Summary of laboratory means

Sample sample 1

Laboratory	NBUAC	Z score	NHEPTAN	Z score	TOLUOL	Z score	PXYLOL	Z score	NDODECAN	Z score	TETRADEC
Measurement unit	µg/m³		µg/m³		µg/m³		µg/m³		µg/m³		µg/m³
–	–	–	–	–	–	–	–	–	–	–	–
22	23,950	2,687	35,400	5,900	75,150	18,864	21,950	2,639	12,400	-1,386	18,850
30	19,000	0,754	19,600	0,291	20,100	0,162	16,900	0,498	15,950	0,125	20,750
44	21,500	1,731	20,500	0,610	21,500	0,638	20,500	2,024	20,000	1,850	25,000
50	15,350	-0,671	24,950	2,190	19,800	0,060	16,500	0,328	14,100	-0,662	20,350
60	15,800	-0,496	20,050	0,451	15,650	-1,350	14,850	-0,371	16,300	0,274	11,600
63	13,550	-1,374	13,500	-1,874	13,050	-2,233	12,150	-1,516	12,250	-1,450	14,850
68	18,250	0,461	22,100	1,178	19,550	-0,025	18,150	1,028	12,950	-1,152	11,550
87	14,500	-1,003	24,450	2,013	15,000	-1,571	11,950	-1,600	16,350	0,296	15,150
94	42,000	9,737	22,500	1,320	29,000	3,186	35,500	8,383	24,000	3,553	28,500
135	18,550	0,578	19,550	0,273	23,850	1,436	16,850	0,477	17,650	0,849	20,100
148	13,300	-1,472	11,600	-2,549	7,100	-4,255	11,800	-1,664	16,700	0,445	7,600
150	18,775	0,666	19,535	0,268	20,895	0,432	18,230	1,062	17,020	0,581	18,880
153	11,600	-2,136	10,750	-2,851	6,300	-4,526	9,550	-2,618	10,950	-2,004	12,850
155	20,400	1,301	21,900	1,107	21,150	0,519	14,800	-0,392	17,200	0,658	21,400
169	16,150	-0,359	44,300	9,059	29,500	3,355	14,100	-0,689	12,950	-1,152	14,750
170	13,500	-1,394	21,000	0,788	26,000	2,166	12,500	-1,367	6,500	-3,899	8,500
175	8,500	-3,347	11,000	-2,762	19,500	-0,042	19,500	1,600	16,000	0,147	24,000
180	19,000	0,754	22,000	1,143	62,500	14,566	12,500	-1,367	10,500	-2,195	13,500
186	20,400	1,301	25,700	2,456	24,300	1,589	19,000	1,388	18,150	1,062	20,000
189	21,600	1,770	19,220	0,156	30,710	3,766	28,520	5,424	17,805	0,915	20,175
192	17,500	0,168	18,500	-0,099	17,000	-0,891	15,000	-0,307	15,500	-0,066	18,500
207	19,500	0,949	17,500	-0,454	18,500	-0,382	16,500	0,328	17,000	0,573	20,500
235	16,200	-0,339	15,900	-1,022	15,700	-1,333	17,000	0,540	17,650	0,849	20,700
237	16,550	-0,203	10,750	-2,851	13,300	-2,148	14,900	-0,350	17,200	0,658	17,700

Ringversuch VOC

Laboratory	NBUAC	Z score	NHEPTAN	Z score	TOLUOL	Z score	PXYLOL	Z score	NDODECAN	Z score	TETRADEC
267	18,500	0,559	20,000	0,433	19,000	-0,212	16,500	0,328	17,500	0,785	21,000
–	–	–	–	–	–	–	–	–	–	–	–
Method	ISO 5725		ISO 5725		ISO 5725		ISO 5725		ISO 5725		ISO 5725
Assessment	|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000
Mean	17,069		18,780		19,623		15,725		15,655		17,855
Reproducibility s.d.	3,599		4,731		4,737		3,298		2,755		4,497
Rel. reproducibility s.d.	21,08 %		25,19 %		24,14 %		20,97 %		17,59 %		25,19 %
Reference value	18,600		17,500		16,900		16,000		16,600		20,900
Target s.d.	2,560		2,817		2,944		2,359		2,348		2,678
Rel. target s.d.	15,00 %		15,00 %		15,00 %		15,00 %		15,00 %		15,00 %
Low er limit of tolerance	11,948		13,146		13,736		11,008		10,959		12,498
Upper limit of tolerance	22,190		24,414		25,510		20,443		20,352		23,211
Low er confidence limit	15,637		16,865		17,688		14,432		14,605		16,088
Upper confidence limit	18,501		20,695		21,559		17,019		16,706		19,621
Type B outliers	1		2		2		2		0		0
Type F outliers	0		0		4		0		2		2
No. of laboratories w ith E outliers	5		11		12		5		6		7
Intermed. s.d.											

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	Z score	BUETOH	Z score	TRIMEBEN	Z score	CAREN	Z score	DMCPS	Z score
Measurement unit		µg/m³		µg/m³		µg/m³		µg/m³	
–	–	–	–	–	–	–	–	–	–
22	0,372	38,450	10,063	15,350	0,006	15,950	-1,267	29,450	5,419

Ringversuch VOC

Laboratory	Z score	BUETOH	Z score	TRIMEBEN	Z score	CAREN	Z score	DMCPS	Z score
30	1,081	19,550	1,840	16,450	0,484	24,650	1,678	19,300	1,254
44	2,668	18,500	1,383	22,000	2,896	25,500	1,966	19,500	1,336
50	0,932	13,600	-0,749	16,250	0,397	22,250	0,866	17,850	0,659
60	-2,335	12,350	-1,293	12,850	-1,081	17,550	-0,725	18,800	1,049
63	-1,122	12,200	-1,358	11,300	-1,755	16,400	-1,115	13,600	-1,085
68	-2,354	31,350	6,974	16,550	0,527	20,250	0,189	17,800	0,638
87	-1,010	9,100	-2,707	16,450	0,484	18,900	-0,268	10,200	-2,481
94	3,975	26,000	4,646	26,500	4,852	36,000	5,520	36,500	8,312
135	0,838	19,650	1,883	17,600	0,984	23,550	1,306	18,250	0,823
148	-3,829	12,300	-1,315	10,400	-2,146	16,500	-1,081	14,000	-0,921
150	0,383	18,165	1,237	15,775	0,190	20,475	0,265	17,280	0,425
153	-1,869	18,950	1,579	10,450	-2,124	12,750	-2,350	11,150	-2,091
155	1,324	16,200	0,382	17,150	0,788	22,100	0,815	18,050	0,741
169	-1,159	15,200	-0,053	11,600	-1,624	16,350	-1,132	12,550	-1,516
170	-3,493	11,500	-1,663	11,500	-1,668	15,000	-1,589	9,500	-2,768
175	2,295	6,500	-3,838	20,500	2,244	20,000	0,104	36,500	8,312
180	-1,626	8,500	-2,968	12,500	-1,233	13,000	-2,266	13,000	-1,332
186	0,801	14,400	-0,401	17,450	0,918	27,150	2,524	21,250	2,054
189	0,866	49,810	15,006	22,500	3,113	20,855	0,393	20,510	1,750
192	0,241	7,000	-3,621	14,500	-0,364	16,500	-1,081	15,000	-0,511
207	0,988	17,000	0,730	15,500	0,071	20,500	0,273	18,000	0,720
235	1,062	18,650	1,448	17,350	0,875	21,900	0,747	17,200	0,392
237	-0,058	18,300	1,296	14,700	-0,277	23,550	1,306	17,600	0,556
267	1,174	17,000	0,730	15,000	-0,147	21,000	0,442	17,000	0,310
–	–	–	–	–	–	–	–	–	–
Method		ISO 5725		ISO 5725		ISO 5725		ISO 5725	
Assessment		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000	
Mean		15,322		15,337		19,693		16,245	
Reproducibility s.d.		3,612		3,285		3,918		3,628	
Rel. reproducibility s.d.		23,57 %		21,42 %		19,89 %		22,33 %	
Reference value		16,900		16,500		20,900		18,300	
Target s.d.		2,298		2,301		2,954		2,437	

Laboratory	Z score	BUETOH	Z score	TRIMEBEN	Z score	CAREN	Z score	DMCPS	Z score
Rel. target s.d.		15,00 %		15,00 %		15,00 %		15,00 %	
Low er limit of tolerance		10,725		10,736		13,785		11,372	
Upper limit of tolerance		19,918		19,938		25,601		21,119	
Low er confidence limit		13,697		14,041		18,118		14,818	
Upper confidence limit		16,947		16,634		21,268		17,672	
Type B outliers		2		0		0		0	
Type F outliers		4		1		1		3	
No. of laboratories w ith E outliers		10		7		5		8	
Intermed. s.d.									

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 sample 2

Laboratory	NBUAC	Z score	NHEPTAN	Z score	TOLUOL	Z score	PXYLOL	Z score	NDODECAN	Z score	TETRADEC
Measurement unit	µg/m³		µg/m³		µg/m³		µg/m³		µg/m³		µg/m³
–	–	–	–	–	–	–	–	–	–	–	–
22	43,450	0,814	56,250	3,309	124,600	15,740	37,700	0,719	47,550	0,330	30,900
30	42,450	0,642	41,600	0,711	42,800	1,030	36,600	0,503	49,450	0,610	36,450
44	51,000	2,114	44,500	1,225	46,500	1,695	45,500	2,247	62,000	2,456	43,000
50	31,000	-1,329	43,000	0,959	36,750	-0,058	35,650	0,317	43,500	-0,266	34,150
60	31,550	-1,235	36,750	-0,149	30,250	-1,227	28,500	-1,084	45,850	0,080	18,450
63	30,750	-1,372	29,400	-1,453	30,000	-1,272	28,500	-1,084	37,200	-1,193	25,300
68	36,950	-0,305	36,950	-0,114	32,650	-0,795	32,150	-0,368	41,850	-0,509	26,400
87	34,400	-0,744	46,450	1,571	33,250	-0,687	29,450	-0,897	24,250	-3,098	12,800
94	56,500	3,061	32,000	-0,992	36,500	-0,103	47,000	2,541	48,000	0,396	34,500
135	39,350	0,108	38,700	0,197	35,900	-0,211	34,900	0,170	50,750	0,801	33,450
148	28,350	-1,786	35,350	-0,397	32,500	-0,822	24,200	-1,926	40,350	-0,729	22,500
150	42,050	0,573	38,225	0,112	43,525	1,160	39,995	1,168	48,815	0,516	31,155
153	26,100	-2,173	23,700	-2,464	19,000	-3,250	22,800	-2,200	34,200	-1,634	22,200
155	45,000	1,081	47,500	1,757	45,550	1,524	33,550	-0,094	55,750	1,537	38,000
169	36,900	-0,314	42,800	0,924	41,250	0,751	32,200	-0,359	39,700	-0,825	26,100
170	29,500	-1,588	30,500	-1,258	31,000	-1,092	26,000	-1,573	31,500	-2,032	17,000
175	16,500	-3,826	20,500	-3,031	36,500	-0,103	38,500	0,875	44,500	-0,119	37,000
180	30,500	-1,415	29,000	-1,524	53,000	2,864	25,500	-1,671	27,000	-2,694	23,000
186	44,850	1,055	47,950	1,837	44,700	1,372	39,450	1,062	53,700	1,235	33,250
189	44,305	0,961	42,450	0,862	66,610	5,312	60,410	5,168	51,640	0,932	36,475
192	40,500	0,306	39,500	0,339	38,000	0,167	36,000	0,386	49,000	0,544	32,000
207	43,000	0,737	36,000	-0,282	37,500	0,077	36,000	0,386	52,500	1,059	34,500
235	40,100	0,237	35,700	-0,335	37,050	-0,004	35,700	0,327	50,550	0,772	34,650
237	36,250	-0,425	25,200	-2,197	28,500	-1,542	32,400	-0,320	49,550	0,624	30,250

Laboratory	NBUAC	Z score	NHEPTAN	Z score	TOLUOL	Z score	PXYLOL	Z score	NDODECAN	Z score	TETRADEC
267	44,500	0,995	42,000	0,782	40,000	0,526	38,500	0,875	53,500	1,206	34,500
–	–	–	–	–	–	–	–	–	–	–	–
Method	ISO 5725		ISO 5725		ISO 5725		ISO 5725		ISO 5725		ISO 5725
Assessment	|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000
Mean	38,721		37,591		37,073		34,031		45,306		30,633
Reproducibility s.d.	7,649		8,830		7,693		6,409		9,435		6,724
Rel. reproducibility s.d.	19,75 %		23,49 %		20,75 %		18,83 %		20,82 %		21,95 %
Reference value	40,000		35,900		35,600		33,500		51,400		35,200
Target s.d.	5,808		5,639		5,561		5,105		6,796		4,595
Rel. target s.d.	15,00 %		15,00 %		15,00 %		15,00 %		15,00 %		15,00 %
Low er limit of tolerance	27,105		26,314		25,951		23,822		31,714		21,443
Upper limit of tolerance	50,337		48,868		48,195		44,240		58,898		39,822
Low er confidence limit	35,646		34,229		34,038		31,491		41,675		27,937
Upper confidence limit	41,796		40,953		40,107		36,571		48,938		33,328
Type B outliers	0		0		2		1		0		0
Type F outliers	1		0		0		0		0		1
No. of laboratories w ith E outliers	6		8		6		6		4		5
Intermed. s.d.											

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	Z score	BUETOH	Z score	TRIMEBEN	Z score	CAREN	Z score	DMCPS	Z score
Measurement unit		µg/m³		µg/m³		µg/m³		µg/m³	
–	–	–	–	–	–	–	–	–	–
22	0,058	49,950	2,833	28,600	-0,984	25,000	-1,236	38,700	1,600

Laboratory	Z score	BUETOH	Z score	TRIMEBEN	Z score	CAREN	Z score	DMCPS	Z score
30	1,266	43,300	1,568	35,750	0,437	38,050	1,599	35,700	0,959
44	2,692			46,500	2,573	41,000	2,240	37,000	1,236
50	0,766	29,600	-1,037	38,350	0,953	35,100	0,958	32,850	0,350
60	-2,651	23,250	-2,245	26,250	-1,451	24,850	-1,268	33,100	0,403
63	-1,161	29,700	-1,018	24,850	-1,729	23,250	-1,616	24,750	-1,380
68	-0,921	55,950	3,974	31,000	-0,507	30,850	0,035	29,550	-0,355
87	-3,881	17,850	-3,272	35,950	0,477	29,000	-0,367	17,300	-2,971
94	0,842	40,000	0,941	39,500	1,182	36,500	1,262	43,000	2,518
135	0,613	43,800	1,663	35,850	0,457	35,600	1,067	33,300	0,446
148	-1,770	28,800	-1,189	21,150	-2,464	26,300	-0,953	29,750	-0,312
150	0,114	39,740	0,891	35,315	0,350	31,085	0,086	31,980	0,164
153	-1,835	44,000	1,701	23,500	-1,997	19,000	-2,539	19,850	-2,427
155	1,603	42,850	1,483	38,800	1,043	36,650	1,295	37,600	1,365
169	-0,986	32,500	-0,486	26,750	-1,351	25,600	-1,105	25,650	-1,188
170	-2,967	26,000	-1,722	27,000	-1,302	22,000	-1,888	22,500	-1,861
175	1,386	13,000	-4,194	41,500	1,579	32,000	0,285	66,500	7,538
180	-1,661	28,000	-1,342	27,500	-1,202	20,500	-2,213	22,500	-1,861
186	0,570	33,150	-0,362	37,150	0,715	42,700	2,609	41,400	2,176
189	1,272	60,060	4,756	44,875	2,250	34,340	0,793	36,845	1,203
192	0,298	17,000	-3,434	34,000	0,089	26,000	-1,019	29,000	-0,472
207	0,842	48,500	2,557	32,500	-0,209	33,000	0,502	33,500	0,489
235	0,874	41,950	1,311	38,400	0,963	33,150	0,535	32,200	0,211
237	-0,083	37,700	0,503	31,750	-0,358	34,200	0,763	29,550	-0,355
267	0,842	38,500	0,655	36,000	0,486	31,500	0,176	31,500	0,062
–	–	–	–	–	–	–	–	–	–
Method		ISO 5725		ISO 5725		ISO 5725		ISO 5725	
Assessment		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000		|Z|<=2,000	
Mean		35,054		33,552		30,689		31,211	
Reproducibility s.d.		9,592		6,759		6,417		6,809	
Rel. reproducibility s.d.		27,36 %		20,15 %		20,91 %		21,81 %	
Reference value		36,000		34,100		31,200		33,800	
Target s.d.		5,258		5,033		4,603		4,682	

Ringversuch VOC

Laboratory	Z score	BUETOH	Z score	TRIMEBEN	Z score	CAREN	Z score	DMCPS	Z score
Rel. target s.d.		15,00 %		15,00 %		15,00 %		15,00 %	
Low er limit of tolerance		24,538		23,486		21,482		21,848	
Upper limit of tolerance		45,571		43,617		39,896		40,575	
Low er confidence limit		30,912		30,904		28,153		28,517	
Upper confidence limit		39,196		36,199		33,225		33,906	
Type B outliers		0		0		0		1	
Type F outliers		3		0		0		0	
No. of laboratories w ith E outliers		9		5		6		6	
Intermed. s.d.									

Explanation of outlier types

A: Single outlier

B: Differing laboratory mean

C: excessive laboratory s.d.

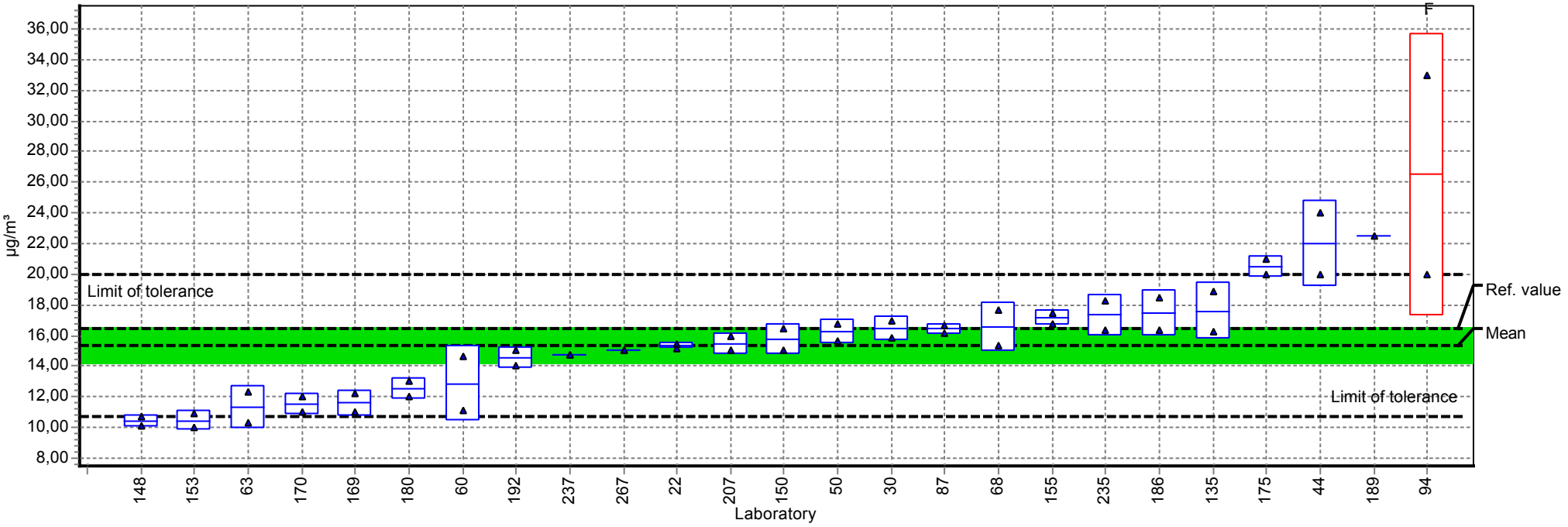
D: Excluded manually

E: score outside tolerance limits

F: |Score|>3,5

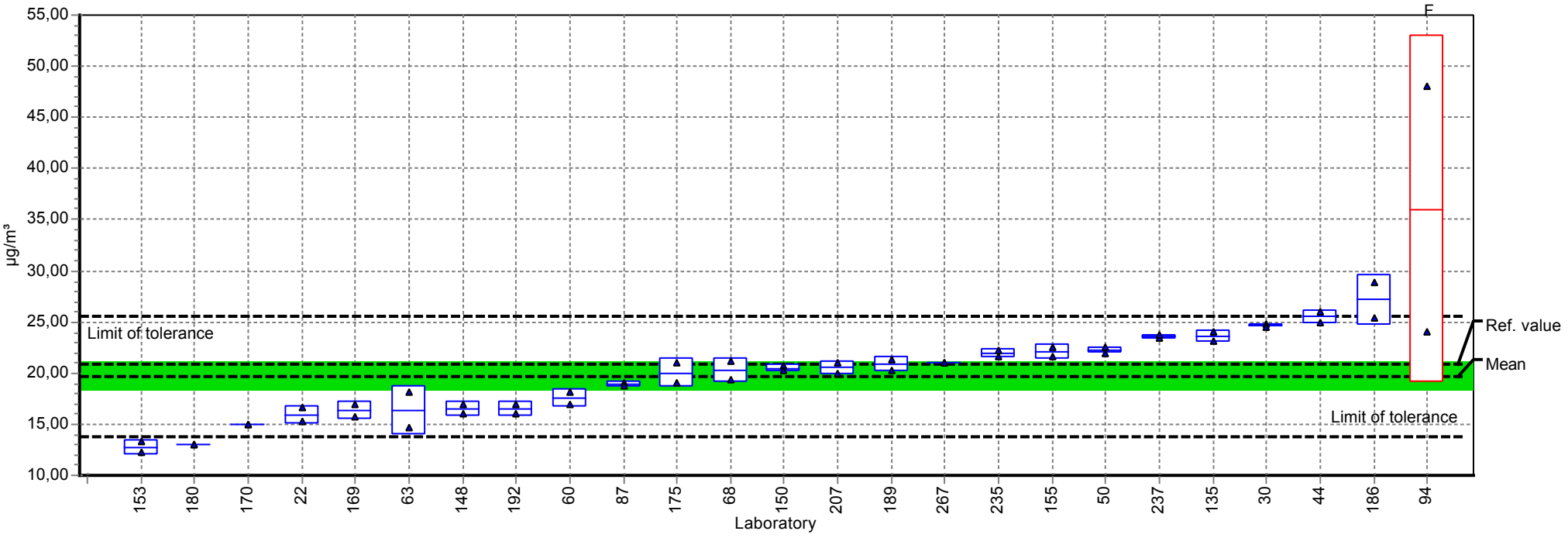
Summary results

Measurand:	**1,2,3-Trimethylbenzene**	**Mean:**	**15,337 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**3,285 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**21,42%**
No. of laboratories:	**24**	**Tolerance limits:**	**10,736 - 19,938 µg/m³ (|Z score| < 2,00)**



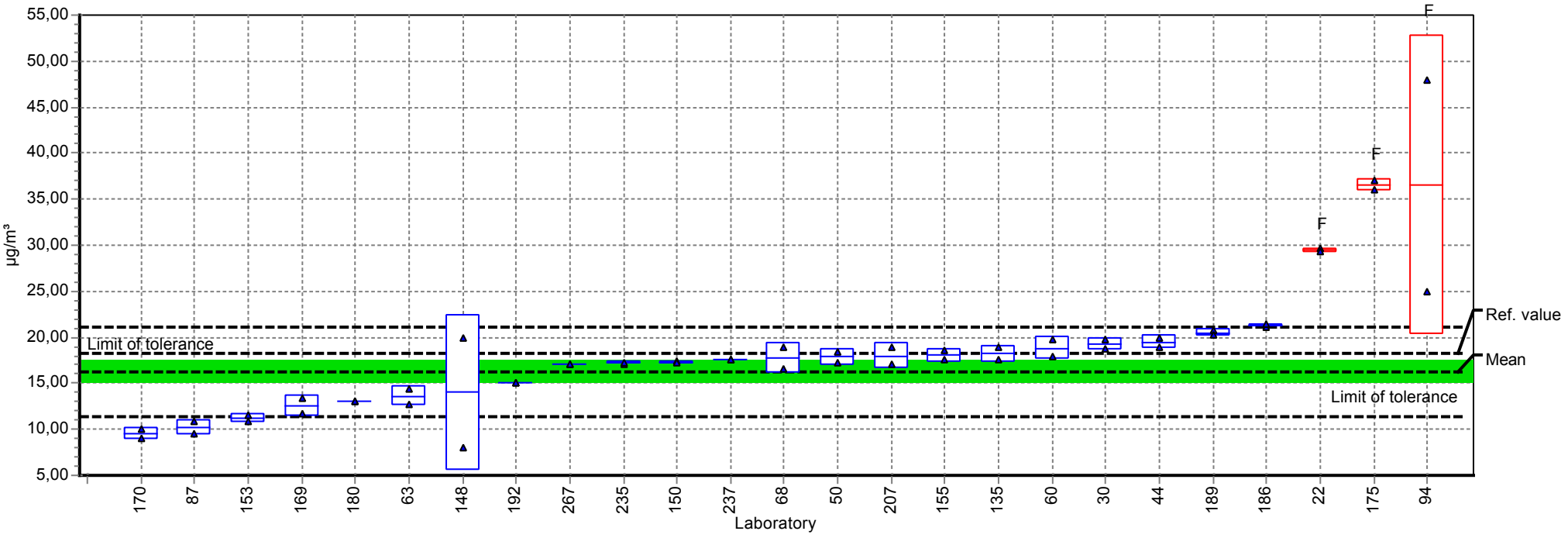
Summary results

Measurand:	**3-Carene**	**Mean:**	**19,693 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**3,918 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**19,89%**
No. of laboratories:	**24**	**Tolerance limits:**	**13,785 - 25,601 µg/m³ (|Z score| < 2,00)**



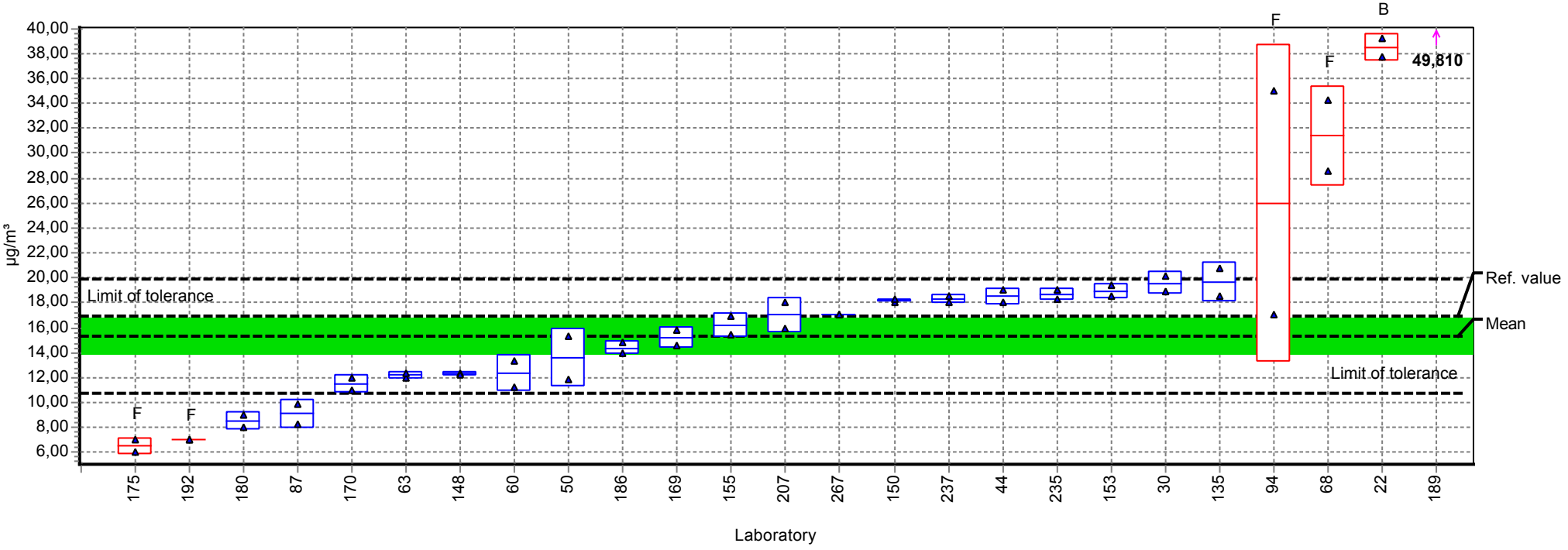
Summary results

Measurand:	**Decamethylcyclopentasiloxane**	**Mean:**	**16,245 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**3,628 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**22,33%**
No. of laboratories:	**22**	**Tolerance limits:**	**11,372 - 21,119 µg/m³ (|Z score| < 2,00)**



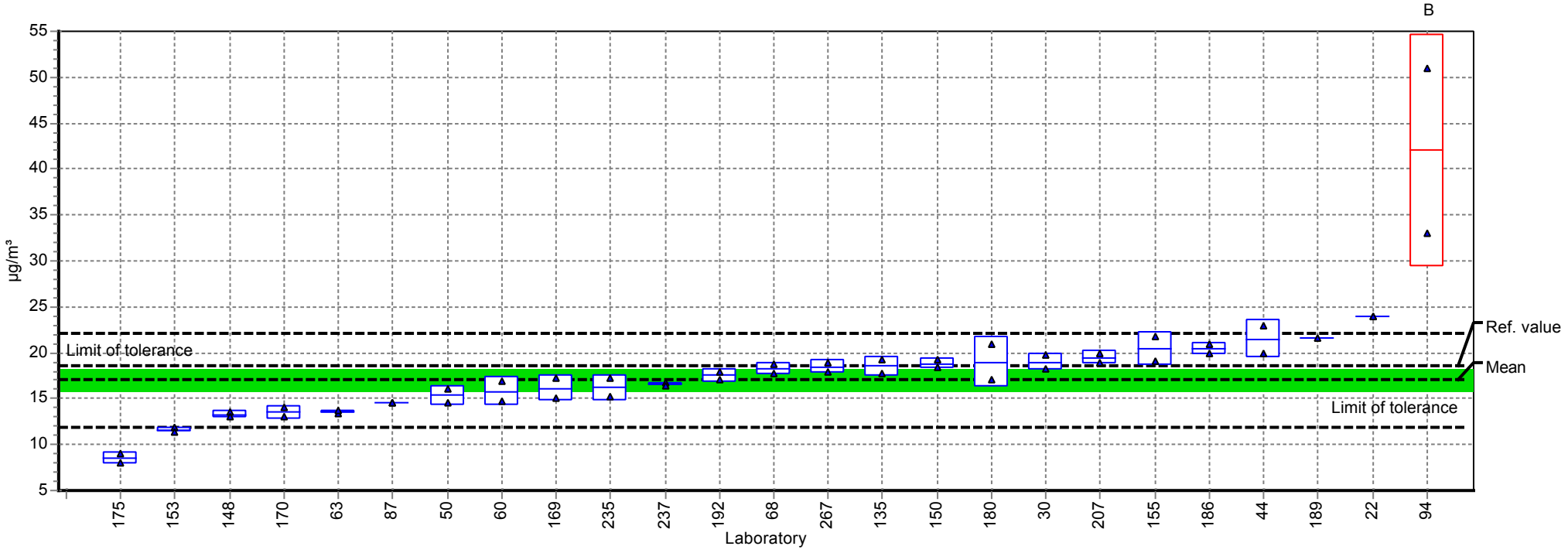
Summary results

Measurand:	**n-Butoxyethanol**	**Mean:**	**15,322 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**3,612 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**23,57%**
No. of laboratories:	**19**	**Tolerance limits:**	**10,725 - 19,918 µg/m³ (|Z score| < 2,00)**



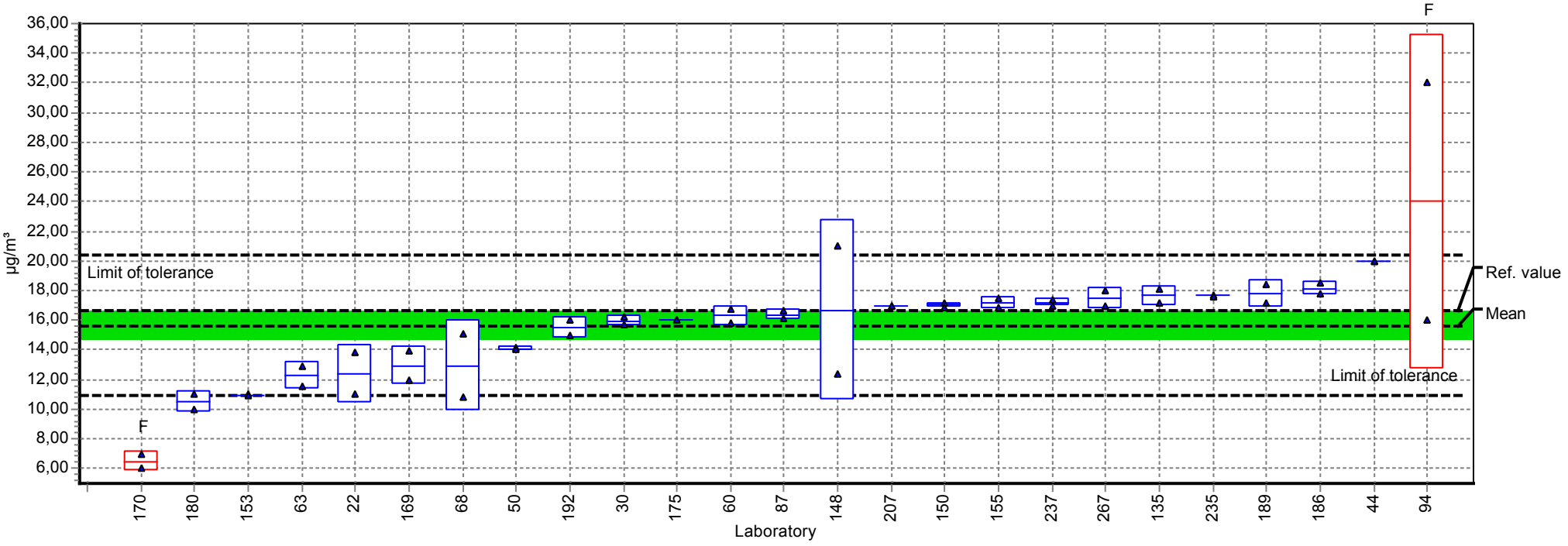
Summary results

Measurand:	**n-Butyl acetate**	**Mean:**	**17,069 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**3,599 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**21,08%**
No. of laboratories:	**24**	**Tolerance limits:**	**11,948 - 22,190 µg/m³ (|Z score| < 2,00)**



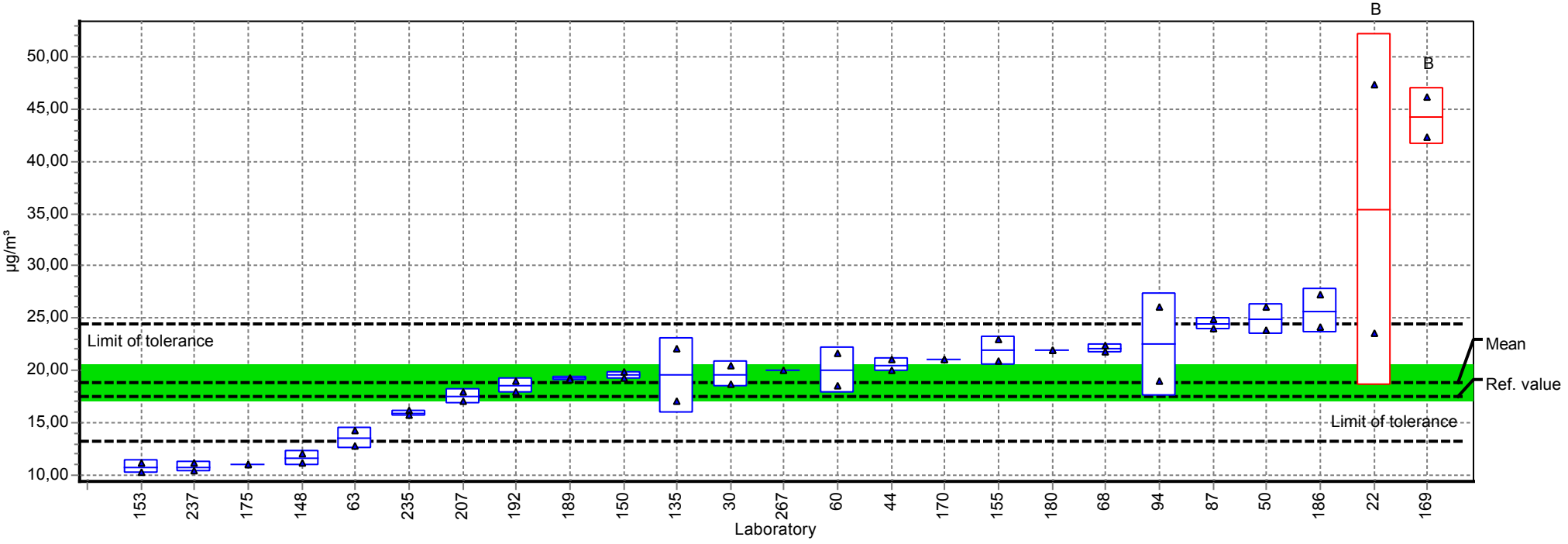
Summary results

Measurand:	**n-Dodecane**	**Mean:**	**15,655 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**2,755 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**17,59%**
No. of laboratories:	**23**	**Tolerance limits:**	**10,959 - 20,352 µg/m³ (|Z score| < 2,00)**



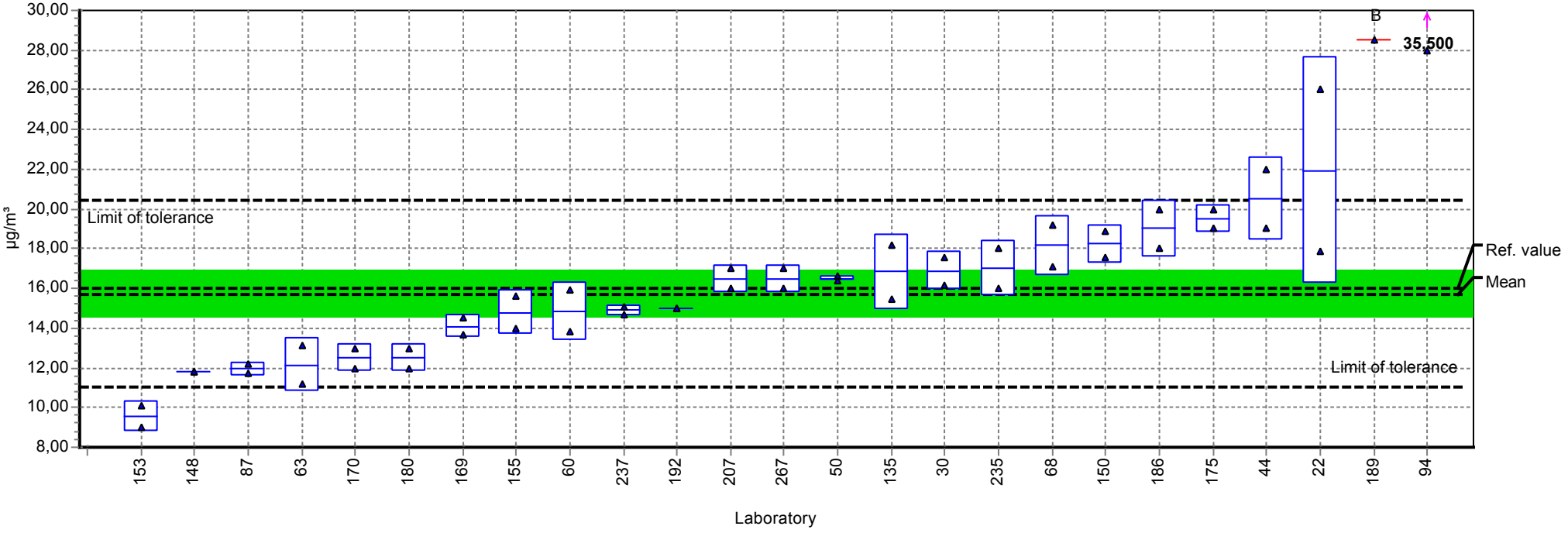
Summary results

Measurand:	**n-Heptane**	**Mean:**	**18,780 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**4,731 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**25,19%**
No. of laboratories:	**23**	**Tolerance limits:**	**13,146 - 24,414 µg/m³ (|Z score| < 2,00)**



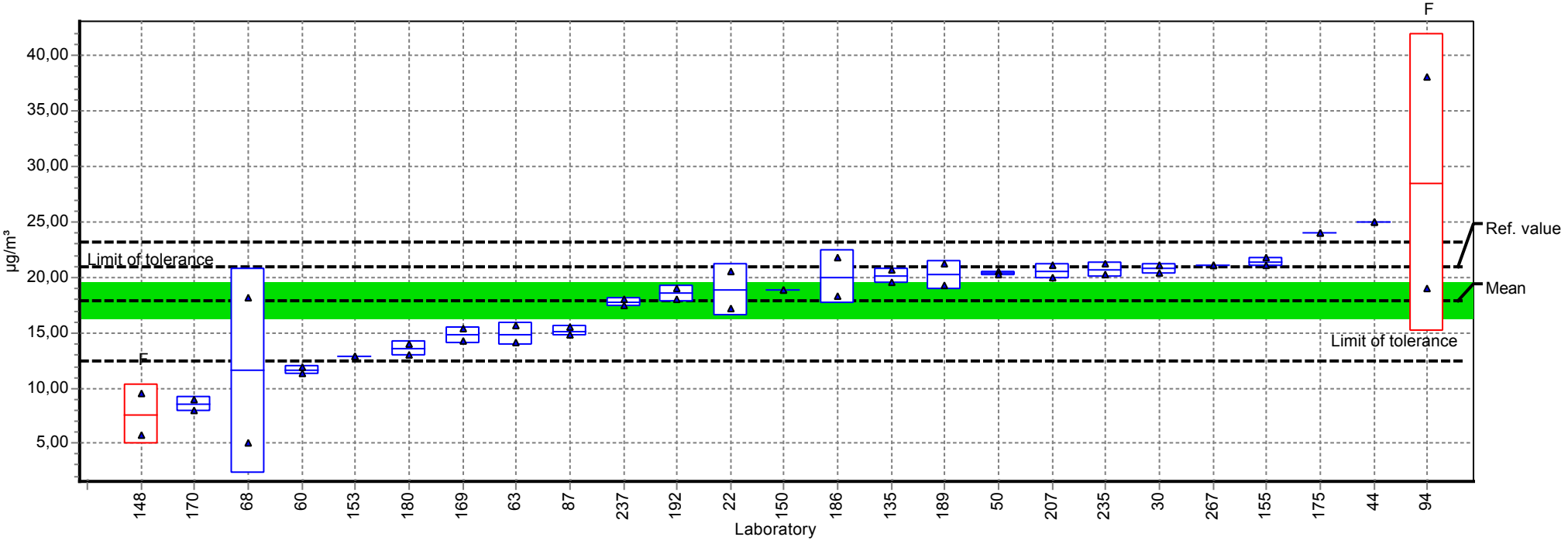
Summary results

Measurand:	**p-Xylene**	**Mean:**	**15,725 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**3,298 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**20,97%**
No. of laboratories:	**23**	**Tolerance limits:**	**11,008 - 20,443 µg/m³ (|Z score| < 2,00)**



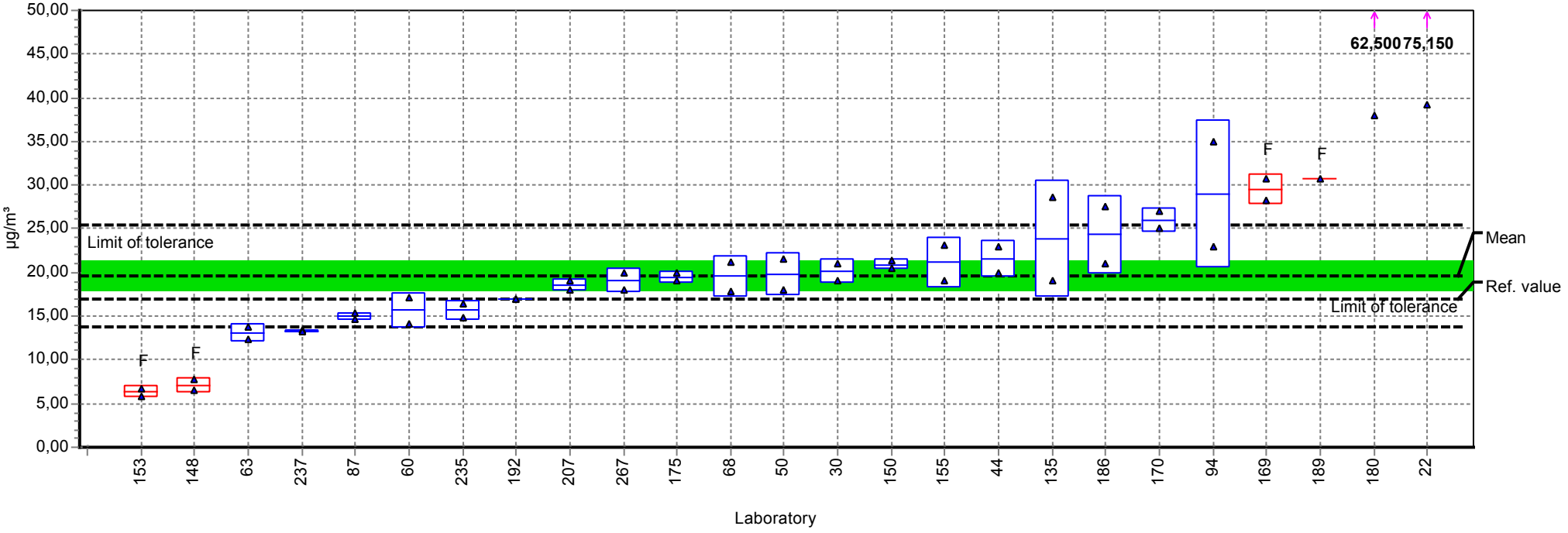
Summary results

Measurand:	**n-Tetradecane**	**Mean:**	**17,855 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**4,497 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**25,19%**
No. of laboratories:	**23**	**Tolerance limits:**	**12,498 - 23,211 µg/m³ (|Z score| < 2,00)**



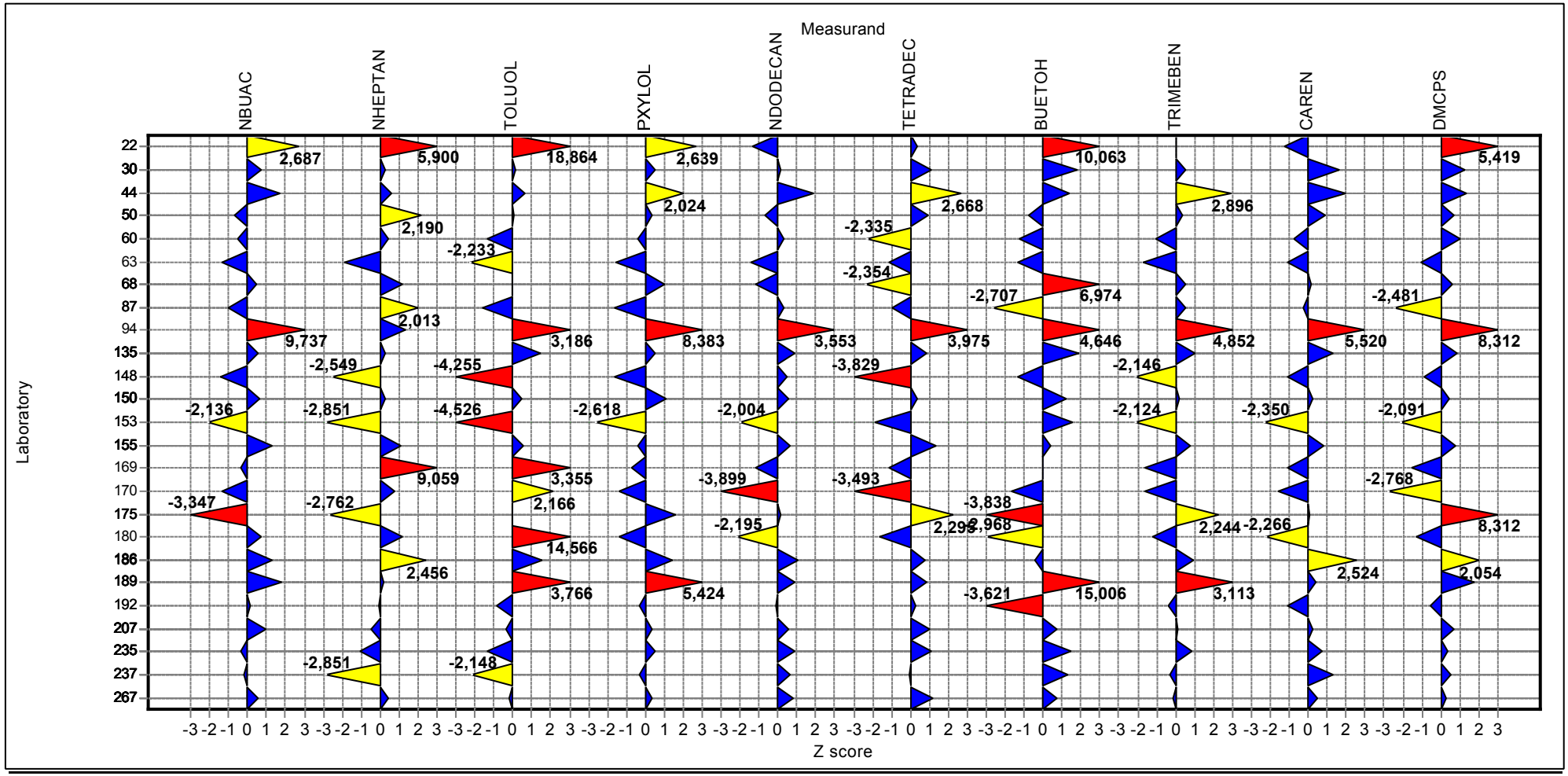
Summary results

Measurand:	**Toluene**	**Mean:**	**19,623 µg/m³**
Sample:	**sample 1**	**Reproducibility s.d.:**	**4,737 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**24,14%**
No. of laboratories:	**19**	**Tolerance limits:**	**13,736 - 25,510 µg/m³ (|Z score| < 2,00)**



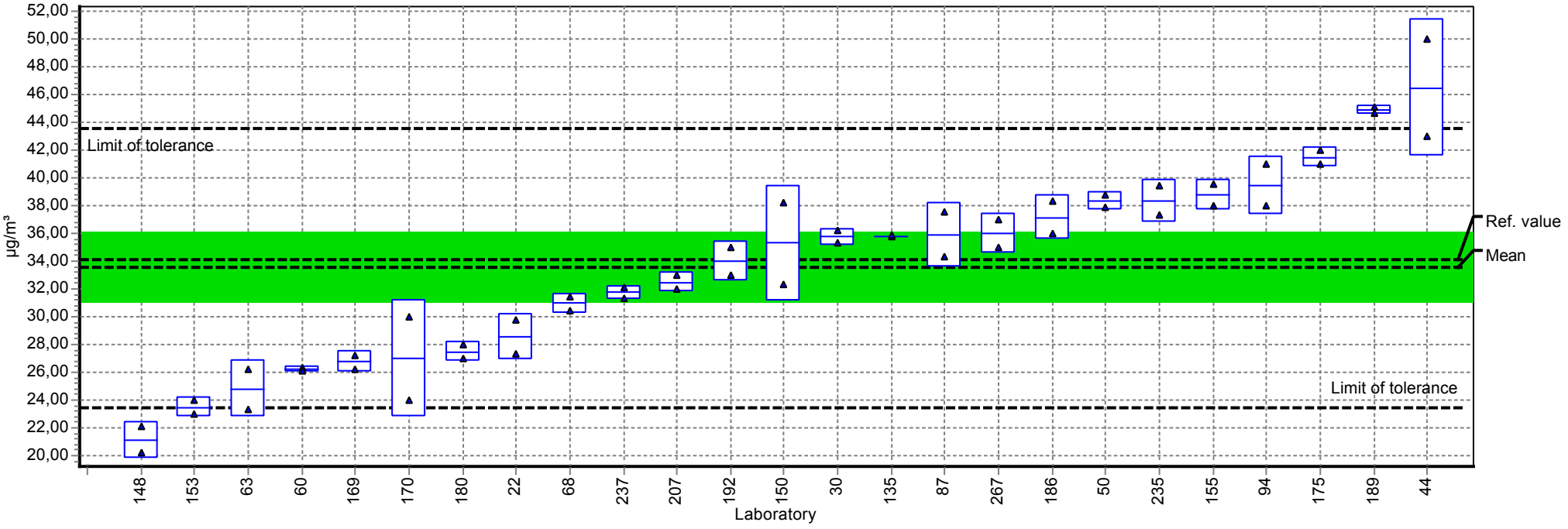
Sample chart of Z scores

Sample: sample 1



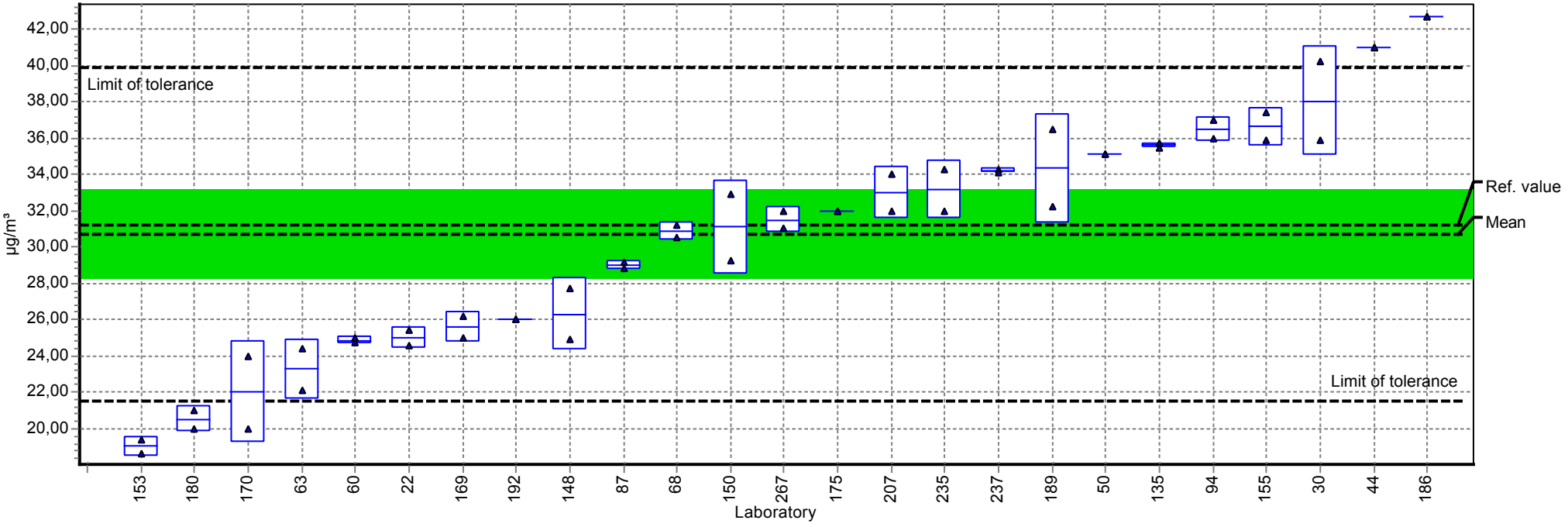
Summary results

Measurand:	**1,2,3-Trimethylbenzene**	**Mean:**	**33,552 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**6,759 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**20,15%**
No. of laboratories:	**25**	**Tolerance limits:**	**23,486 - 43,617 µg/m³ (|Z score| < 2,00)**



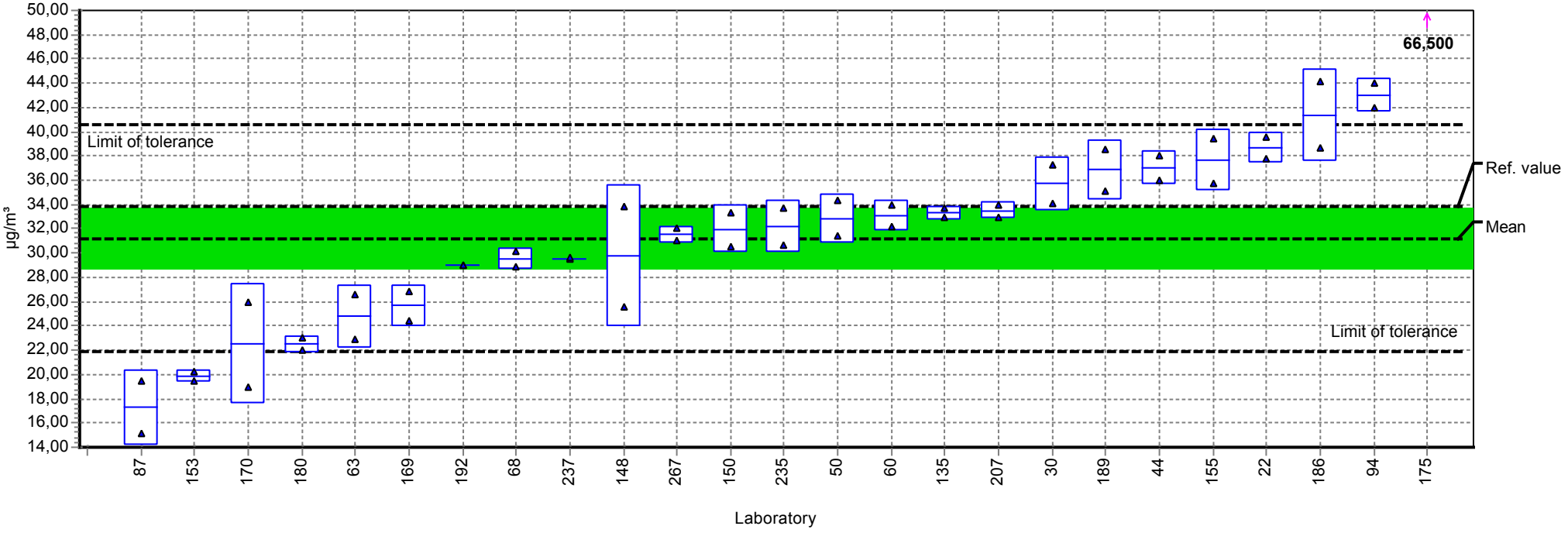
Summary results

Measurand:	**3-Carene**	**Mean:**	**30,689 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**6,417 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**20,91%**
No. of laboratories:	**25**	**Tolerance limits:**	**21,482 - 39,896 µg/m³ (|Z score| < 2,00)**



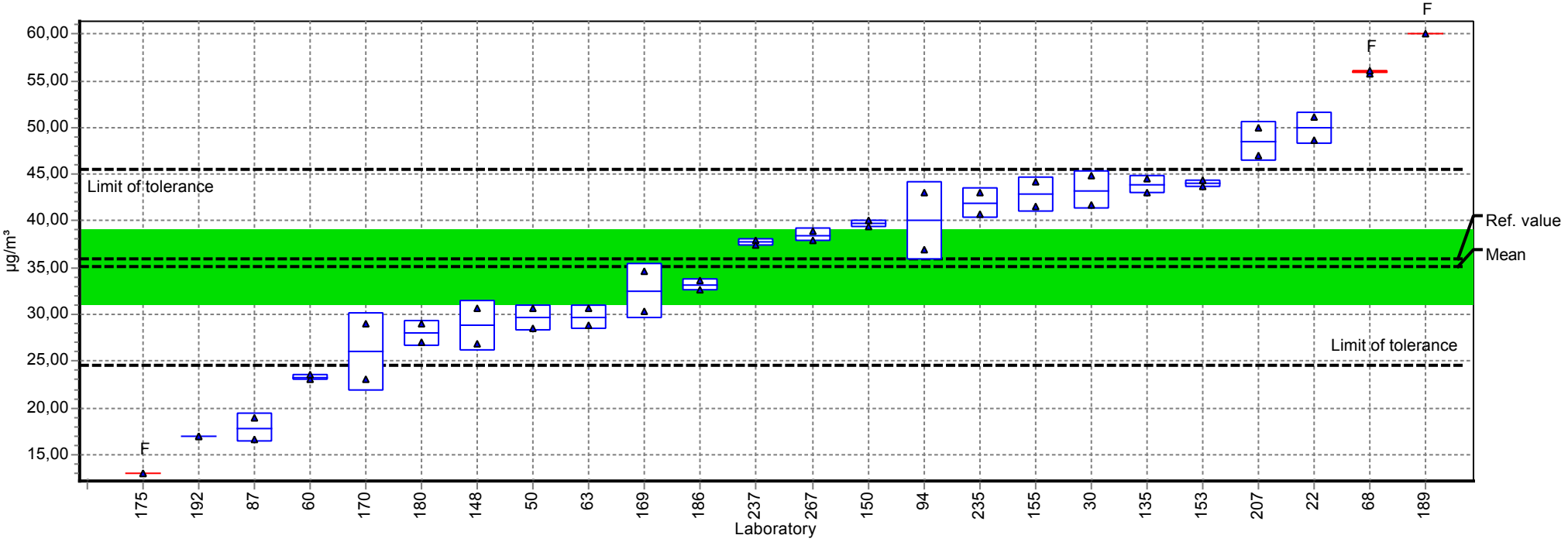
Summary results

Measurand:	**Decamethylcyclopentasiloxane**	**Mean:**	**31,211 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**6,809 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**21,81%**
No. of laboratories:	**24**	**Tolerance limits:**	**21,848 - 40,575 µg/m³ (|Z score| < 2,00)**



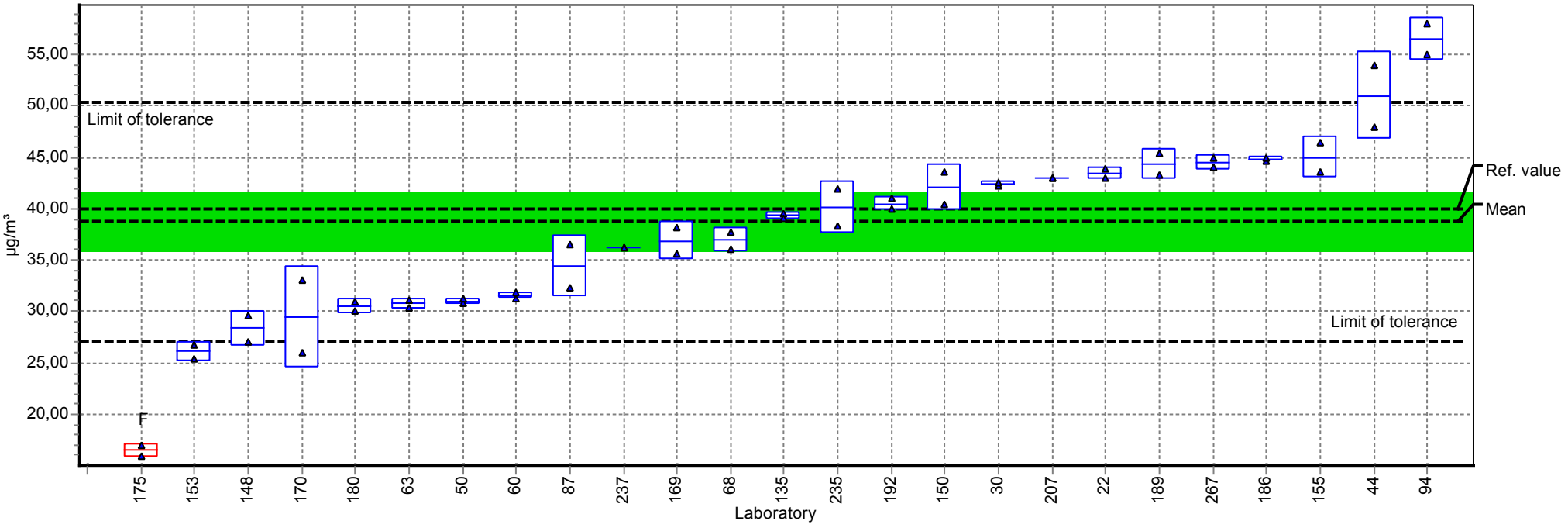
Summary results

Measurand:	**n-Butoxyethanol**	**Mean:**	**35,054 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**9,592 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**27,36%**
No. of laboratories:	**21**	**Tolerance limits:**	**24,538 - 45,571 µg/m³ (|Z score| < 2,00)**



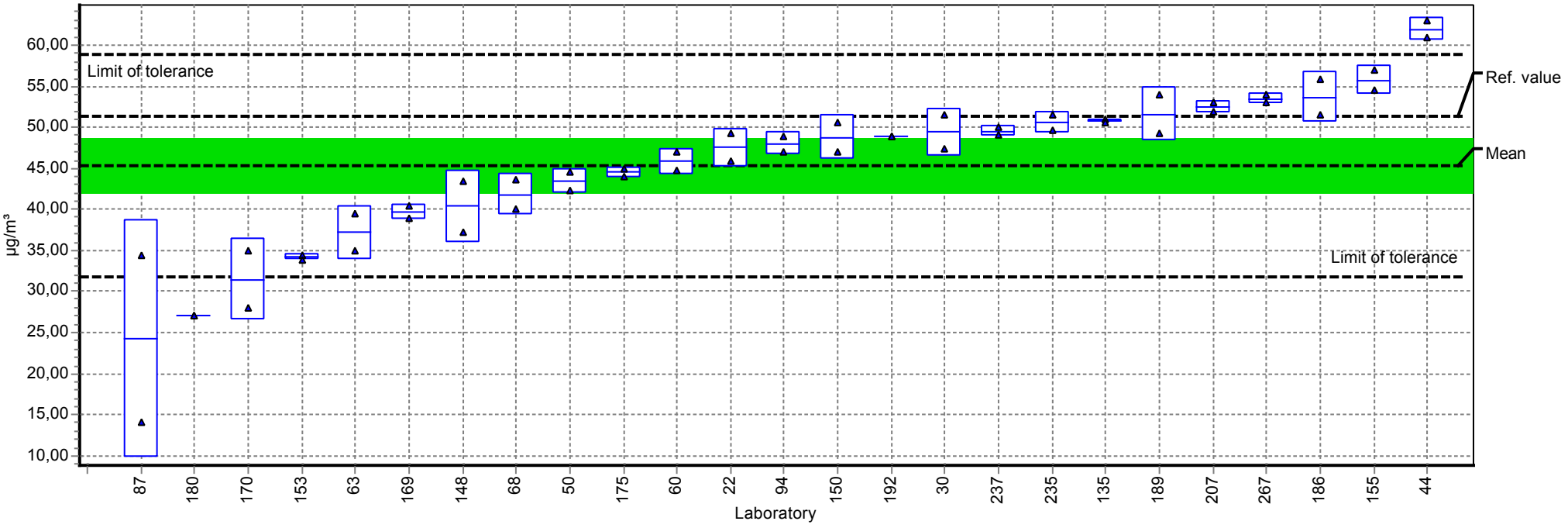
Summary results

Measurand:	**n-Butyl acetate**	**Mean:**	**38,721 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**7,649 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**19,75%**
No. of laboratories:	**24**	**Tolerance limits:**	**27,105 - 50,337 µg/m³ (|Z score| < 2,00)**



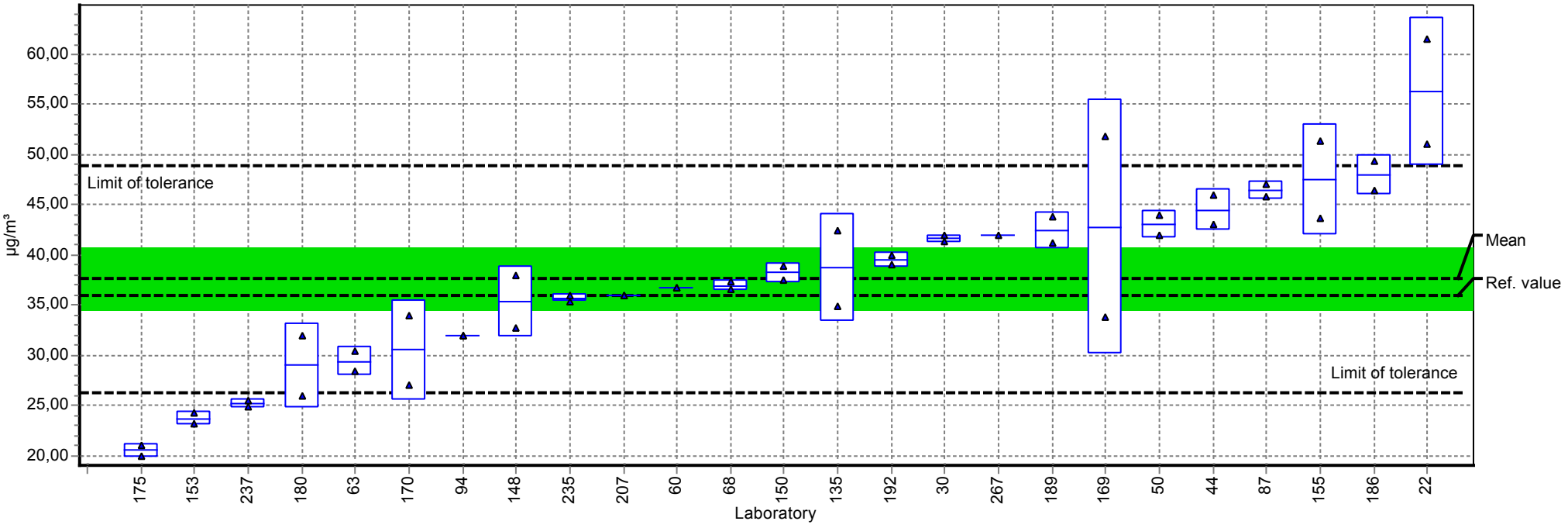
Summary results

Measurand:	**n-Dodecane**	**Mean:**	**45,306 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**9,435 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**20,82%**
No. of laboratories:	**25**	**Tolerance limits:**	**31,714 - 58,898 µg/m³ (|Z score| < 2,00)**



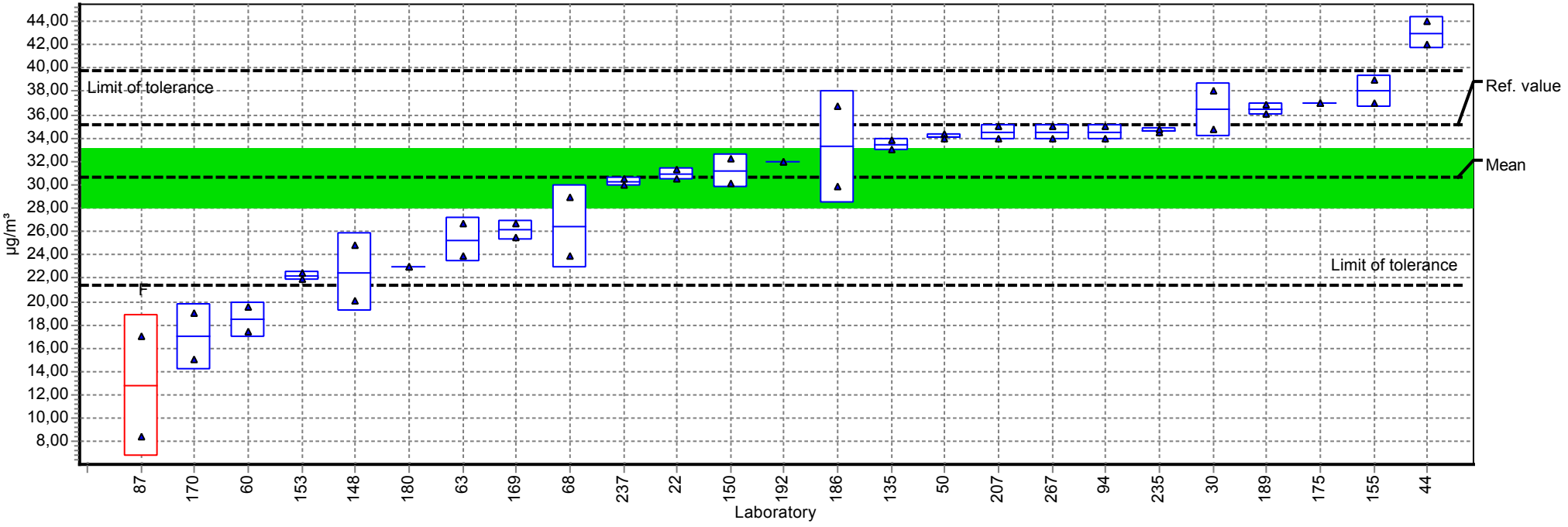
Summary results

Measurand:	**n-Heptane**	**Mean:**	**37,591 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**8,830 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**23,49%**
No. of laboratories:	**25**	**Tolerance limits:**	**26,314 - 48,868 µg/m³ (|Z score| < 2,00)**



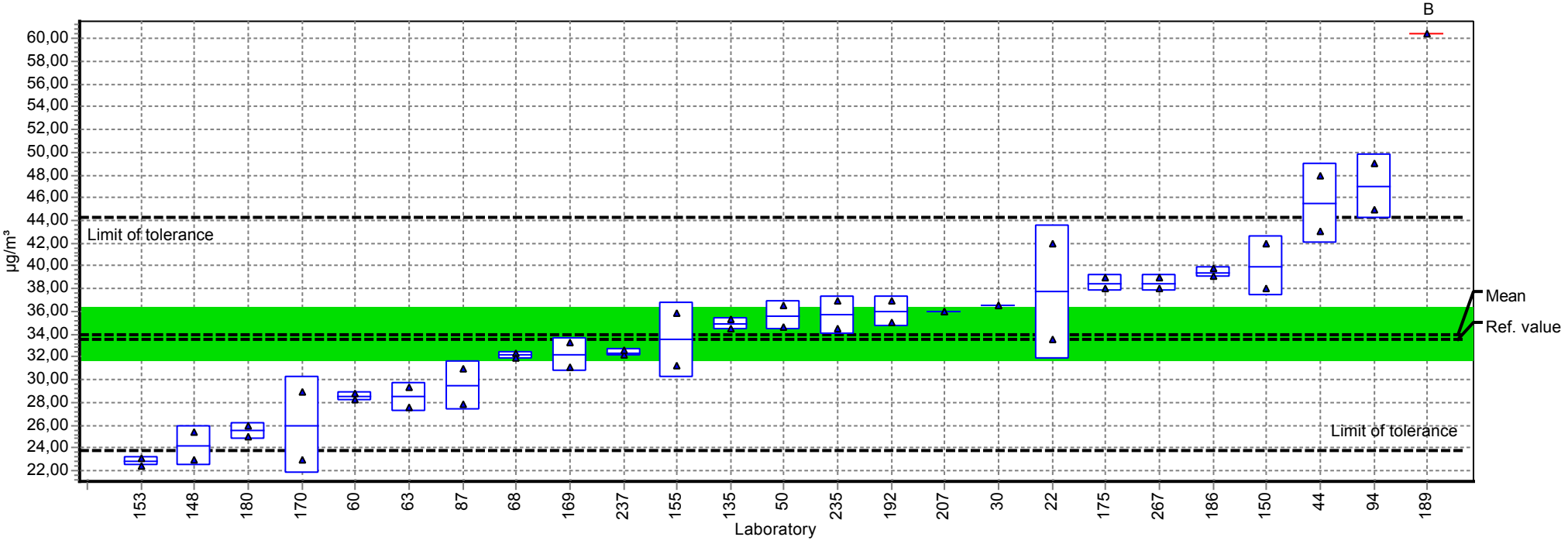
Summary results

Measurand:	**n-Tetradecane**	**Mean:**	**30,633 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**6,724 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**21,95%**
No. of laboratories:	**24**	**Tolerance limits:**	**21,443 - 39,822 µg/m³ (|Z score| < 2,00)**



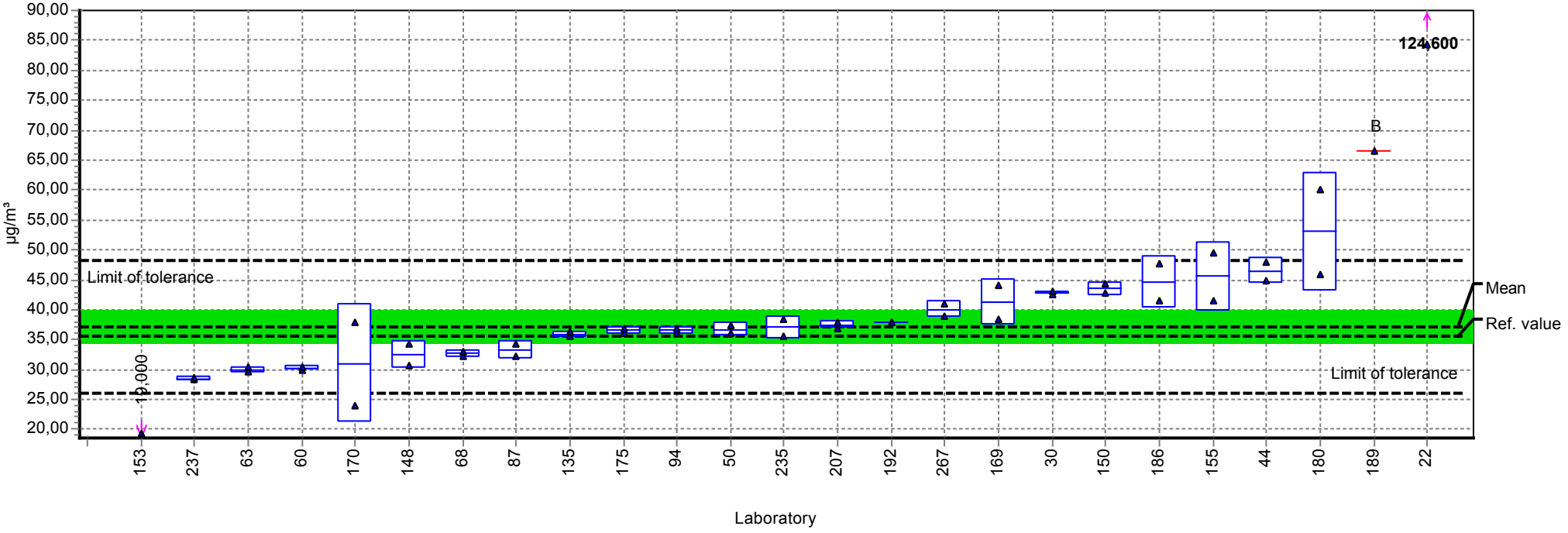
Summary results

Measurand:	**p-Xylene**	**Mean:**	**34,031 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**6,409 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**18,83%**
No. of laboratories:	**24**	**Tolerance limits:**	**23,822 - 44,240 µg/m³ (|Z score| < 2,00)**



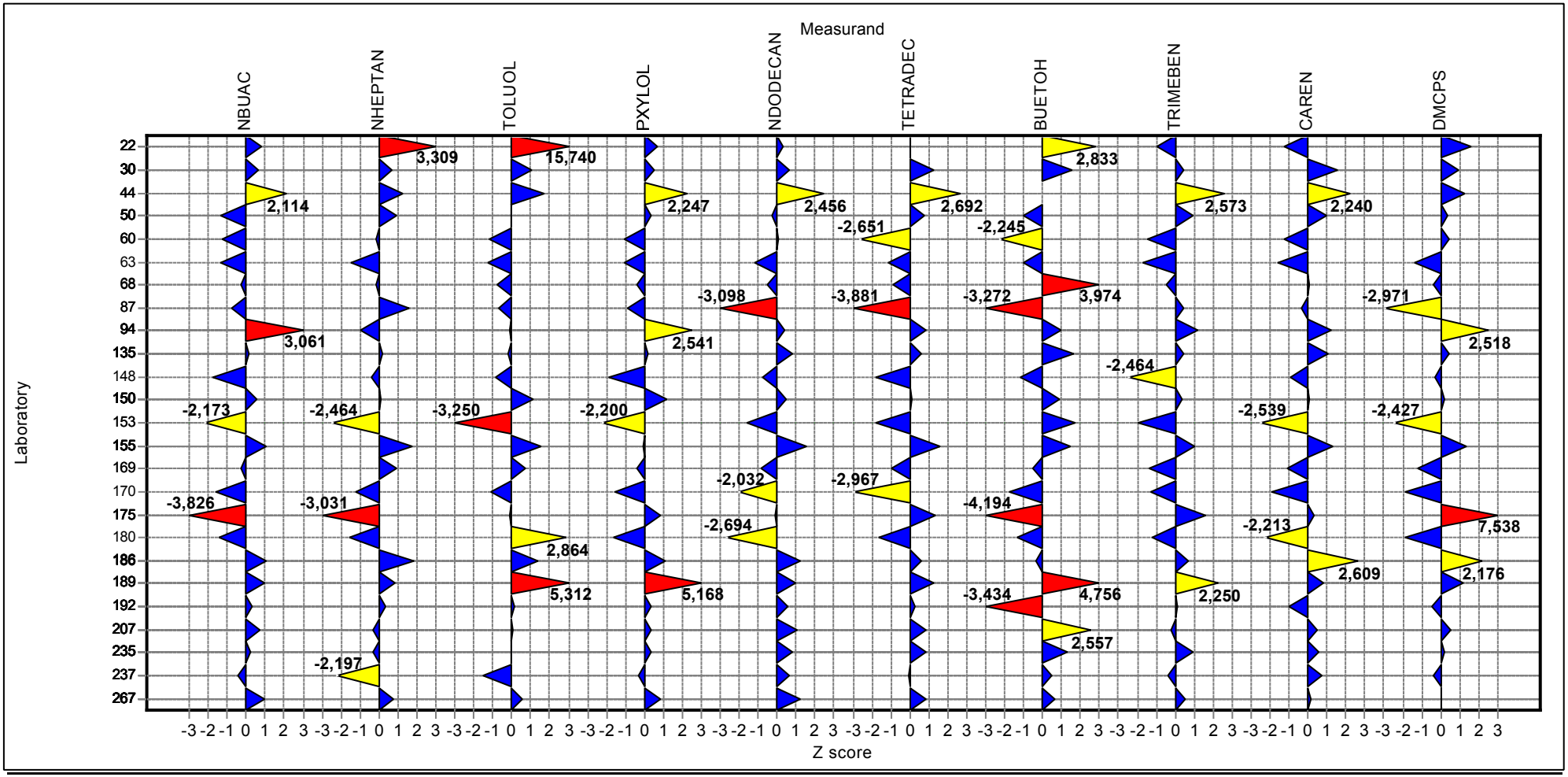
Summary results

Measurand:	**Toluene**	**Mean:**	**37,073 µg/m³**
Sample:	**sample 2**	**Reproducibility s.d.:**	**7,693 µg/m³**
Method:	**ISO 5725**	**Rel. reproducibility s.d.:**	**20,75%**
No. of laboratories:	**23**	**Tolerance limits:**	**25,951 - 48,195 µg/m³ (|Z score| < 2,00)**



Sample chart of Z scores

Sample: sample 2



Questions and Answers

Participant	kind of tube (TENAX TA, GR)	Angaben zur analytischen Metho	thermodesorber
22	Tenax TA, Markes International	Ja	Ultra TD und Unity von Markes International
30	Tenax TA	ISO 16000-6	Turbomatrix Perkin Elmer
44	TENAX TA	ISO 16000-6	PE Turbomatrix 350
50	TENAX TA	ISO 16000-6	MARKES UNITY 2
60	Tenax TA - Carbiograph 5 TD	ISO 16000-6	Markes UNITY2-50/50
63	Tenax TA	ja	Shimadzu TD 20
68	Tenax TA	Nein	Turbomatrix ATD von PerkinElmer
87	Tenax TA	ISO 16000-6	TDS2 (Gerstel)
94	Tenax	Ja	Gerstel TDSA
135	Tenax TA	ja	Perkin Elmer TurboMatrix 650
148	Tenax TA	gemäß ISO 16000-6	Perkin ElmerTurboMatrix automatischer Thermodesorber
150	Tenax TA	Ja	Turbo Matrix 650
153	Tenax TA	EN ISO 16017-1	TurboMatrix 350
155	Gerstel Tenax TA Adsorber	ja	Gerstel TDS-2 mit Gerstel TDS A und KAS-4
169	TenaxTA	Ja	TDS2 Fa. Gerstel
170	Tenax TA	ja	Turbo Matrix 650
175	Tenax TA		Perkin Elmer ATD Turbo Matrix 650
180	Tenax TA	ja	Gerstel TDS A
186	tenax	16000-6	atd400 perkin elmer
189	Tenax TA 60-80 mesh	ISO 16000-6	STD DANI 33.50
192	TENAX TA	ISO/DIS 16000-6	T-Dex II(GL Sciences Inc.)
207	Tenax	Ja	ATD 400
235	Tenax TA	GC-MS-Thermosdesorption	Perkin Elmer TurboMatrix 650
237	Tenax TA	Nein	Turbomatrix
267	TENAX TA	Nein, Interne Methode SOP-B-25	MARKES ULTRA + UNITY

Participant	desorption temperature	desorption flow	desorption time
22	Tube 280°C; Trap 300°C	40	5
30	280°C	50 ml/min	15 min
44	280degree	50mL/min	5min
50	315	30	10
60	315	10	5
63	280 °C	60 ml/min	10 min
68	340°C	50 ml/min	20 min
87	260°C	13,4 ml/min	25 to 260°C in 11,75 min, 5 min hold time at 260°C
94	260°C	30 ml / min	60°C / Min. von 40°C bis 260°C, 5 Minuten bei 260°C
135	280°C	29	20
148	300 °C	80 cm3/min	15 min
150	280	40	15
153	300°C	30 ml/min	12 min
155	10°C 0,5min 40°C/min 310°C 8min	50ml/min Helium ECD	10°C 0,5min 40°C/min 310°C 8min
169	280°C	100 ml/min	5 Min
170	bis 280°C	20	12
175	275 °C	50 ml/min	10 min
180	bis 280°C	1,2	ca. 14 min
186	260°C	50	15
189	260ºC	10 ml/min	10 min
192	260 degrees	90 ml/min	10min
207	300	20	8
235	220°C	50ml/Min	5Min
237	300 °C	50 mL/ min	10 min
267	280°C	50ml/min	15min.

Participant	cyro trap	carrier gas	flow rate
22	-3°C general purpose hydrophobic trap (C4/5 bis C30/32)	Stickstoff	0,5 - 0,6
30	-30°C	Helium	2 ml/min
44	-30degree to 290degree	helium	1.5
50	-25°C - 315 °C, max	He	
60	-10 / 315	Helium	1,5
63	-15°C	Helium	1,88 ml/min

Participant	cyro trap	carrier gas	flow rate
68	-20°C/340°C	Helium	15 ml/min
87	-150°C, heating to 260°C	helium	1 ml/min
94	-30°C	He	1.5 ml/min
135	-20°C 310°C	Helium	1,5
148	ja	Helium	
150	-30°C/280°C	Helium	1,8
153	-30°C, 300°C	helium	1,0 ml/min
155	minus 150°C 1min 12°C/sec 320°C 5min	Helium Qualität ECD	1ml/min const Flow
169	-100°C/280°C	Helium	1 ml/min
170	-30°C/bis 280°C	Helium	2
175	-30 °C ---- 290 °C	Helium	1,5 ml/min
180	-150°C/bis 280°C	Helium	1,2
186	-30°C / 280°C	azote	50
189	cryo temperature = -35ºC, heating temperature=300ºC	helium	0.8 ml/min
192	Cryo trap at -150 degrees and desorb at +310 degrees	helium	2.3ml/min
207	-30	Helium	1,2
235	-30°C	Helium	1.2ml/min
237	minus 30 °C	Helium	0,5 mL/ min
267	-10°C	Helium	1.5 ml/min

Participant	analytical column	detector
22	HP1-MSUI	Agilent 5973 Inert (Massenselektiver Detektor)
30	Rxi-5ms (Restek) 60 mm x 0.32 mm x 25 µm	Mas spectrometer (MSD) : flame ionization (FID)
44	DB-5MS 60m	GC-MS
50	Rxi-5sil MS	Agilent 5975C inert XL MSD
60	Restek semi-volatile (60 * 0.25mm * 0.50)	MS
63	Phenomenex ZB 5-MS, 60 m, 0,25 mm ID, 0,25 µm FD	Shimadzu GC-MS QP 2010
68	Vocol von Supelco	MS
87	HP-1MS, 60m 0,25 mm ID, 0,25 µm film thickness	quadrupool MS Agilent 5973N
94	J&W 122-5532G, DB-5ms	MS
135	RTX-200	MSD
148	Rtx-5HS (60m x 0,25mm x 0,5 µm)	MS

Participant	analytical column	detector
150	CPSil 8CB 50m	MS
153	Optima 5MS 0,25mm	MS Clarus 500
155	Agilent HP 5 ms 60min X0,25mm x 0,5µm	Agilent MSD 5973
169	DB-5MS 60 m X 0,25 mm ID1µm	Massenspektrometer
170	DB-5MS (30 m x 0,25 µm x 0,25 mm)	5975 C Agilent
175	Rxi - % Sil MS 60m ; 250µm ; 1,0µm	MSD
180	DB-5MS (50 m x 0,200 mm x 0,33 µm)	GC-MS 5973 Agilent
186	60m*0,25mm*1µm DB5	FID + MS
189	HP5 (50 m, 0.2 mm, 0.50 um)	MSD 5972
192	HP-VOC(60m, 0.32mm, I.D. 1.8um)	MSD
207	DB 5	MS
235	Rtx Volatile 30m (ID 0,25mm; FD 1µm) von Restek	Massenspektrometer Varian Saturn 2200
237	Varian VF Xms 30 m, 0.25 mm i.d., 0.5 µm Film	MS
267	HP INNOWAX 60m x 0.32mm x 0.5µm	MSD

Participant	data evaluation
22	substanzspezifisch mit interner Standard Toluol D8 und Targetionen, aber auch TIC - je nach Bedarf/Überlagerung: 1,2,3-TMB substanzähnlich über 1,3,5-TMB, Toluol über Cyclodekan; Identifizierung über Vergleich Retentionszeit Referenzsubstanz (Kalibrierreihe) und Spektrenbibliothek WILEY275
30	identification by MSD / quantification by FID
44	internal standard method
50	2011.06.29.
60	External calibration
63	Proben 1.1 + 2.1 im TIC, Proben 1.2 + 2.2 im SIM
68	Ext. Std., 3-Punkt-Kalibration. Identifizierung mittels MS.
87	quantification using 5 point calibration curves of all target compounds (EIC)
94	Kalibrierung mit Standards, Softew are: Agilent Masshunter
135	externer Standard, quadratischer Fit
148	IS Toluol D8
150	Kalibrierung aller Komponenten per Kalibrierkurven mit internem Standard
153	external standards, library searching
155	substanzspezifisch
169	externe Kalibrierung
170	ident. über externe Standards, quant. über relative Responsefaktoren, interner Standard Toluen D8

Participant	data evaluation
175	2011-06-30
180	ident. über externe Standars, quant. über relative Responsefaktoren, interner Standard Toluene D8
186	2011-07-11
189	identification by MSD and confirmed by standard injection for all the compounds; calibration curve w ith 5 levels of concentration
192	2-Butoxyethanol w as calculated by using toluene(TIC) response factor ,and others w ere calculated by using their individual response factor.
207	EIC Originalreferenz, eigene und kommerzielle Bibliotheken
235	Identifizierung: Retentionszeit + substanzspezif. Massen/ Quantifizierung: mittels interner Standardmethode über hinterlegte Mehrpunktkalibrieung
237	TIC und SIR - Mode mit internem Standard
267	Quantifizierung mittels spezifischen Massenfragmenten, Indentifizierung mittels Bibliothek NIST05

Participant	date of analysis
22	06.07.2011
30	June 2011, 7th and 9th
44	2011/7/13
50	2011.06.20.
60	15/07/2011
63	Proben 1.1 + 2.1 am 22.06., Proben 1.2 + 2.2 am 23.06.
68	5.7.2011
87	30/06/2011
94	16.6.11
135	01.06.2011
148	01.07.2011
150	06.06.2011
153	30.06.2011
155	06.06.2011
169	1.06.2011
170	14./15.6.2011
175	2011-06-14
180	10.06.2011
186	2011-06-27
189	8 June 2011
192	03 Jun 2011

Participant	date of analysis
207	09.06.2011
235	13.07.2011
237	06.Juni 2011
267	07.06.2011

Blank values RRT VOC 2011

TNN	blank value adjustment 1 (µg/m³)										
	1,2,3-Trimethyl-benzene	2-Butoxy-ethanol	3-Carene	n-Butyl acetate	p-Xylene	Toluene	n-Heptane	Dodecane	n-Tetra-decane	DMCS	blank value correction y/n
22	<1	<1	<1	5,9	5,6	69,2	<1	5,5	10,5	14,3	n
30	<1	<1	<1	<1	<1	<1	<1	<1	<1	8	n
44	1,0	<1	<1	<1	<1	<1	<1	<1	<1	<1	n
50	<1	<1	<1	1,9	3,6	5,3	7,6	1,3	4,0	6,1	n
60	<3	<3	<3	<3	<3	4,0	<3	<3	<3	<3	n
63	0,42	0,0	0,0	0,0	0,42	0,44	0,0	0,0	0,40	0,86	n
68	0,0	7,4	0,0	0,0	0,0	1,8	2,9	0,0	0,0	4,8	n
87	0,3				0,2	0,3				0,2	y
94	0,60	0,0	0,0	0,0	0,10	108,0	0,50	0,30	1,10	0,90	y
135	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	
148	<5	<5	<5	<5	<5	8,0	5,4	<5	6,7	6,3	y/n
150	1,8	0,92	1,11	1,55	2,98	4,5	2,9	3,79	3,8	2,1	n
153	0,3	0,2	0	0,8	0	0	0,2	0,1	0,2	0	n
155						2,0				2,3	n
169					1,4	5	19,6				y
170	1,0			2	2,0	20	6,0			1,0	n
175											n
180	1,0			5	1,0	32	4,0	1,0	1,0	1,0	n
186						2	2,2				n
189	0,0	7,8	0,0	6,1	<1	1,8	0,0	1,7	1,8	5,2	y/n
192	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	n
207	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	
235	0,59			0,50	0,46	0,48	0,54	0,19	0,39	0,18	y/n
237	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	
267	1,0	0	0,0	1	0,0	1	1,0	1,0	1,0	1,0	n
IFA	0	0	0	0	0	0	0	0	0	0	n

TNN	blank value adjustment2 (µg/m³)									
	1,2,3-Trimethyl-benzene	2-Butoxy-ethanol	3-Carene	n-Butyl acetate	p-Xylene	Toluene	n-Heptane	Dodecane	n-Tetra-decane	DMCS
22	<1	<1	<1	7,1	5,7	75,3	<1	<1	8,7	13,5	n
30	<1	<1	<1	<1	1,1	1,1	<1	<1	<1	<1	n
44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	n
50	<1	<1	<1	<1	1,8	2,2	2,4	<1	3,2	3,6	n
60	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	n
63	0,66	0,0	0,0	0,0	0,54	0,53	0,0	0,0	0,25	0,83	n
68	0,0	1,1	0,0	0,0	3,0	1,1	2,2	0,0	0,0	0,0	n
87	0,4			0,6	0,3	0,9	1,4		0,2		y
94	0,7	0,2	0,00	0,0	0,7	1,30	0,10	0,2	0,7	0,6	y
135	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	
148	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	n
150	1,87	1,68	0,99	2,39	2,65	4,23	3,06	3,14	3,30	1,71	n
153	0,3	0	0	0,9	0	0	0,2	0,1	0,2	0,0	n
155						4				2,6	n
169					1,4	5,9	24,4				y
170				1,0	1,0	20,0	4,0			1,0	n
175											n
180	1,0			9,0	2,0	86,0	10,0	1,0	1	1,0	n
186	1,1					4,0	4,8			2,0	n
189	0,0	8	0,0	5,2	0,0	2,2	0,0	1,7	0	6,6	y/n
192	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	n
207	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	
235	0,41			0,38	0,29	0,26	0,29	0,15	0,25	0,19	y/n
237	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	n.c.	
267	1,0	2	0,0	1,0	0,0	1,0	3,0	0,0	1	1,0	n
IFA	0	0	0	0	0	0	0	0	0	0	n