

Summary of laboratory means

Sample 1

Unit	Formaldehyde		Propionaldehyde		Butyraldehyde	
	mg/m ³	Z score	mg/m ³	Z score	mg/m ³	Z score
6	0,112	-0,71	0,699	-0,30	0,639	-0,08
19	0,133	1,03	0,743	0,31	0,592	-0,81
25	0,119	-0,16	0,699	-0,30		
28	0,110	-0,88	0,610	-1,53	0,700	0,86
29	0,115	-0,46	0,692	-0,39		
44	0,121	0,03	0,728	0,11	0,646	0,03
50	0,120	-0,05	0,716	-0,06	0,665	0,32
63	0,119	-0,13	0,690	-0,42	0,629	-0,24
98	0,108	-1,05	0,724	0,06	0,585	-0,92
123	0,067	-4,44 BE	0,638	-1,14	0,580	-1,00
135	0,124	0,28	0,717	-0,05	0,643	-0,02
155	0,120	-0,05	0,710	-0,14	0,560	-1,31
167	0,125	0,37	0,718	-0,03	0,651	0,10
172	0,119	-0,13	0,726	0,08	0,576	-1,06
186	0,125	0,37	0,750	0,41	0,635	-0,15
187	0,123	0,20				
190	0,120	-0,05	0,830	1,52	0,780	2,10 E
195	0,130	0,80	0,839	1,64		
205	0,120	-0,05	0,730	0,13	0,620	-0,38
207	0,124	0,28	0,740	0,27	0,673	0,44
208	0,110	-0,88	0,620	-1,39	0,570	-1,15
219	0,122	0,12	0,721	0,01	0,746	1,58
220	0,119	-0,13	0,651	-0,96	0,593	-0,80
223	0,128	0,61	0,730	0,13	0,710	1,02

	Formaldehyde	Z score	Propionaldehyde	Z score	Butyraldehyde	Z score
229	0,120	-0,05				
241	0,160	3,27 BE	0,860	1,94	0,770	1,95
262	0,170	4,10 BE	1,080	4,99 BE	1,000	5,52 BE
267	0,129	0,70	0,727	0,09	0,613	-0,49
-	-	--	-	--	-	--
Method	ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2,00		Z <=2,00		Z <=2,00	
Mean	0,121		0,720		0,644	
Reproducibility s.d.	0,006		0,059		0,064	
Rel. reproducibility s.d.	5,20 %		8,23 %		9,90 %	
Reference value	0,124		0,740		0,670	
Target s.d.	0,012		0,072		0,064	
Rel. target s.d.:	10,00 %		10,00 %		10,00 %	
Lower limit of tolerance	0,096		0,576		0,516	
Upper limit of tolerance	0,145		0,864		0,773	
Type B outliers	3		1		1	
Type F outliers	0		0		0	
No. of laboratories that submitted results	28		26		23	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	25		25		22	
Explanation of outlier types						
A: Single outlier	Grubbs					
B: Differing laboratory mean	Grubbs					
C: Excessive laboratory s.d.	Cochran					
D: Excluded manually						
E: score outside tolerance limits						
F: Score >3,5						

Summary of laboratory means

Sample 2

Unit	Formaldehyde		Acetaldehyde		Butyraldehyde	
	mg/m ³	Z score	mg/m ³	Z score	mg/m ³	Z score
6	0,049	0,01	0,941	-0,42	0,881	-0,30
19	0,059	2,00	1,070	0,89	0,895	-0,14
25	0,052	0,64	0,949	-0,34		
28	0,040	-1,83	0,930	-0,53	0,970	0,68
29	0,040	-1,83	0,847	-1,38		
44	0,052	0,62	0,924	-0,59	0,922	0,15
50	0,049	0,01	0,965	-0,18	0,916	0,09
63	0,048	-0,20	0,930	-0,53	0,865	-0,47
98	0,047	-0,34	0,864	-1,20	0,815	-1,03
123	0,034	-3,06 E	0,893	-0,91	0,795	-1,24
135	0,051	0,31	0,978	-0,05	0,895	-0,14
155	0,050	0,21	0,980	-0,02	0,790	-1,30
167	0,052	0,62	0,944	-0,39	0,905	-0,03
172	0,046	-0,61	0,921	-0,63	0,798	-1,21
186	0,050	0,21	1,011	0,29	0,882	-0,29
187	0,052	0,62				
190	0,050	0,21	0,990	0,08	1,080	1,89
195	0,052	0,64	1,145	1,66		
205	0,043	-1,22	0,960	-0,23	0,850	-0,64
207	0,049	0,01	0,956	-0,27	0,916	0,09
208	0,041	-1,63	0,790	-1,96	0,750	-1,74
219	0,049	0,01	0,987	0,05	1,028	1,32
220	0,049	0,01	1,050	0,69	0,836	-0,79
223	0,051	0,42	1,060	0,79	0,990	0,90

	Formaldehyde	Z score	Acetaldehyde	Z score	Butyraldehyde	Z score
229	0,050	0,21	1,060	0,79		
241	0,062	2,66 E	1,160	1,81	1,060	1,67
262	0,054	1,03	1,240	2,62 E	1,200	3,22 E
267	0,050	0,21	0,980	-0,02	0,846	-0,68
-	-	--	-	--	-	--
Method	ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2,00		Z <=2,00		Z <=2,00	
Mean	0,049		0,982		0,908	
Reproducibility s.d.	0,006		0,097		0,107	
Rel. reproducibility s.d.	11,47 %		9,89 %		11,78 %	
Reference value	0,053		0,940		0,922	
Target s.d.	0,005		0,098		0,091	
Rel. target s.d.:	10,00 %		10,00 %		10,00 %	
Lower limit of tolerance	0,039		0,786		0,726	
Upper limit of tolerance	0,059		1,179		1,090	
Type B outliers	0		0		0	
Type F outliers	0		0		0	
No. of laboratories that submitted results	28		27		23	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	28		27		23	
Explanation of outlier types						
A: Single outlier	Grubbs					
B: Differing laboratory mean	Grubbs					
C: Excessive laboratory s.d.	Cochran					
D: Excluded manually						
E: score outside tolerance limits						
F: Score >3,5						

Summary of laboratory means

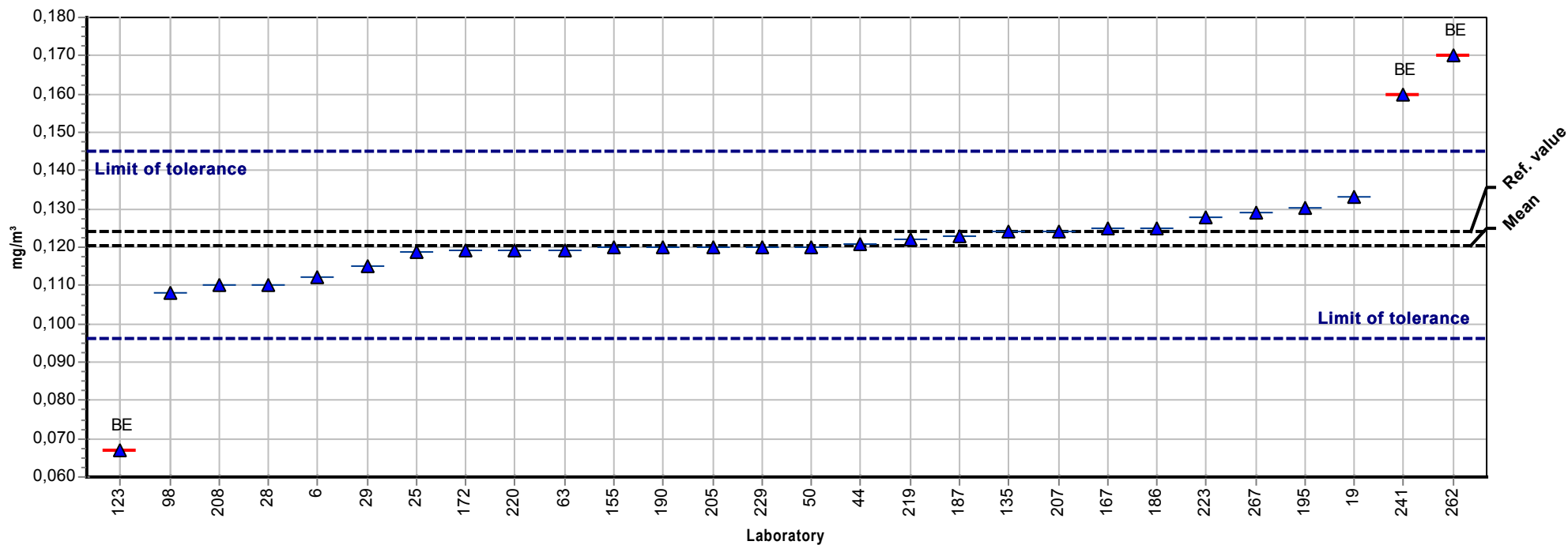
Sample 3

Unit	Formaldehyde		Acetaldehyde		Propionaldehyde	
	mg/m ³	Z score	mg/m ³	Z score	mg/m ³	Z score
6	0,067	-0,32	0,719	-0,27	1,003	-0,37
19	0,081	1,70	0,778	0,53	1,100	0,56
25	0,069	0,01	0,707	-0,43	0,999	-0,41
28	0,060	-1,33	0,680	-0,80	0,850	-1,84
29	0,061	-1,19	0,714	-0,34	0,961	-0,77
44	0,068	-0,18	0,734	-0,07	1,038	-0,03
50	0,071	0,26	0,769	0,41	1,070	0,27
63	0,065	-0,61	0,691	-0,65	0,959	-0,79
98	0,060	-1,32	0,638	-1,37	1,030	-0,11
123	0,067	-0,32	0,685	-0,73	0,887	-1,48
135	0,071	0,26	0,731	-0,11	1,015	-0,25
155	0,070	0,11	0,740	0,02	1,030	-0,11
167	0,072	0,40	0,728	-0,15	1,023	-0,18
172	0,068	-0,18	0,700	-0,53	1,030	-0,11
186	0,070	0,11	0,754	0,20	1,061	0,19
187	0,075	0,83				
190	0,070	0,11	0,740	0,02	1,190	1,43
195	0,074	0,63	0,867	1,73	1,201	1,53
205	0,068	-0,18	0,730	-0,12	1,100	0,56
207	0,070	0,11	0,733	-0,08	1,037	-0,04
208	0,058	-1,62	0,610	-1,74	0,850	-1,84
219	0,069	-0,03	0,741	0,03	1,015	-0,25
220	0,068	-0,18	0,782	0,58	0,933	-1,04
223	0,074	0,69	0,770	0,42	1,030	-0,11

	Formaldehyde	Z score	Acetaldehyde	Z score	Propionaldehyde	Z score
229	0,070	0,11	0,810	0,96		
241	0,096	3,87 BE	0,960	2,99 BE	1,320	2,67 E
262	0,082	1,85	0,910	2,32 E	1,330	2,77 E
267	0,071	0,26	0,750	0,15	1,017	-0,24
-	-	--	-	--	-	--
Method	ISO 5725-2		ISO 5725-2		ISO 5725-2	
Assessment	Z <=2,00		Z <=2,00		Z <=2,00	
Mean	0,069		0,739		1,041	
Reproducibility s.d.	0,006		0,062		0,117	
Rel. reproducibility s.d.	7,98 %		8,37 %		11,28 %	
Reference value	0,072		0,709		1,033	
Target s.d.	0,007		0,074		0,104	
Rel. target s.d.:	10,00 %		10,00 %		10,00 %	
Lower limit of tolerance	0,055		0,591		0,833	
Upper limit of tolerance	0,083		0,887		1,250	
Type B outliers	1		1		0	
Type F outliers	0		0		0	
No. of laboratories that submitted results	28		27		26	
No. of laboratories after elimination of outliers type A-D and F (without laboratories that only gave states but no measured values)	27		26		26	
Explanation of outlier types						
A: Single outlier	Grubbs					
B: Differing laboratory mean	Grubbs					
C: Excessive laboratory s.d.	Cochran					
D: Excluded manually						
E: score outside tolerance limits						
F: Score >3,5						

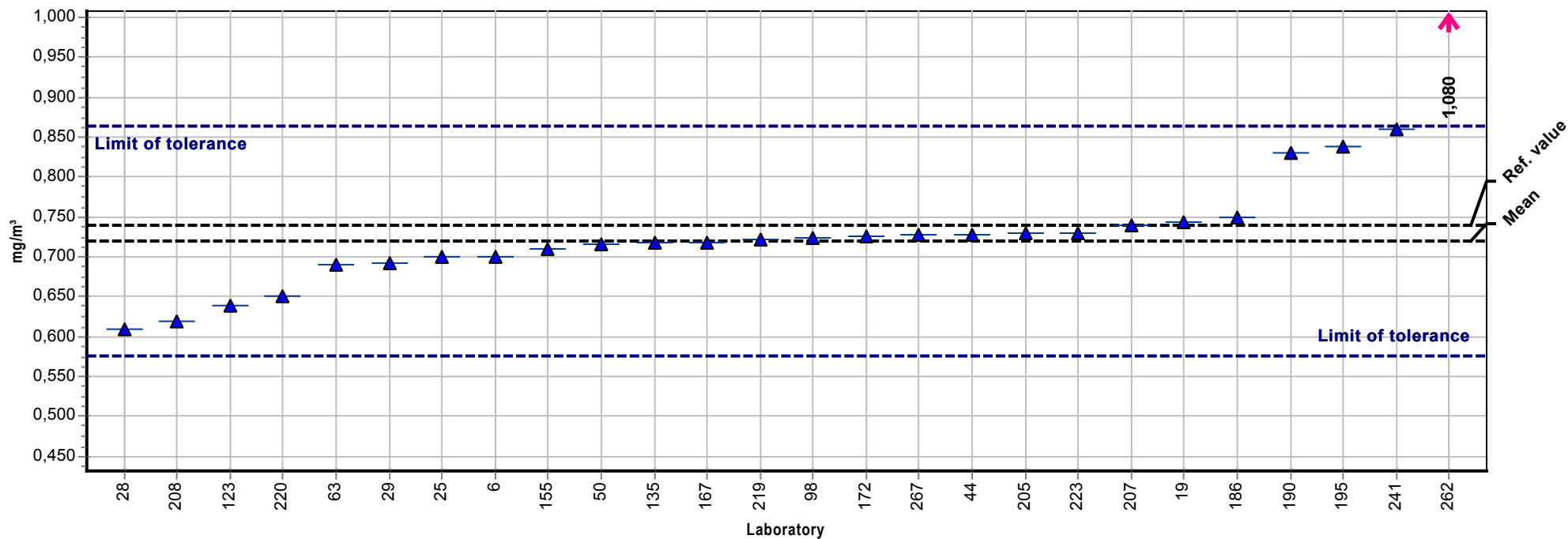
Summary results

Measurand:	Formaldehyde	Mean:	0,121 mg/m ³
Sample:	1	Reprod. s.d.:	0,006 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	5,20%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,124 mg/m ³
No. of laboratories:	25	Range of tolerance:	0,096 - 0,145 mg/m ³ (Z-Score <= 2,00)



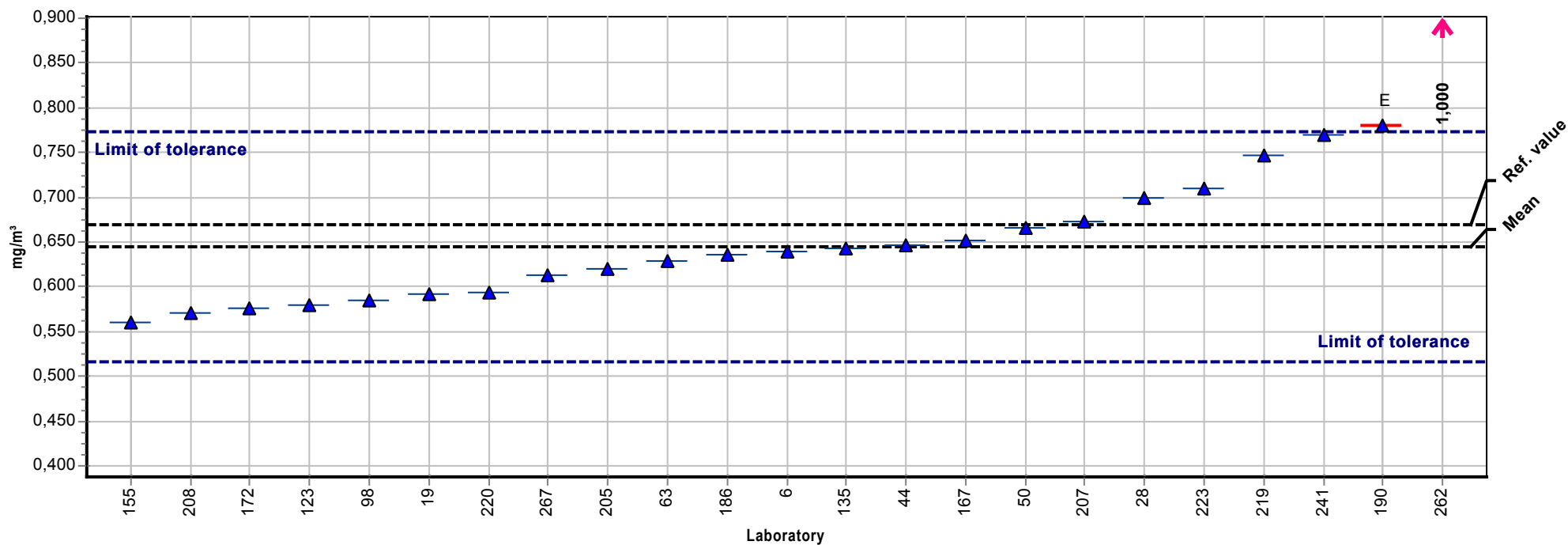
Summary results

Measurand:	Propionaldehyde	Mean:	0,720 mg/m ³
Sample:	1	Reprod. s.d.:	0,059 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	8,23%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,740 mg/m ³
No. of laboratories:	25	Range of tolerance:	0,576 - 0,864 mg/m ³ (Z-Score <= 2,00)



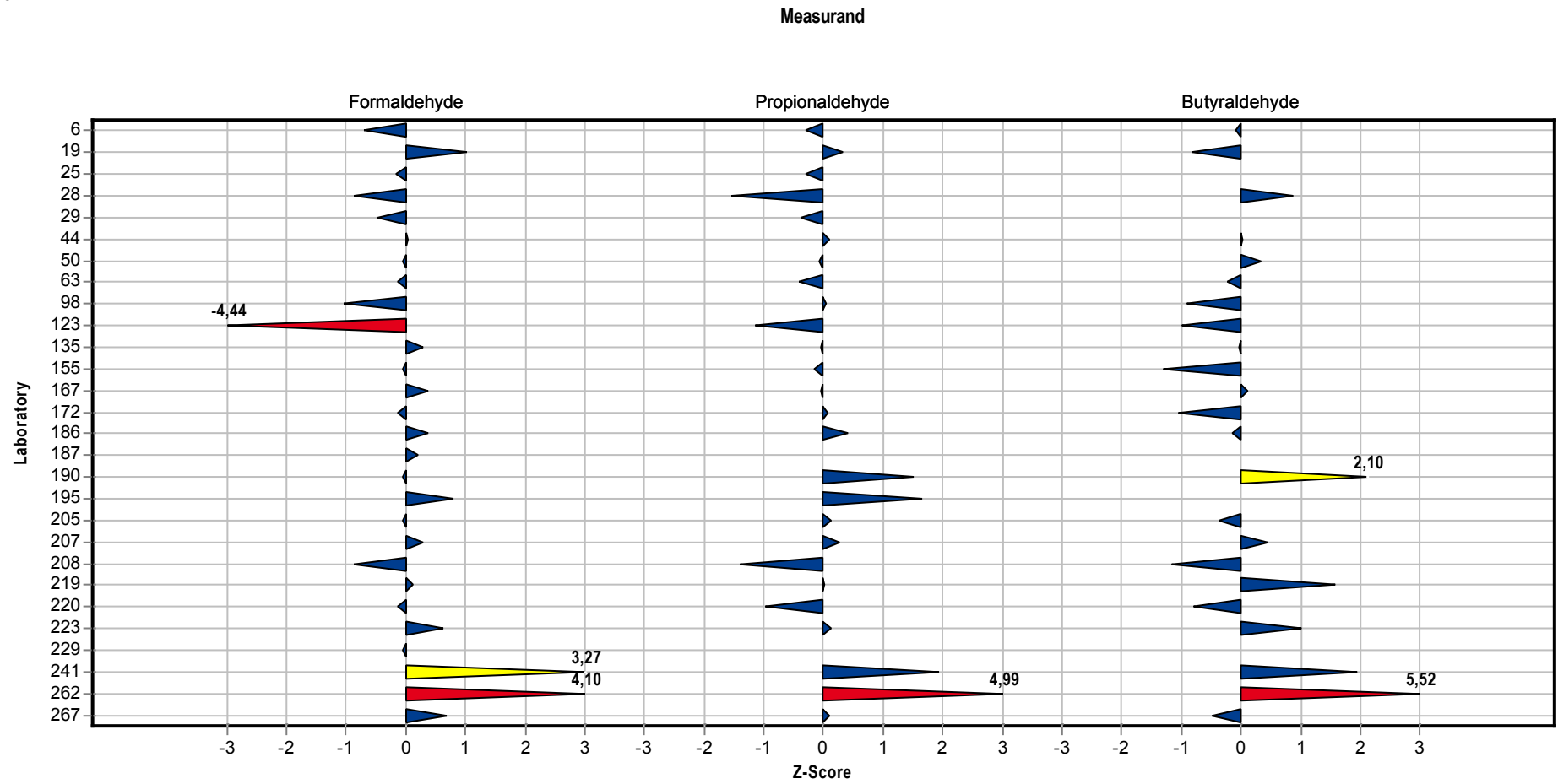
Summary results

Measurand:	Butyraldehyde	Mean:	0,644 mg/m ³
Sample:	1	Reprod. s.d.:	0,064 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	9,90%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,670 mg/m ³
No. of laboratories:	22	Range of tolerance:	0,516 - 0,773 mg/m ³ (Z-Score <= 2,00)



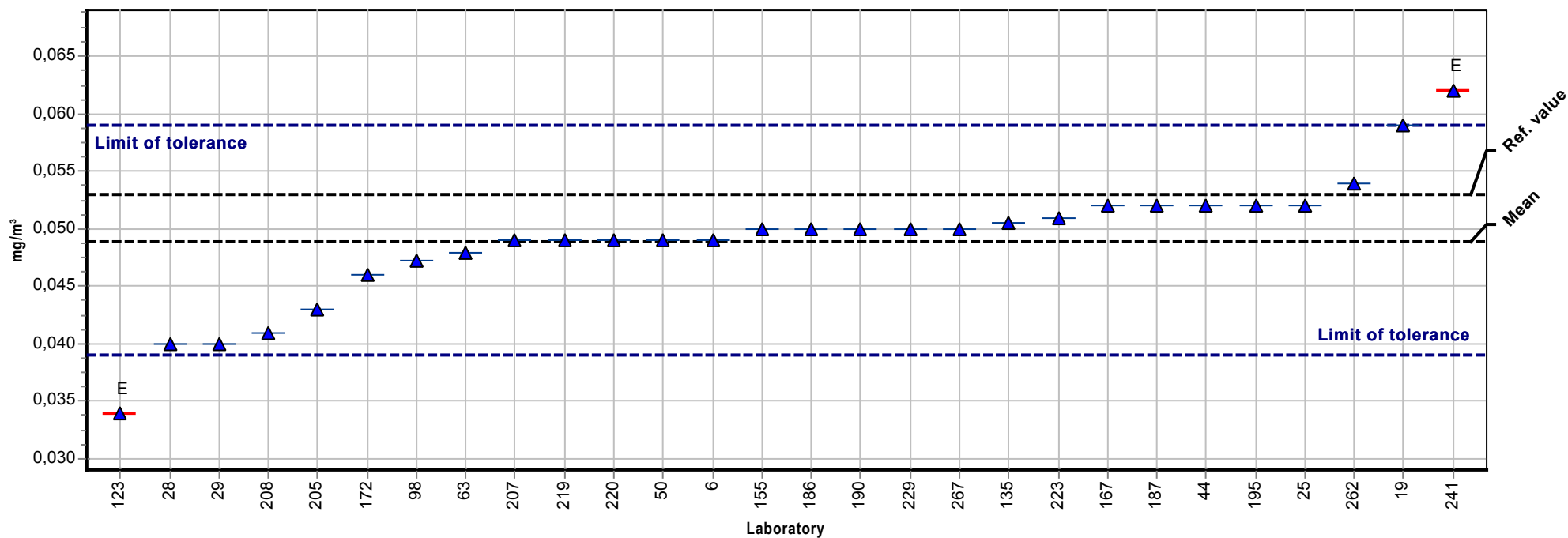
Sample chart of Z-Scores

Sample: 1



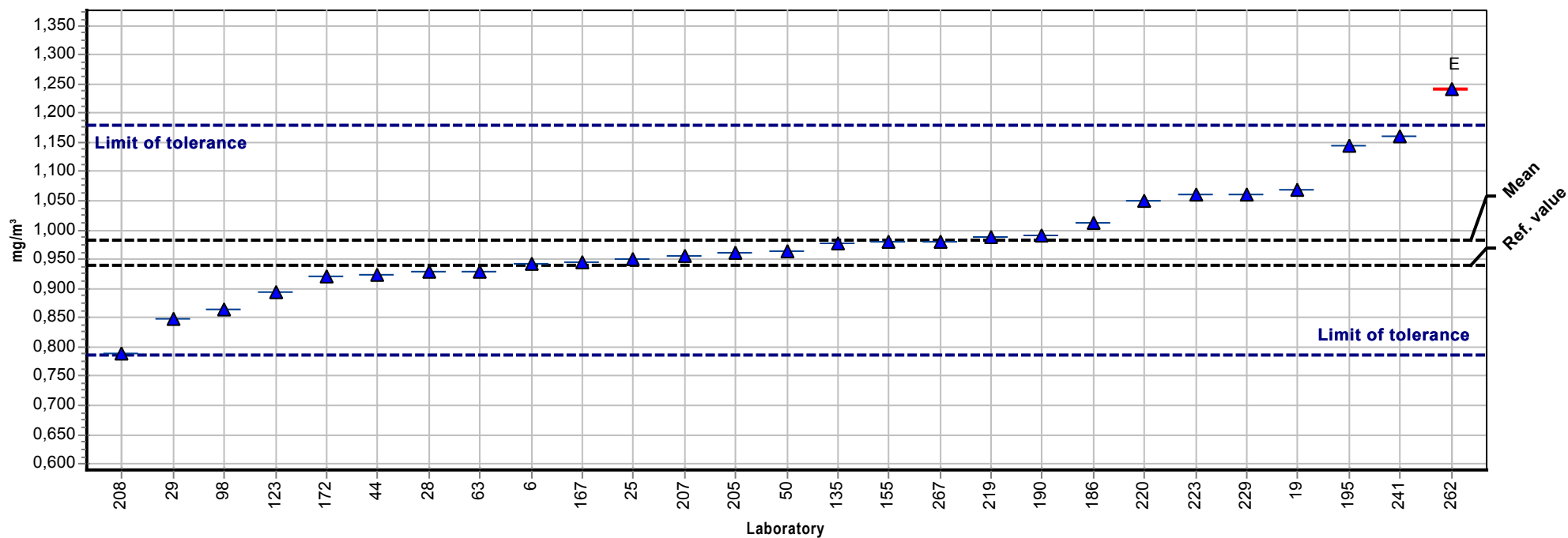
Summary results

Measurand:	Formaldehyde	Mean:	0,049 mg/m ³
Sample:	2	Reprod. s.d.:	0,006 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	11,47%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,053 mg/m ³
No. of laboratories:	28	Range of tolerance:	0,039 - 0,059 mg/m ³ (Z-Score <= 2,00)



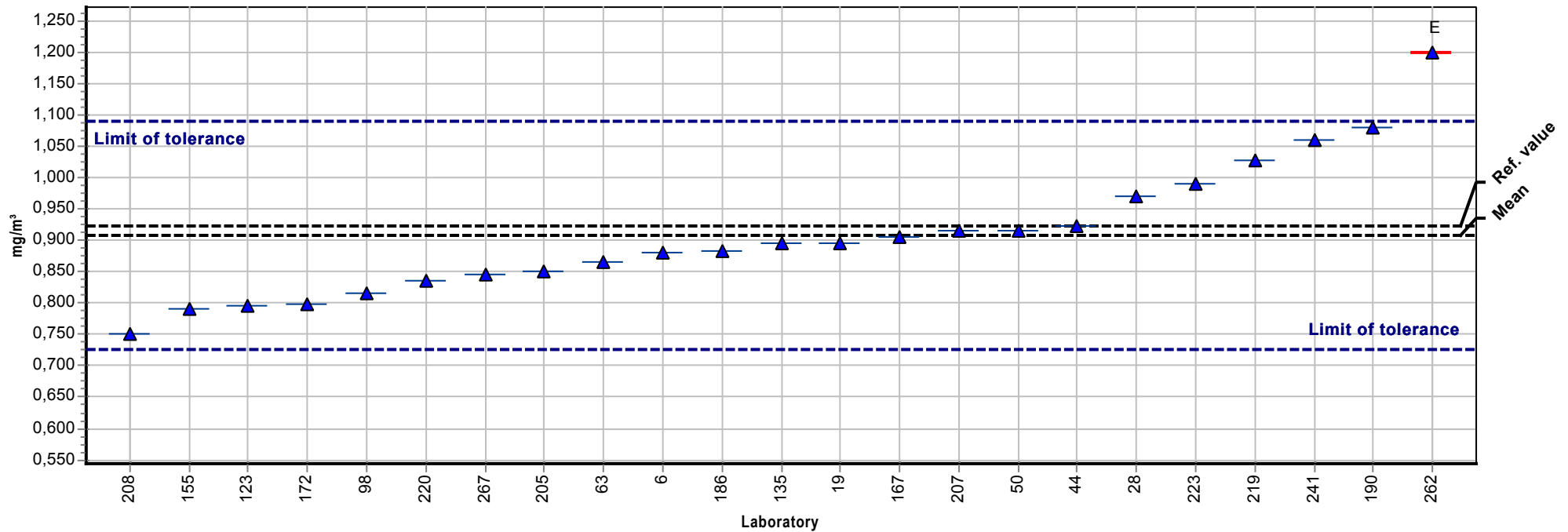
Summary results

Measurand:	Acetaldehyde	Mean:	0,982 mg/m ³
Sample:	2	Reprod. s.d.:	0,097 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	9,89%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,940 mg/m ³
No. of laboratories:	27	Range of tolerance:	0,786 - 1,179 mg/m ³ (Z-Score <= 2,00)



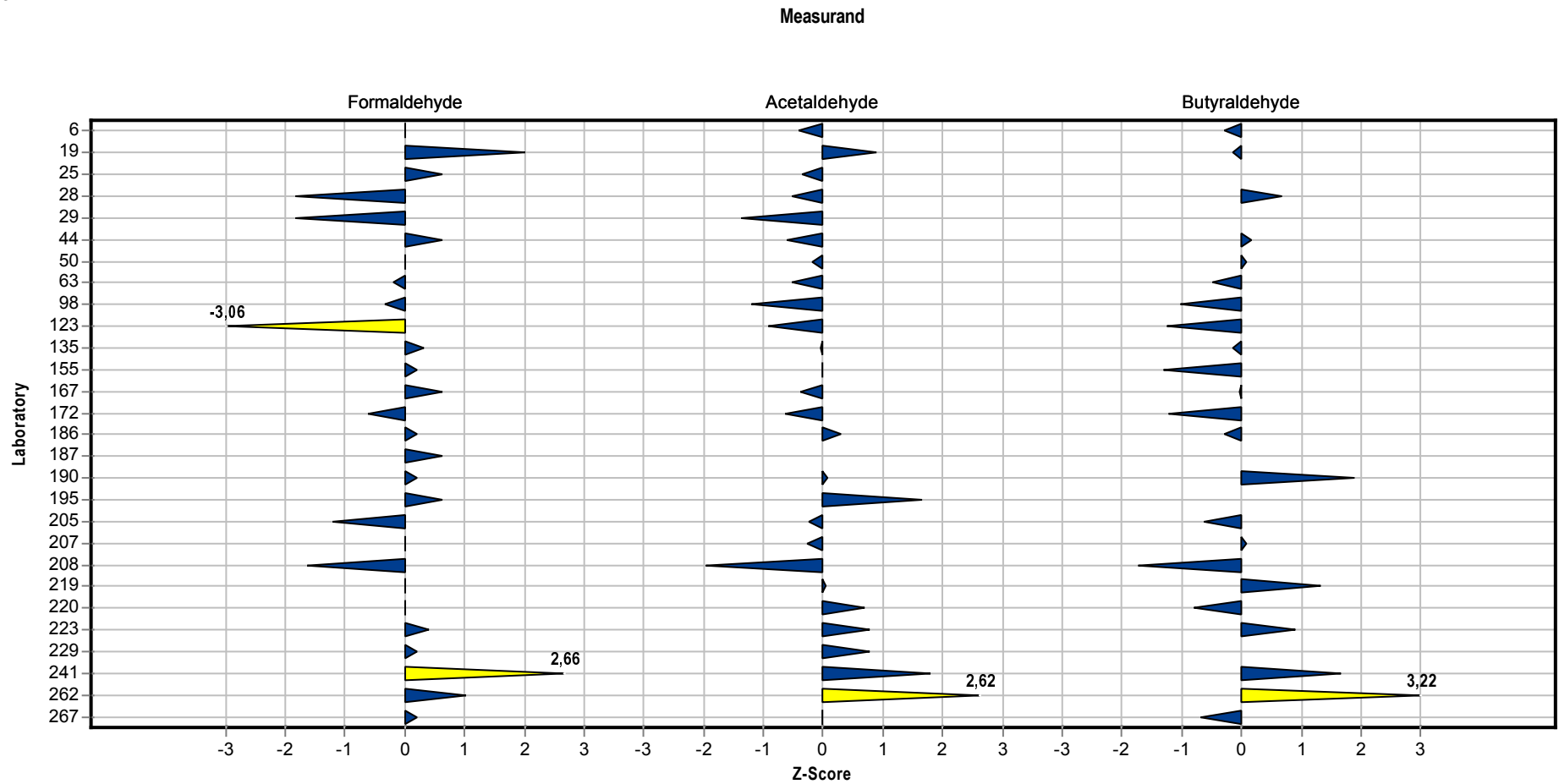
Summary results

Measurand:	Butyraldehyde	Mean:	0,908 mg/m ³
Sample:	2	Reprod. s.d.:	0,107 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	11,78%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,922 mg/m ³
No. of laboratories:	23	Range of tolerance:	0,726 - 1,090 mg/m ³ (Z-Score <= 2,00)



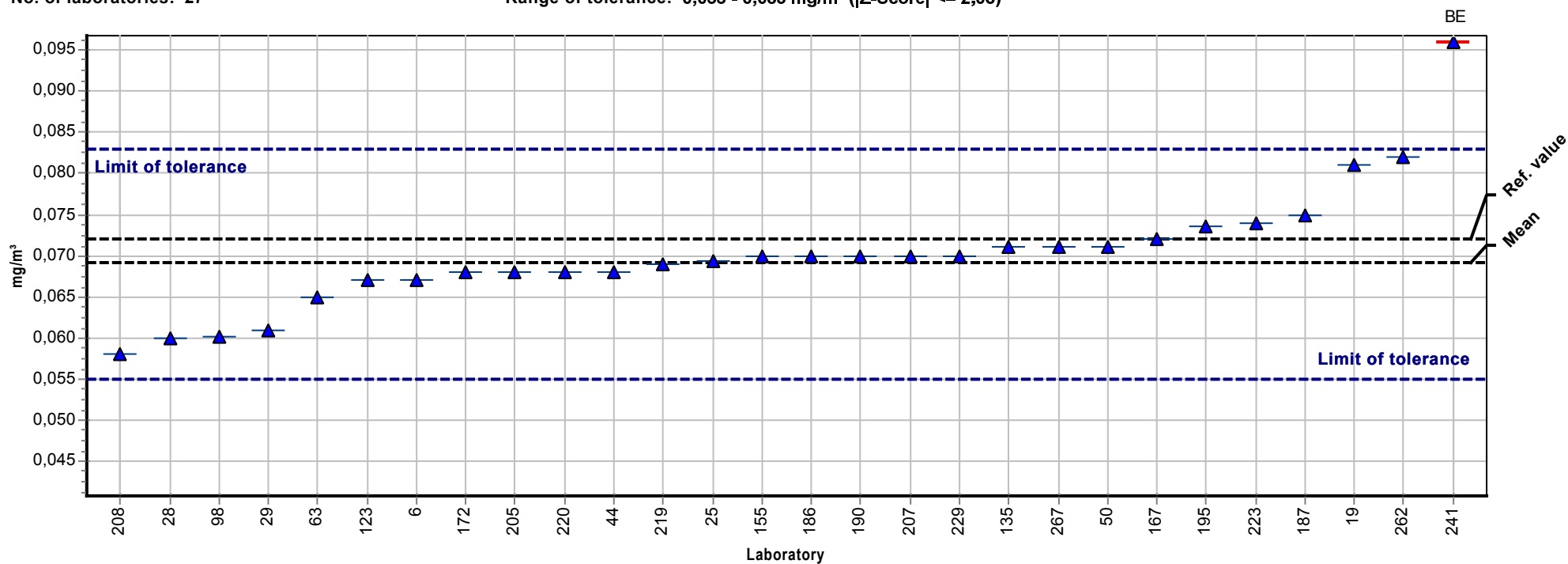
Sample chart of Z-Scores

Sample: 2



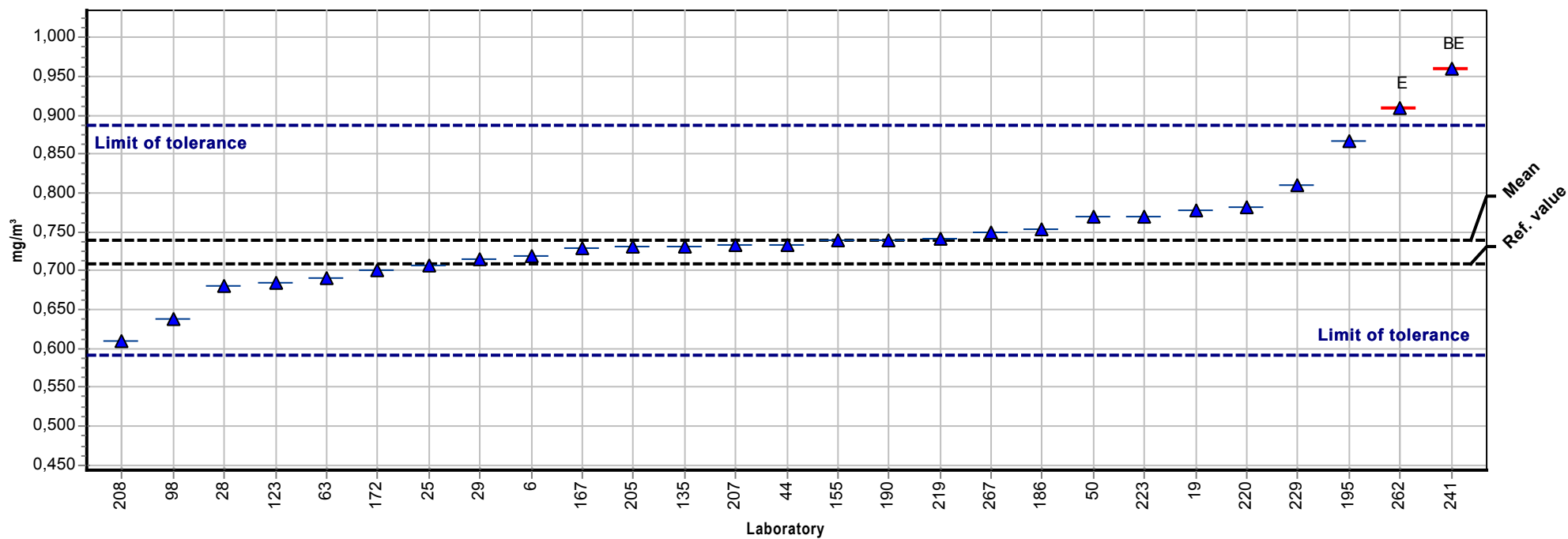
Summary results

Measurand:	Formaldehyde	Mean:	0,069 mg/m ³
Sample:	3	Reprod. s.d.:	0,006 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	7,98%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,072 mg/m ³
No. of laboratories:	27	Range of tolerance:	0,055 - 0,083 mg/m ³ (Z-Score <= 2,00)



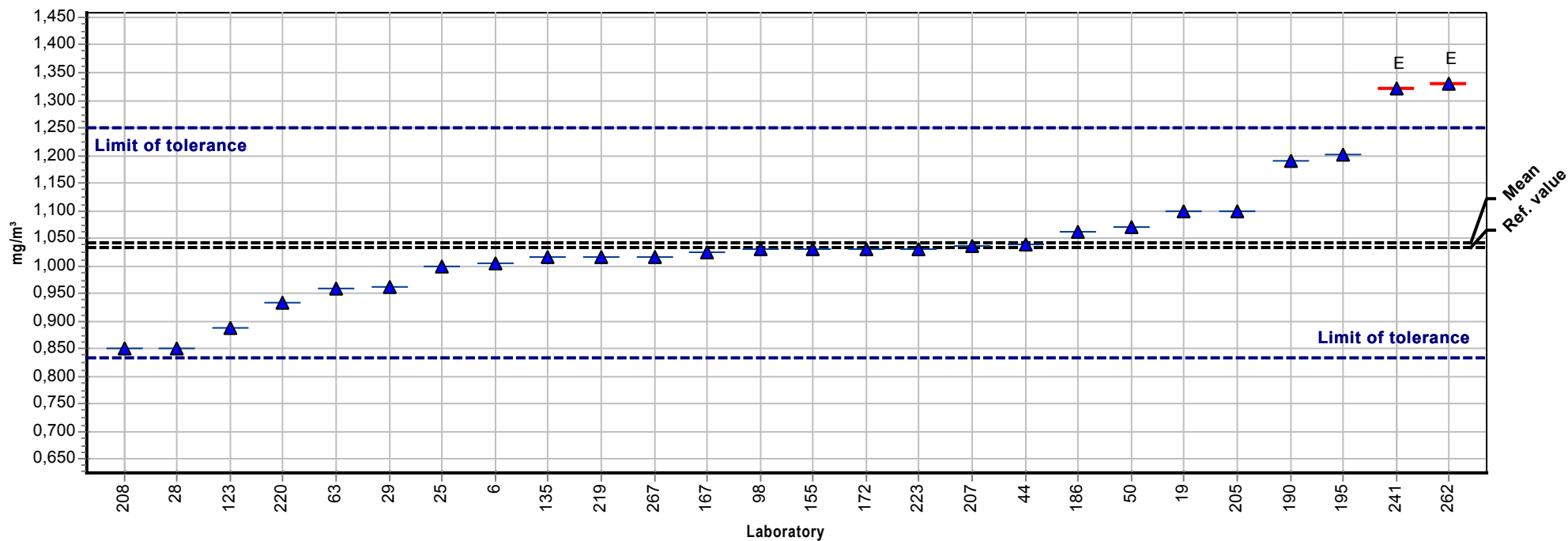
Summary results

Measurand:	Acetaldehyde	Mean:	0,739 mg/m ³
Sample:	3	Reprod. s.d.:	0,062 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	8,37%
Rel. target s.d.:	10,00% (Limited)	Reference value:	0,709 mg/m ³
No. of laboratories:	26	Range of tolerance:	0,591 - 0,887 mg/m ³ (Z-Score <= 2,00)



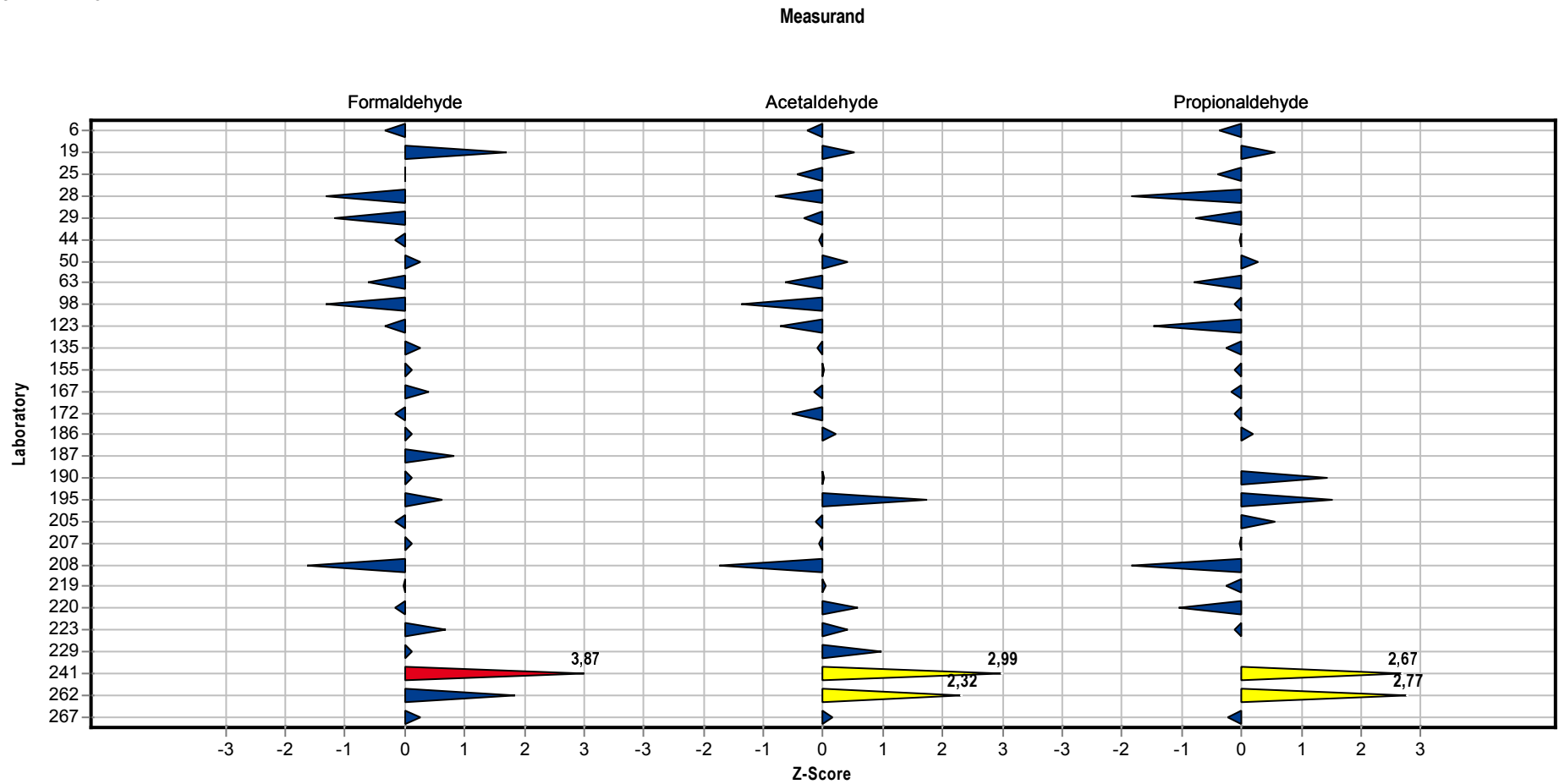
Summary results

Measurand:	Propionaldehyde	Mean:	1,041 mg/m ³
Sample:	3	Reprod. s.d.:	0,117 mg/m ³
Method:	ISO 5725-2	Rel. reprod. s.d.:	11,28%
Rel. target s.d.:	10,00% (Limited)	Reference value:	1,033 mg/m ³
No. of laboratories:	26	Range of tolerance:	0,833 - 1,250 mg/m ³ (Z-Score <= 2,00)



Sample chart of Z-Scores

Sample: 3



Questions and Answers

Participant	Sample carrier	Analytical method	Start sample preparation
6	Waters Sep-Pak	IFA-Arbeitsmappe 6045	01.10.2013
19	Kartusche Silicagel, DNPH-imprägniert	HPLC	30.09.2013
25	Supelco Lp DNPH S10 Cartridge	interne Prüfmethode	01.10.2013
28	Sigma Aldrich/Supelco	HPLC/DAD	01/10/2013
29	Waters Sep-Pak	IFA 6045	14.10.13
44	Waters Sep-Pak	UPLC/PDA	2013.10.28
50	Sigma-Aldrich	HPLC-DAD	13.10.15
63	Supelco-Sigma-Aldrich, Lp DNPH S10	E DIN ISO 16000-3	2.10.2013
98	Waters Sep-Pak	Hausmethode, ähnlich IFA 6045	1.10.2013
123	Sigma-Aldrich	NF ISO 16000-3	11/10/2013
135	Supelco LpDNPH S10	HPLC-DAD IFA-Arbeitsmappe 6045	08.10.2013
155	Waters DNPH Sampler WAT 047205	DIN ISO 16000-3 in Anlehnung	09.10.2013
167	Waters Sep-Pak XPoSure	HPLC	23/10/2013
172	Supelco Lp DNPH H10		01.10.2013
186	Sep-Pak	NF EN ISO 16000-3	2013/10/08
187	Si	HPLC	09/10/2013
190	Sigma-Aldrich	DIN ISO 16000-3	02.10.13
195		internale method based on NIOSH 2016 REV 4.1 and EPA-TO-11 REV1	8/10/13
205	Waters Sep-Pak DNPH-Kartuschen	DIN ISO 16000-3	14.10.2013
207	Supelco DNPH S10 Cartridges		31.10.2013
219	SEP-PAK XPOSURE ALDEHYDE SAMPLER	HPLC	2013-09-30
220	Sigma-Aldrich	HPLC	09.10.2013
223	Waters	HPLC	17.10.2013
229	Sigma-Aldrich	HPLC	2013-10-10
241	Sigma -Aldrich	Haus-StAA Anlehnung ISO 16000-3	09.10.13
262	Lp DNPH S10, SPETube	ISO 16000-3 HPLC-UV	21.10.2013
267	LpDNPH Sigma 21014	HPLC	30.9.2013

Ring test Aldehydes 2013

Participant	Storage time after desorption	Date of analysis	Desorption solution
6	24 h im Kühlschrank	02.10.2013	Acetonitril
19		02.10.2013	Acetonitril
25	0/6/7 Tage, Kühlschrank	01.10./ 07.10./ 08.10.12013	Acetonitril
28	24h	03/10/2013	Acetonitril
29		14.10.13	Acetonitril
44	No	2013.10.28	Acetonitrile
50	no	13.10.15	acetonitrile
63	14 Tage Kühlschrank	17.10.2013	Acetonitril (ACN)
98	Bis 1 Tag nach Desorption, Kühlschrank	1.10.2013, 2.10.2013	Acetonitril
123	no storage	11/10/2013	CH3CN 100%
135	einige Stunden	08.10.2013	Acetonitril
155	12 Tage	10.10.2013	Acetonitril
167	60 min	23/10/2013	Acetonitrile (AcN)
172		02.10.2013	ACN
186	No	2013/10/08	ACN
187	0	10/10/2013	Acetonitrilo
190	48 h	04.10.13	Acetonitril
195	No	8/10/2013	Acetonitrile
205		14.10. - 29.10.2013	Acetonitril
207	ca. 30 Tage	31.10.2013	ACN/H2O 5mM Ammoniumbicarbonat
219	overnight	2013-10-01	Acetonitrile
220	9 Tage nach Probeneingang im Tiefkühlschrank gelagert.	09.10.2013	Acetonitril
223	Datum der Probennahme?	17.10.2013	Acetonitril
229	1 day, in refrigerator 4C	2013-10-10/11	acetonitrile
241	Kühlschrank Zeit?	11.-12.10.13	Acetonitril
262	nein	21.10.2013	Acetonitril
267	JA, 1 Tag (Butyraldehyd), im Kühlschrank	30.9.2013 / 01.10.2013 (Butyraldehyd)	Acetonitril

Participant	Volume of desorption solution	Chromatography system
6	5 mL	Waters: Pumpe: 616, Detektor: 2996, Autosampler: 717
19	5ml	Agilent 1200

Ring test Aldehydes 2013

Participant	Volume of desorption solution	Chromatography system
25	10 ml	Agilent 1260 Infinity
28	5mL	Agilent
29	2 x 5ml	Niederdruckpumpe, UV-Detektor, Autosampler
44	5mL	Waters UPLC
50	2 ml	Agilent 1100 HPLC
63	5 ml	Shimadzu, LC 20AT, SPD-M20A (DAD), SIL-10AF
98	10 ml	Merck Hitachi L6200A/L4250
123	5 ml	HPLC/DAD
135	2 ml	Agilent 1290 Series
155	5 ml	Agilent 1200
167	6 mL (filled to 10 mL with distilled water)	Perkin Elmer series 200 LC pump
172	5ml	HPLC Shimadzu
186	10mL	HPLC-PAD WATERS
187	5 ml	UV/VIS
190	10 ml	Agilent 1100
195	5 mL	PERKIN ELMER SERIES 200 HPLC-DAD
205	3 ml	Agilent 1100 System
207	5 ml	Agilent 1260 infinity LC
219	10 ml	Agilent
220	3mL	Agilent: Pumpe (G1311A); Autosampler (G1313A); Detektor (G1315B)DAD (G1321A)FLD
223	10 ml	Agilent
229	5 ml	HLPC system Series 200, Perkin Elmer
241	1800 µl	HP1100
262	2ml	Hitachi L2130-Pumpe, Jasco MD 2010 Detektor, Thermo Autosampler
267	5ml	HPLC Agilent 1100 DAD

Participant	Analytical column
6	Waters Symmetry C18, 5 µm, 3.9x150mm
19	Agilent C18 250mm x 4,6mm
25	Agilent Zorbax Eclipse C18 4.6 x 100 mm 3.5 Micron
28	Zorbax SB-C18 3,5µm ; 4,6x250mm

Ring test Aldehydes 2013

Participant	Analytical column
29	X-Bridge Phenyl
44	ACQUITY UPLC BEH C18 1.7um2.1*50mm
50	Waters Symmetry 250*4,6 5um
63	Ascentis RP-Amide, 5 µm, 15 cm x 4,6 mm
98	Lichrospher 100 RP18, 5µm, 250x4 mm, gleiche Vorsäule 4x4 mm
123	C 8
135	Macherey & Nagel EC50/4 Nucleodur Sphinx RP 1,8µm
155	Agilent Zorbax XDB-C18 4,6mm X 150mm 5µm
167	Waters Symmetry C18 3,5 µm, 4,6 x 100 mm Cartridge + Waters µBondapak C18 10 micrometer 3,9 x 20 mm Guard Column
172	Synergi 4u Hydro-RP 80A Phenomenex
186	WATERS NOVAPACK C18 / 150mm*3.9mm*4µm
187	C18
190	Hypersil GOLD
195	FORTIS C18 150 mm x 4.6 mm x 5 um
205	Waters Nova Pak C18; 150 mm x 3,9 mm x 4 µm
207	Phenomenex Kinetex 2,6 µ 100*4,6 cm
219	Silica C18
220	Phenomenex Kinetex C18; 150x4,6mm; 5µm
223	Reprosil Pur AQ
229	C18, 150 mm x 4,6 mm, 5 micrometer (Perkin Elmer)
241	Ultrasep ES ALD 125*2,0 mm
262	YMC 15 x 4,6, S 5µm, 12nm
267	Symmetry C18, 250mm x 4.5mm x 5um (Waters)

Participant	Mobile phase
6	Acetonitril/Wasser 45/55
19	Acetonitril / Wasser
25	Lsg. D: Acetonitril/Wasser/Tetrahydrofuran (30/10/60), Lsg. C: Acetonitril/Wasser (60/40)
28	H2O/ACN
29	H2O, ACN, THF
44	Acetonitril, Water

Ring test Aldehydes 2013

Participant	Mobile phase
50	H2O:ACN
63	Acetonitril/Wasser 40/75 %
98	Acetonitril(A) / Wasser
123	CH3CN:H2O
135	Wasser / ACN / THF
155	Acetonitril Wasser Tetrahydrofuran
167	AcN with 0,1 % Phosphoric Acid and water with 0,1 % Phosphoric Acid
172	Laufmittel A:ACN mit 5%Wasser; Laufmittel B:Wasser
186	ACN/w ater/THF
187	Acetonitrilo/agua
190	A= Wasser B= Acetonitril
195	ACN:H2O
205	Wasser / Acetonitril
207	ACN/THF 80/20 H2O
219	Acetonitrile:Water
220	A: Wasser; B:Acetonitril
223	Acetonitril / Phosphorsäure
229	60% acetonitrile/40 % buffer solution (2 mmol/l ammonium acetate)
241	Acetonitril/Wasser THF
262	Acetonitril A, Wasser/THF 90/10 B
267	Acetonitrile/Wasser resp. Acetonitril/Wasser/THF für Butyraldehyd

Participant	Gradient-/ Temp.-program	Flow rate
6	isokratisch/20°C	1,3 mL/min
19	80H2O/20ACN nach 20H2O/80ACN in 18 Minuten	1
25	Gradient: 0 - 1 min 100%D, 18 min 90% D, 20 min 100 %D	1,5 ml/min
28	0min 60%B; 7,5min 63,8%B; 12,5min 63,8%B; 20min 67,5%B 26min 67,5%B; 30min 100%B; 32min 100%B; 35min 60%B	1ml/min
29	Gradient	1,5
44	25% Acetonitrile+75%w ater----80%Acetonitrile+20%w ater(11min)----25%Acetonitrile+75%w ater(12min)	0.5ml/min
50	0-5 min 40:60% H2O:ACN 5-20 min 100% ACN	1 ml/min
63	5 min 40% ACN, 25 min 75% ACN, 39 min 75% ACN, 40 min 40% ACN, 42 min Stop	1,8

Ring test Aldehydes 2013

Participant	Gradient-/ Temp.-program	Flow rate
98	0-2 min 49%A, 2-8 min 49-70%A,8-10 min 70%A,10-16 min 70-80%A, 16-17 min 80%A, 17-18 min 80-49%A, 18-20 min 49%A	1,2 ml/min
123	t=0 min 60/40 (H2O/CH3CN); t=48 min 20/80 (H2O/CH3CN) ; t=53 min 60/40 (CH3CN/H2O)	1 ml/min
135	Eluent A: Wasser / ACN / THF Eluent B: ACN ...Gradient... ; Temperatur: 40°C	1,6 ml/min
155	Grandient Start ACN 30% THF 10% H2O 60% Ende ACN 96% THF 5% H2O 0% Temperatur 35 °C constant	1 ml/min
167	Water 45 /AcN 55 (3 min), up to 100 AcN in 4 min + 1 min, back to Water 45 / AcN 55 in 1 min + 5 min. 25 °C	1,5 mL/min
172	Gradient 65/35 bis 100/0; Temp.25°C	1 ml/min
186	35°C	1,5mL/min
187	Isocrático/40°C	0,4 ml/min
190	0: 65% A, 35% B, 30-40min: 40% A, 60% B, 40: 0% A, 100% B	1,2 ml
195	5 min ACN:H2O (30:70), 35 min. ACN:H2O (50:50) , 15 min. ACN:H2O (70:30), 5 min. ACN:H2O (30:70)	0.80 mL/min
205		0,7 ml/min
207	Säulentemperatur 30°C	1,5 ml/min
219	Yes, 35 C	0.4 ml/min
220	0min.:40%B; 15min.:50%B; 17min.:50%B; 20min.:57%B; 30min.:57%B; 45min.:100%B; 50min.: 100%B	0,8mL/min.
223	Gradient: ja / Temperaturprogramm: nein	1 ml/min
229	izocratic gradient (60% acetonitrile/40 % buffer solution), temperature 35C	1 mL/min
241	30/70 5 min ; 32/68 30 min	0,5 ml/min
262	35% A-65% B 7min, in 11 min auf 80% A 20% B, in 2min auf 100% A	1,5ml/min
267	40/60 H2O-Acetonitril 7 min, 100% Acetonitril 20min.	1.5ml/min

Participant	Wavelength
6	360 nm
19	254nm
25	360 nm
28	360nm
29	
44	360nm
50	360 nm
63	360 nm
98	365 nm
123	365.4 nm

Ring test Aldehydes 2013

Participant	Wavelength
135	365 nm
155	360nm / 365 nm / 380nm
167	360 nm
172	360nm
186	360nm
187	360 nm
190	365 nm
195	360 nm
205	365 nm
207	360 nm
219	360 nm
220	DAD: 370nm; FLD: Ex.250nm Em.410nm (für den ISTD)
223	340 nm
229	370 nm
241	365 nm
262	365nm
267	365

Participant	Recovery rate
6	nein
19	ca. 100%
25	nein
28	no
29	
44	No
50	no
63	nein
98	97-100%
123	no
135
155	Kontrolle der vollständigen Desorbition erfolgte durch eine weitere Desorbition des Adsorbers

Ring test Aldehydes 2013

Participant	Recovery rate
167	100 ± 2 %
172	nein
186	yes
187	NO
190	Kontrollstandard HCHO 99,8 %
195	100%
205	101 %
207	
219	No
220	94 bis 108%
223	100 %
229	result of acetaldehyde w as corrected by recovery. Recovery for acetaldehyde 90%.
241	nein
262	nein
267	