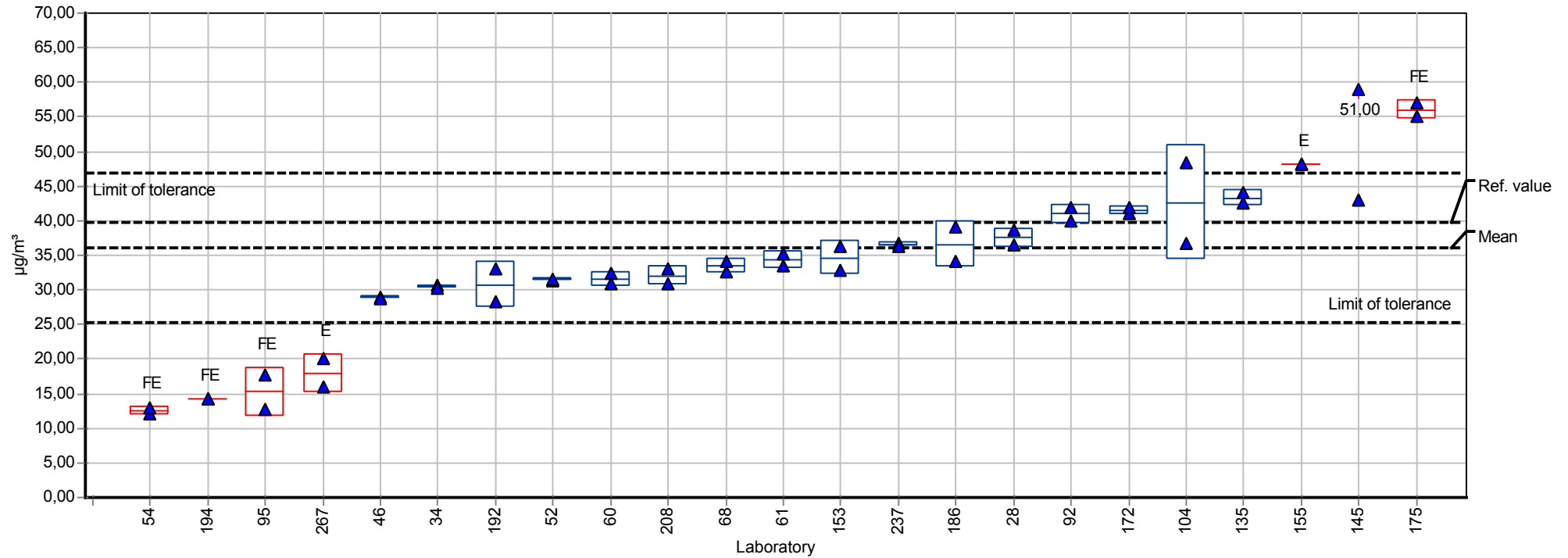
Summary results

Measurand:	3-Carene	Mean:	35,58 µg/m³
Sample:	2	Reproducibility s.d.:	7,39 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	20,78%
No. of laboratories:	22	Reference value:	32,26 µg/m³
		Tolerance limits:	24,91 - 46,25 µg/m³ (Z score < 2,00)



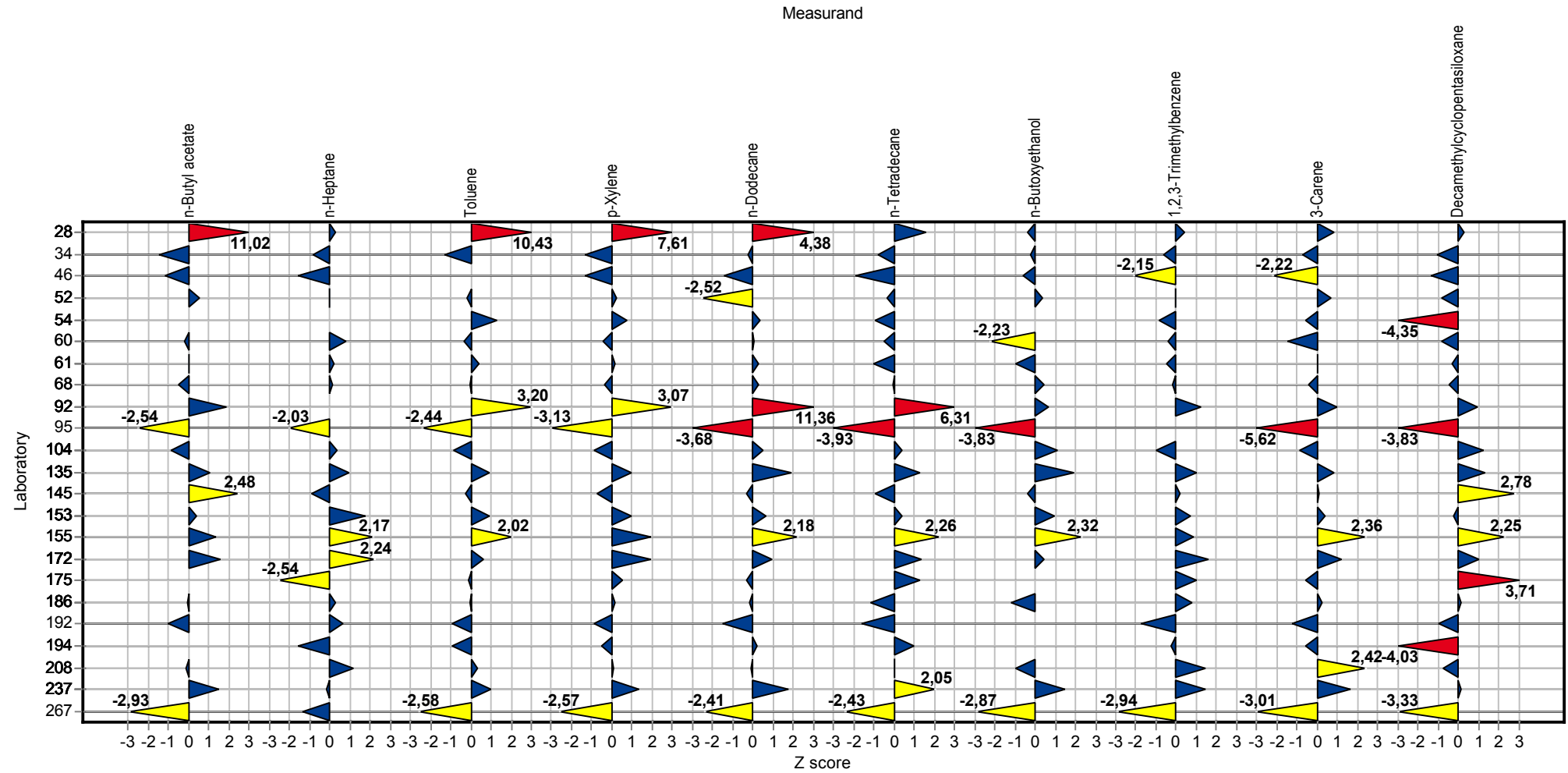
Summary results

Measurand:	Decamethylcyclopentasiloxane	Mean:	35,99 µg/m³
Sample:	2	Reproducibility s.d.:	7,98 µg/m³
Method:	ISO 5725	Rel. reproducibility s.d.:	22,16%
No. of laboratories:	19	Reference value:	39,66 µg/m³
		Tolerance limits:	25,20 - 46,79 µg/m³ (Z score < 2,00)



Sample chart of Z scores

Sample 2



Questions and Answers

Participant	kind of tube (TENAX TA, GR)	analytical method	thermodesorber
28	Tenax TA Perkin Elmer	16000-6	Gerstel TDS2
34	Tenax TA	Hausmethode	Markes Unity 2
46	Tenax TA	Ja	ATD Turbomatrix von Perkin Elmer
52	Tenax	DIN 16000-6	Perkin-Elmer TurboMatrix 650
54	TENAX TA	ISO 16000-6 method	Unity 1 (Markes)
60	teanx gr	ISO 16000-6	Markes UNITY2-50/50
61	Tenax TA	Ja	Perkin Elmer ATD 150
68	Tenax TA	Nein	Turbomatrix ATD von PerkinElmer
92	tenax TA	ISO 16000-6	Gerstel
95	Tenax GR	Ja	Gerstel TDSA
104	TENAX TA Glass, Fa. Gerstel	DIN ISO 16000-6	TDS 3, Fa. Gerstel
135	Tenax TA	ja	Perkin Elmer TurboMatrix 650
145	Tenax TA	DIN EN ISO 16017	Gerstel TDSA 2 und TDS 3
153	Tenax TA	ISO 16000-6	TurboMatrix 350
155	Gerstel Tenax TA Adsorber	DIN ISO 16000-6 und DIN EN ISO 16017-1	Gerstel TDS-2 mit Gerstel TDS A und KAS-4
172	Tenax TA	DIN ISO 16000/6	Perkin-Elmer ATD 400
175	Tenax TA		Perkin Elmer ATD Turbo Matrix 650
186	TENAX TA	ISO 16000/6	PERKIN ELMER Turbomatrix 650
192	TENAX TA	ISO/DIS 16000-6	TurboMatrix ATD(PerkinElmer Inc.)
194	Tenax TA, 60-80 mesh	ISO-16017-1 Thermodesorption, GC/FID/MS	Perkin Elmer ATD 400
208	Tenax TA	in-house method modified from ISO 16000/6	Perkin-Elmer Turbomatrix
237	Tenax TA	Nein	Turbomatrix Perkin Elmer
267	TENAX TA	Nein, Interne Methode SOP-B-25	MARKES ULTRA + UNITY

Participant	desorption temperature	desorption flow	desorption time
28	280°C	50	12
34	300 °C	30 ml/min	5 min
46	300	50	30

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Participant	desorption temperature	desorption flow	desorption time
52	280 °C	20 mL/min	20 min.
54	280°C	30ml/min	10min
60	325	10	5
61	300 °C	30 ml/min	10 min
68	340°C	50 ml/min	20 min
92	260	13.4	5
95	250°C	30ml/min	8min.
104	260°C		16 min
135	553K	29ml/min	20min
145	300°C	1,65 mL/min (splitless)	10 min
153	300oC	30 ml/min	10 min
155	15 °C 0,5min 40°C/min 305 °C 8min	45ml/min Helium ECD	15 °C 0,5min 40°C/min 305 °C 8min
172	290 C	ca. 50 ml/min	15 min
175	275 °C	50 ml/min	10 min
186	280°C	50ml/min	15min
192	260Ž	30ml/min	10min
194	250°C	30 ml/min	5 min
208	270	20	8
237	300 °C	50 ml/ min	10 min
267	280°C	50ml/min	15min.

Participant	cyro trap	carrier gas	flow rate
28	Initial temp:-30°C and rate of 12°C/s to 300°C (hold time 5.00 mins)	Helium	1.5ml/min
34	10°C	He	1ml/min
46	-30 und 300	Helium	4
52	-28 °C, Heizung auf 280 °C mit 99 °C/sec.	Helium	4-5 mL/min, Druckregelung
54	-10°C to 280°C	helium	1.5 ml/min
60	-10	-10 / 315	1
61	- 30 °C	Helium	1 ml/min
68	-20°C/340°C	Helium	15 ml/min
92	-150 to 260°C	He	1 ml/min (column flow)
95	-145°C, anschl. 12°C/s - 300°C	Helium	0,8ml/min.

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Participant	cyro trap	carrier gas	flow rate
104	KAS 3, Fa. Gerstel	He	
135	253K-583K	Helium	1,5ml/min
145	0,5 min@-10°C; mit 12°C/s auf 290°C; 3 min @ 290°C	He	1,65 mL/min (const. flow)
153	-30oC, 300oC	helium	1,0 ml/min
155	minus 150°C 1min 12°C/sec 305 °C 5min	Helium Qualität ECD	1ml/min const Flow
172	auf Tenax TA bei -27 C bis 295 C	Helium	Column Flow 0,45 ml/min
175	-30-290°C	He	1,5 ml/min
186	-30°C to 280°C at 40°C/s hold 2min	Helium	2ml/min
192	Cryo trap at 5Ž and desorb at +280Ž	helium	3ml/min
194	-20°C	He	2 ml/min
208	-30	He	0,5
237	von minus 20 °C auf plus 290 °C	He	ca 0,5 mL/ min
267	-10°C	Helium	1.5 ml/min

Participant	analytical column	detector
28	VF5 MS 30mx0.25mmx1µm	Agilent 5975 Mass Detector
34	ZB-5 30 m	MSD
46	VF-5ms, 60 m x 0,32 mm, 1µm stat. Phase	MS
52	MN Optima 5, 50m x 0,32 mm, Schichtdicke 1µm	FID + MS-Detektor (Perkin-Elmer Clarus 500)
54	Rxi-5ms (Restek) 5% diphenyl - 95% dimethyl polysiloxane / 20m / 0.18mm ID / 0.18µm df	MS and FID
60	Agilent HP-1MS	MS
61	DB 624 30m, 0,25mm, 0,1µm	Massenspektrometer
68	Vocol von Supelco	MS
92	DB-1	MS
95	Rtx 502.2	HP 5973 N
104	Rxi-5mS, Fa. Restek	MSD 5971, HP
135	RTX-200	MSD
145	DB 5: 50 m x 320 µm x 1 µm	FID (250°C, 40 mL Wasserstoff, 450 mL Luft)
153	Zebtron ZB-5MSI 0,25 mm	MS Clarus 500
155	Agilent HP 5ms 60m x 0,25mm x 0,25µm	Agilent MSD 5975
172	Rxi-5Sil MS 60m x 0,25mm x 1µm	Shimadzu GCMS-QP2010S
175	Rxi 5 Sil MS 60 m ; 250 µm ; 1,0 µm	MSD

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Participant	analytical column	detector
186	Elite-5MS 60m 0.25mm 1µm	FID/MS
192	HP-VOC(60m length, 0.32mm I.D., 1.8µm film)	MSD
194	J&W DB-5MS	FID
208	HP Ultra 1	MSD
237	Varian Xms VF	MSD
267	HP INNOWAX 60m x 0.32mm x 0.5µm	MSD

Participant	data evaluation
28	Compounds are individually quantified (external standards)
34	externer Standard
46	substanzspezifisch mit IntStd
52	Identifikation über RT und Masse, Quantifizierung über FID-Signal
54	MS identification (NIST) / FID quantification - toluene equivalents
60	External calibration
61	Interne Standardauswertung
68	Ext. Std., 4-Punkt-Kalibration. Identifizierung mittels MS.
92	individual respons factors
95	Quantifizierung durch internen Standard, Qualifizierung durch MSD bzw. Referenzsubstanzen
104	HP ChemStation
135	externer Standard; Massenspektrum und Retentionszeitvergleich
145	externe Standardkalibration
153	external standards, library searching
155	substanzspezifisch
172	Kalibration mit Vergleichstandards, interner Standard d8-Toluol
175	
186	Identification MS / Quantification FID
192	2-Butoxyethanol, 3-Caren and Decamethylcyclpentasiloxane were calculated by using toluene(TIC) response factor, and others were calculated by using their individual resoponse factor.
194	x-calibur. Alle Angaben in D8-Toluol Aequivalente umgerechnet
208	pure compounds for quantitation and identification
237	externe Kalibration mit zusätzlich IS, SIR Mode
267	Quantifizierung mittels spezifischen Massenfragmenten, Identifizierung mittels Bibliothek NIST05

Ringversuch VOC 2012

Participant	date of analysis
28	04/06/2012 and 05/06/2012
34	20.06.2012
46	8.6.
52	01.06.12
54	12/06/2012
60	23/05
61	21.06.2012
68	22.5.2012
92	1/06/2012
95	11.06.2012
104	21.05.2012
135	24.05.2012
145	30.05.2012 (alle Proben)
153	2012-05-23
155	30. Mai 2012
172	22.5.2012
175	2012-06-08
186	2012/06/11
192	1-Jun-12
194	22.05.2012
208	13th June 2012
237	22.05.2012
267	23.5.2012

Blank values RRT VOC 2012

BW1	28	34	46	52	54	60	61	68	92	95	104	135	145	153	155	172	175	186	192	194	208	237	267	IFA
n-Butylacetate	1,28	0,26	0,70	0,30	0	0,69	1,50		0,90	0,80	< 5,00	< 1,00	54,00	0,54	1,9		0	0	0,23	0		0	0	0
n-Heptane	1,49	0,35	3,80	5,80	0	1,35	3,20	7,40			< 5,00	1,90	< 2,00	0,39	2,9		0	11,50	0,30	0,20		0	1,00	0
Toluene	12,14	1,01	716,00	0	20,00	3,23	11,80	5,60	12,50	0,50	< 5,00	< 1,00	< 2,00	0,94	1,9		0	2,60	0,35	0,60	6,80	0	1,00	0
p-Xylene	2,20	0,38	1,30	12,00	7,00	0,79	2,40		2,30	0,20	< 5,00	< 1,00	< 2,00	0,57	1,00		0	0	0,33	0,20		0	0	0
n-Dodecane	0,68	1,46	0,60	66,70	2,00	0,31	1,10			1,80	< 5,00	< 1,00	< 2,00	0,55	0		0	0		0,20		0	0	0
n-Tetradecane	1,28	0,31	1,10	16,60	1,00	0,38	0,90		0,80	2,40	< 5,00	< 1,00	< 2,00	1,20	0,9		0	0		0,30		0	0	0
n-Butoxyethanol	0,56	0,75	0,50	0	3,00	0,46	1,10				< 5,00	< 1,00	< 2,00	1,50	0		0	0		0	1,10	0	3,00	0
1,2,3-Trimethylbenzene	1,23	0,50	0,50	0	2,00	0,19	0,80		0,50		< 5,00	< 1,00	< 2,00	0,95	0		0	0	0,33	0,20		0	0	0
3-Carene	0,10	0,05	0,20	0	1,00	0	0				< 5,00	< 1,00	< 2,00	0,20	0		0	0		0		0	0	0
Decamethylcyclopentasiloxane	0,98	0,45	2,10	0	2,00	0,76	7,60				< 5,00	< 1,00	19,00	1,10	2,00		0	0		0,10		0	1,00	0
BW2	28	34	46	52	54	60	61	68	92	95	104	135	145	153	155	172	175	186	192	194	208	237	267	IFA
n-Butylacetate	1,22	0,56	0,60	0	0	0,40	1,80				< 5,00	< 1,00	19,00	0,52	1	< 1,00	0	0		0		0	0	0
n-Heptane	3,47	0,54	1,30	6,00	0	0,78	2,80				< 5,00	1,60	8,00	0,31	7,8	4,00	0	3,00	0,38	0,40		0	3,00	0
Toluene	20,36	2,00	583,20	0	1405,00	0,70	9,80		6,40	1,30	< 5,00	2,10	8,00	0,71	6,8	12,00	0	11,30	0,38	0,60	14,60	0	1,00	0
p-Xylene	3,88	0,59	0,30	12,20	97,00	0,45	1,50			0,60	< 5,00	< 1,00	2,00	0,56	3	1,00	0	0	0,33	0,10		0	0	0
n-Dodecane	0,80	1,35	0,60	81,70	150,00	0,35	0,50				< 5,00	< 1,00	< 2,00	0,61	0	< 1,00	0	0		0,10		0	0	0
n-Tetradecane	2,25	0,67	0,50	8,90	65,00	0,34	0				< 5,00	< 1,00	< 2,00	1,20	1,8	< 1,00	0	0	0,13	0,40		0	1,00	0
n-Butoxyethanol	1,32	1,85	0,50	0	0	0,35	0,60				< 5,00	< 1,00	11,00	1,70	1	< 1,00	0	0		0	0,80	0	1,00	0
1,2,3-Trimethylbenzene	0,75	0,83	0,30	0	18,00	0,22	0,60		0,50		< 5,00	< 1,00	4,00	0,81	0,9	< 1,00	0	0	0,21	0,10		0	0	0
3-Carene	0,08	0,05	0,20	0	0	0	0				< 5,00	< 1,00	< 2,00	0,26	0	< 1,00	0	0		0		0	0	0
Decamethylcyclopentasiloxane	0,80	2,12	1,90	0	7,00	0,80	6,80				< 5,00	< 1,00	17,00	0,85	3	1,00	0	0		0,30		0	1,00	0