ENVIRONMENT AGENCY AUSTRIA umweltbundesamt

EVALUATION OF THE INTERLABORATORY COMPARISON TEST

CHC and BTEX on activated charcoal tubes – CBL02

Sample dispatch on 4th October 2016

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Table of contents

1 Interlaboratory comparison test: CHC and BTEX on activated charcoal tubes – CBL02

1.1 Participants and time schedule

- Number of registrations: 30
- Number of submitted data records: 29
- Dispatch of samples: 4th October 2016
- Closing date for submission of data: 2nd November 2016

For the interlaboratory comparison test CBL02 the participants could participate in CL03 (CHC on activated charcoal tubes) and/or BL04 (BTEX on activated charcoal tubes).

To anonymize results, each laboratory was given a laboratory code on a random basis.

1.2 Sampling, sample material and distribution

Activated Orbo 32S-charcoal tubes (Supelco) were loaded using a certified calibration gas (Linde). One tube was loaded with benzene, ethylbenzene m-, p- and o- xylene and toluene, (BL04) and another tube was loaded with Trichloromethane, 1,1,1-Trichloroethane, Trichloroethene, Tetrachloromethane, Tetrachloroethene, cis-1,2-Dichlorethene, trans-1,2-Dichlorethene (CL03). In addition to CL03 and BL04, respectively, an unloaded activated charcoal tube was made available to determine the blank value. The tubes were loaded using a t-piece under pressure-less condition. The samples were prepared in two series (CL03 and BL04) using a pump with a continuous and defined flow. The flow of the pump was controlled before as well as after the loading of the tubes. The charcoal tubes were loaded on 3rd October 2016 and dispatched on 4th October 2016.

Each participant received (according to the order):
1 loaded charcoal tube for the interlaboratory comparison test CL03 and/or
1 loaded charcoal tube for the interlaboratory comparison test BL04

1.3 Control testing

During sampling, aliquots of each sample were collected randomly for control testing.

In the parameter-oriented evaluation, the results of the control testing are given in the form of arithmetic means of the detected concentrations as check value ± U.

2 Evaluation

The analytical results had to be made available to the organiser not later than 2nd November 2016. Any values received at a later date were not considered. A statistical evaluation of interlaboratory comparison data was only carried out if at least 6 valid results per parameter were available.

To evaluate the data, outliers were detected first by using the outlier test method according to Hampel. Values identified as conspicuous by this test method are marked specifically in the parameter-oriented evaluation. Further evaluation was performed in accordance with DIN ISO 5725-2. Results < LOQ or < LOD are not taken into account for calculation.

The adjusted average value (after removal of outliers) for all submitted results was used as a basis for the calculation of recovery rates and z-scores.

z-Score

z-Scores were calculated on the basis of the following formula:

$$z - score = \frac{x_i - \overline{X}}{SD}$$

In this context,

x_i is the measurement value of the participating laboratory.

$\overline{X}$ is the adjusted average value (i.e. after removal of outliers) of the participants' results.

SD is the reproducibility standard deviation, calculated from the participants' results (after removal of outliers) in the relevant test round.

Interpretation of z-Scores in the parameter-oriented evaluation:

- |z| < 2 result: good
- 2 < |z| < 3 result: questionable
- |z| > 3 result: not satisfactory

3 Representation and interpretation of measurement results

The parameter oriented report shows the measurement values including uncertainty, recovery rate, calculated z-Score and the outliers in tabular form. The results listed in the table are also represented graphically.

The laboratory oriented report shows the results of the individual laboratories, including the recovery rates and z-Scores.

An annotation of the tables and graphics is given in section 5.

4 Explanatory notes

As explained in section 2, the z-Score is calculated using the reproducibility standard deviation, calculated from the participants' results (after removal of outliers) in the relevant test round. As a consequence it might occur that the z-Score between -2 and 2 covers an extraordinary range, due to a high variance of the results.

The recovery rate is calculated for the individual result based on the target value. Therefore, in the case of a high variance of the results, participants should also consider recovery rates as an indicator for the necessity of internal quality assurance measures.

- Cf. cis-1,2-Dichloroethene sample CL03 (n=18)
- Cf. trans-1,2-Dichloroethene sample CL03 (n=19)

Laboratory LC0028 has objected against the received samples. After checking by the organiser of the Interlaboratory comparison test no irregularities have been identified. Retained samples for internal repetition were provided to the laboratory.

5 Annotations on tables and charts

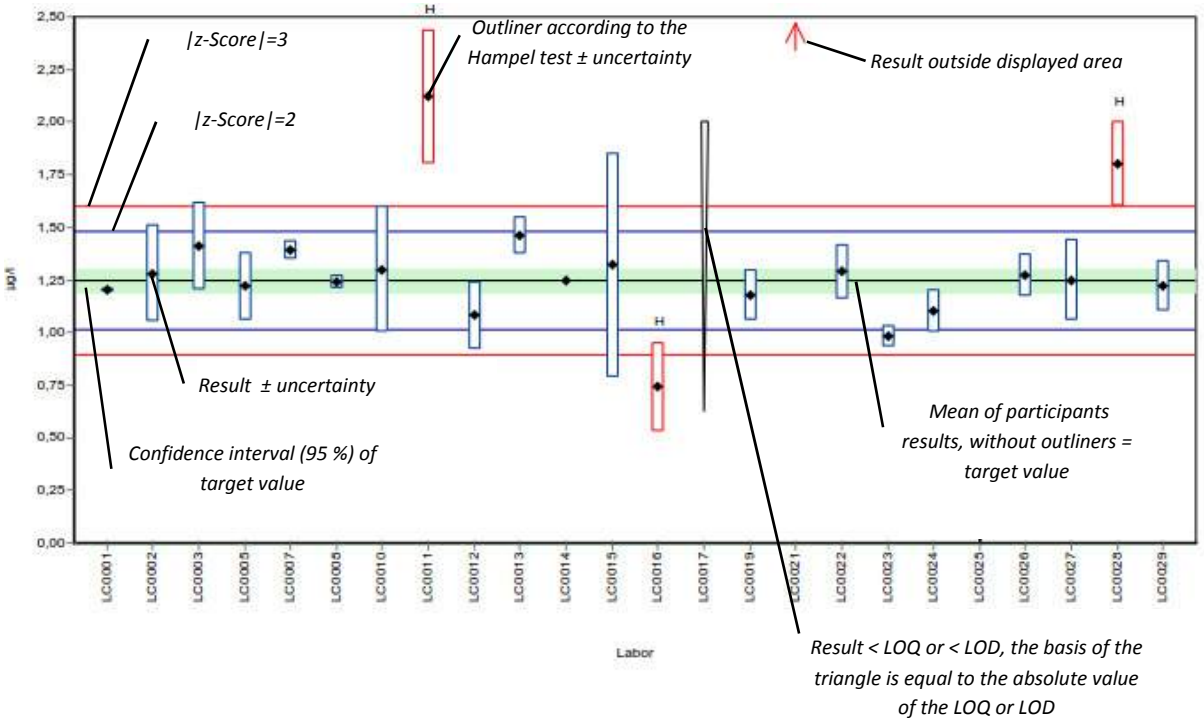
5.1 Information and abbreviations in tables

Parameter	Analyte identifier
Sample	Sample identifier
Unit	Given unit for result and uncertainty (e.g. µg/l)
Mean	Mean of the participants results, without outliers (3 significant digits)
CI (99 %)	99% confidence interval (3 significant digits)
Minimum	Minimum of all submitted results, after removal of outliers (3 significant digits)
Maximum	Maximum of all submitted results, after removal of outliers (3 significant digits)
SD	Reproducibility standard deviation, calculated from the participants results, after removal of outliers (3 significant digits)
RSD %	Reproducibility standard deviation, calculated from the participants results relative to the target value, given in %, after removal of outliers (2 significant digits)
Check value ± U	Mean of check value ± measurement uncertainty (3 significant digits)
Labcode	Laboratory identifier (anonymized)
Result	Result as indicated by participant (max. 5 decimal places)
± U	Results uncertainty as indicated by participant (max. 5 decimal places)
LOQ	Limit of quantification
LOD	Limit of detection
Recovery	Recovery rate in % based on target value (3 significant digits, max. one decimal place given)
z-Score	Deviation of result based on target value depicted as a multiple of the criteria (3 significant digits, max. 2 decimal places given)
-	*No data available*
Comments	Comment on the respective result (e.g. H, FN, FP)
H	Outlier according to Hampel-Test
FN	False negative – for a result < LOQ or result < LOD: The absolute value of the LOQ or LOD fulfils the condition of an outlier according to the Hampel test.
FP	False positive – for parameters where no target value is available because of a too low analyte content (n < 6):

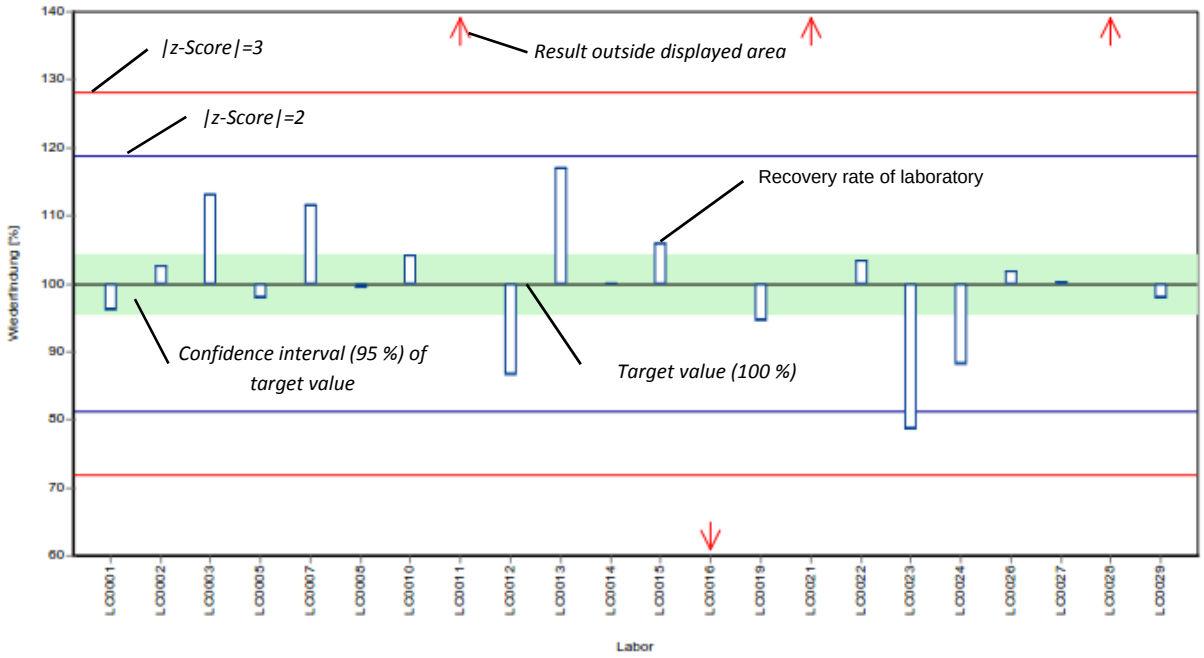
	Result that exceeds the median of the absolute values of the transmitted LOQs or LODs by more than 100 %.
Standard deviation	Reproducibility standard deviation, calculated from the participants results (3 significant digits)
Rel. standard deviation	Reproducibility standard deviation, calculated from the participants results relative to the target value, given in %, (3 significant digits)
n	Number of results
Target value	Mean of the participants results, without outliers (3 significant digits)
Criteria	Criteria for z-Score calculation. The given value matches the reproducibility standard deviation, calculated from the participants' results, after removal of outliers (3 significant digits).

5.2 Graphical presentation of results

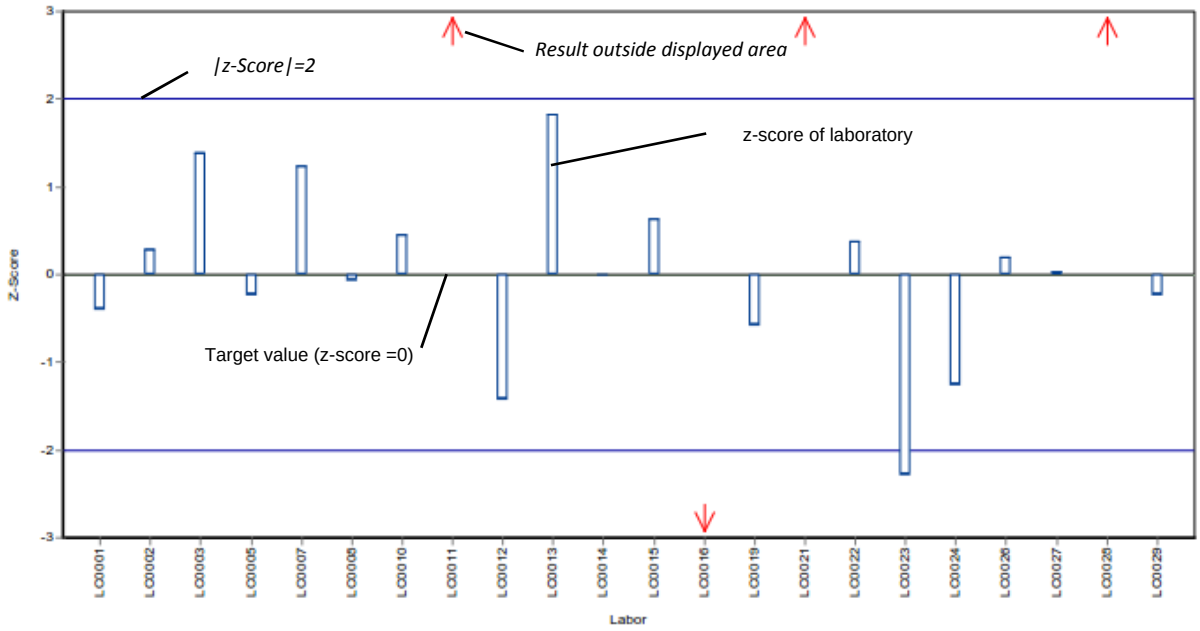
Example chart: Results



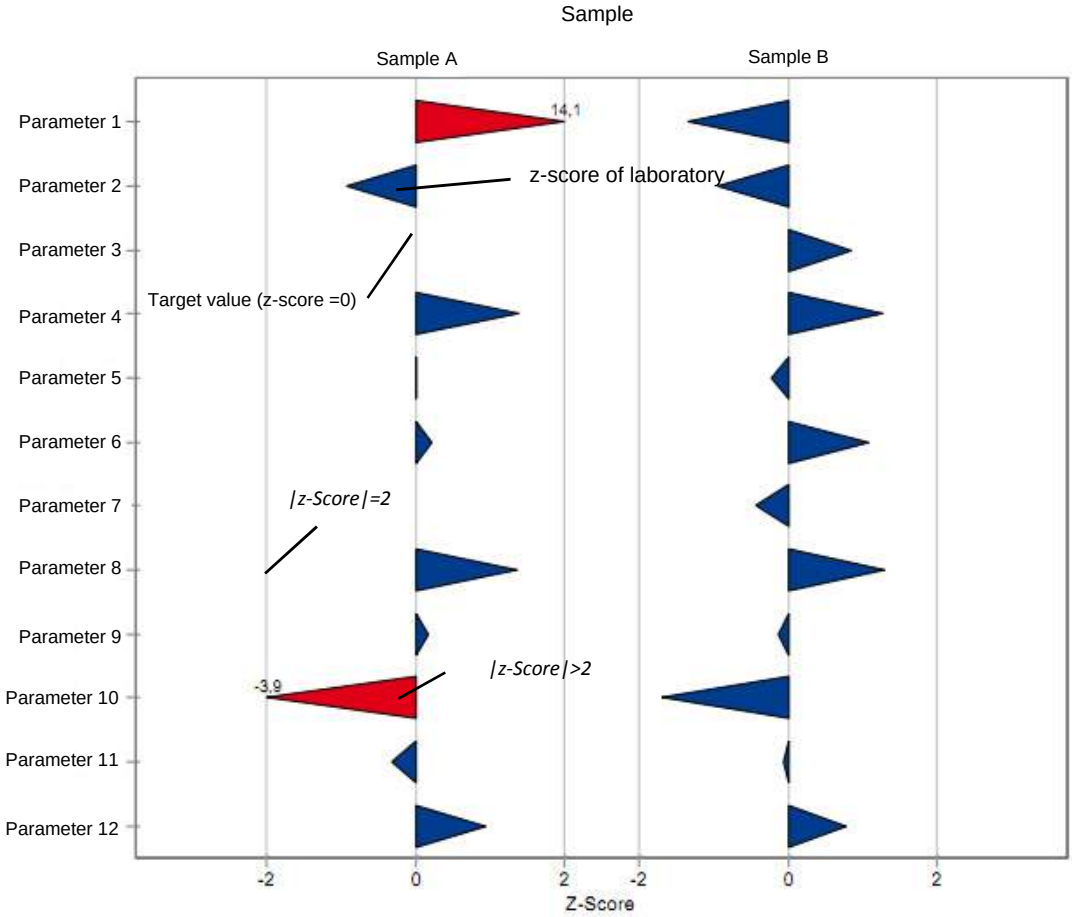
Example chart: Recovery



Example chart: z-score



Example chart: z-score - laboratory oriented report



6 Summary of results, after removal of outliers

Parameter	Sample	Unit	Number of results for calculation	Number of outliers	Mean	± CI (99%)	Minimum	Maximum	SD	RSD %
Benzene	BL04	µg/tube	24	2	2.06	± 0.176	1.66	2.8	0.287	14
Ethylbenzene	BL04	µg/tube	26	1	6.04	± 0.517	4.48	8.1	0.879	15
o-Xylene	BL04	µg/tube	25	2	5.74	± 0.448	4.06	7.26	0.747	13
Sum of m-Xylene and p-Xylene	BL04	µg/tube	25	2	11.2	± 1.42	5.8	15.9	2.37	21
Toluene	BL04	µg/tube	25	2	4.39	± 0.313	3.3	5.2	0.522	12
1,1,1-Trichloroethane	CL03	µg/tube	19	1	20	± 1.9	16.6	26	2.75	14
cis-1,2-Dichloroethene	CL03	µg/tube	18	0	21.6	± 3.61	14.3	32	5.11	24
Tetrachloroethene	CL03	µg/tube	20	1	32.2	± 3	23.1	41.6	4.47	14
Tetrachloromethane	CL03	µg/tube	16	3	32	± 2.34	27.6	40.3	3.12	9.8
trans-1,2-Dichloroethene	CL03	µg/tube	19	0	19.5	± 5.3	7.79	37	7.71	39
Trichloroethene	CL03	µg/tube	19	1	27.7	± 2.39	24	36.5	3.48	13
Trichloromethane	CL03	µg/tube	19	1	25.9	± 2.17	21.2	33.6	3.15	12

7 Parameter oriented report

Parameter oriented report

BL04

Benzene

Unit	µg/tube
Mean ± CI (99%)	2.06 ± 0.176
Minimum - Maximum	1.66 - 2.8
Control test value ± U	1.99 ± 0.191

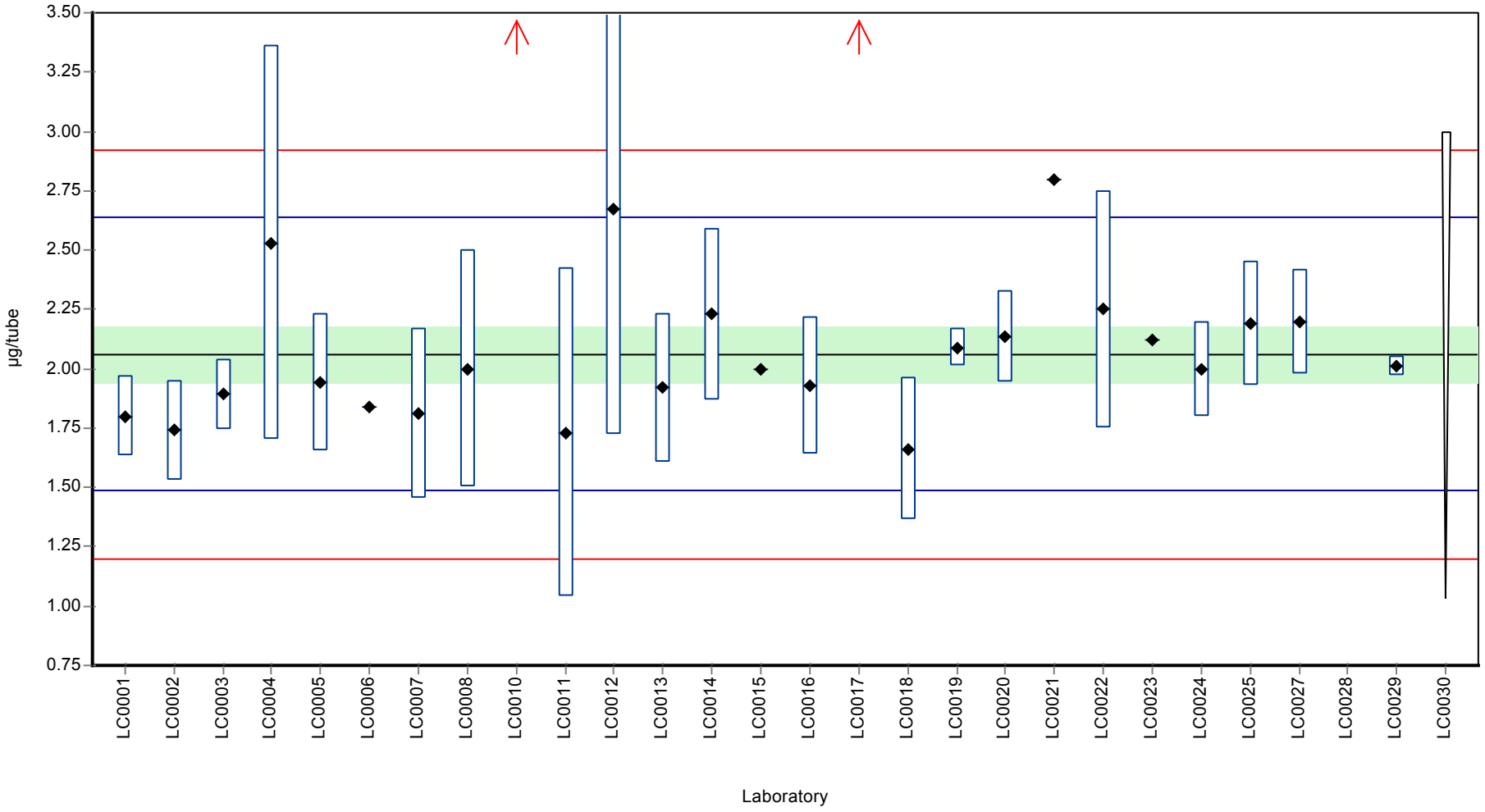
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	1.8	0.17	87.3	-0.91	
LC0002	1.74	0.21	84.4	-1.12	
LC0003	1.891	0.15	91.7	-0.59	
LC0004	2.53	0.83	123	1.63	
LC0005	1.94	0.29	94.1	-0.42	
LC0006	1.84	-	89.2	-0.77	
LC0007	1.81	0.36	87.8	-0.88	
LC0008	2	0.5	97	-0.22	
LC0010	20.1	3	975	62.8	H
LC0011	1.73	0.692	83.9	-1.16	
LC0012	2.67	0.95	129	2.12	
LC0013	1.92	0.315	93.1	-0.49	
LC0014	2.23	0.36	108	0.59	
LC0015	1.995	-	96.8	-0.23	
LC0016	1.93	0.29	93.6	-0.46	
LC0017	4.52	0.64	219	8.56	H
LC0018	1.66	0.3	80.5	-1.4	
LC0019	2.09	0.08	101	0.1	
LC0020	2.137	0.192	104	0.26	
LC0021	2.8	-	136	2.57	
LC0022	2.25	0.5	109	0.66	
LC0023	2.12	-	103	0.2	
LC0024	2	0.2	97	-0.22	
LC0025	2.19	0.26	106	0.45	
LC0026	-	-	-	-	
LC0027	2.2	0.22	107	0.48	
LC0028	< 0.5 (LOQ)	-	-	-	FN
LC0029	2.012	0.04	97.6	-0.17	
LC0030	< 3 (LOQ)	-	-	-	

Characteristics of parameter

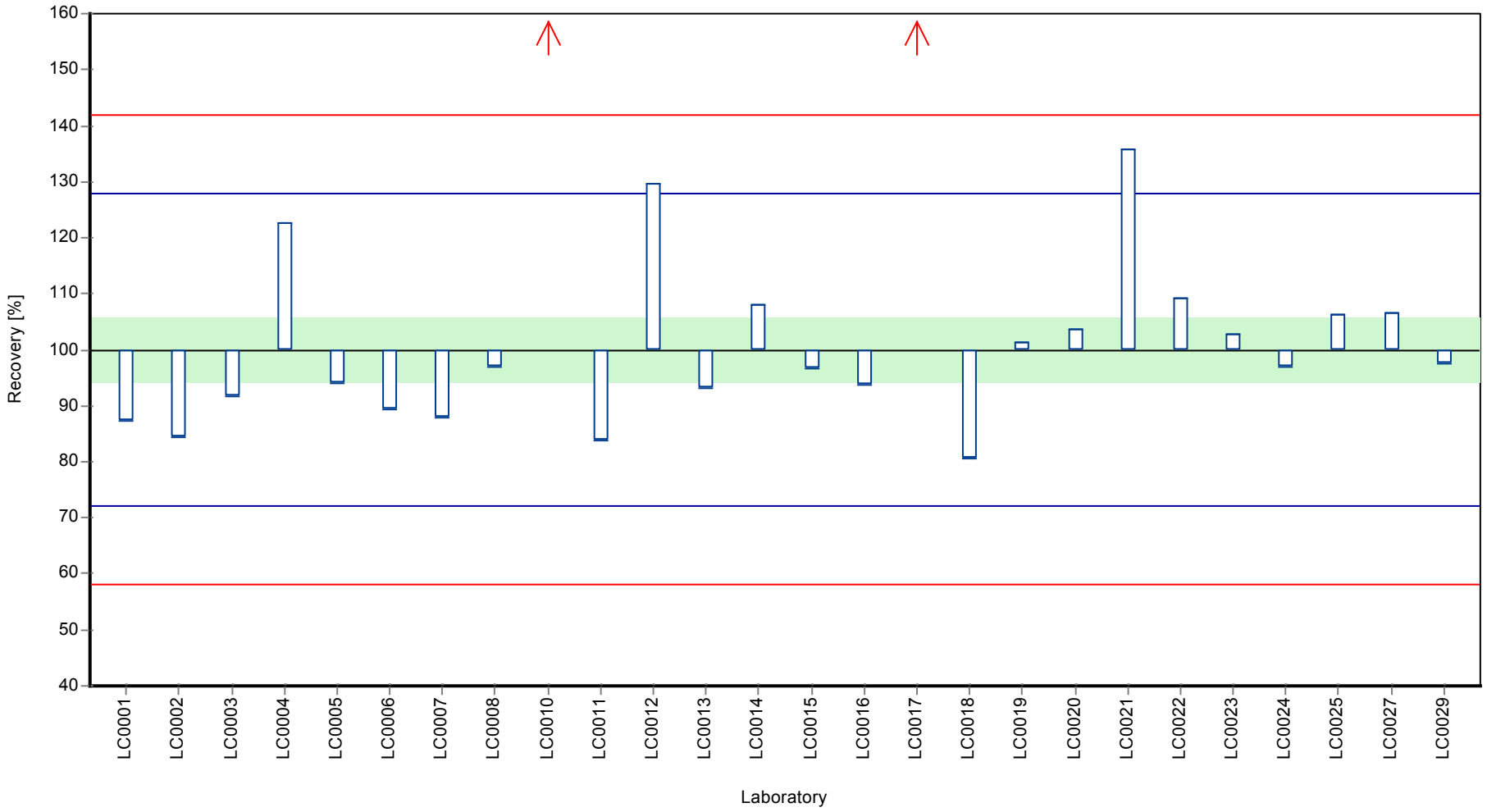
	all results	without outliers	Unit
Mean ± CI (99%)	2.85 ± 2.1	2.06 ± 0.176	µg/tube
Minimum	1.66	1.66	µg/tube
Maximum	20.1	2.8	µg/tube
Standard deviation	3.56	0.287	µg/tube
rel. Standard deviation	125	13.9	%
n	26	24	-

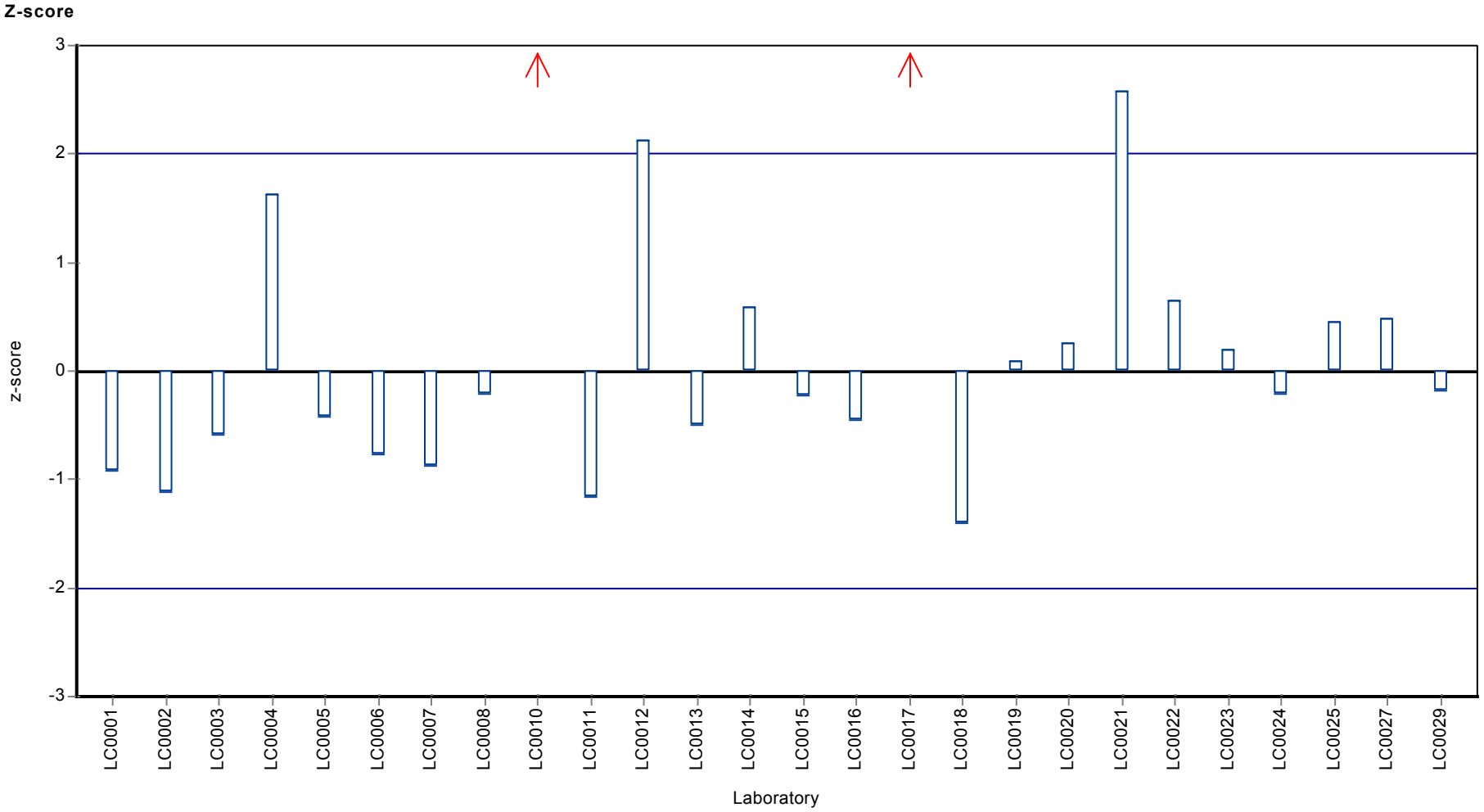
Graphical presentation of results

Results



Recovery rate

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LC0029
Laboratory

Parameter oriented report

BL04

Ethylbenzene

Unit	µg/tube
Mean ± CI (99%)	6.04 ± 0.517
Minimum - Maximum	4.48 - 8.1
Control test value ± U	6.37 ± 0.854

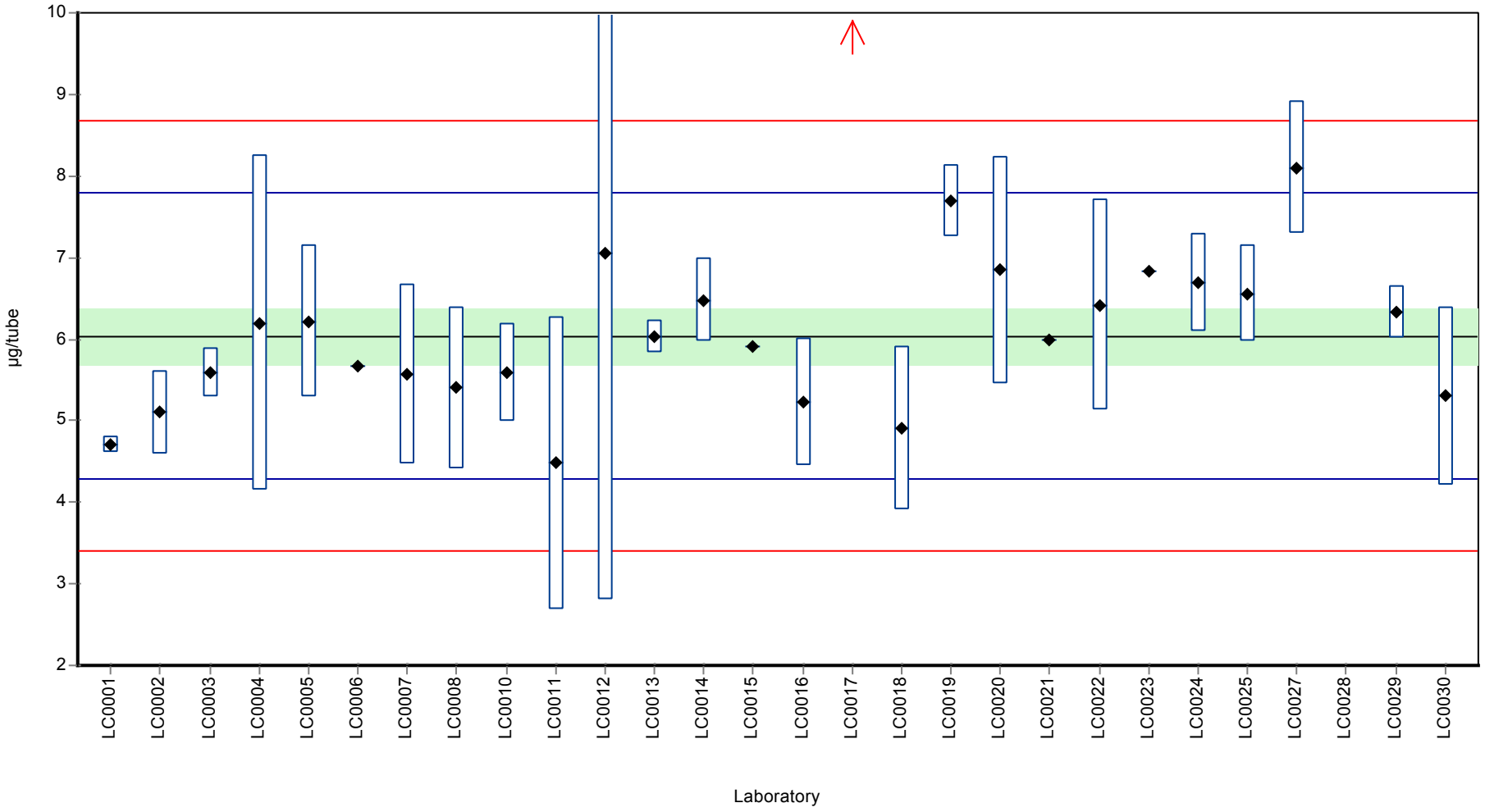
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	4.7	0.1	77.9	-1.52	
LC0002	5.1	0.51	84.5	-1.07	
LC0003	5.594	0.3	92.7	-0.5	
LC0004	6.2	2.05	103	0.19	
LC0005	6.22	0.93	103	0.21	
LC0006	5.66	-	93.8	-0.43	
LC0007	5.57	1.1	92.3	-0.53	
LC0008	5.4	1	89.5	-0.72	
LC0010	5.59	0.6	92.6	-0.51	
LC0011	4.48	1.79	74.2	-1.77	
LC0012	7.06	4.25	117	1.17	
LC0013	6.03	0.196	99.9	-0.01	
LC0014	6.48	0.51	107	0.51	
LC0015	5.915	-	98	-0.14	
LC0016	5.23	0.78	86.6	-0.92	
LC0017	12.5	2.3	207	7.36	H
LC0018	4.91	1	81.3	-1.28	
LC0019	7.7	0.44	128	1.89	
LC0020	6.85	1.395	113	0.93	
LC0021	6	-	99.4	-0.04	
LC0022	6.42	1.3	106	0.44	
LC0023	6.84	-	113	0.92	
LC0024	6.7	0.6	111	0.76	
LC0025	6.56	0.59	109	0.6	
LC0026	-	-	-	-	
LC0027	8.1	0.81	134	2.35	
LC0028	< 0.5 (LOQ)	-	-	-	FN
LC0029	6.327	0.316	105	0.33	
LC0030	5.3	1.1	87.8	-0.84	

Characteristics of parameter

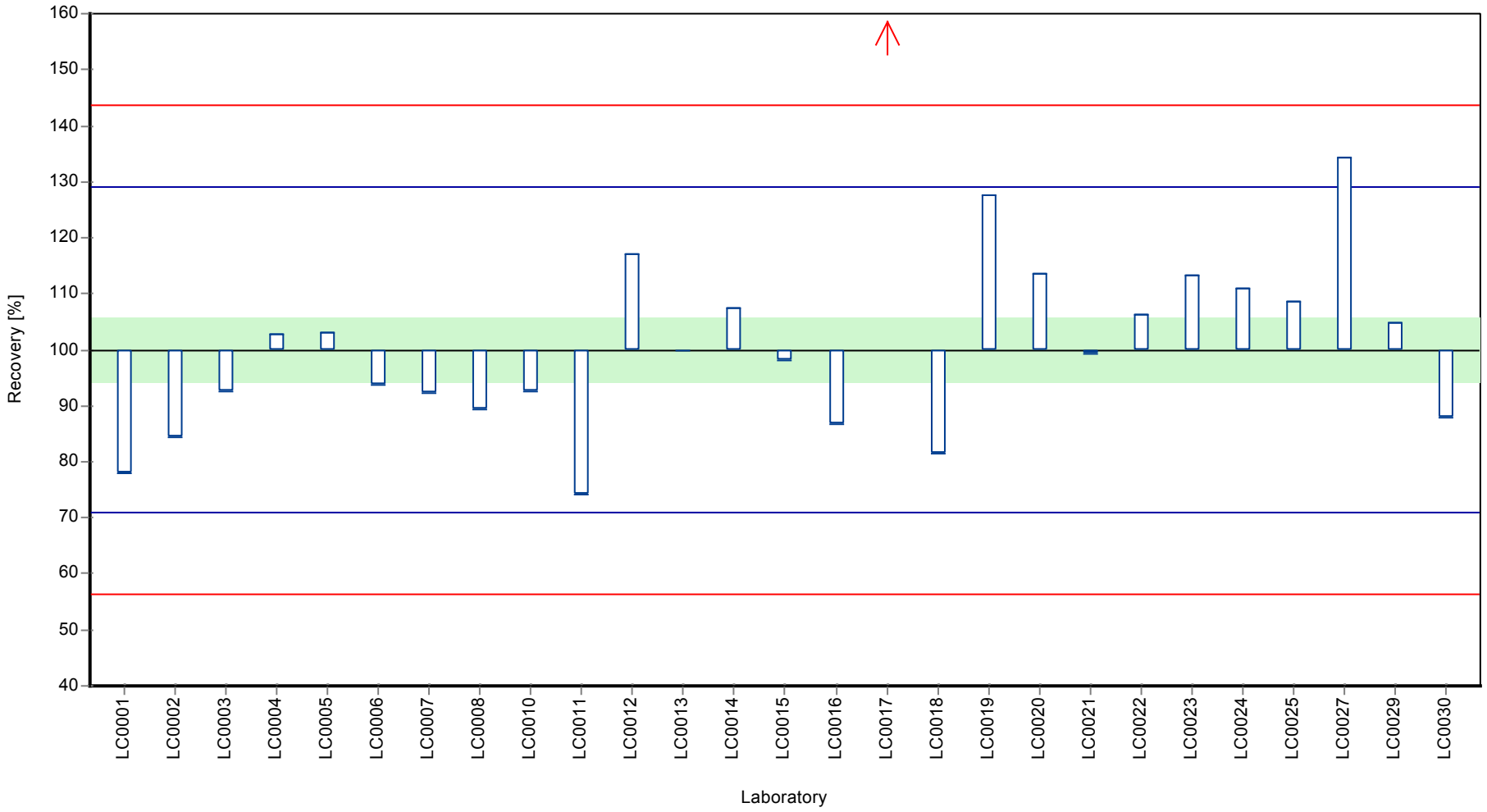
	all results	without outliers	Unit
Mean ± CI (99%)	6.28 ± 0.874	6.04 ± 0.517	µg/tube
Minimum	4.48	4.48	µg/tube
Maximum	12.5	8.1	µg/tube
Standard deviation	1.51	0.879	µg/tube
rel. Standard deviation	24.1	14.6	%
n	27	26	-

Graphical presentation of results

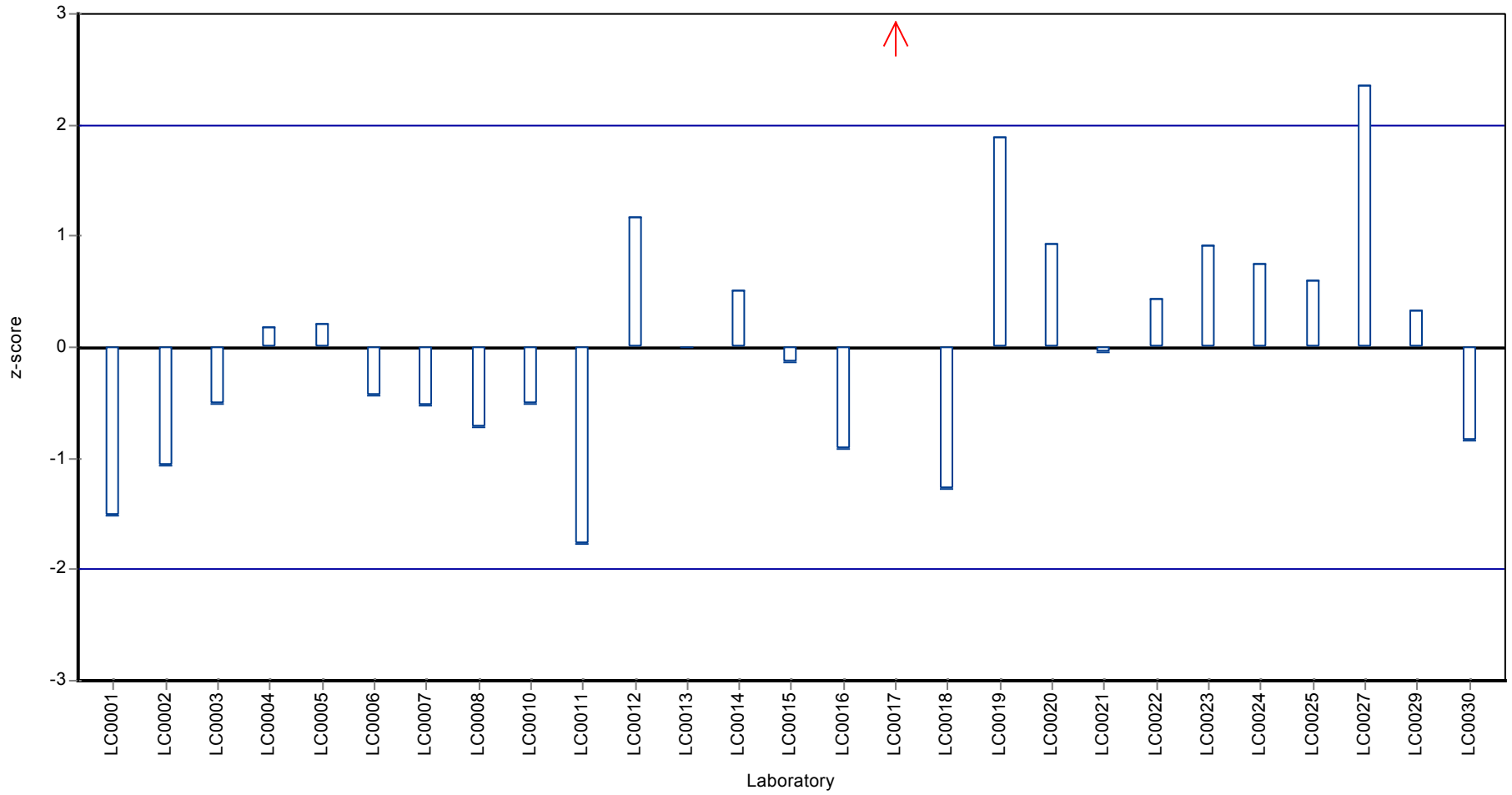
Results



Recovery rate



Z-score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LC0030
Laboratory

Parameter oriented report

BL04

o-Xylene

Unit	µg/tube
Mean ± CI (99%)	5.74 ± 0.448
Minimum - Maximum	4.06 - 7.26
Control test value ± U	6.14 ± 0.894

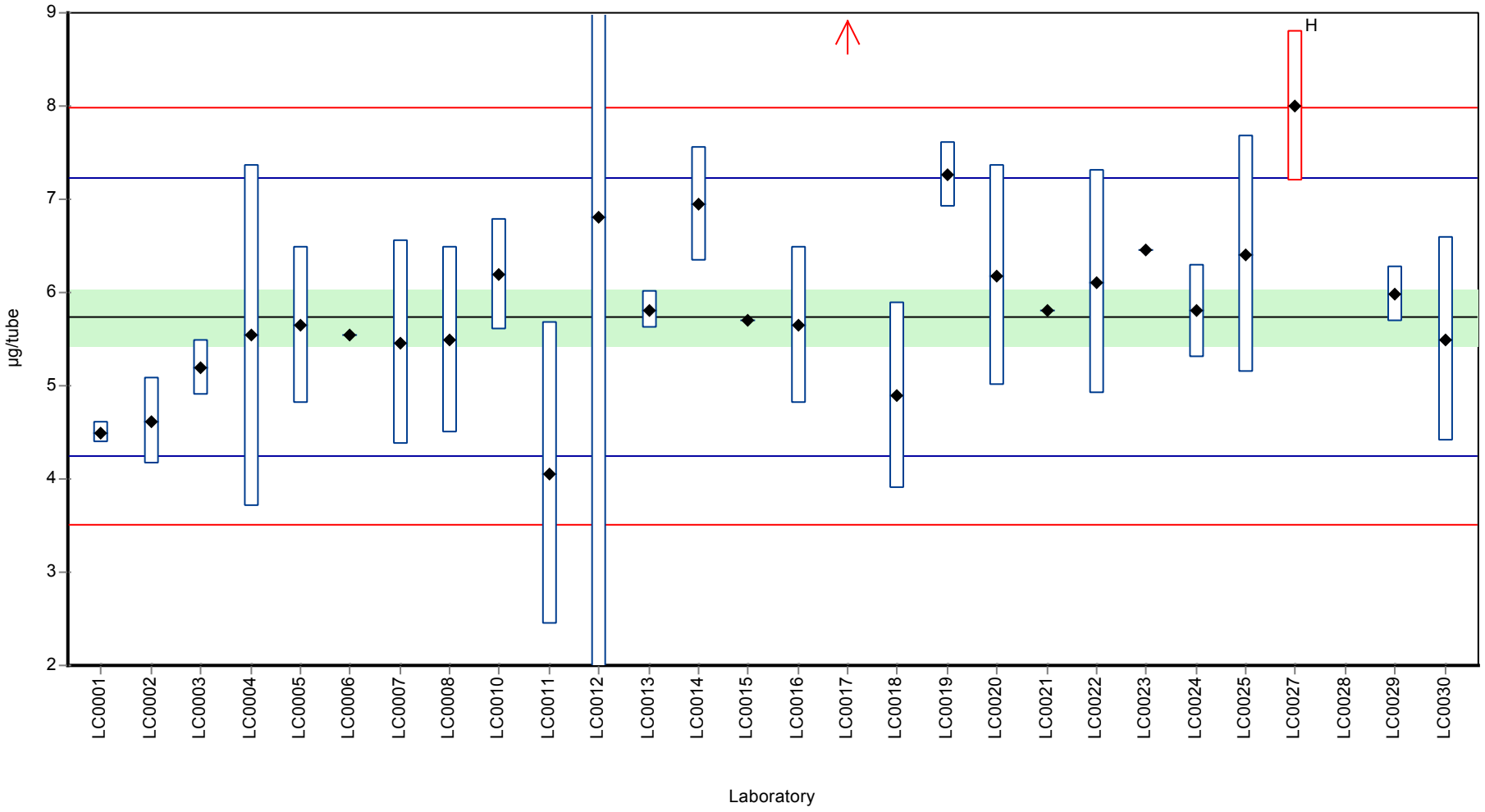
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	4.5	0.12	78.4	-1.67	
LC0002	4.62	0.46	80.4	-1.5	
LC0003	5.198	0.3	90.5	-0.73	
LC0004	5.54	1.83	96.5	-0.27	
LC0005	5.65	0.85	98.4	-0.13	
LC0006	5.55	-	96.6	-0.26	
LC0007	5.46	1.1	95.1	-0.38	
LC0008	5.5	1	95.8	-0.33	
LC0010	6.19	0.6	108	0.6	
LC0011	4.06	1.62	70.7	-2.25	
LC0012	6.81	6.39	119	1.43	
LC0013	5.81	0.2	101	0.09	
LC0014	6.95	0.61	121	1.62	
LC0015	5.698	-	99.2	-0.06	
LC0016	5.65	0.85	98.4	-0.13	
LC0017	11.1	1.8	193	7.18	H
LC0018	4.9	1	85.3	-1.13	
LC0019	7.26	0.35	126	2.03	
LC0020	6.179	1.181	108	0.58	
LC0021	5.8	-	101	0.08	
LC0022	6.11	1.2	106	0.49	
LC0023	6.45	-	112	0.95	
LC0024	5.8	0.5	101	0.08	
LC0025	6.41	1.27	112	0.89	
LC0026	-	-	-	-	
LC0027	8	0.8	139	3.02	H
LC0028	< 0.5 (LOQ)	-	-	-	FN
LC0029	5.98	0.299	104	0.32	
LC0030	5.5	1.1	95.8	-0.33	

Characteristics of parameter

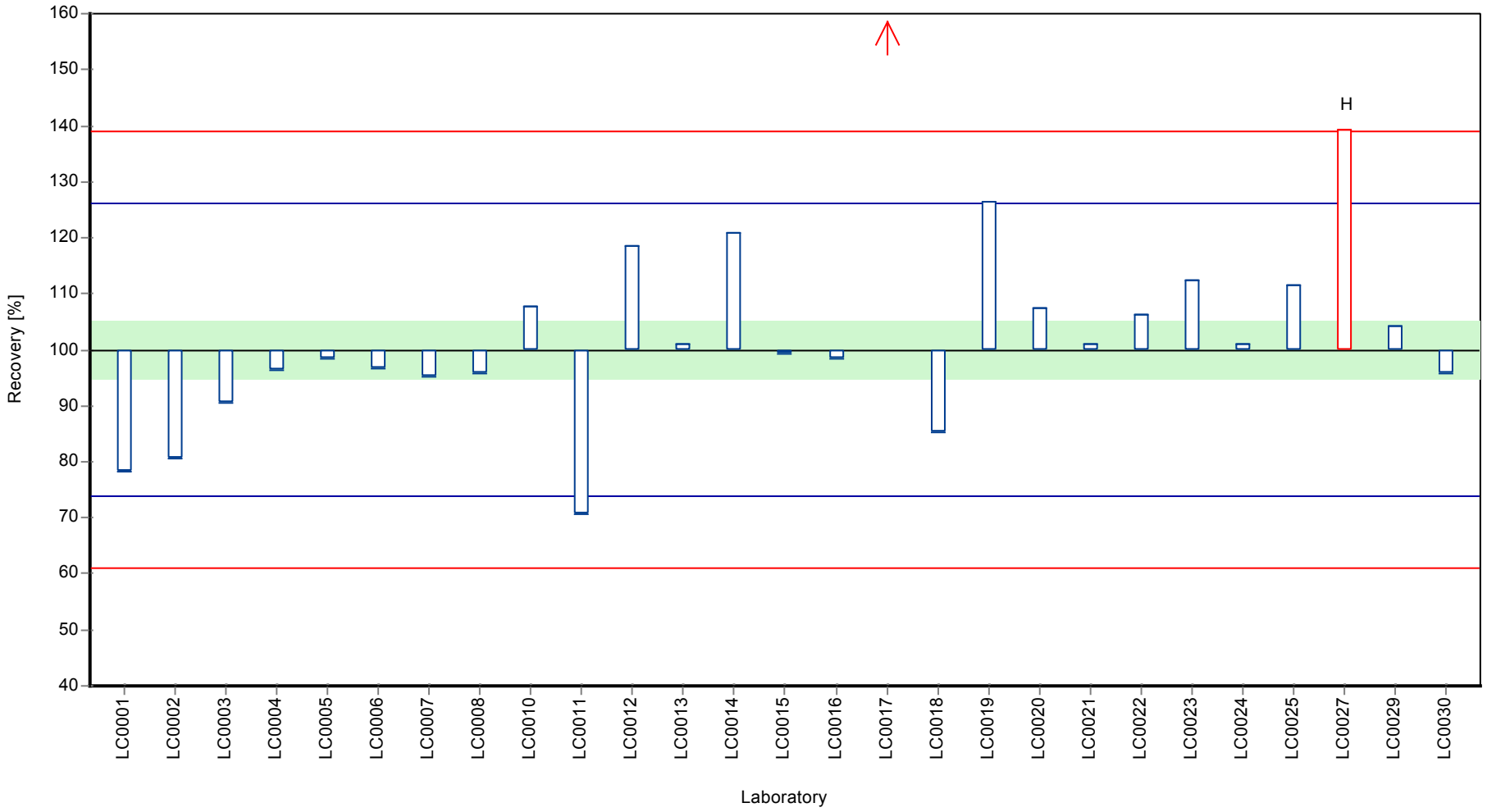
	all results	without outliers	Unit
Mean ± CI (99%)	6.03 ± 0.76	5.74 ± 0.448	µg/tube
Minimum	4.06	4.06	µg/tube
Maximum	11.1	7.26	µg/tube
Standard deviation	1.32	0.747	µg/tube
rel. Standard deviation	21.8	13	%
n	27	25	-

Graphical presentation of results

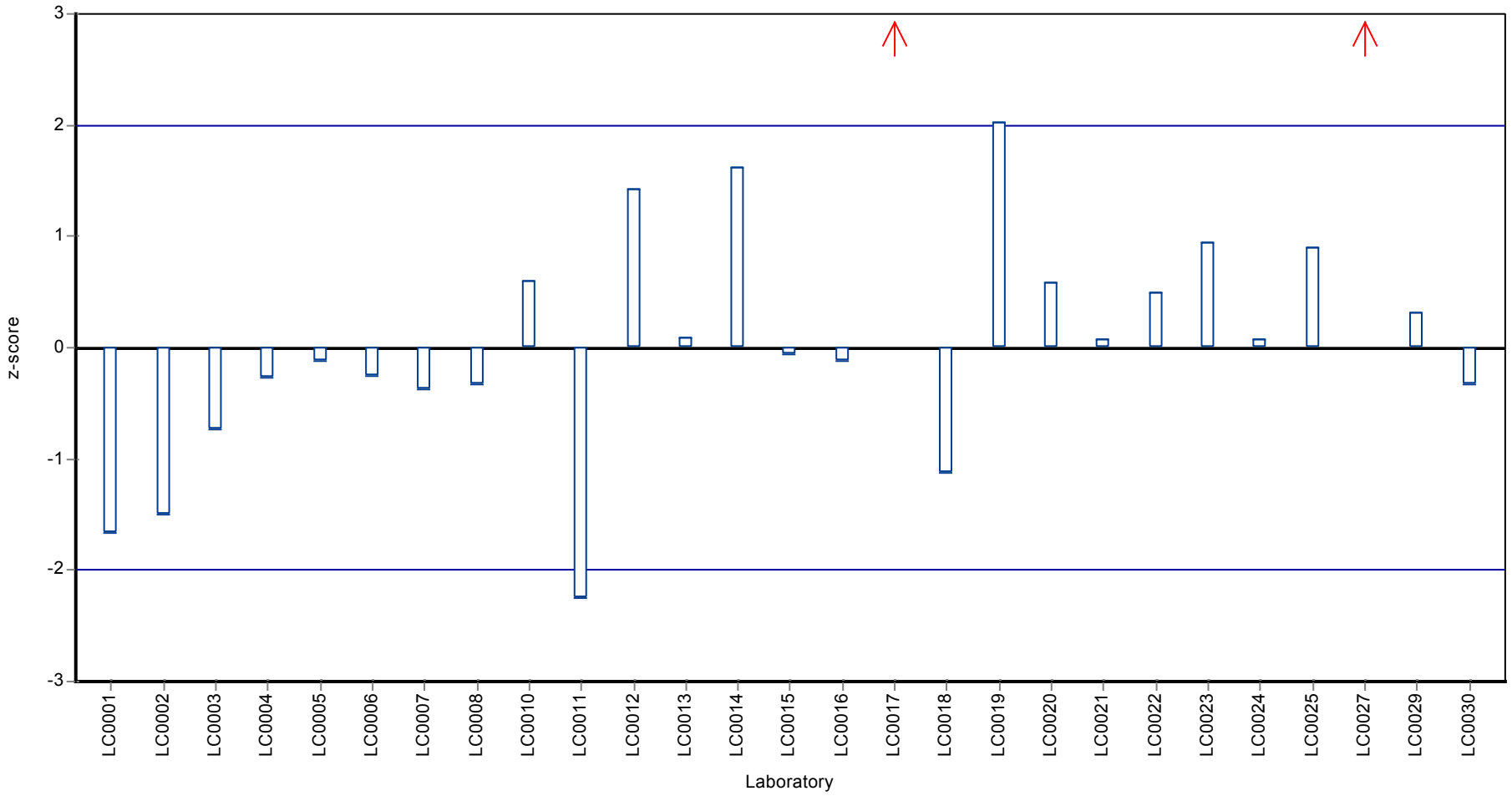
Results



Recovery rate



Z-score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LC0027
LC0029
LC0030
Laboratory

Parameter oriented report

BL04

Sum of m-Xylene and p-Xylene

Unit	µg/tube
Mean ± CI (99%)	11.2 ± 1.42
Minimum - Maximum	5.8 - 15.9
Control test value ± U	12.4 ± 1.75

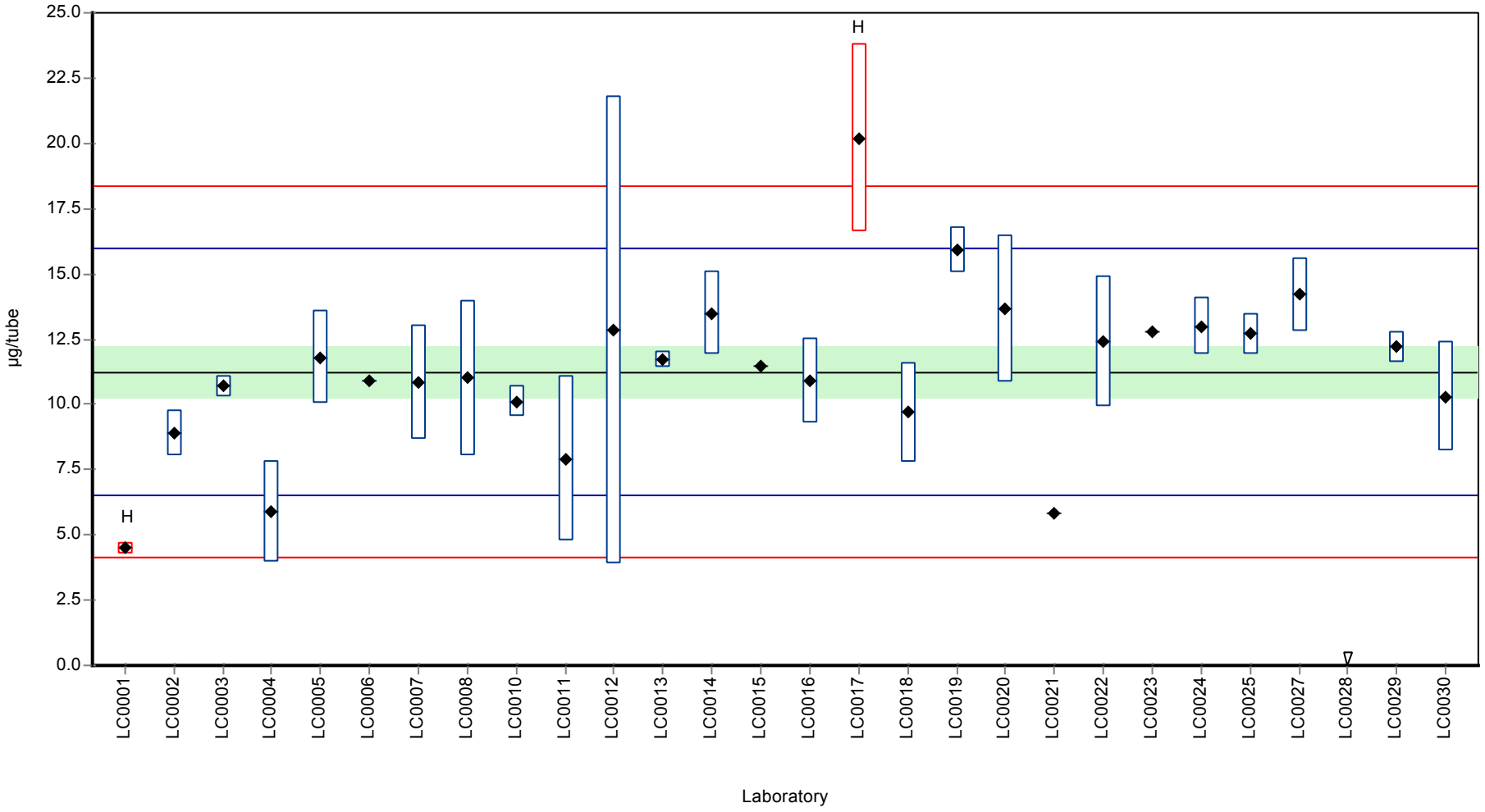
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	4.5	0.21	40	-2.85	H
LC0002	8.91	0.89	79.3	-0.98	
LC0003	10.692	0.4	95.1	-0.23	
LC0004	5.87	1.94	52.2	-2.27	
LC0005	11.81	1.77	105	0.24	
LC0006	10.9	-	97	-0.14	
LC0007	10.83	2.2	96.3	-0.17	
LC0008	11	3	97.8	-0.1	
LC0010	10.1	0.6	89.8	-0.48	
LC0011	7.91	3.16	70.4	-1.41	
LC0012	12.85	8.97	114	0.68	
LC0013	11.7	0.32	104	0.19	
LC0014	13.5	1.62	120	0.95	
LC0015	11.442	-	102	0.08	
LC0016	10.89	1.63	96.9	-0.15	
LC0017	20.2	3.6	180	3.78	H
LC0018	9.7	1.9	86.3	-0.65	
LC0019	15.9	0.89	141	1.97	
LC0020	13.648	2.833	121	1.02	
LC0021	5.8	-	51.6	-2.3	
LC0022	12.4	2.5	110	0.49	
LC0023	12.8	-	114	0.66	
LC0024	13	1.1	116	0.74	
LC0025	12.7	0.77	113	0.61	
LC0026	-	-	-	-	
LC0027	14.2	1.42	126	1.25	
LC0028	< 0.5 (LOQ)	-	-	-	FN
LC0029	12.191	0.61	108	0.4	
LC0030	10.3	2.1	91.6	-0.4	

Characteristics of parameter

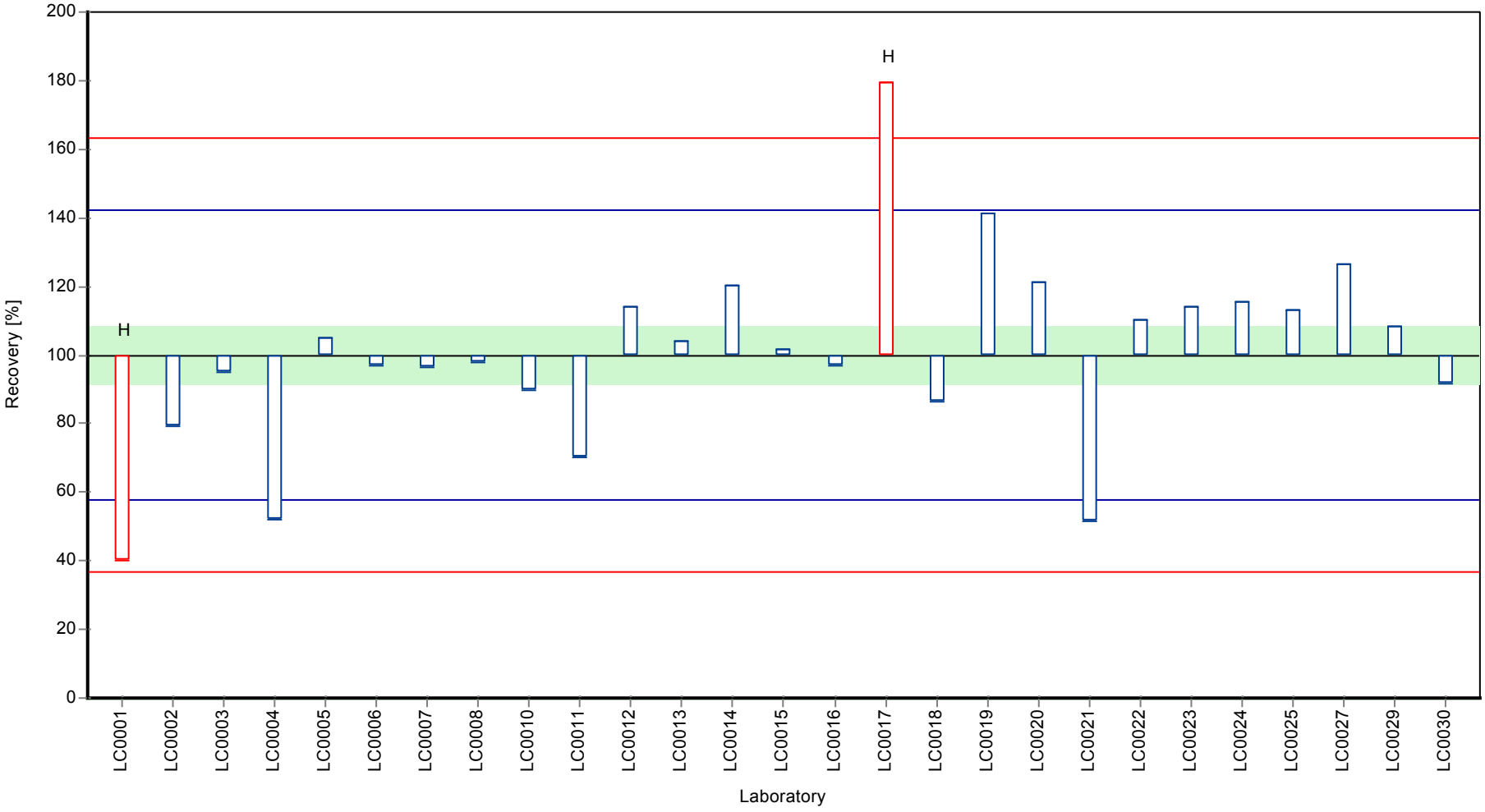
	all results	without outliers	Unit
Mean ± CI (99%)	11.3 ± 1.83	11.2 ± 1.42	µg/tube
Minimum	4.5	5.8	µg/tube
Maximum	20.2	15.9	µg/tube
Standard deviation	3.16	2.37	µg/tube
rel. Standard deviation	27.9	21.1	%
n	27	25	-

Graphical presentation of results

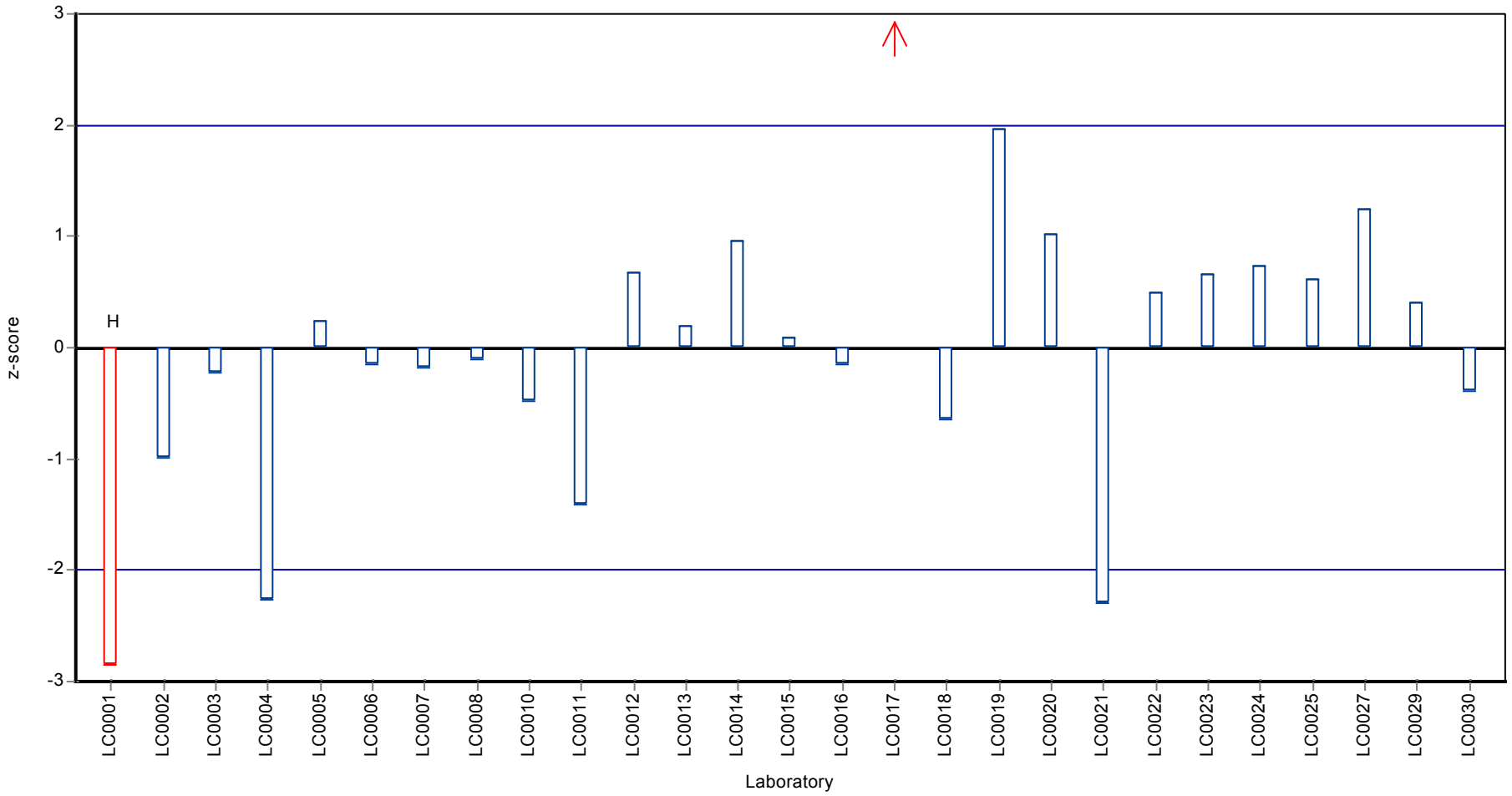
Results



Recovery rate



Z-score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LC0013
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LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
LC0027
LC0029
LC0030
Laboratory

Parameter oriented report

BL04

Toluene

Unit	µg/tube
Mean ± CI (99%)	4.39 ± 0.313
Minimum - Maximum	3.3 - 5.2
Control test value ± U	4.45 ± 0.511

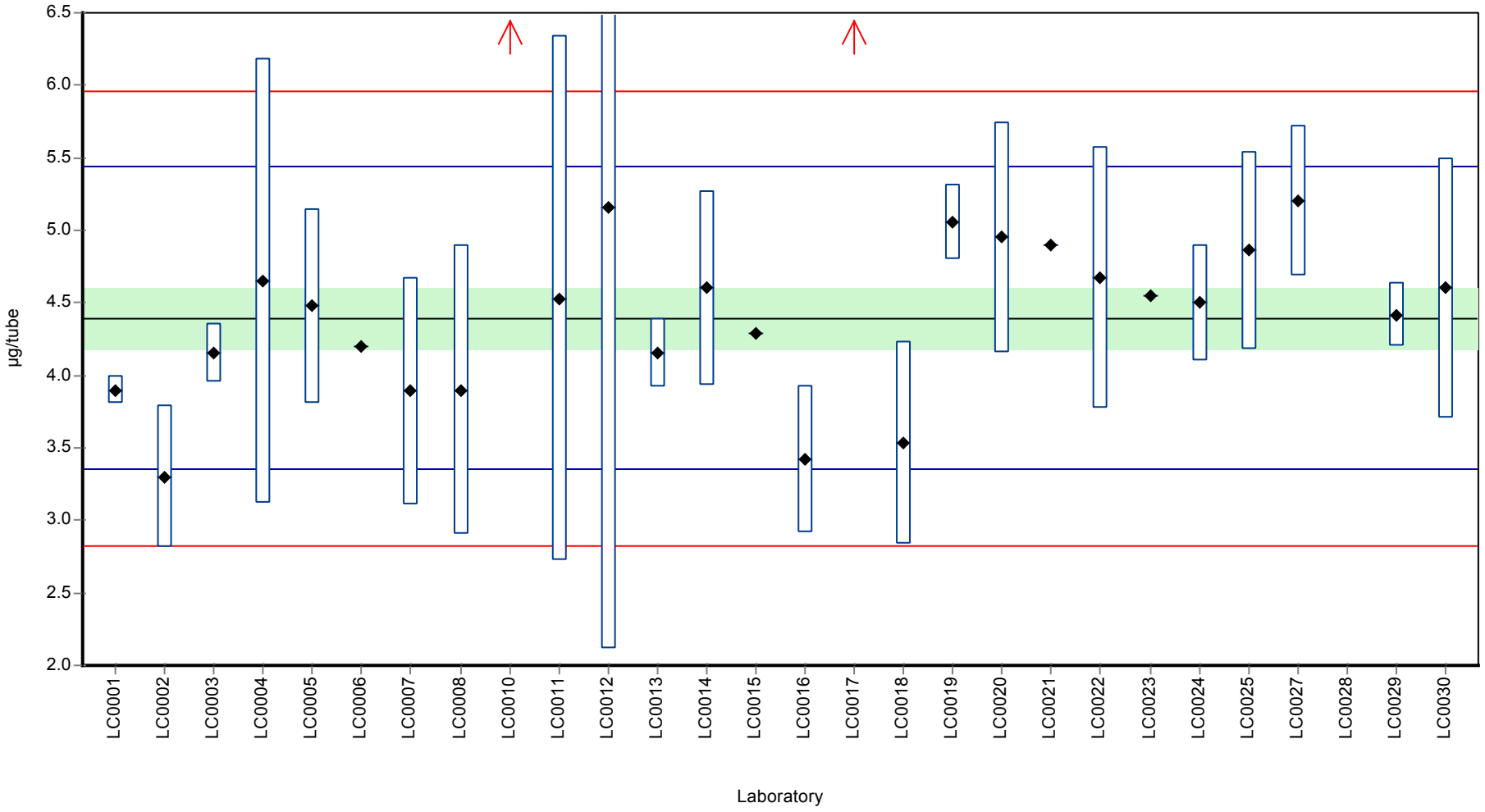
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0001	3.9	0.1	88.7	-0.95	
LC0002	3.3	0.49	75.1	-2.1	
LC0003	4.156	0.2	94.6	-0.46	
LC0004	4.65	1.53	106	0.49	
LC0005	4.48	0.67	102	0.16	
LC0006	4.2	-	95.6	-0.37	
LC0007	3.89	0.78	88.5	-0.97	
LC0008	3.9	1	88.7	-0.95	
LC0010	12.2	1.8	278	14.9	H
LC0011	4.53	1.81	103	0.26	
LC0012	5.16	3.05	117	1.46	
LC0013	4.15	0.237	94.4	-0.47	
LC0014	4.6	0.67	105	0.39	
LC0015	4.295	-	97.7	-0.19	
LC0016	3.42	0.51	77.8	-1.87	
LC0017	8.94	1.4	203	8.7	H
LC0018	3.53	0.7	80.3	-1.66	
LC0019	5.06	0.26	115	1.27	
LC0020	4.951	0.797	113	1.06	
LC0021	4.9	-	111	0.97	
LC0022	4.67	0.9	106	0.53	
LC0023	4.55	-	104	0.3	
LC0024	4.5	0.4	102	0.2	
LC0025	4.86	0.68	111	0.89	
LC0026	-	-	-	-	
LC0027	5.2	0.52	118	1.54	
LC0028	< 0.5 (LOQ)	-	-	-	FN
LC0029	4.416	0.221	100	0.04	
LC0030	4.6	0.9	105	0.39	

Characteristics of parameter

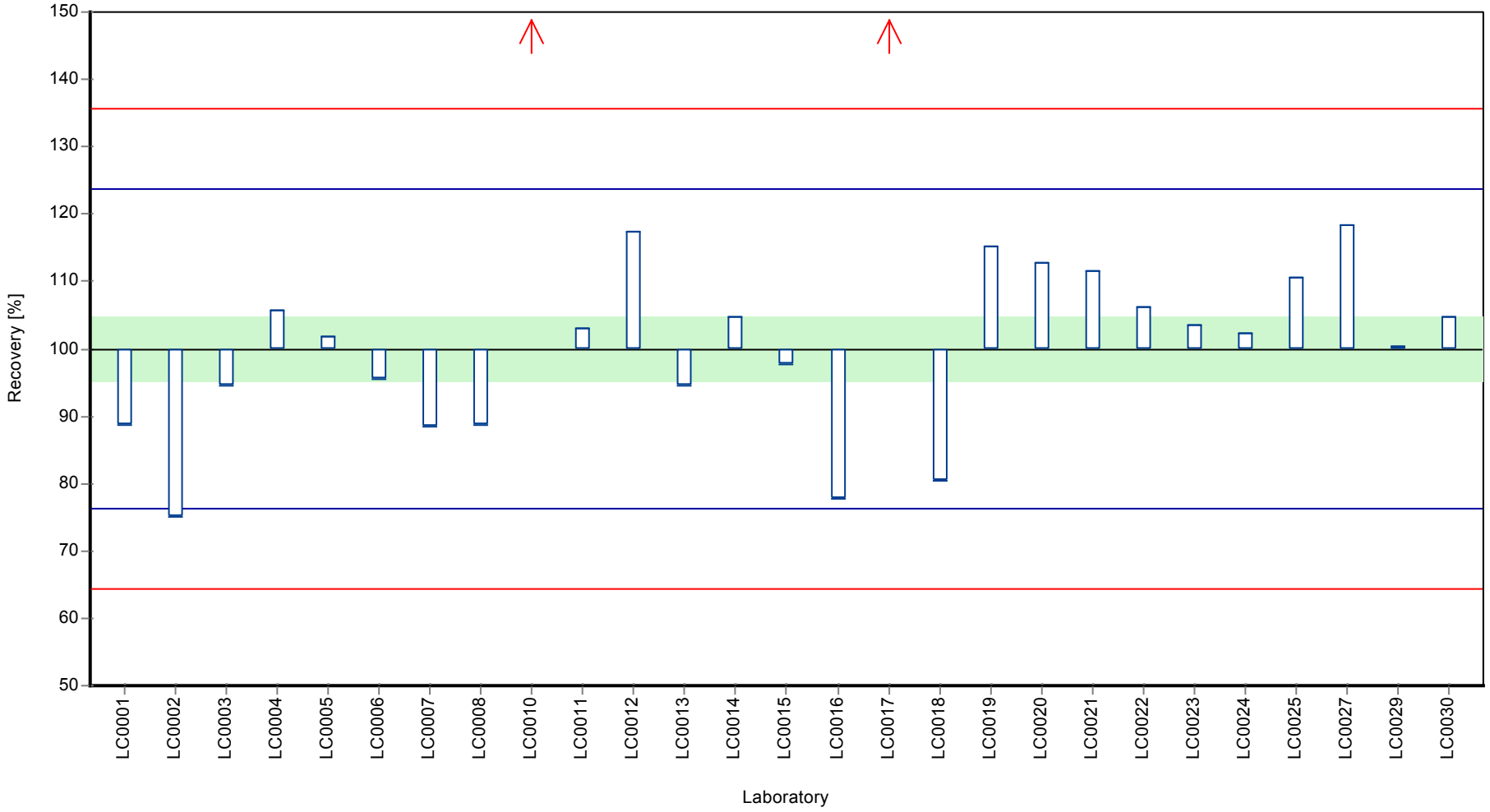
	all results	without outliers	Unit
Mean ± CI (99%)	4.85 ± 1.03	4.39 ± 0.313	µg/tube
Minimum	3.3	3.3	µg/tube
Maximum	12.2	5.2	µg/tube
Standard deviation	1.78	0.522	µg/tube
rel. Standard deviation	36.7	11.9	%
n	27	25	-

Graphical presentation of results

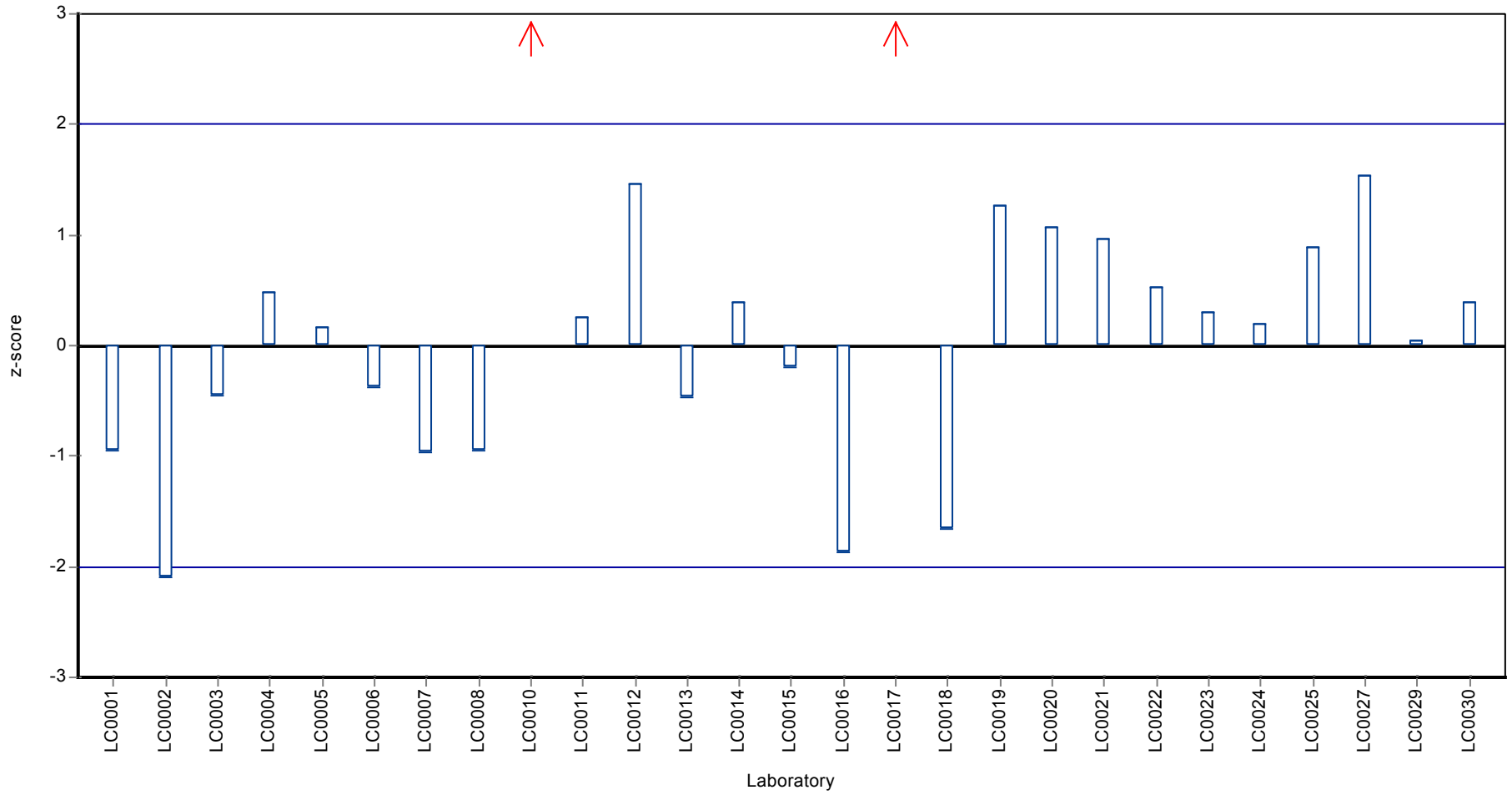
Results



Recovery rate



Z-score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LC0001
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LC0003
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LC0005
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LC0013
LC0014
LC0015
LC0016
LC0017
LC0018
LC0019
LC0020
LC0021
LC0022
LC0023
LC0024
LC0025
LC0027
LC0029
LC0030
Laboratory

Parameter oriented report

CL03

1,1,1-Trichloroethane

Unit	µg/tube
Mean ± CI (99%)	20 ± 1.9
Minimum - Maximum	16.6 - 26
Control test value ± U	18.6 ± 0.617

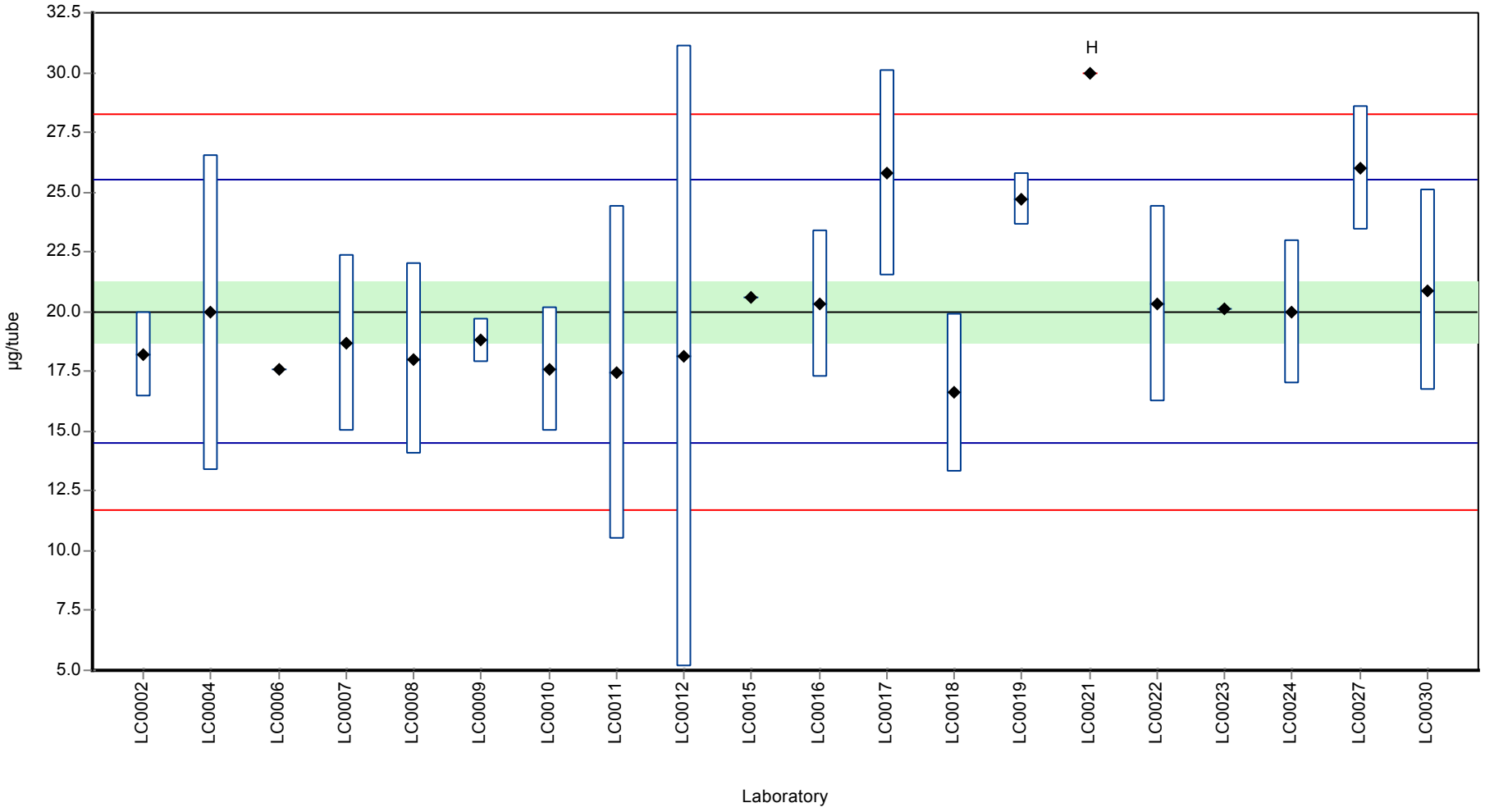
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	18.2	1.8	91.1	-0.65	
LC0004	19.95	6.58	99.8	-0.01	
LC0006	17.6	-	88	-0.87	
LC0007	18.69	3.7	93.5	-0.47	
LC0008	18	4	90.1	-0.72	
LC0009	18.8	0.94	94.1	-0.43	
LC0010	17.6	2.6	88	-0.87	
LC0011	17.44	6.98	87.2	-0.93	
LC0012	18.155	13	90.8	-0.67	
LC0015	20.63	-	103	0.23	
LC0016	20.32	3.05	102	0.12	
LC0017	25.8	4.3	129	2.11	
LC0018	16.6	3.3	83	-1.23	
LC0019	24.7	1.07	124	1.71	
LC0021	30	-	150	3.63	H
LC0022	20.3	4.1	102	0.11	
LC0023	20.1	-	101	0.04	
LC0024	20	3	100	0.00	
LC0026	-	-	-	-	
LC0027	26	2.6	130	2.18	
LC0029	-	-	-	-	
LC0030	20.9	4.2	105	0.33	

Characteristics of parameter

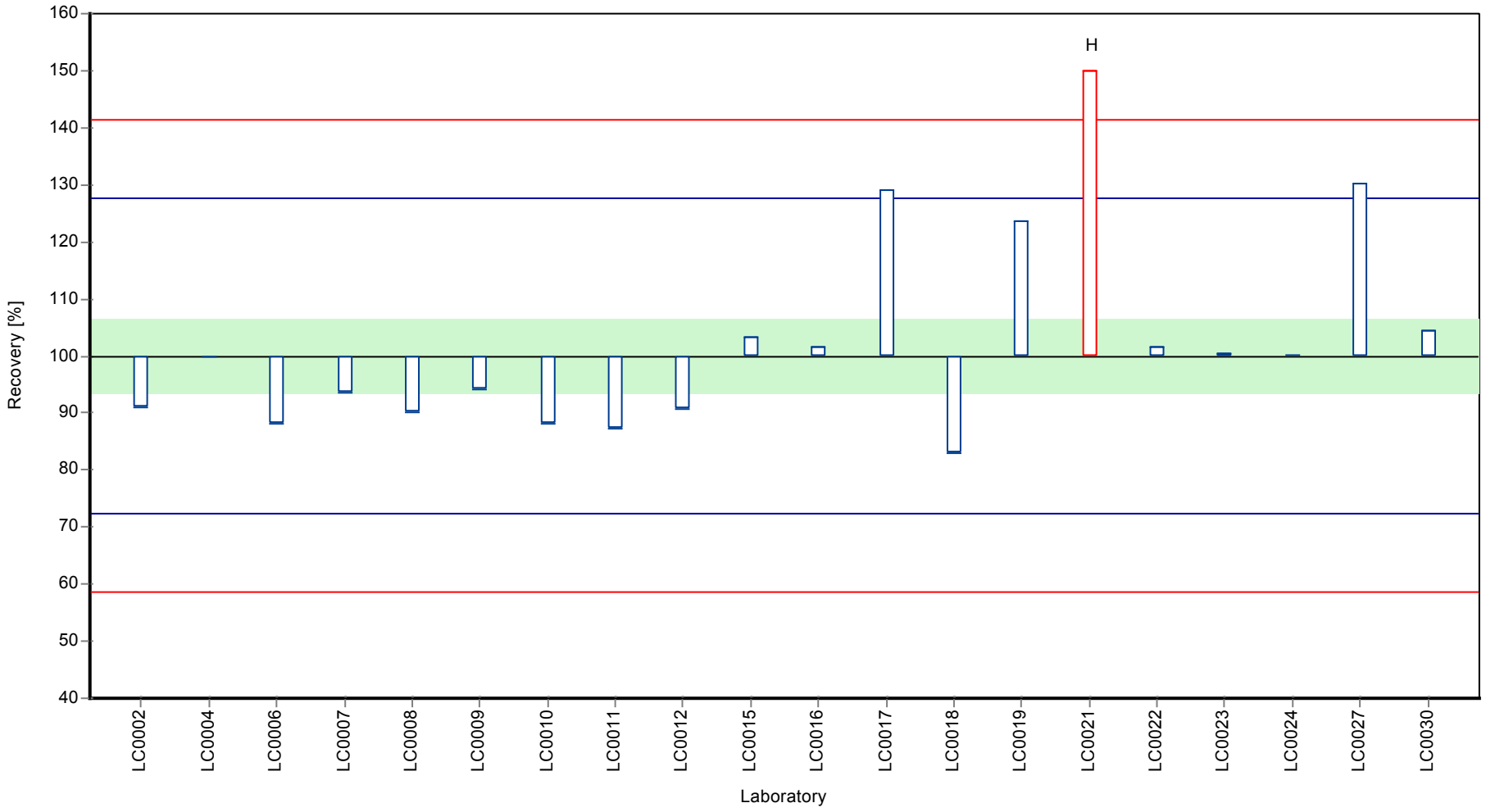
	all results	without outliers	Unit
Mean ± CI (99%)	20.5 ± 2.34	20 ± 1.9	µg/tube
Minimum	16.6	16.6	µg/tube
Maximum	30	26	µg/tube
Standard deviation	3.49	2.75	µg/tube
rel. Standard deviation	17	13.8	%
n	20	19	-

Graphical presentation of results

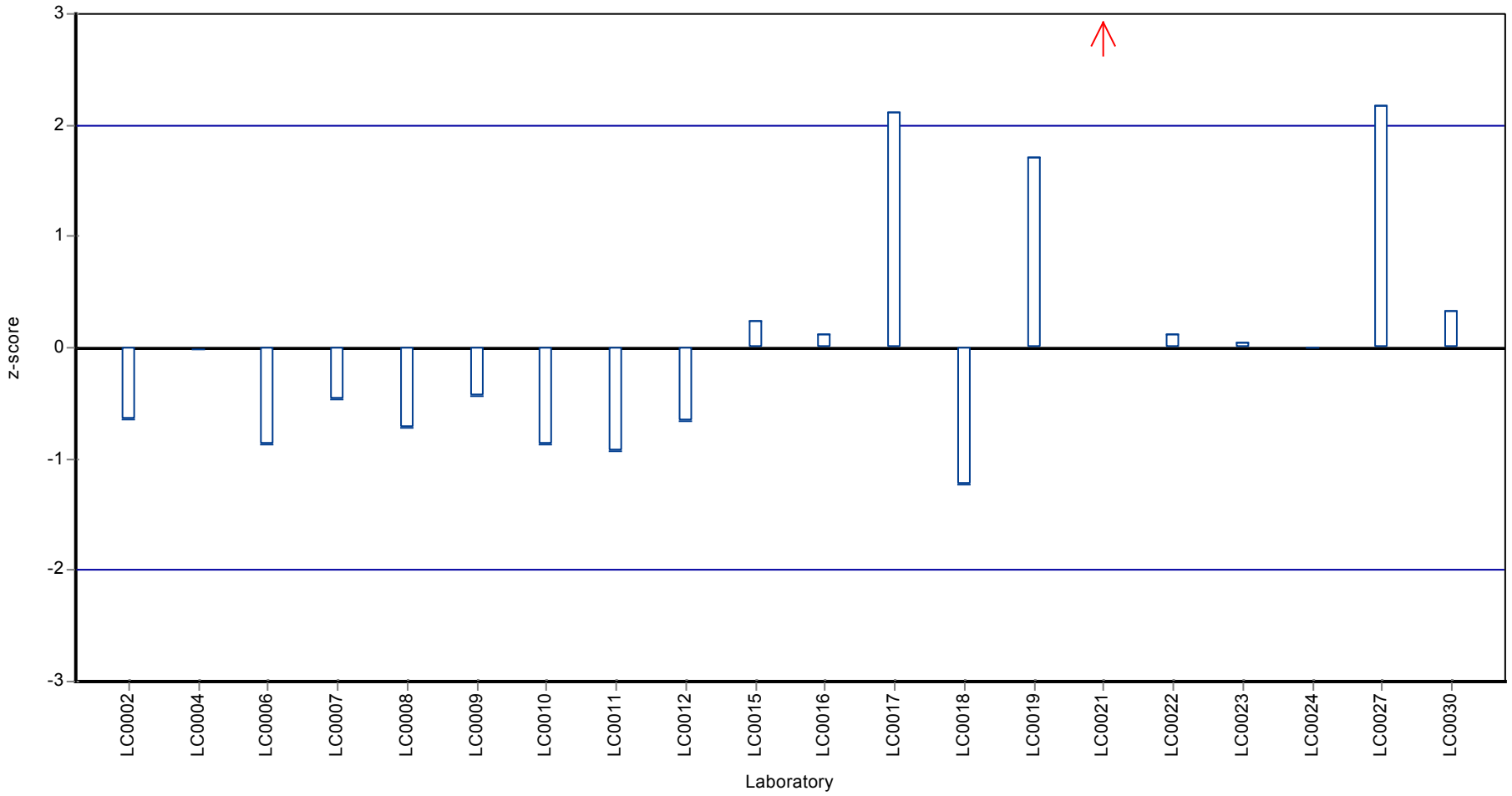
Results



Recovery rate



Z-score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z-score
LC0002
LC0004
LC0006
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LC0008
LC0009
LC0010
LC0011
LC0012
LC0015
LC0016
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
LC0030
Laboratory

Parameter oriented report

CL03

cis-1,2-Dichloroethene

Unit	µg/tube
Mean ± Cl (99%)	21.6 ± 3.61
Minimum - Maximum	14.3 - 32
Control test value ± U	18.9 ± 0.701

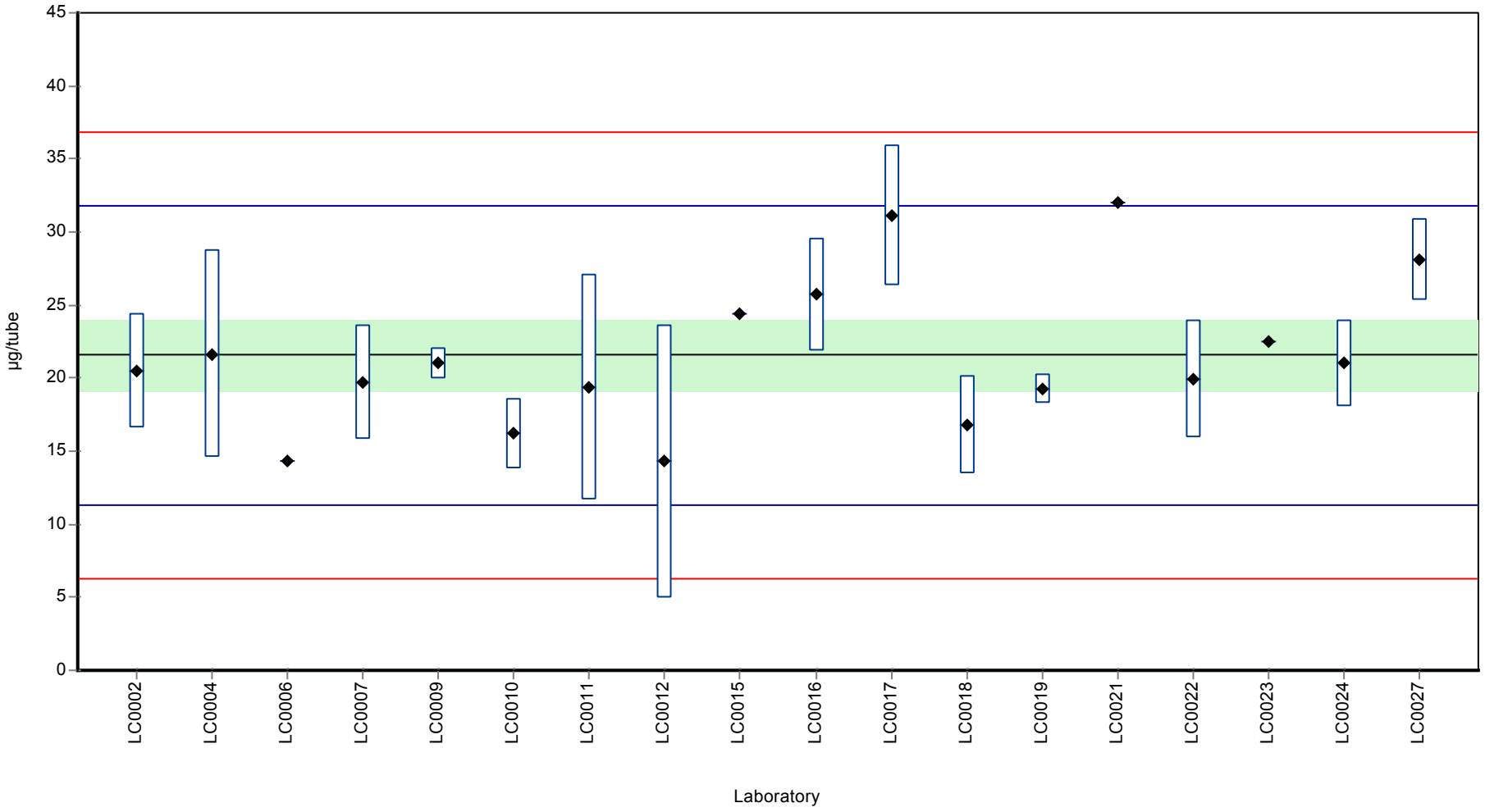
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	20.5	3.9	95.1	-0.21	
LC0004	21.64	7.14	100	0.02	
LC0006	14.3	-	66.4	-1.42	
LC0007	19.73	3.9	91.5	-0.36	
LC0008	-	-	-	-	
LC0009	21.01	1.05	97.5	-0.11	
LC0010	16.2	2.4	75.2	-1.05	
LC0011	19.38	7.75	89.9	-0.42	
LC0012	14.299	9.37	66.3	-1.42	
LC0015	24.44	-	113	0.56	
LC0016	25.74	3.86	119	0.82	
LC0017	31.1	4.8	144	1.87	
LC0018	16.8	3.4	78	-0.93	
LC0019	19.3	1	89.6	-0.44	
LC0021	32	-	148	2.04	
LC0022	19.9	4	92.3	-0.32	
LC0023	22.5	-	104	0.18	
LC0024	21	3	97.4	-0.11	
LC0026	-	-	-	-	
LC0027	28.1	2.81	130	1.28	
LC0029	-	-	-	-	
LC0030	-	-	-	-	

Characteristics of parameter

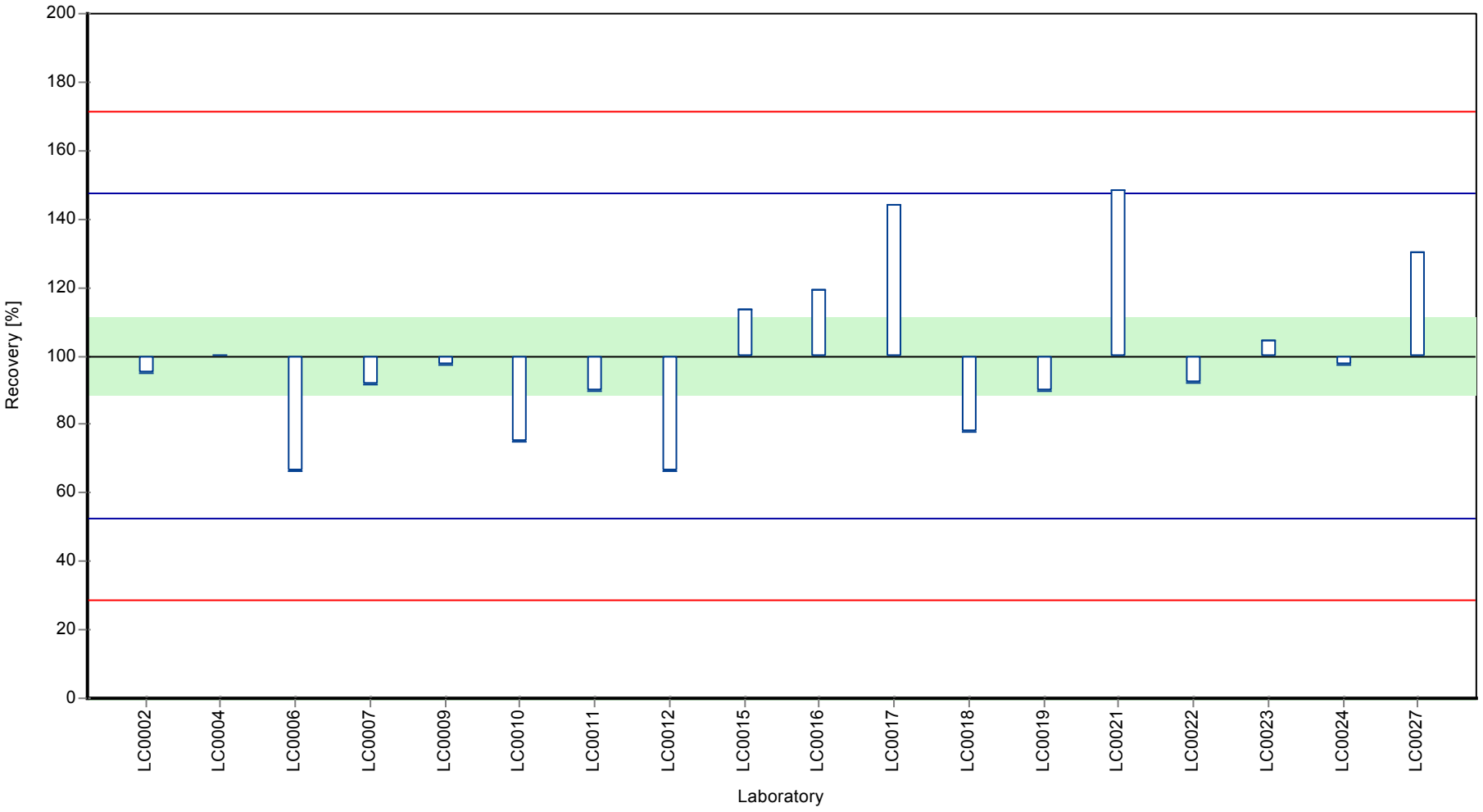
	all results	without outliers	Unit
Mean ± Cl (99%)	21.6 ± 3.61	21.6 ± 3.61	µg/tube
Minimum	14.3	14.3	µg/tube
Maximum	32	32	µg/tube
Standard deviation	5.11	5.11	µg/tube
rel. Standard deviation	23.7	23.7	%
n	18	18	-

Graphical presentation of results

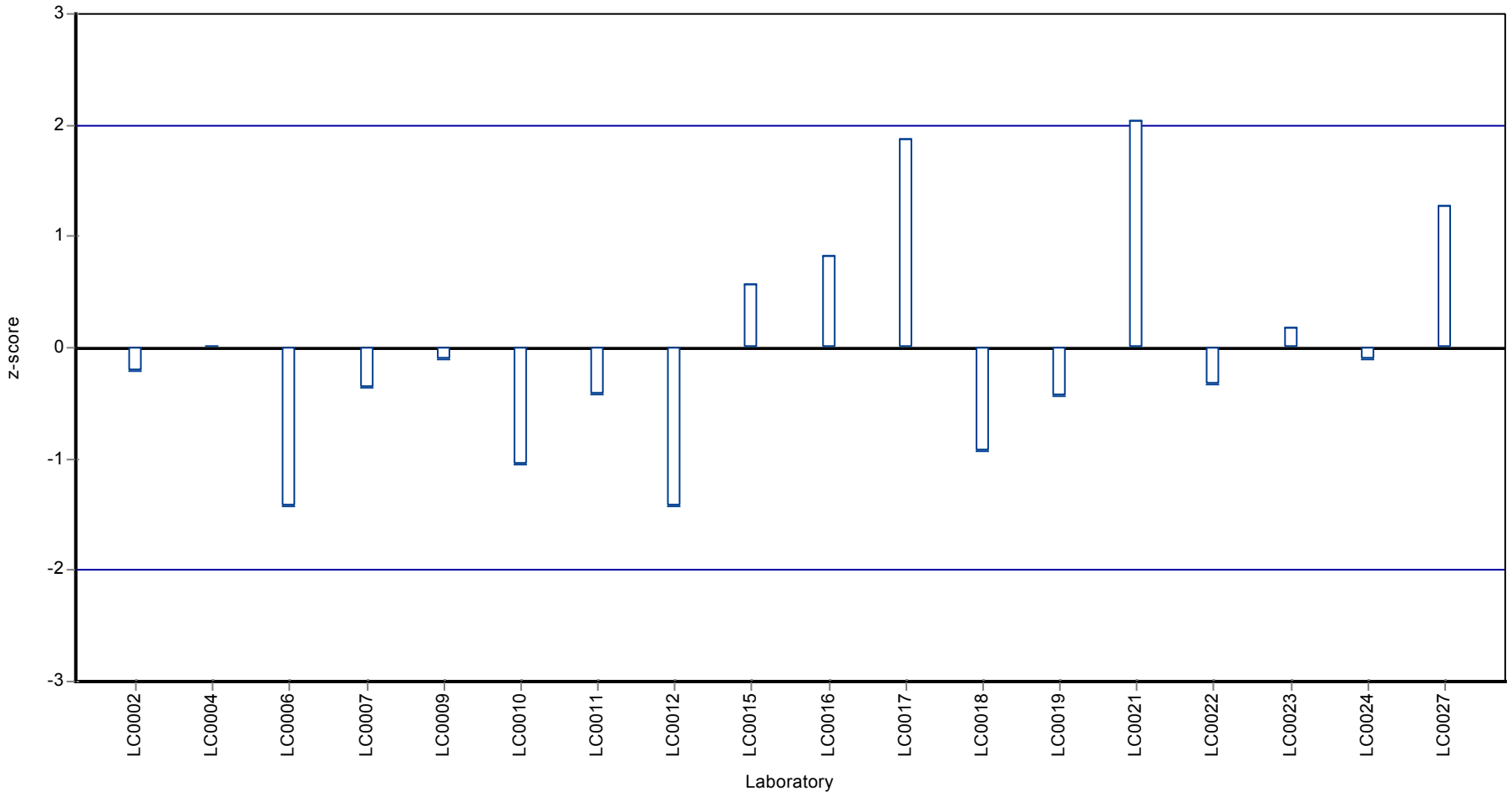
Results



Recovery rate



Z-score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LC0006
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LC0010
LC0011
LC0012
LC0015
LC0016
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
Laboratory

Parameter oriented report

CL03

Tetrachloroethene

Unit	µg/tube
Mean ± CI (99%)	32.2 ± 3
Minimum - Maximum	23.1 - 41.6
Control test value ± U	31.7 ± 1.97

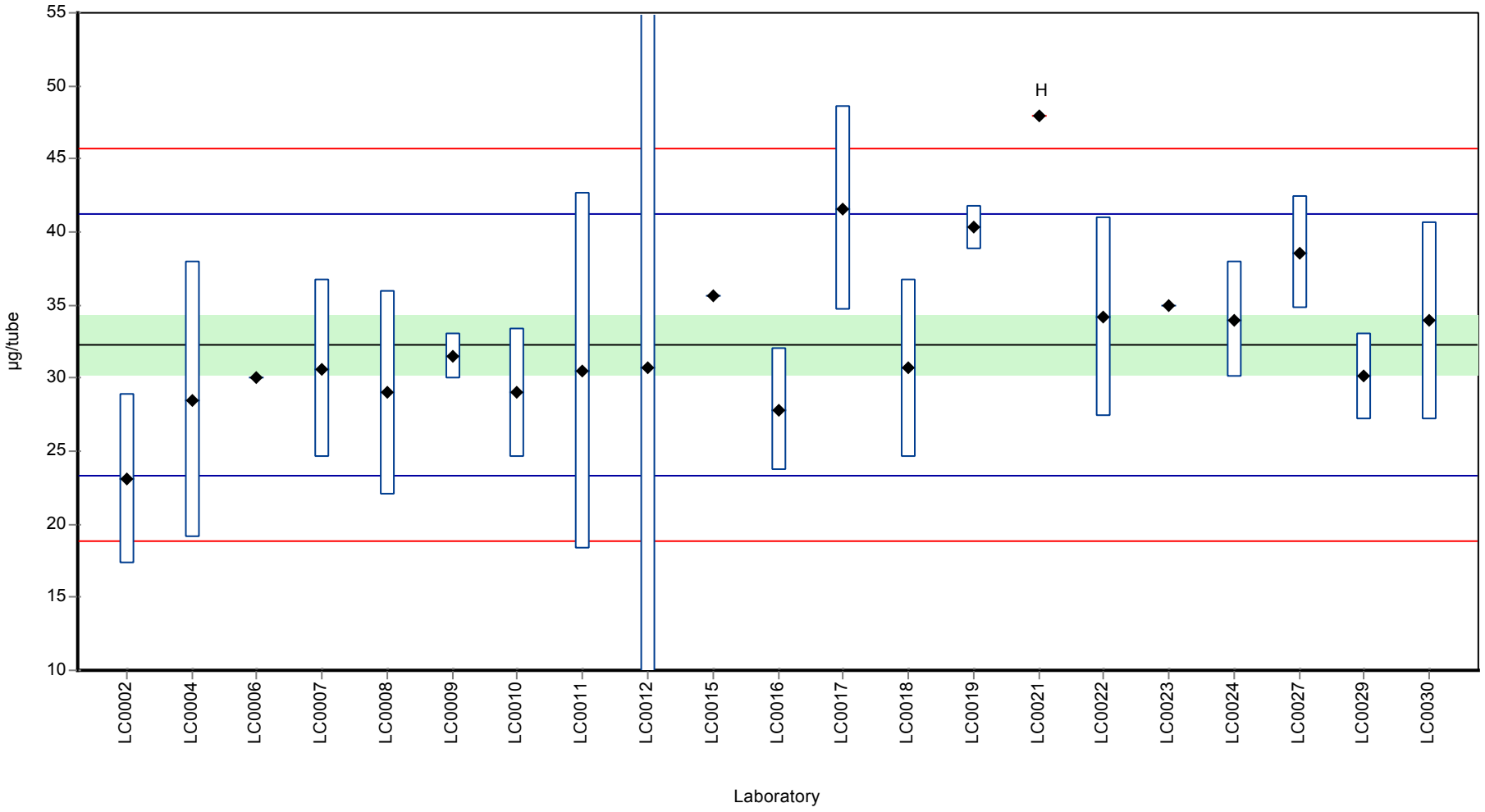
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	23.1	5.8	71.6	-2.05	
LC0004	28.52	9.41	88.4	-0.83	
LC0006	30	-	93	-0.5	
LC0007	30.62	6.1	95	-0.36	
LC0008	29	7	89.9	-0.73	
LC0009	31.54	1.57	97.8	-0.16	
LC0010	29	4.4	89.9	-0.73	
LC0011	30.5	12.2	94.6	-0.39	
LC0012	30.759	34.2	95.4	-0.33	
LC0015	35.64	-	111	0.76	
LC0016	27.85	4.18	86.4	-0.98	
LC0017	41.6	7	129	2.09	
LC0018	30.7	6.1	95.2	-0.35	
LC0019	40.3	1.49	125	1.8	
LC0021	48	-	149	3.52	H
LC0022	34.2	6.8	106	0.44	
LC0023	35	-	109	0.62	
LC0024	34	4	105	0.39	
LC0026	-	-	-	-	
LC0027	38.6	3.86	120	1.42	
LC0029	30.096	3	93.3	-0.48	
LC0030	33.9	6.8	105	0.37	

Characteristics of parameter

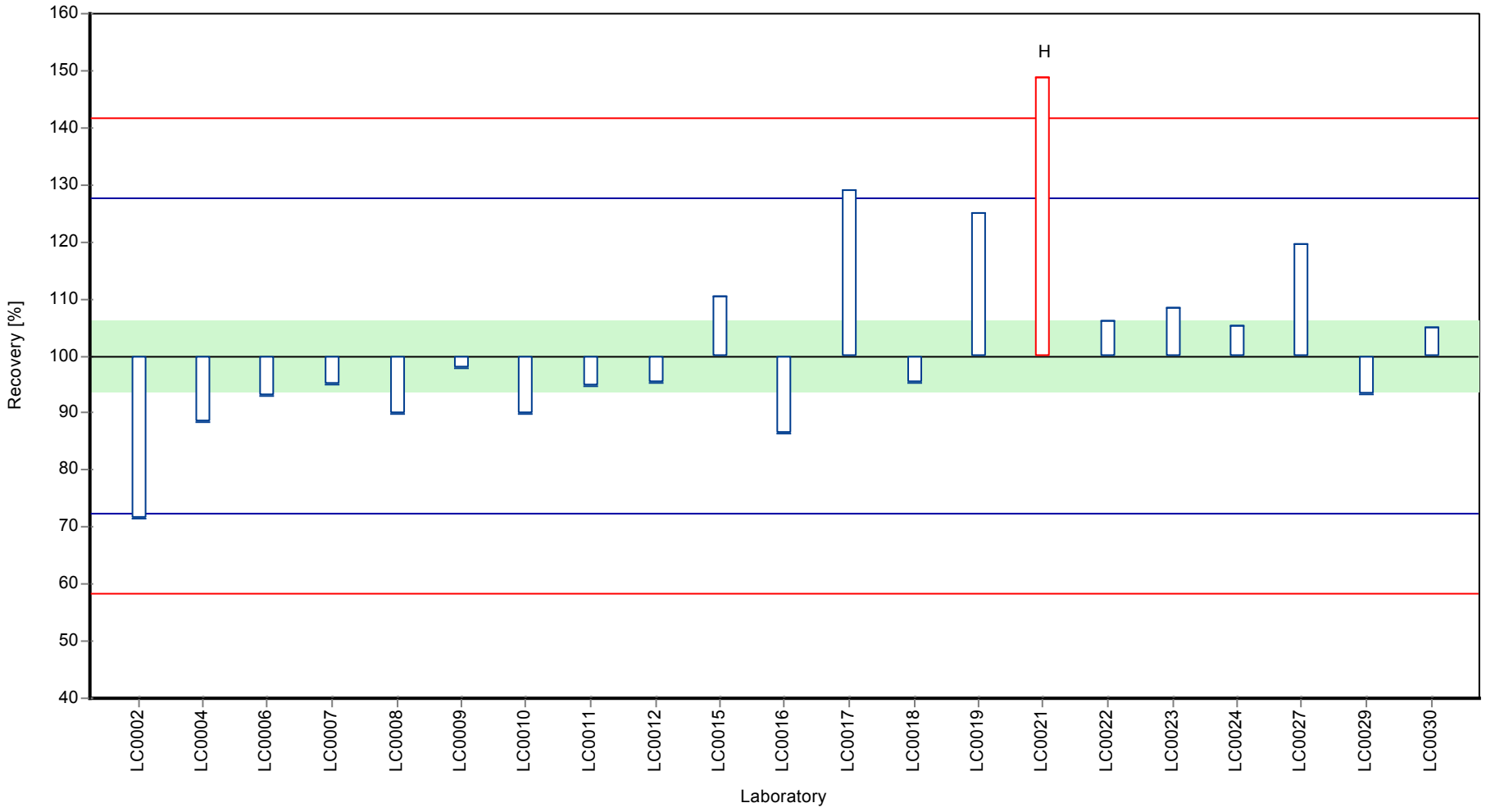
	all results	without outliers	Unit
Mean ± CI (99%)	33 ± 3.63	32.2 ± 3	µg/tube
Minimum	23.1	23.1	µg/tube
Maximum	48	41.6	µg/tube
Standard deviation	5.55	4.47	µg/tube
rel. Standard deviation	16.8	13.9	%
n	21	20	-

Graphical presentation of results

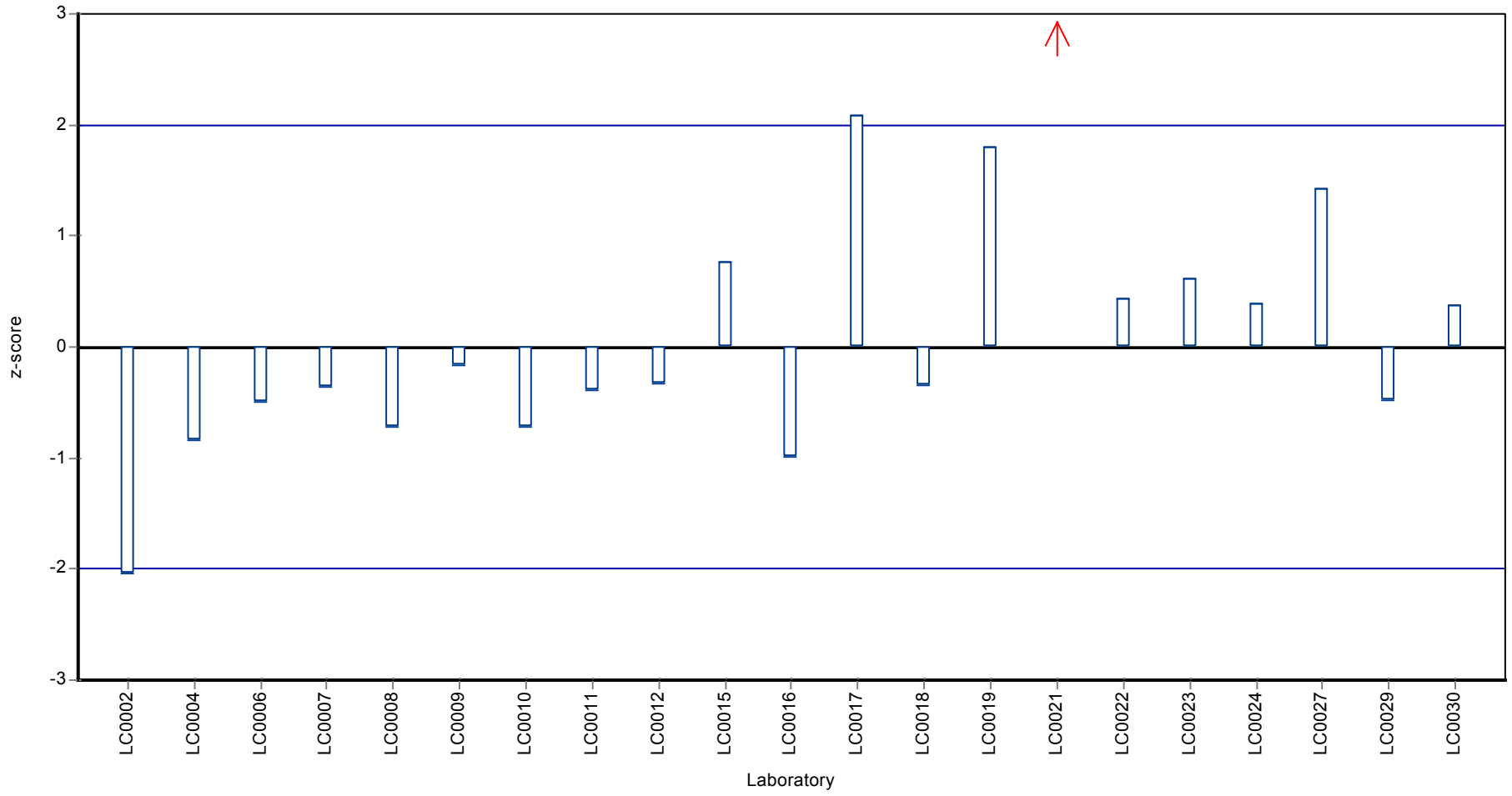
Results



Recovery rate



Z-score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LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0015
LC0016
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
LC0029
LC0030
Laboratory

Parameter oriented report

CL03

Tetrachloromethane

Unit	µg/tube
Mean ± CI (99%)	32 ± 2.34
Minimum - Maximum	27.6 - 40.3
Control test value ± U	30.3 ± 1.32

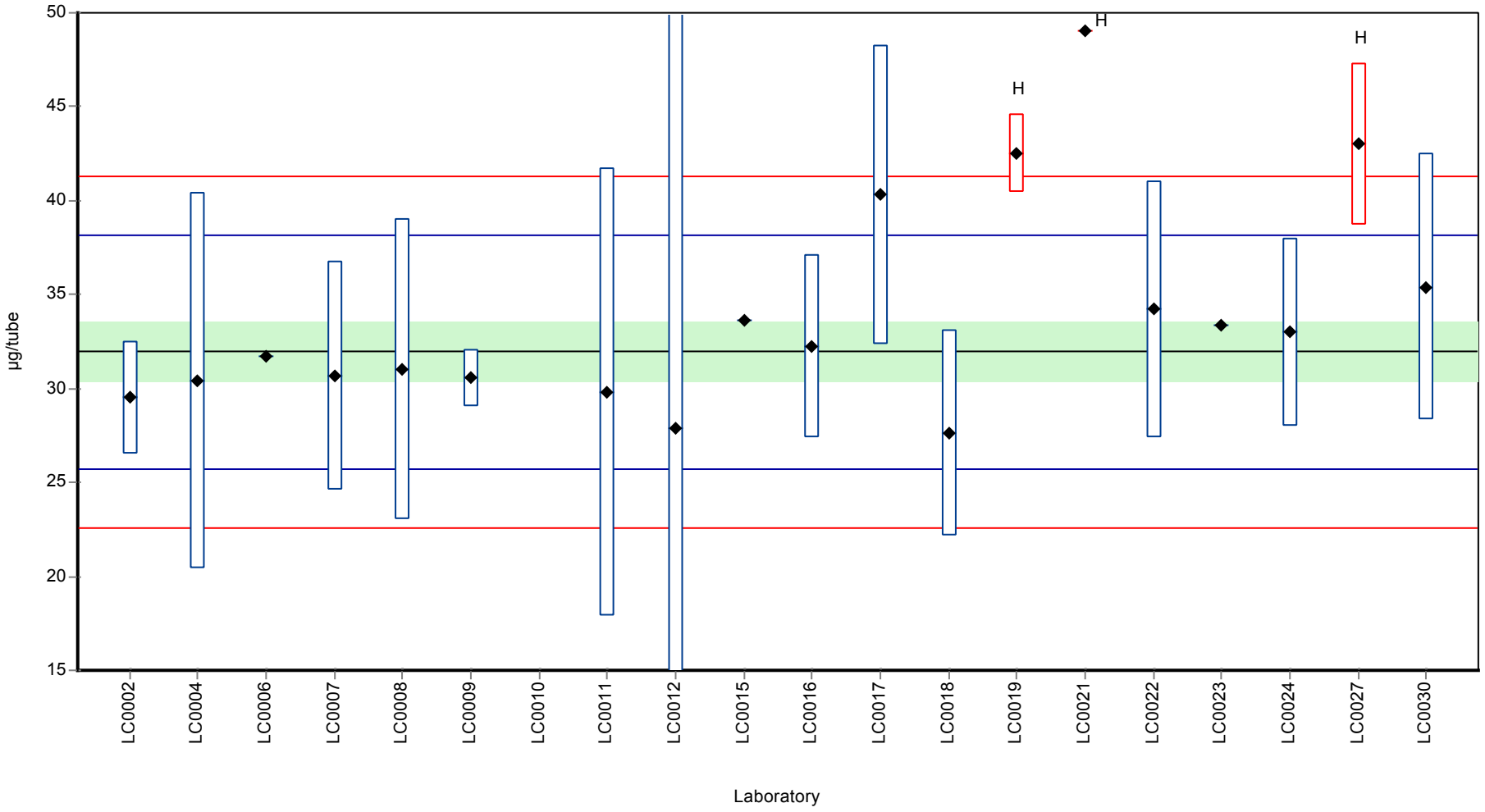
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	29.5	3	92.3	-0.79	
LC0004	30.4	10.03	95.1	-0.5	
LC0006	31.7	-	99.2	-0.08	
LC0007	30.68	6.1	96	-0.41	
LC0008	31	8	97	-0.31	
LC0009	30.57	1.53	95.7	-0.45	
LC0010	< 1 (LOQ)	-	-	-	FN
LC0011	29.79	11.92	93.2	-0.7	
LC0012	27.914	27.5	87.3	-1.3	
LC0015	33.67	-	105	0.55	
LC0016	32.24	4.84	101	0.09	
LC0017	40.3	8	126	2.68	
LC0018	27.6	5.5	86.4	-1.4	
LC0019	42.5	2.09	133	3.38	H
LC0021	49	-	153	5.47	H
LC0022	34.2	6.8	107	0.72	
LC0023	33.4	-	105	0.46	
LC0024	33	5	103	0.33	
LC0026	-	-	-	-	
LC0027	43	4.3	135	3.54	H
LC0029	-	-	-	-	
LC0030	35.4	7.1	111	1.1	

Characteristics of parameter

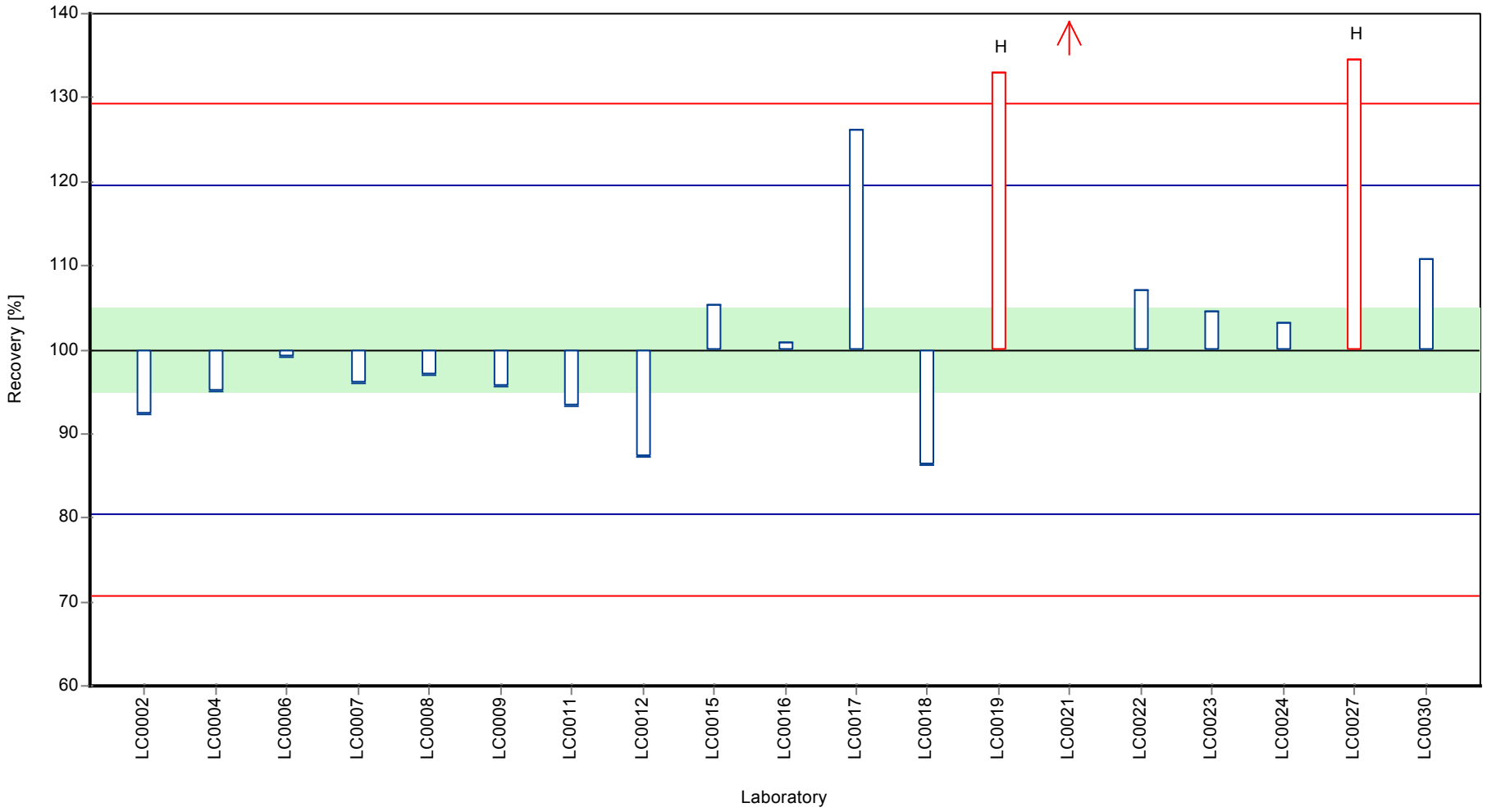
	all results	without outliers	Unit
Mean ± CI (99%)	34 ± 3.94	32 ± 2.34	µg/tube
Minimum	27.6	27.6	µg/tube
Maximum	49	40.3	µg/tube
Standard deviation	5.73	3.12	µg/tube
rel. Standard deviation	16.8	9.75	%
n	19	16	-

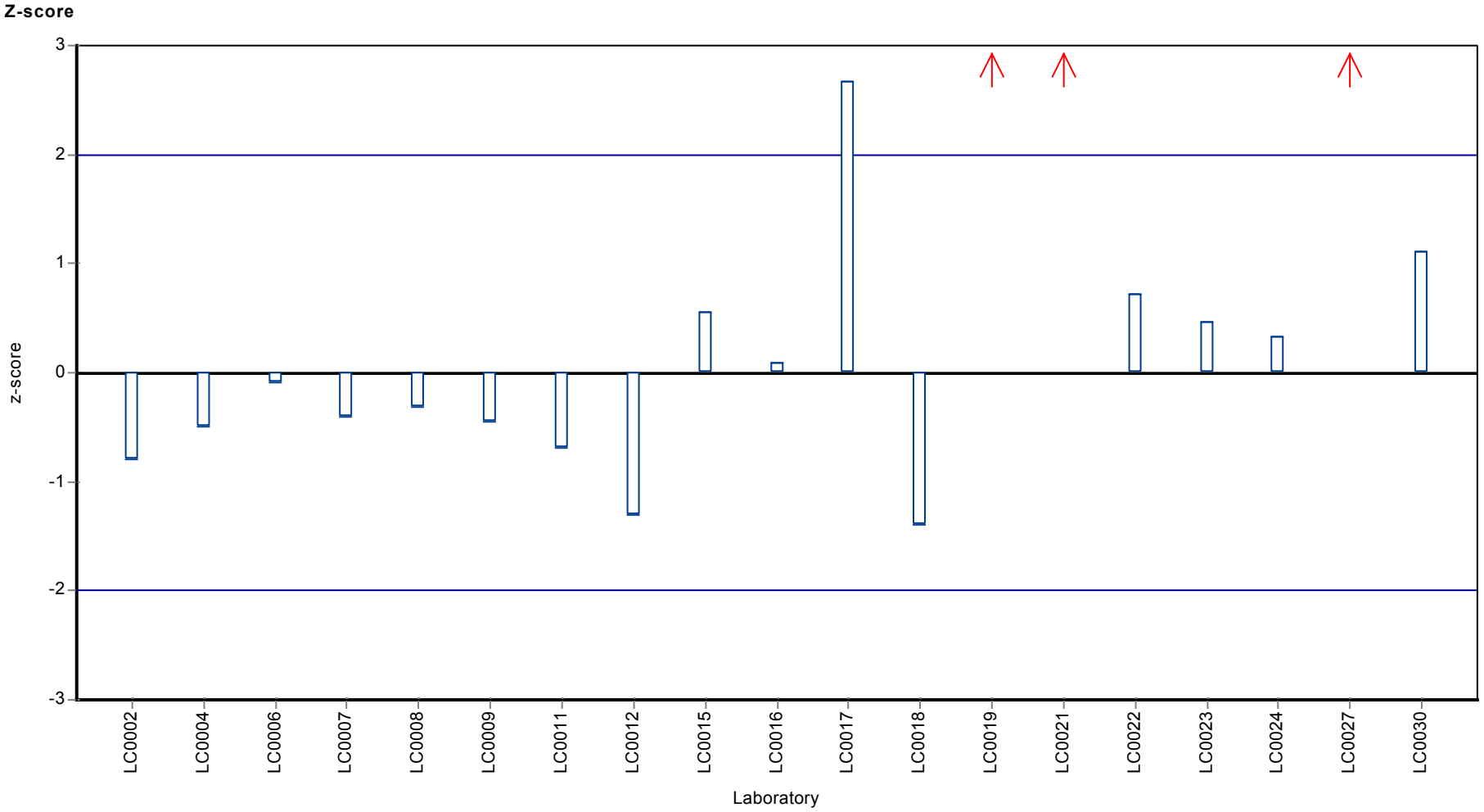
Graphical presentation of results

Results



Recovery rate




Z-score
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z-score
LC0002
LC0004
LC0006
LC0007
LC0008
LC0009
LC0011
LC0012
LC0015
LC0016
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
LC0030
Laboratory

Parameter oriented report

CL03

trans-1,2-Dichloroethene

Unit	µg/tube
Mean ± CI (99%)	19.5 ± 5.3
Minimum - Maximum	7.79 - 37
Control test value ± U	21.0 ± 0.892

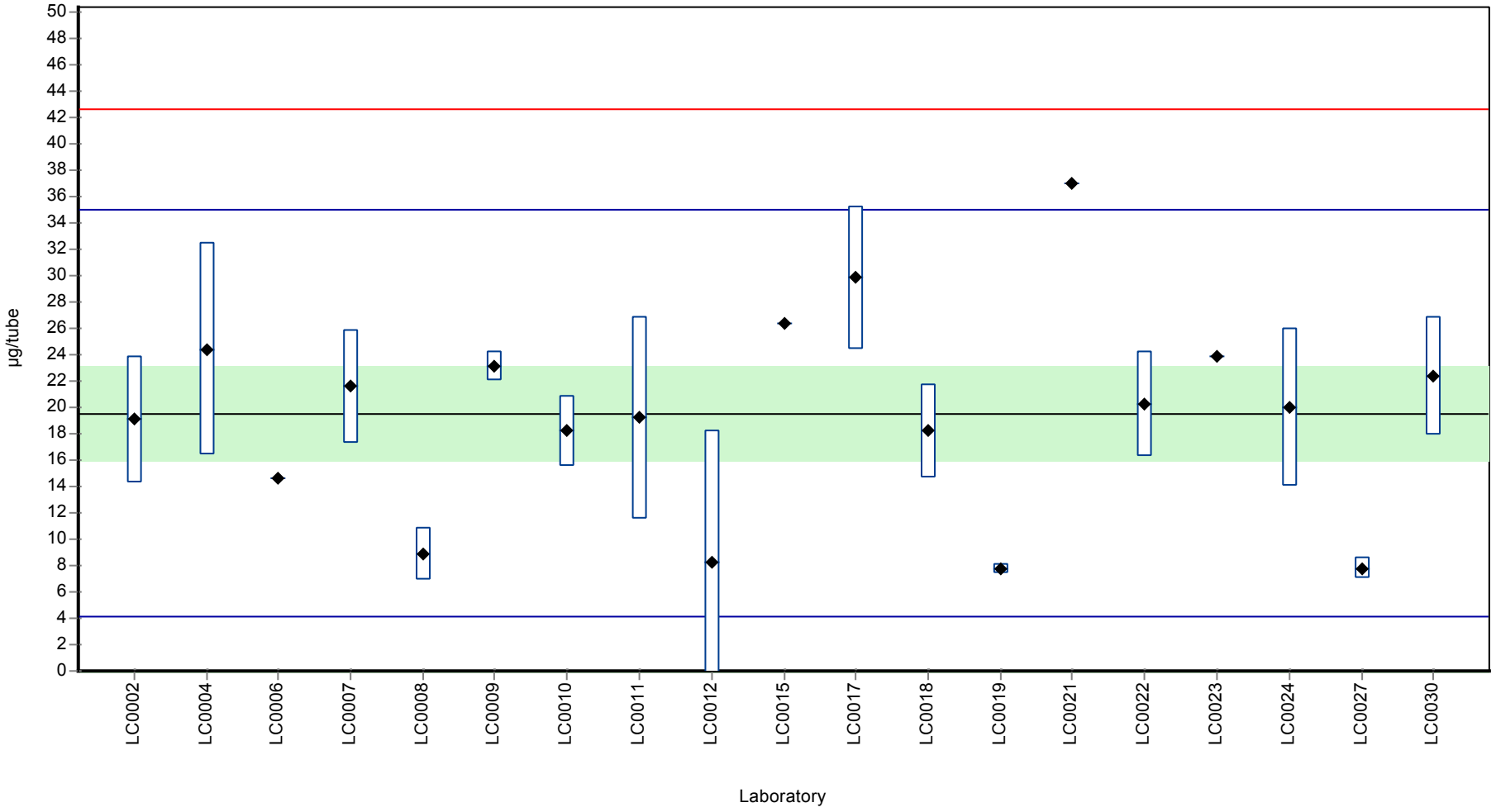
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	19.1	4.8	97.9	-0.05	
LC0004	24.42	8.06	125	0.64	
LC0006	14.6	-	74.8	-0.64	
LC0007	21.58	4.3	111	0.27	
LC0008	8.9	2	45.6	-1.38	
LC0009	23.15	1.15	119	0.47	
LC0010	18.2	2.7	93.2	-0.17	
LC0011	19.21	7.68	98.4	-0.04	
LC0012	8.28	9.93	42.4	-1.46	
LC0015	26.34	-	135	0.89	
LC0016	-	-	-	-	
LC0017	29.8	5.4	153	1.33	
LC0018	18.2	3.6	93.2	-0.17	
LC0019	7.79	0.39	39.9	-1.52	
LC0021	37	-	190	2.27	
LC0022	20.2	4	103	0.09	
LC0023	23.9	-	122	0.57	
LC0024	20	6	102	0.06	
LC0026	-	-	-	-	
LC0027	7.8	0.78	40	-1.52	
LC0029	-	-	-	-	
LC0030	22.4	4.5	115	0.37	

Characteristics of parameter

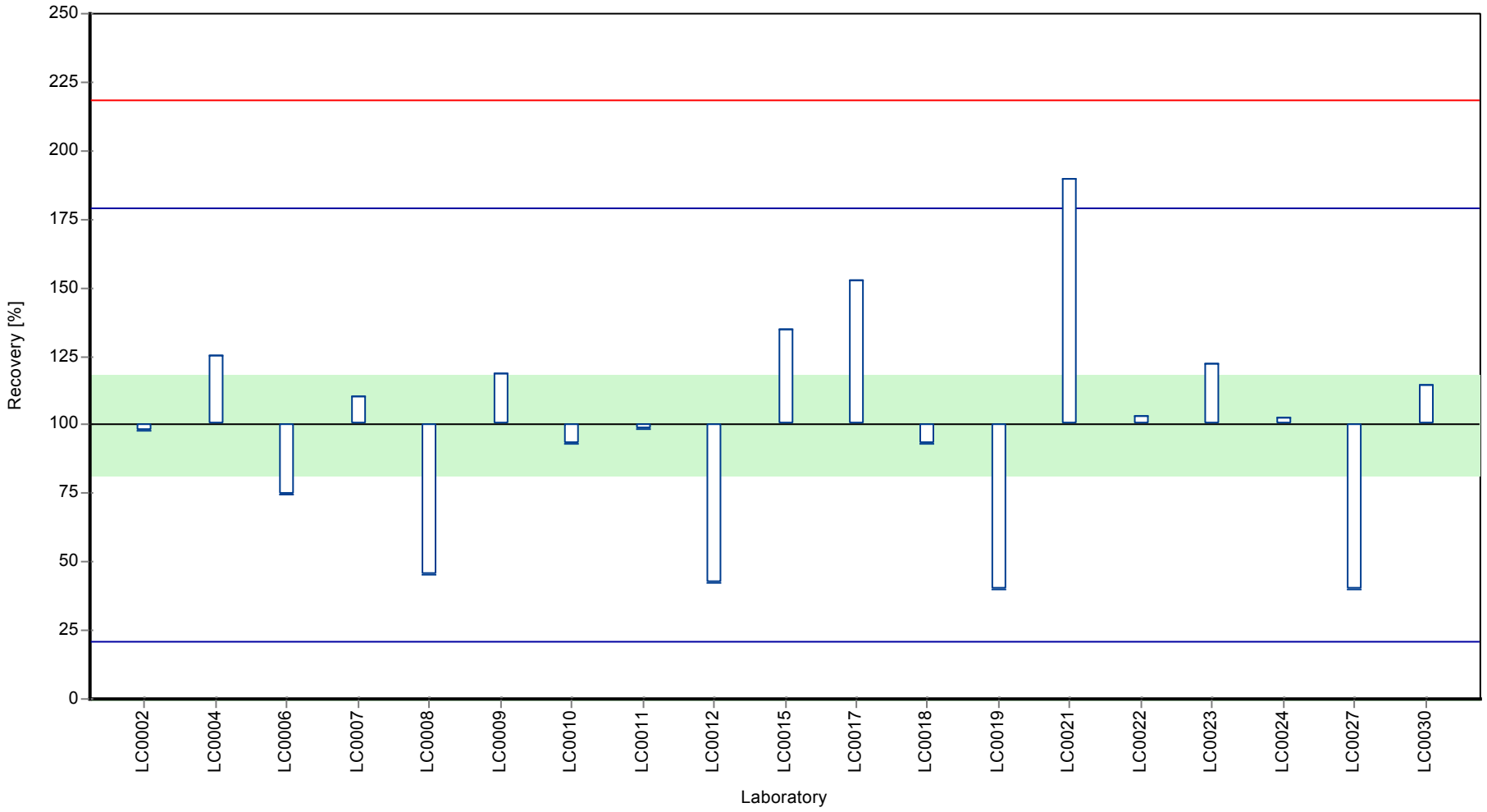
	all results	without outliers	Unit
Mean ± CI (99%)	19.5 ± 5.3	19.5 ± 5.3	µg/tube
Minimum	7.79	7.79	µg/tube
Maximum	37	37	µg/tube
Standard deviation	7.71	7.71	µg/tube
rel. Standard deviation	39.5	39.5	%
n	19	19	-

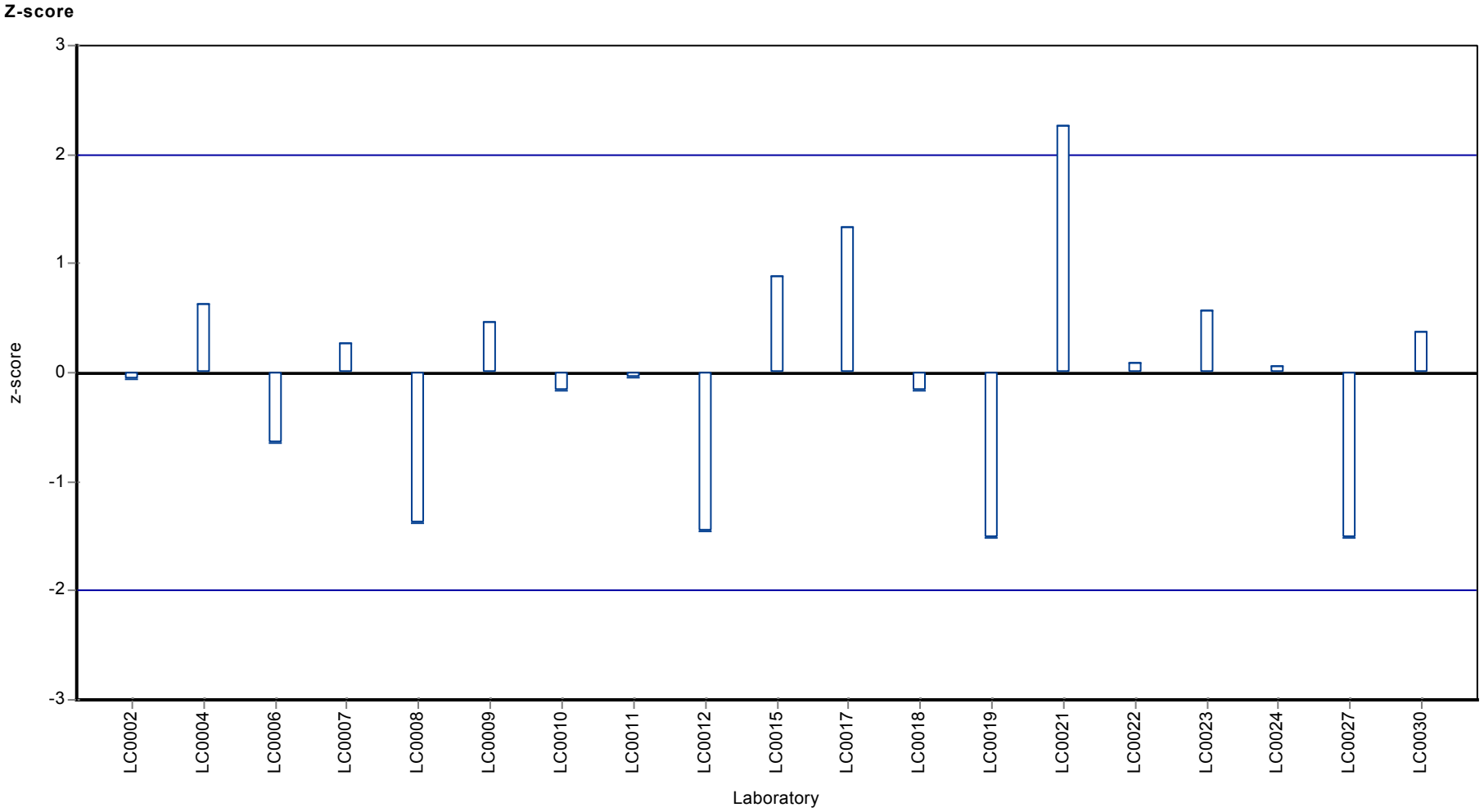
Graphical presentation of results

Results



Recovery rate

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LC0004
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LC0011
LC0012
LC0015
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
LC0030
Laboratory

Parameter oriented report

CL03

Trichloroethene

Unit	µg/tube
Mean ± CI (99%)	27.7 ± 2.39
Minimum - Maximum	24 - 36.5
Control test value ± U	26.0 ± 0.883

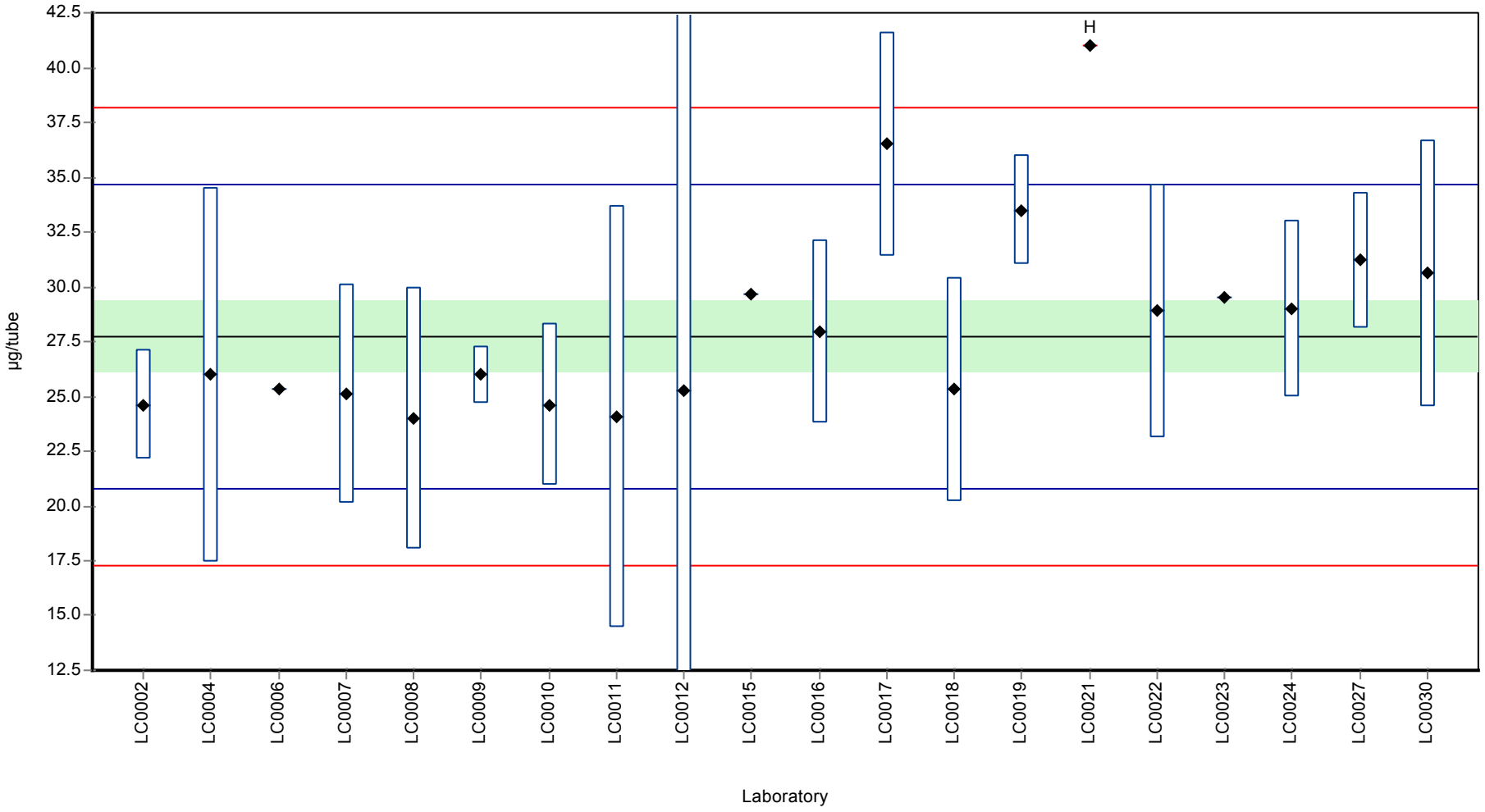
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	24.6	2.5	88.7	-0.9	
LC0004	25.98	8.56	93.7	-0.51	
LC0006	25.3	-	91.2	-0.7	
LC0007	25.14	5	90.6	-0.75	
LC0008	24	6	86.5	-1.07	
LC0009	25.98	1.3	93.7	-0.51	
LC0010	24.6	3.7	88.7	-0.9	
LC0011	24.08	9.63	86.8	-1.05	
LC0012	25.279	25.5	91.1	-0.71	
LC0015	29.66	-	107	0.55	
LC0016	27.93	4.19	101	0.05	
LC0017	36.5	5.1	132	2.52	
LC0018	25.3	5.1	91.2	-0.7	
LC0019	33.5	2.51	121	1.66	
LC0021	41	-	148	3.81	H
LC0022	28.9	5.8	104	0.33	
LC0023	29.5	-	106	0.51	
LC0024	29	4	105	0.36	
LC0026	-	-	-	-	
LC0027	31.2	3.1	112	0.99	
LC0029	-	-	-	-	
LC0030	30.6	6.1	110	0.82	

Characteristics of parameter

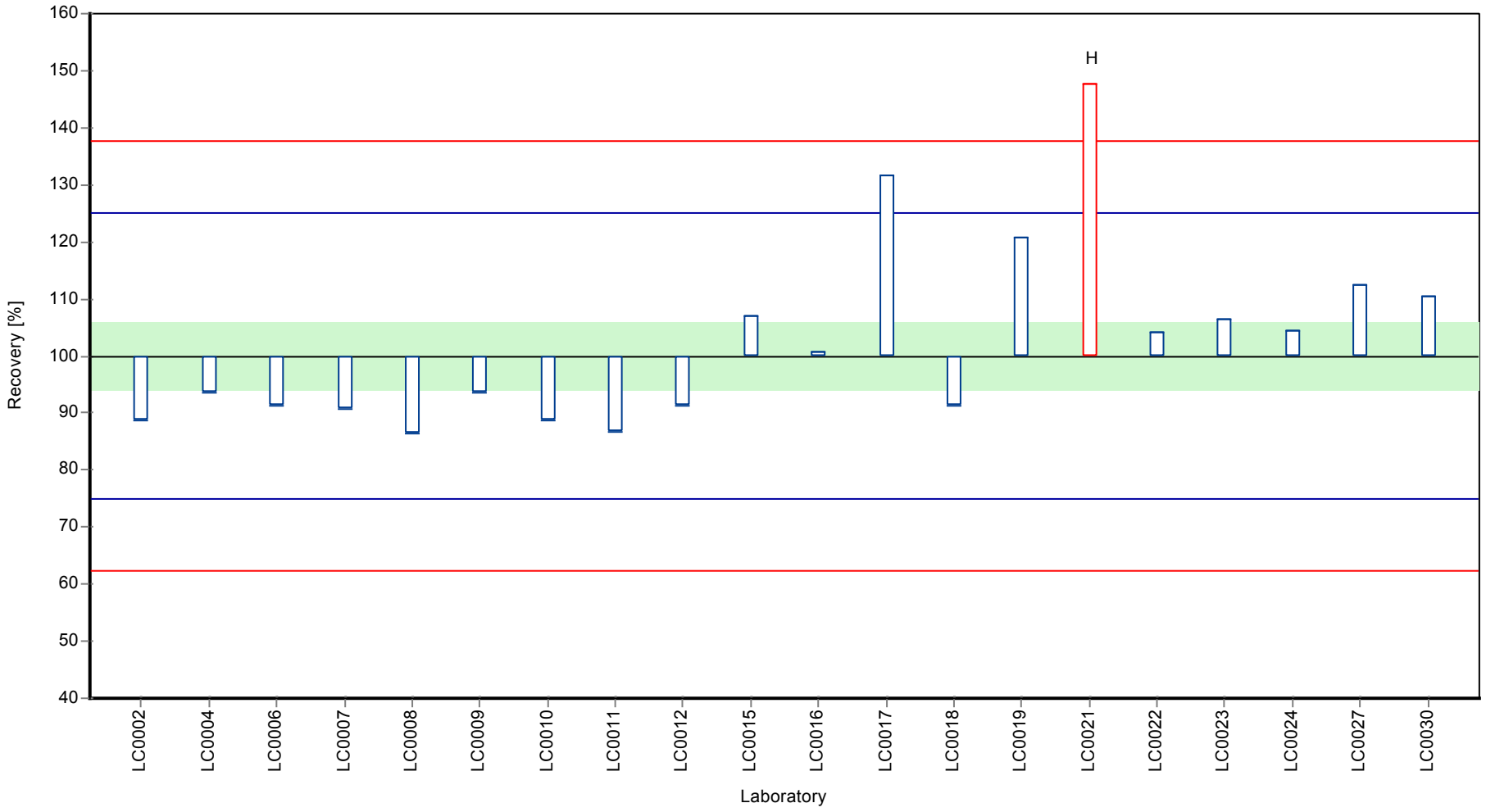
	all results	without outliers	Unit
Mean ± CI (99%)	28.4 ± 3.02	27.7 ± 2.39	µg/tube
Minimum	24	24	µg/tube
Maximum	41	36.5	µg/tube
Standard deviation	4.5	3.48	µg/tube
rel. Standard deviation	15.8	12.5	%
n	20	19	-

Graphical presentation of results

Results



Recovery rate



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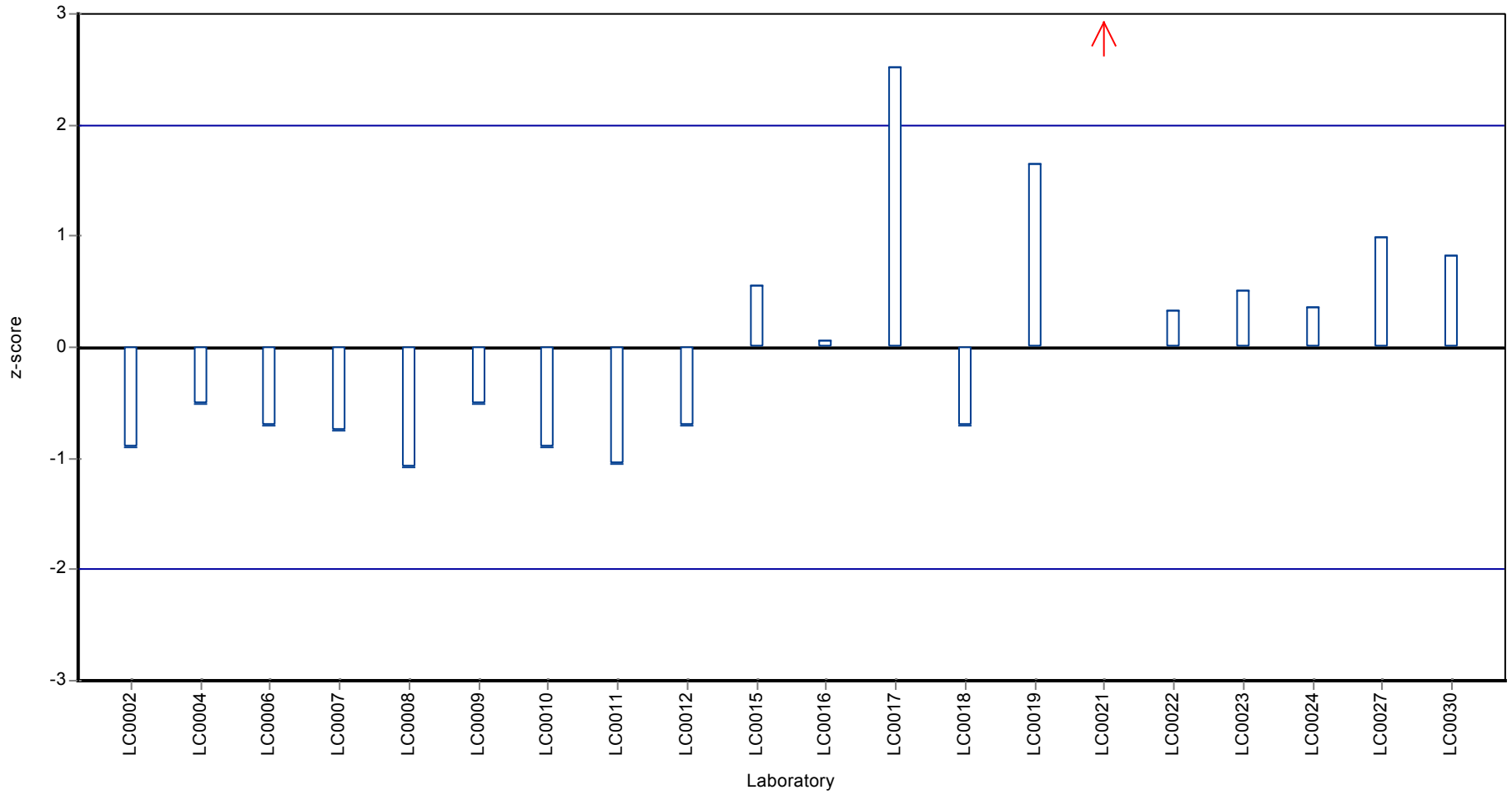
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LC0004
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LC0010
LC0011
LC0012
LC0015
LC0016
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
LC0030
Laboratory

Parameter oriented report

CL03

Trichloromethane

Unit	µg/tube
Mean ± CI (99%)	25.9 ± 2.17
Minimum - Maximum	21.2 - 33.6
Control test value ± U	24.0 ± 0.858

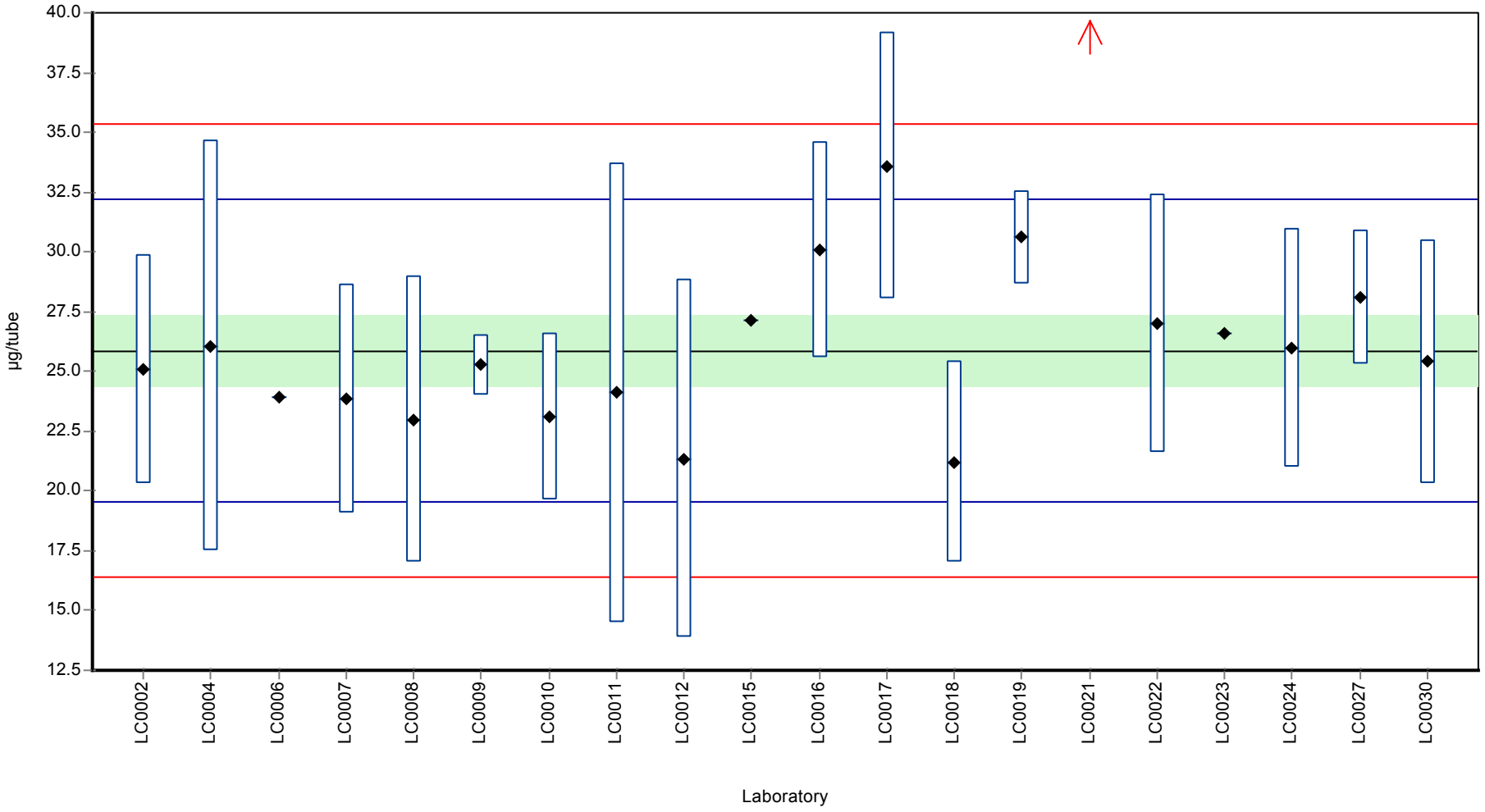
Labcode	Result	± U	Recovery [%]	z-score	Comments
LC0002	25.1	4.8	97	-0.24	
LC0004	26.06	8.6	101	0.06	
LC0006	23.9	-	92.4	-0.62	
LC0007	23.84	4.8	92.2	-0.64	
LC0008	23	6	88.9	-0.91	
LC0009	25.28	1.26	97.7	-0.19	
LC0010	23.1	3.5	89.3	-0.88	
LC0011	24.1	9.64	93.2	-0.56	
LC0012	21.352	7.48	82.5	-1.43	
LC0015	27.17	-	105	0.41	
LC0016	30.08	4.51	116	1.34	
LC0017	33.6	5.6	130	2.45	
LC0018	21.2	4.2	82	-1.48	
LC0019	30.6	1.93	118	1.5	
LC0021	39	-	151	4.17	H
LC0022	27	5.4	104	0.36	
LC0023	26.6	-	103	0.23	
LC0024	26	5	101	0.04	
LC0026	-	-	-	-	
LC0027	28.1	2.8	109	0.71	
LC0029	-	-	-	-	
LC0030	25.4	5.1	98.2	-0.15	

Characteristics of parameter

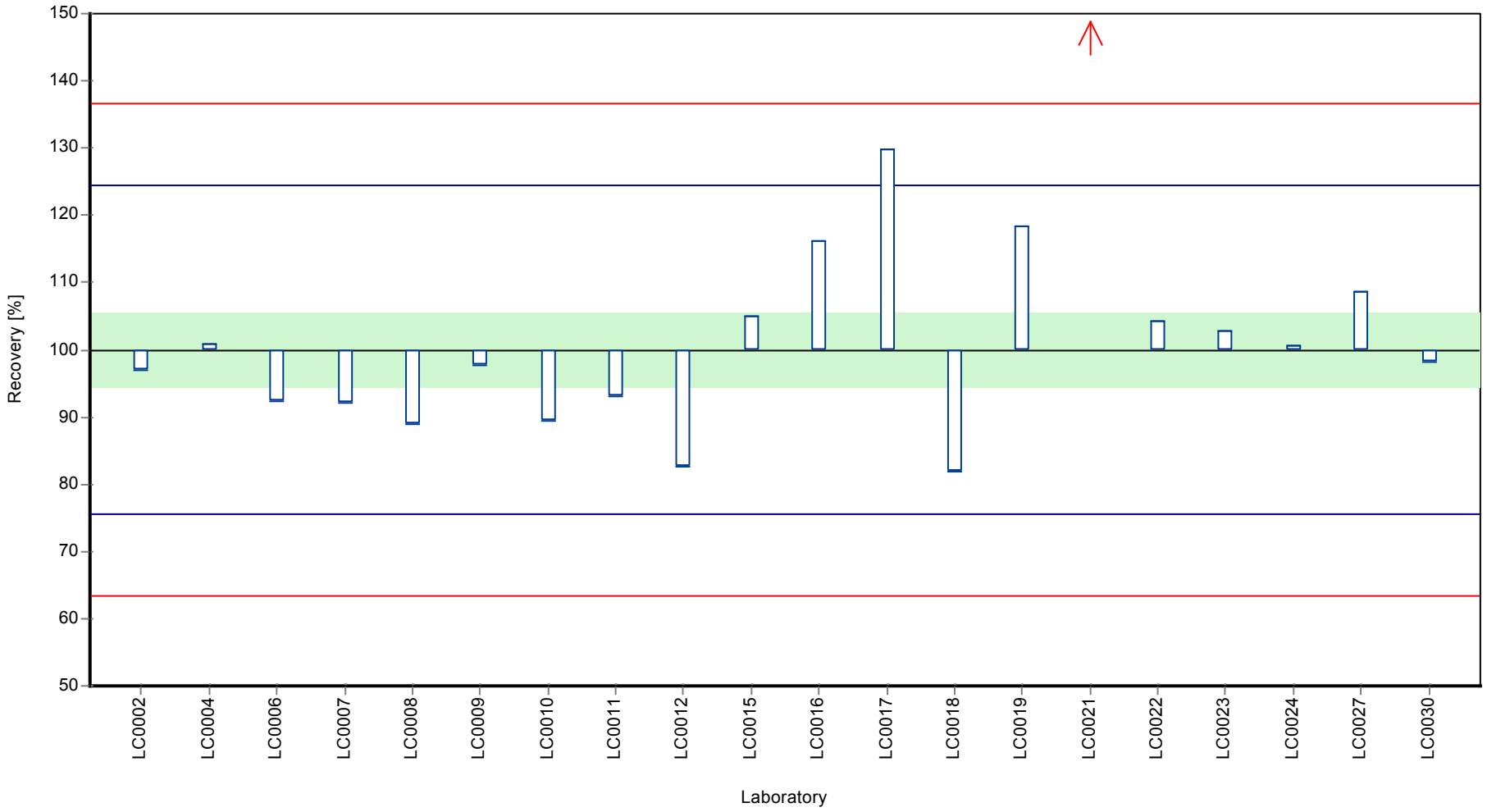
	all results	without outliers	Unit
Mean ± CI (99%)	26.5 ± 2.85	25.9 ± 2.17	µg/tube
Minimum	21.2	21.2	µg/tube
Maximum	39	33.6	µg/tube
Standard deviation	4.25	3.15	µg/tube
rel. Standard deviation	16	12.2	%
n	20	19	-

Graphical presentation of results

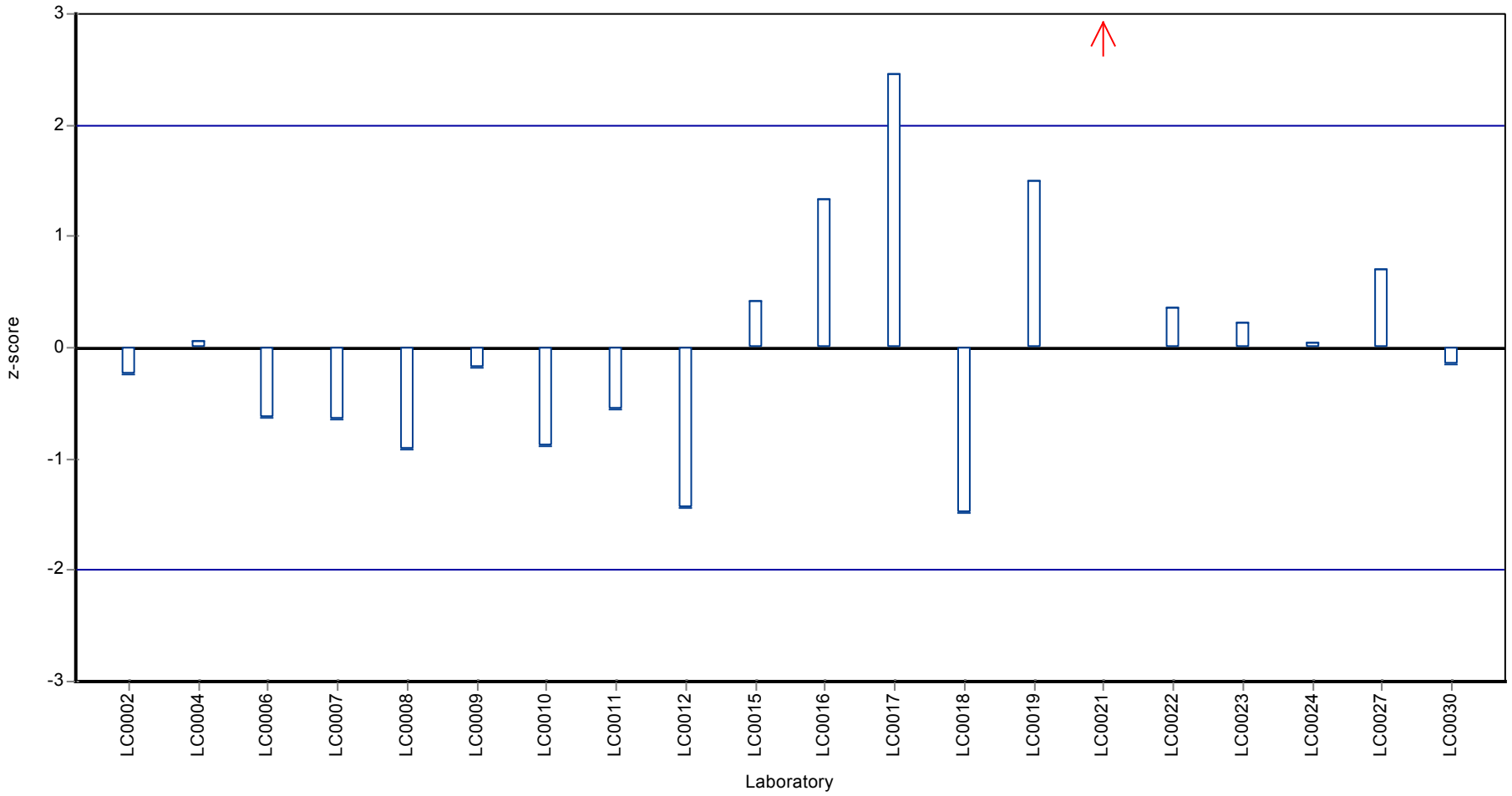
Results



Recovery rate



Z-score

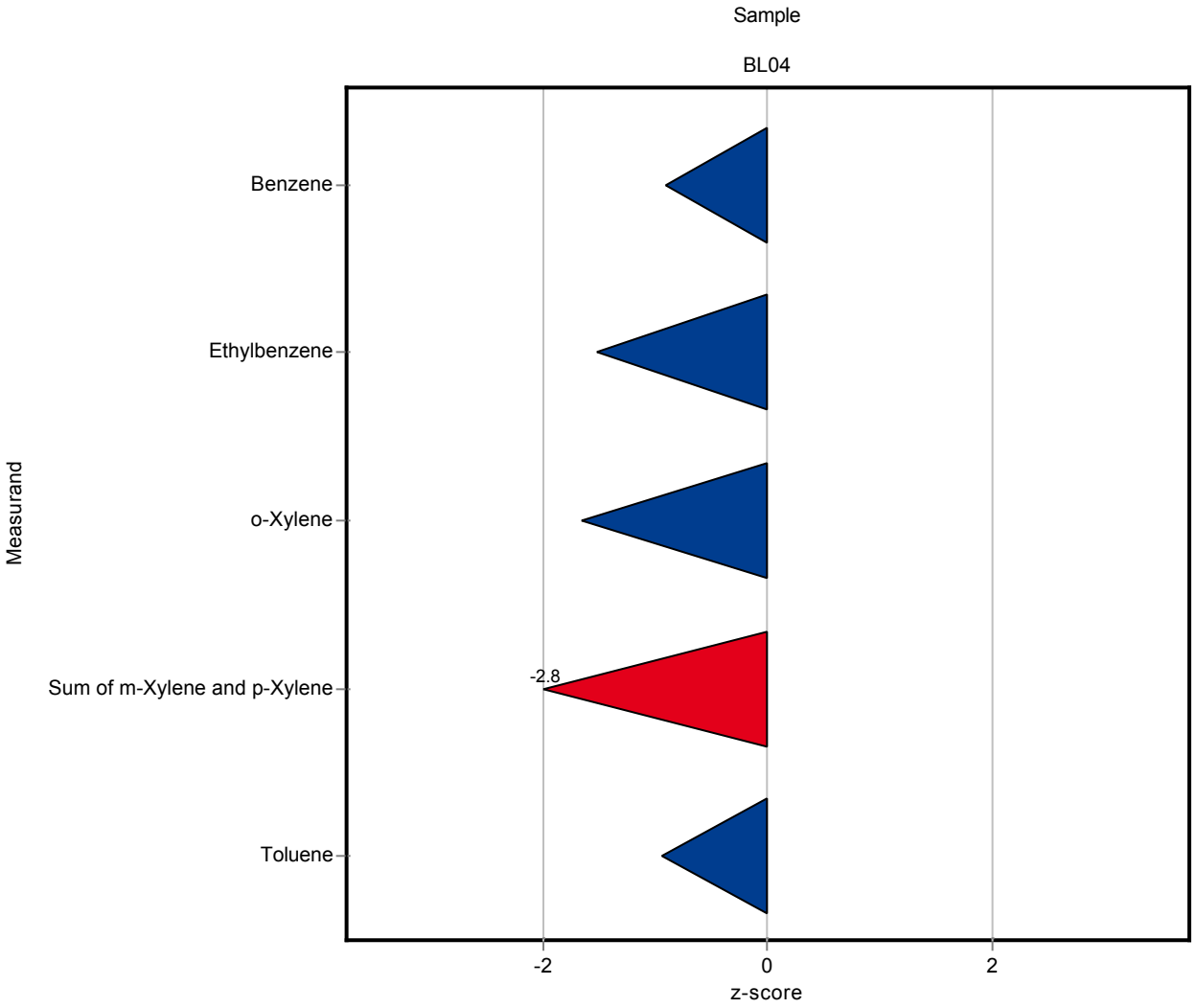

3
2
1
0
-1
-2
-3
z-score
LC0002
LC0004
LC0006
LC0007
LC0008
LC0009
LC0010
LC0011
LC0012
LC0015
LC0016
LC0017
LC0018
LC0019
LC0021
LC0022
LC0023
LC0024
LC0027
LC0030
Laboratory

8 Laboratory oriented report

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.8	0.17	0.287	87.3	-0.91
Ethylbenzene	µg/tube	6.04	± 0.517	4.7	0.1	0.879	77.9	-1.52
o-Xylene	µg/tube	5.74	± 0.448	4.5	0.12	0.747	78.4	-1.67
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	4.5	0.21	2.37	40	-2.85
Toluene	µg/tube	4.39	± 0.313	3.9	0.1	0.522	88.7	-0.95


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2.8
-2
0
2
z-score

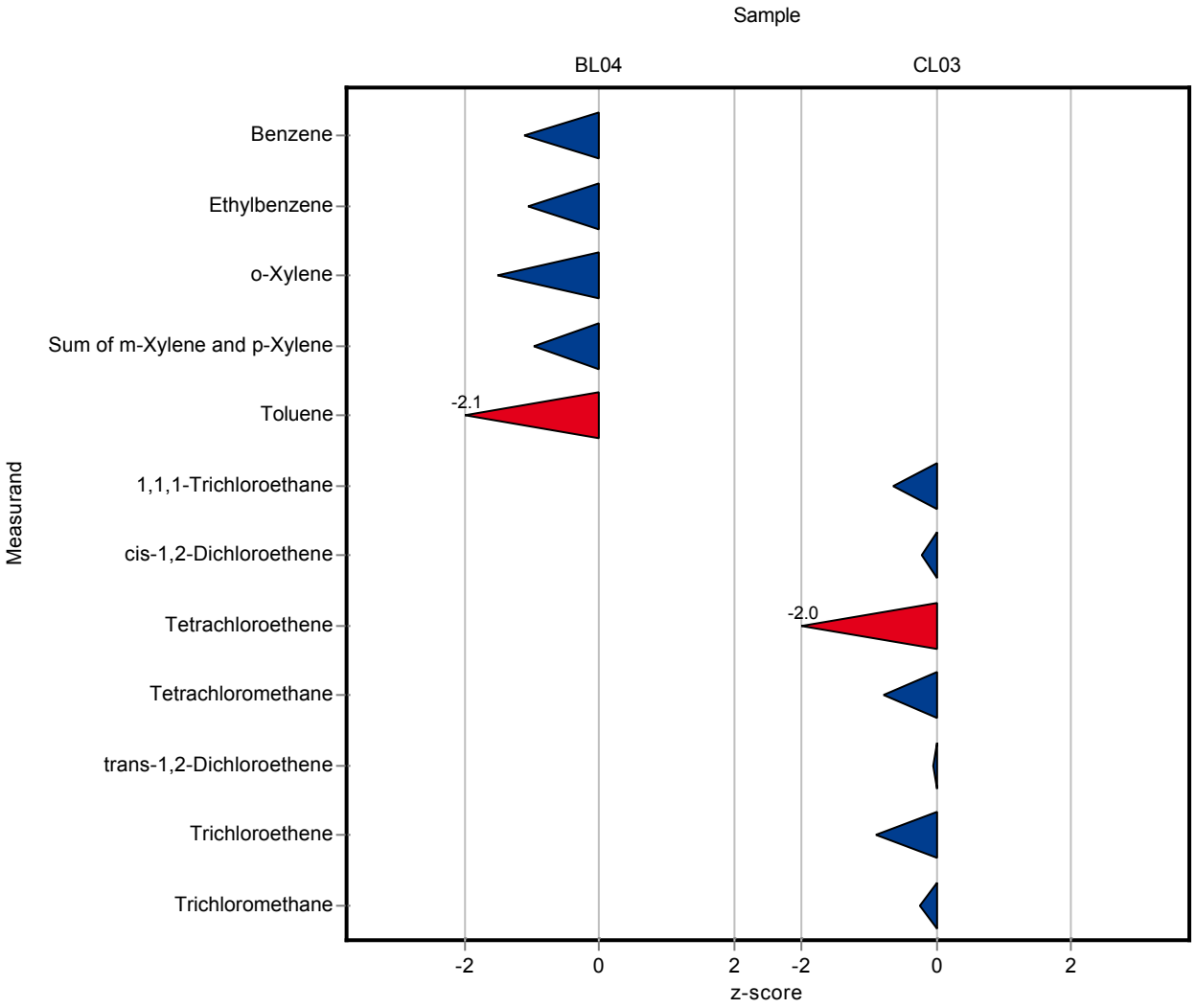
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.74	0.21	0.287	84.4	-1.12
Ethylbenzene	µg/tube	6.04	± 0.517	5.1	0.51	0.879	84.5	-1.07
o-Xylene	µg/tube	5.74	± 0.448	4.62	0.46	0.747	80.4	-1.5
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	8.91	0.89	2.37	79.3	-0.98
Toluene	µg/tube	4.39	± 0.313	3.3	0.49	0.522	75.1	-2.1

Sample: CL03

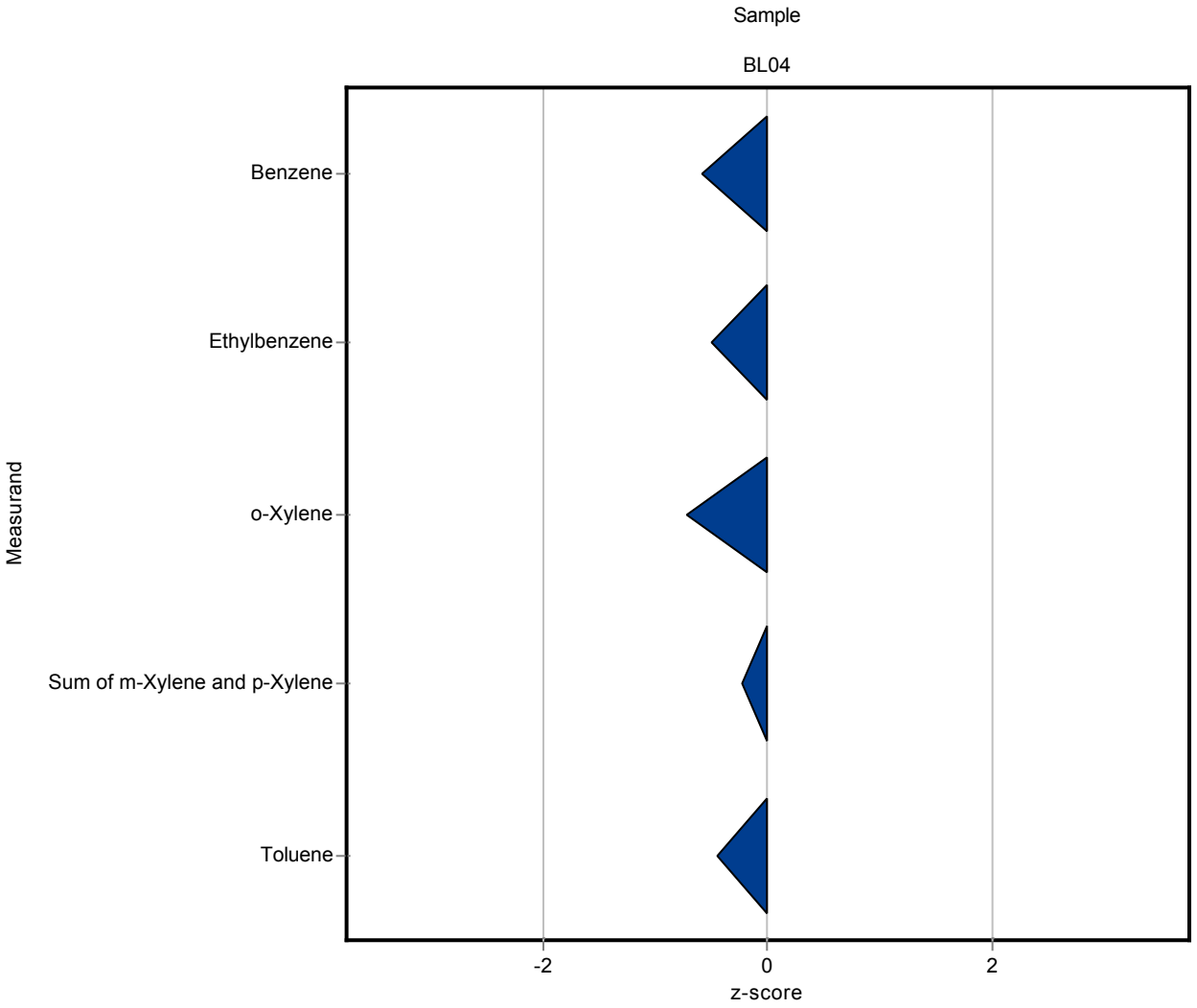
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	18.2	1.8	2.75	91.1	-0.65
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	20.5	3.9	5.11	95.1	-0.21
Tetrachloroethene	µg/tube	32.2	± 3	23.1	5.8	4.47	71.6	-2.05
Tetrachloromethane	µg/tube	32	± 2.34	29.5	3	3.12	92.3	-0.79
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	19.1	4.8	7.71	97.9	-0.05
Trichloroethene	µg/tube	27.7	± 2.39	24.6	2.5	3.48	88.7	-0.9
Trichloromethane	µg/tube	25.9	± 2.17	25.1	4.8	3.15	97	-0.24


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2.1
-2.0
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.891	0.15	0.287	91.7	-0.59
Ethylbenzene	µg/tube	6.04	± 0.517	5.594	0.3	0.879	92.7	-0.5
o-Xylene	µg/tube	5.74	± 0.448	5.198	0.3	0.747	90.5	-0.73
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	10.692	0.4	2.37	95.1	-0.23
Toluene	µg/tube	4.39	± 0.313	4.156	0.2	0.522	94.6	-0.46


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2
0
2
z-score

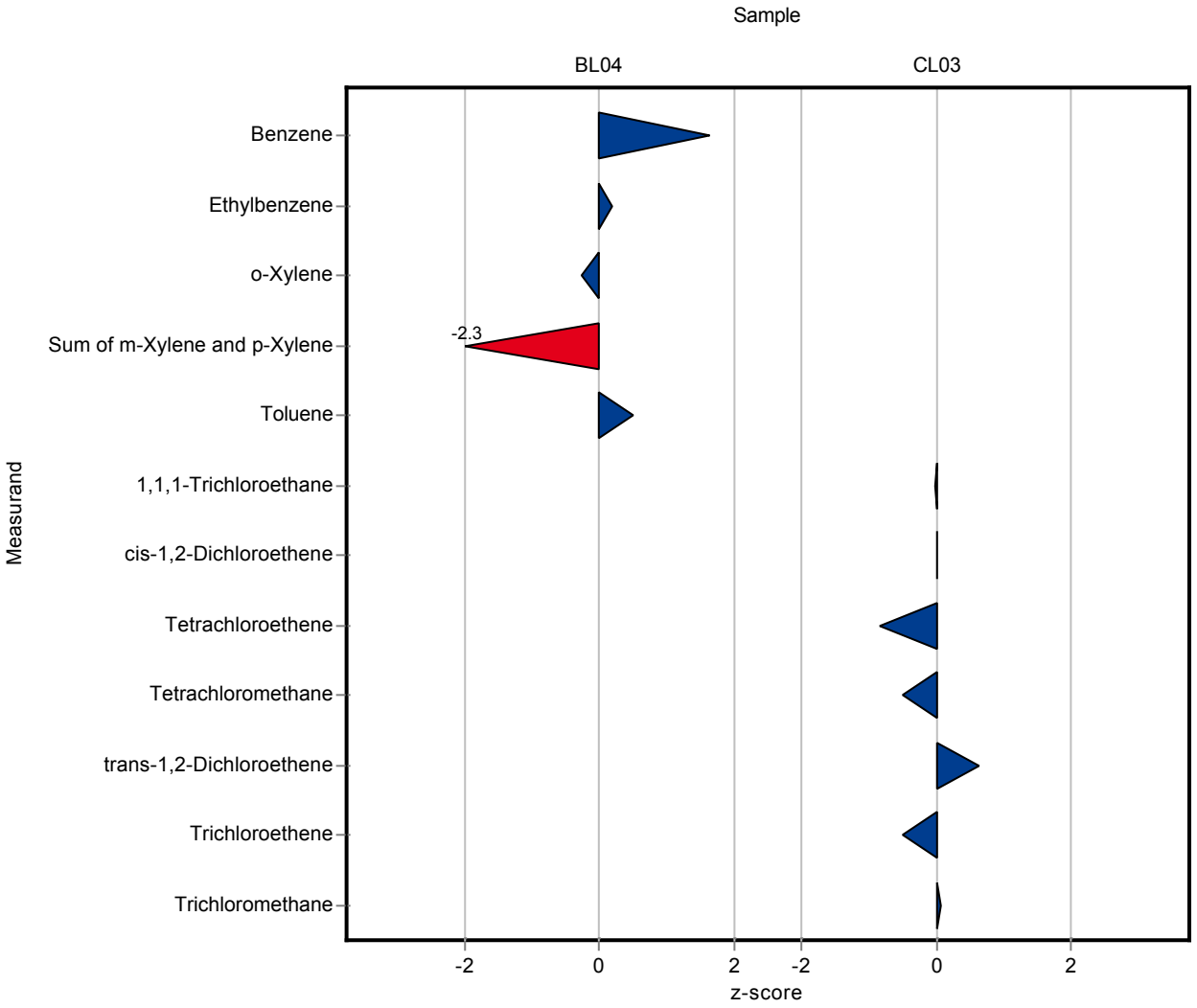
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.53	0.83	0.287	123	1.63
Ethylbenzene	µg/tube	6.04	± 0.517	6.2	2.05	0.879	103	0.19
o-Xylene	µg/tube	5.74	± 0.448	5.54	1.83	0.747	96.5	-0.27
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	5.87	1.94	2.37	52.2	-2.27
Toluene	µg/tube	4.39	± 0.313	4.65	1.53	0.522	106	0.49

Sample: CL03

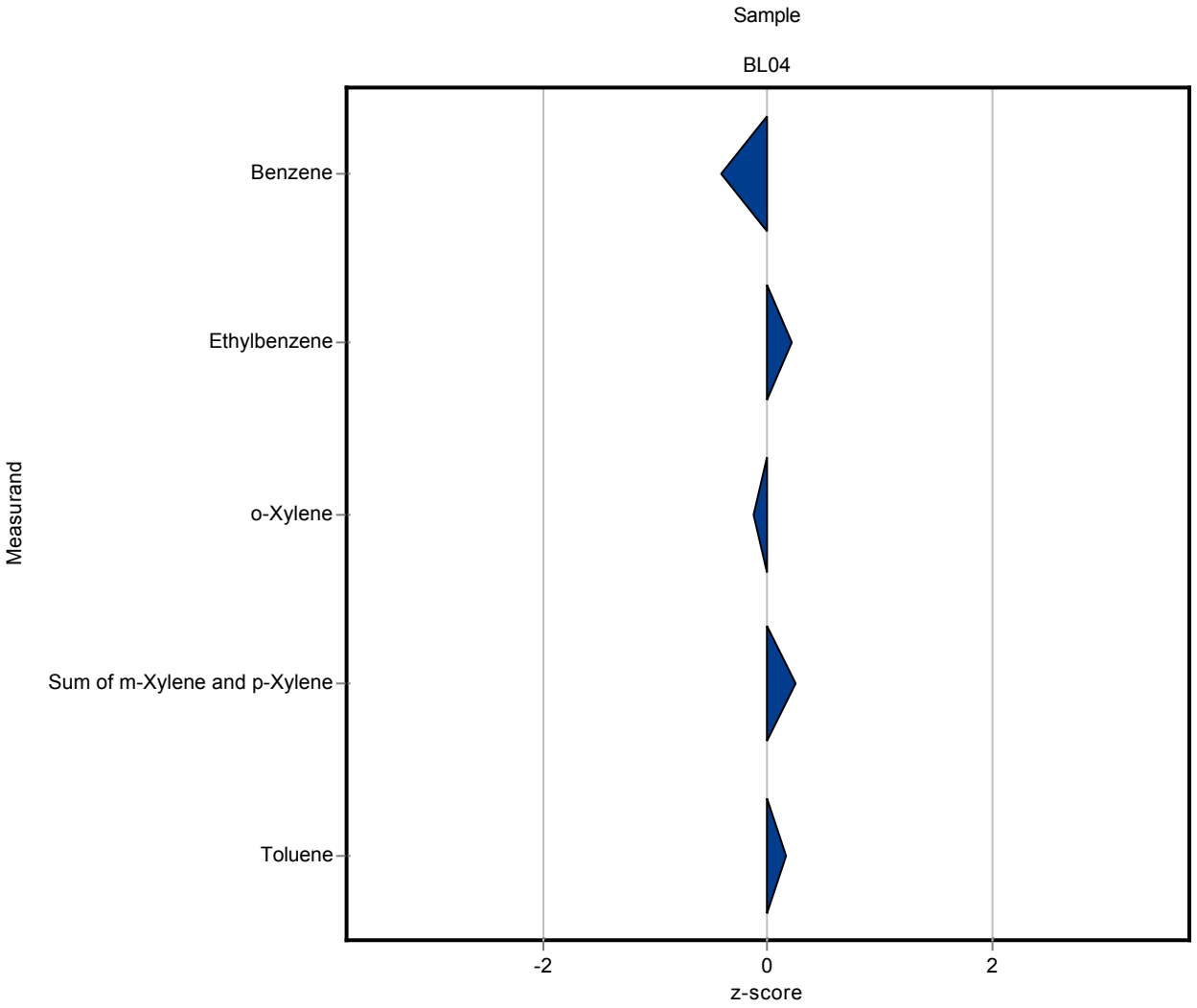
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	19.95	6.58	2.75	99.8	-0.01
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	21.64	7.14	5.11	100	0.02
Tetrachloroethene	µg/tube	32.2	± 3	28.52	9.41	4.47	88.4	-0.83
Tetrachloromethane	µg/tube	32	± 2.34	30.4	10.03	3.12	95.1	-0.5
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	24.42	8.06	7.71	125	0.64
Trichloroethene	µg/tube	27.7	± 2.39	25.98	8.56	3.48	93.7	-0.51
Trichloromethane	µg/tube	25.9	± 2.17	26.06	8.6	3.15	101	0.06


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2.3
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.94	0.29	0.287	94.1	-0.42
Ethylbenzene	µg/tube	6.04	± 0.517	6.22	0.93	0.879	103	0.21
o-Xylene	µg/tube	5.74	± 0.448	5.65	0.85	0.747	98.4	-0.13
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	11.81	1.77	2.37	105	0.24
Toluene	µg/tube	4.39	± 0.313	4.48	0.67	0.522	102	0.16


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2
0
2
z-score

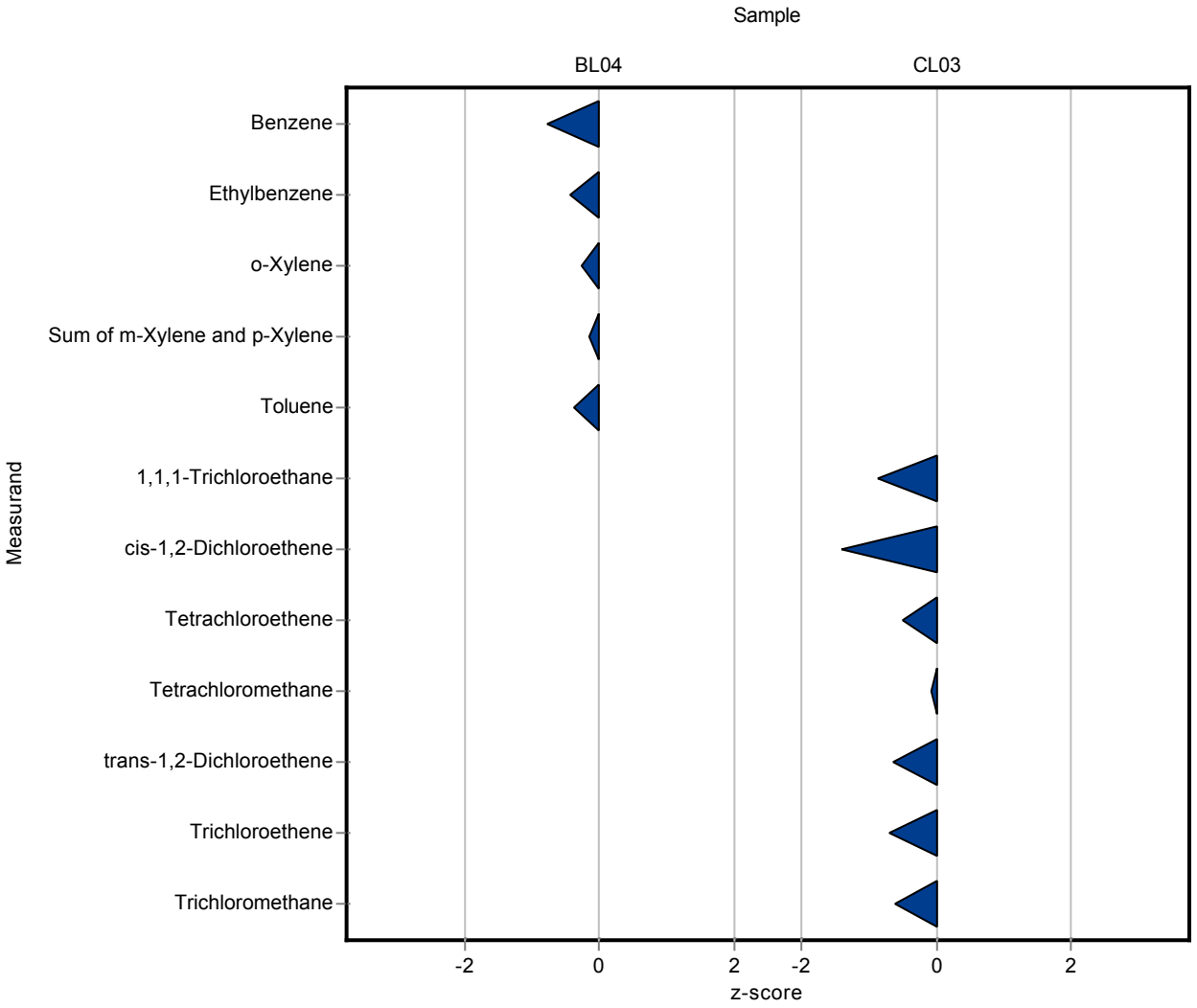
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.84	-	0.287	89.2	-0.77
Ethylbenzene	µg/tube	6.04	± 0.517	5.66	-	0.879	93.8	-0.43
o-Xylene	µg/tube	5.74	± 0.448	5.55	-	0.747	96.6	-0.26
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	10.9	-	2.37	97	-0.14
Toluene	µg/tube	4.39	± 0.313	4.2	-	0.522	95.6	-0.37

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	17.6	-	2.75	88	-0.87
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	14.3	-	5.11	66.4	-1.42
Tetrachloroethene	µg/tube	32.2	± 3	30	-	4.47	93	-0.5
Tetrachloromethane	µg/tube	32	± 2.34	31.7	-	3.12	99.2	-0.08
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	14.6	-	7.71	74.8	-0.64
Trichloroethene	µg/tube	27.7	± 2.39	25.3	-	3.48	91.2	-0.7
Trichloromethane	µg/tube	25.9	± 2.17	23.9	-	3.15	92.4	-0.62


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

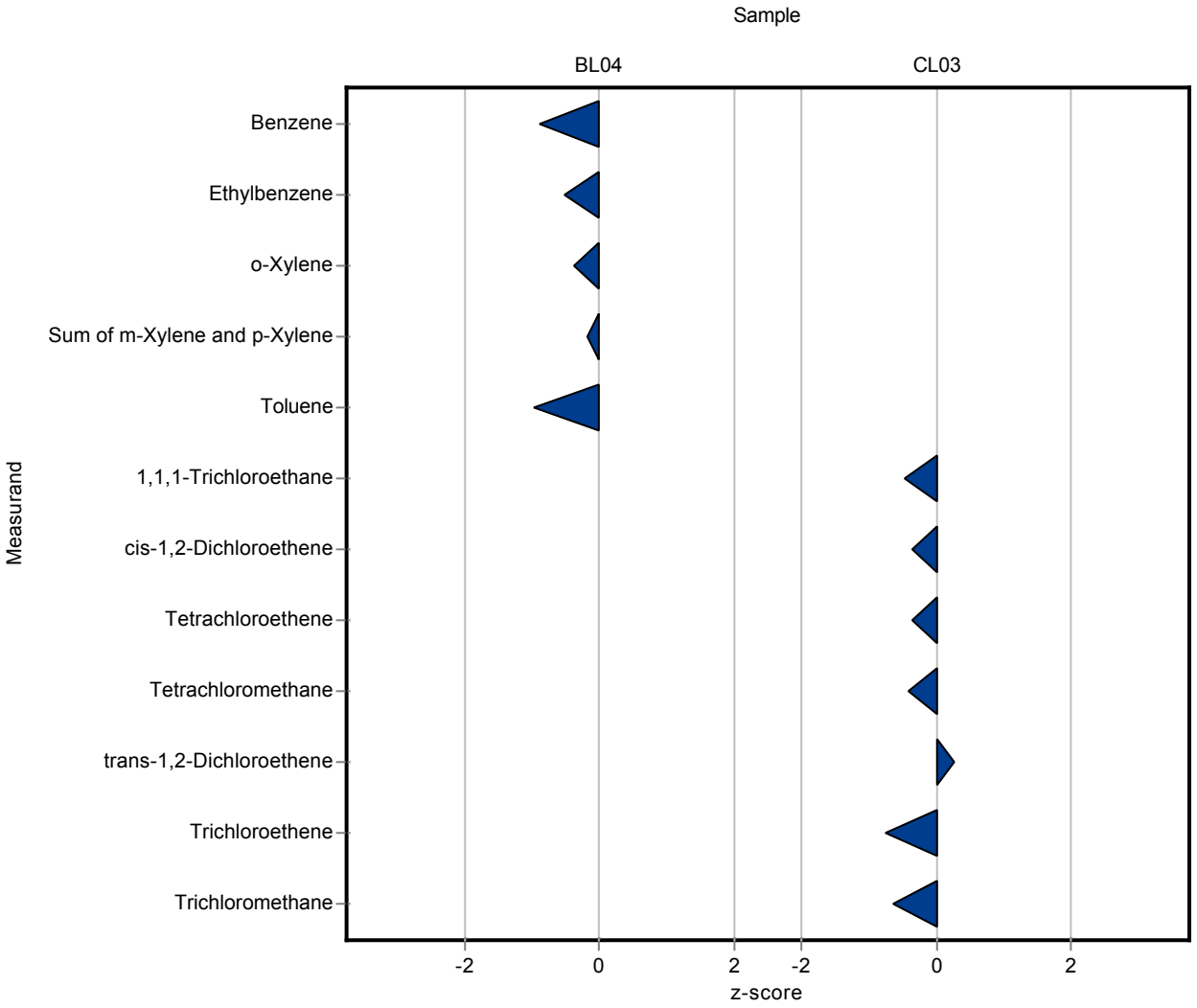
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.81	0.36	0.287	87.8	-0.88
Ethylbenzene	µg/tube	6.04	± 0.517	5.57	1.1	0.879	92.3	-0.53
o-Xylene	µg/tube	5.74	± 0.448	5.46	1.1	0.747	95.1	-0.38
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	10.83	2.2	2.37	96.3	-0.17
Toluene	µg/tube	4.39	± 0.313	3.89	0.78	0.522	88.5	-0.97

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	18.69	3.7	2.75	93.5	-0.47
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	19.73	3.9	5.11	91.5	-0.36
Tetrachloroethene	µg/tube	32.2	± 3	30.62	6.1	4.47	95	-0.36
Tetrachloromethane	µg/tube	32	± 2.34	30.68	6.1	3.12	96	-0.41
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	21.58	4.3	7.71	111	0.27
Trichloroethene	µg/tube	27.7	± 2.39	25.14	5	3.48	90.6	-0.75
Trichloromethane	µg/tube	25.9	± 2.17	23.84	4.8	3.15	92.2	-0.64


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

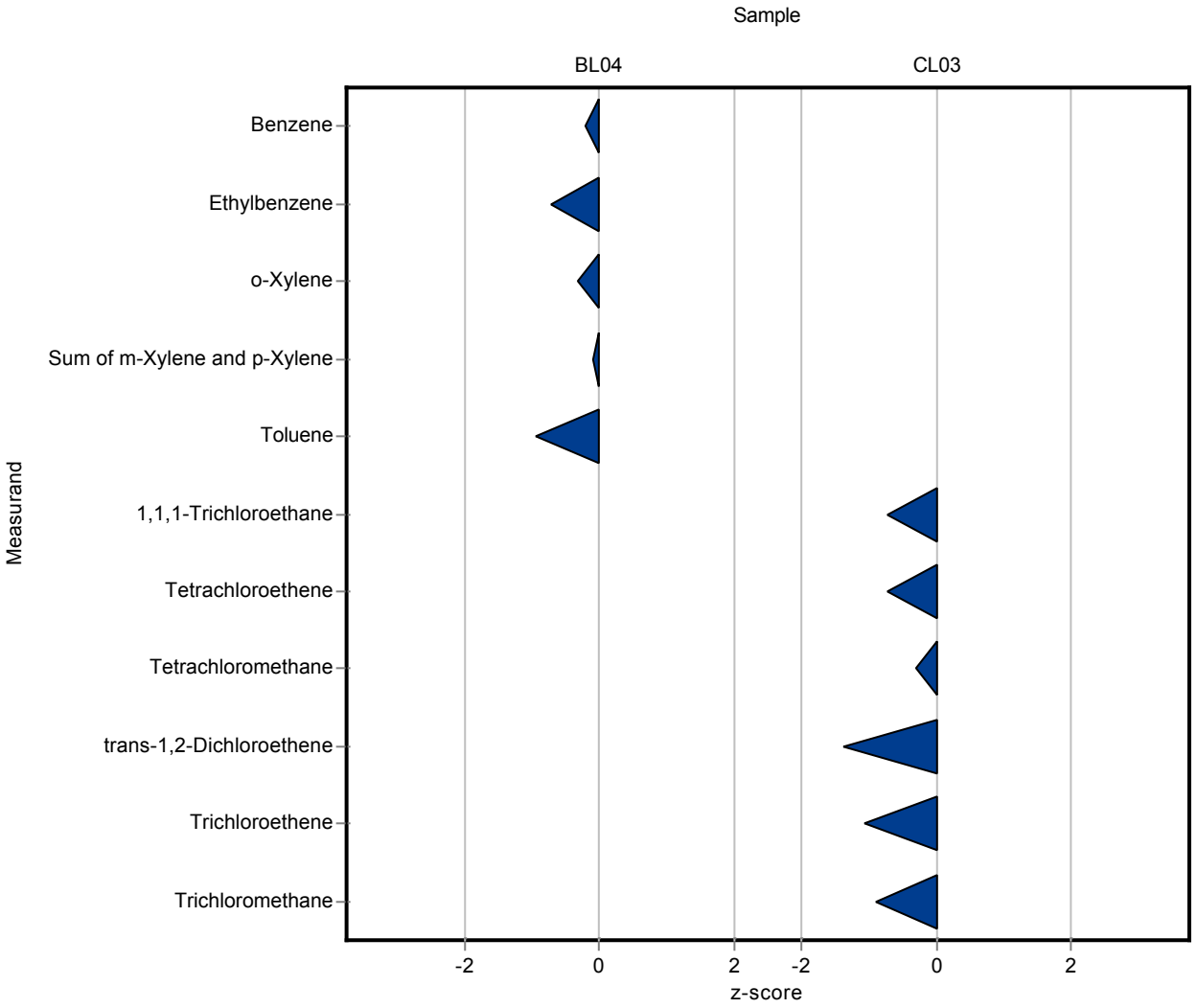
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2	0.5	0.287	97	-0.22
Ethylbenzene	µg/tube	6.04	± 0.517	5.4	1	0.879	89.5	-0.72
o-Xylene	µg/tube	5.74	± 0.448	5.5	1	0.747	95.8	-0.33
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	11	3	2.37	97.8	-0.1
Toluene	µg/tube	4.39	± 0.313	3.9	1	0.522	88.7	-0.95

Sample: CL03

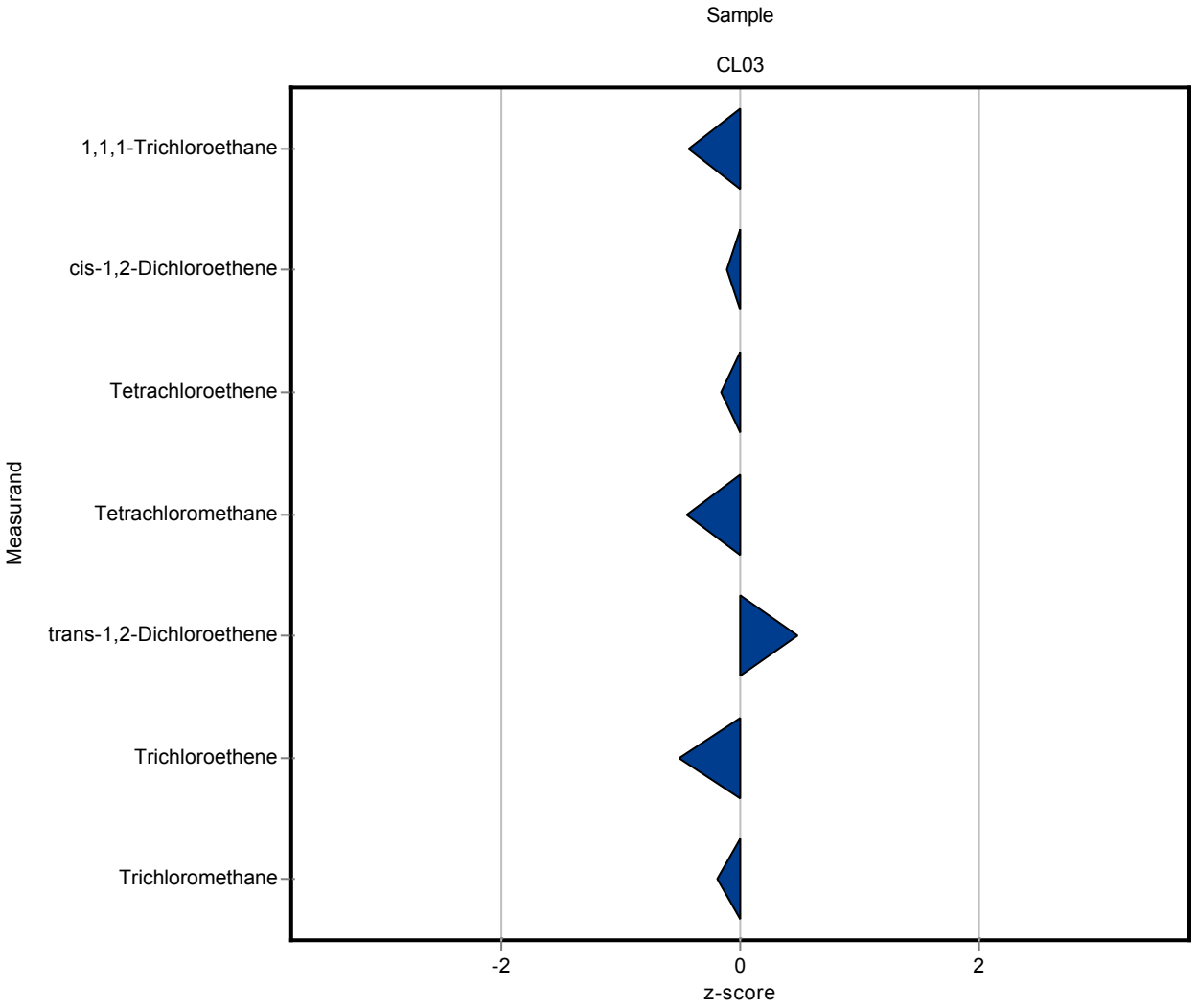
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	18	4	2.75	90.1	-0.72
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	-	-	5.11	-	-
Tetrachloroethene	µg/tube	32.2	± 3	29	7	4.47	89.9	-0.73
Tetrachloromethane	µg/tube	32	± 2.34	31	8	3.12	97	-0.31
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	8.9	2	7.71	45.6	-1.38
Trichloroethene	µg/tube	27.7	± 2.39	24	6	3.48	86.5	-1.07
Trichloromethane	µg/tube	25.9	± 2.17	23	6	3.15	88.9	-0.91


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	18.8	0.94	2.75	94.1	-0.43
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	21.01	1.05	5.11	97.5	-0.11
Tetrachloroethene	µg/tube	32.2	± 3	31.54	1.57	4.47	97.8	-0.16
Tetrachloromethane	µg/tube	32	± 2.34	30.57	1.53	3.12	95.7	-0.45
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	23.15	1.15	7.71	119	0.47
Trichloroethene	µg/tube	27.7	± 2.39	25.98	1.3	3.48	93.7	-0.51
Trichloromethane	µg/tube	25.9	± 2.17	25.28	1.26	3.15	97.7	-0.19


Sample
CL03
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
z-score

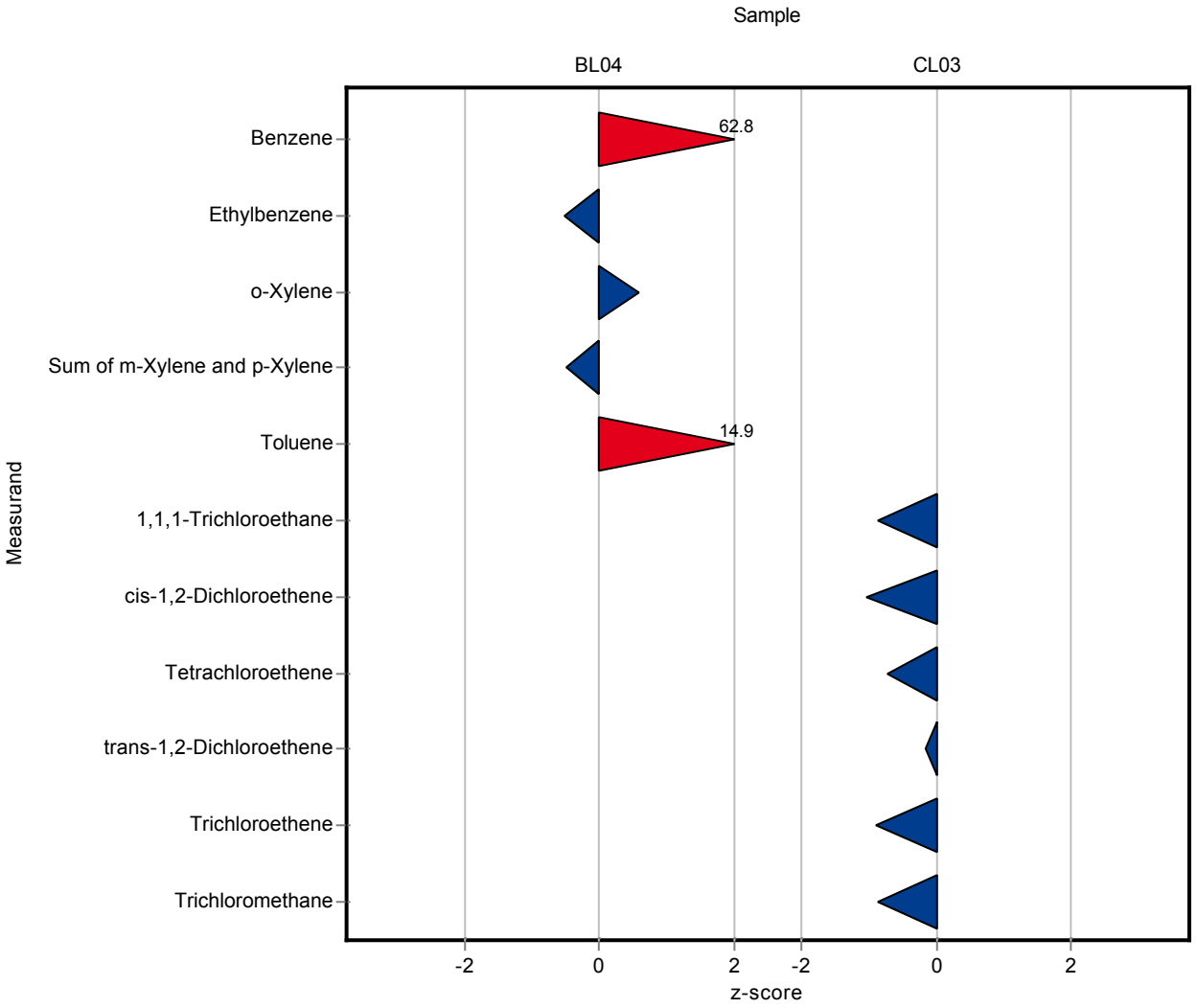
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	20.1	3	0.287	975	62.8
Ethylbenzene	µg/tube	6.04	± 0.517	5.59	0.6	0.879	92.6	-0.51
o-Xylene	µg/tube	5.74	± 0.448	6.19	0.6	0.747	108	0.6
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	10.1	0.6	2.37	89.8	-0.48
Toluene	µg/tube	4.39	± 0.313	12.2	1.8	0.522	278	14.9

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	17.6	2.6	2.75	88	-0.87
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	16.2	2.4	5.11	75.2	-1.05
Tetrachloroethene	µg/tube	32.2	± 3	29	4.4	4.47	89.9	-0.73
Tetrachloromethane	µg/tube	32	± 2.34	<1 (LOQ)	-	3.12	-	-
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	18.2	2.7	7.71	93.2	-0.17
Trichloroethene	µg/tube	27.7	± 2.39	24.6	3.7	3.48	88.7	-0.9
Trichloromethane	µg/tube	25.9	± 2.17	23.1	3.5	3.15	89.3	-0.88


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
62.8
14.9
Measurand
-2
0
2
-2
0
2
z-score

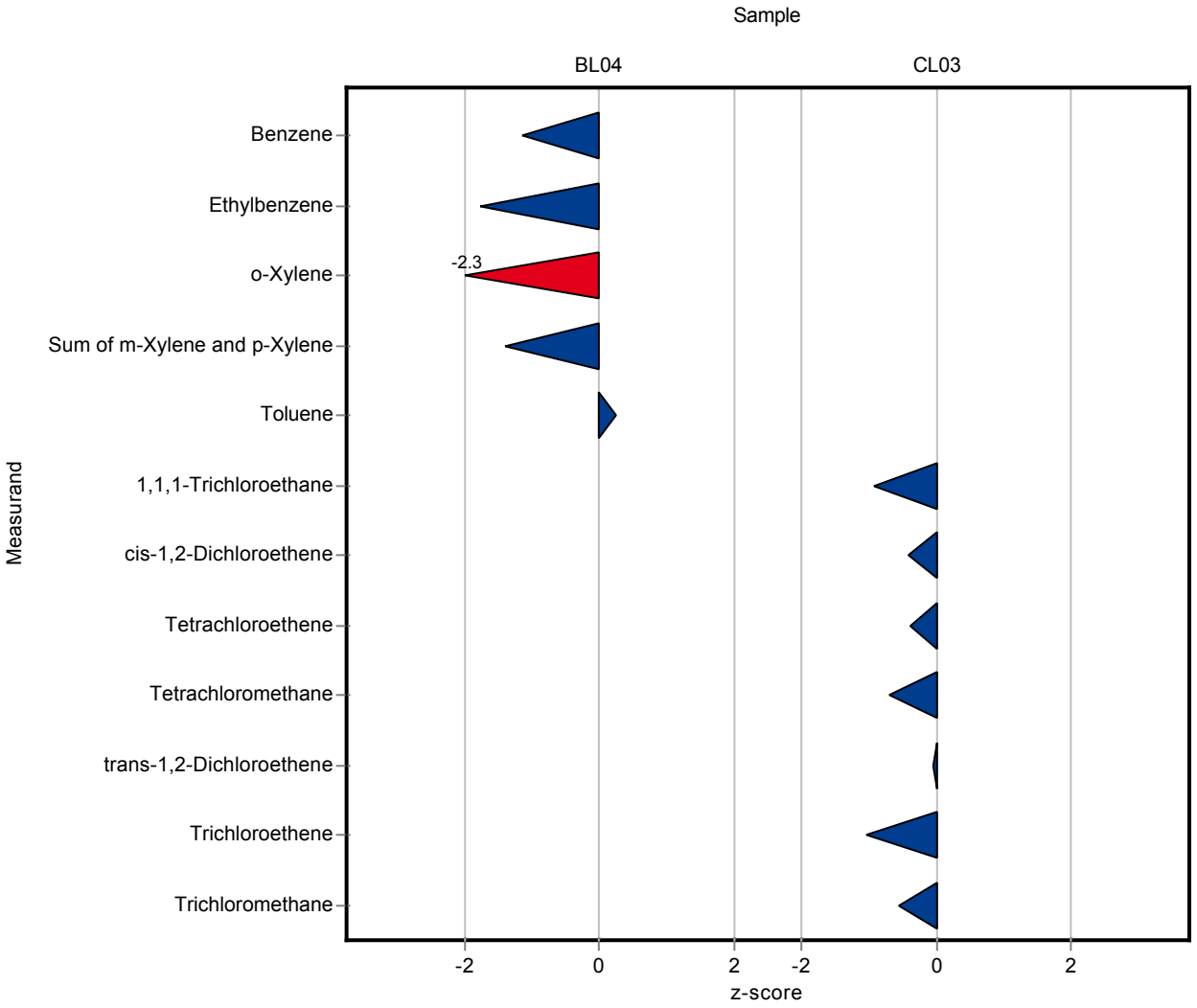
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.73	0.692	0.287	83.9	-1.16
Ethylbenzene	µg/tube	6.04	± 0.517	4.48	1.79	0.879	74.2	-1.77
o-Xylene	µg/tube	5.74	± 0.448	4.06	1.62	0.747	70.7	-2.25
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	7.91	3.16	2.37	70.4	-1.41
Toluene	µg/tube	4.39	± 0.313	4.53	1.81	0.522	103	0.26

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	17.44	6.98	2.75	87.2	-0.93
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	19.38	7.75	5.11	89.9	-0.42
Tetrachloroethene	µg/tube	32.2	± 3	30.5	12.2	4.47	94.6	-0.39
Tetrachloromethane	µg/tube	32	± 2.34	29.79	11.92	3.12	93.2	-0.7
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	19.21	7.68	7.71	98.4	-0.04
Trichloroethene	µg/tube	27.7	± 2.39	24.08	9.63	3.48	86.8	-1.05
Trichloromethane	µg/tube	25.9	± 2.17	24.1	9.64	3.15	93.2	-0.56


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
-2.3
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

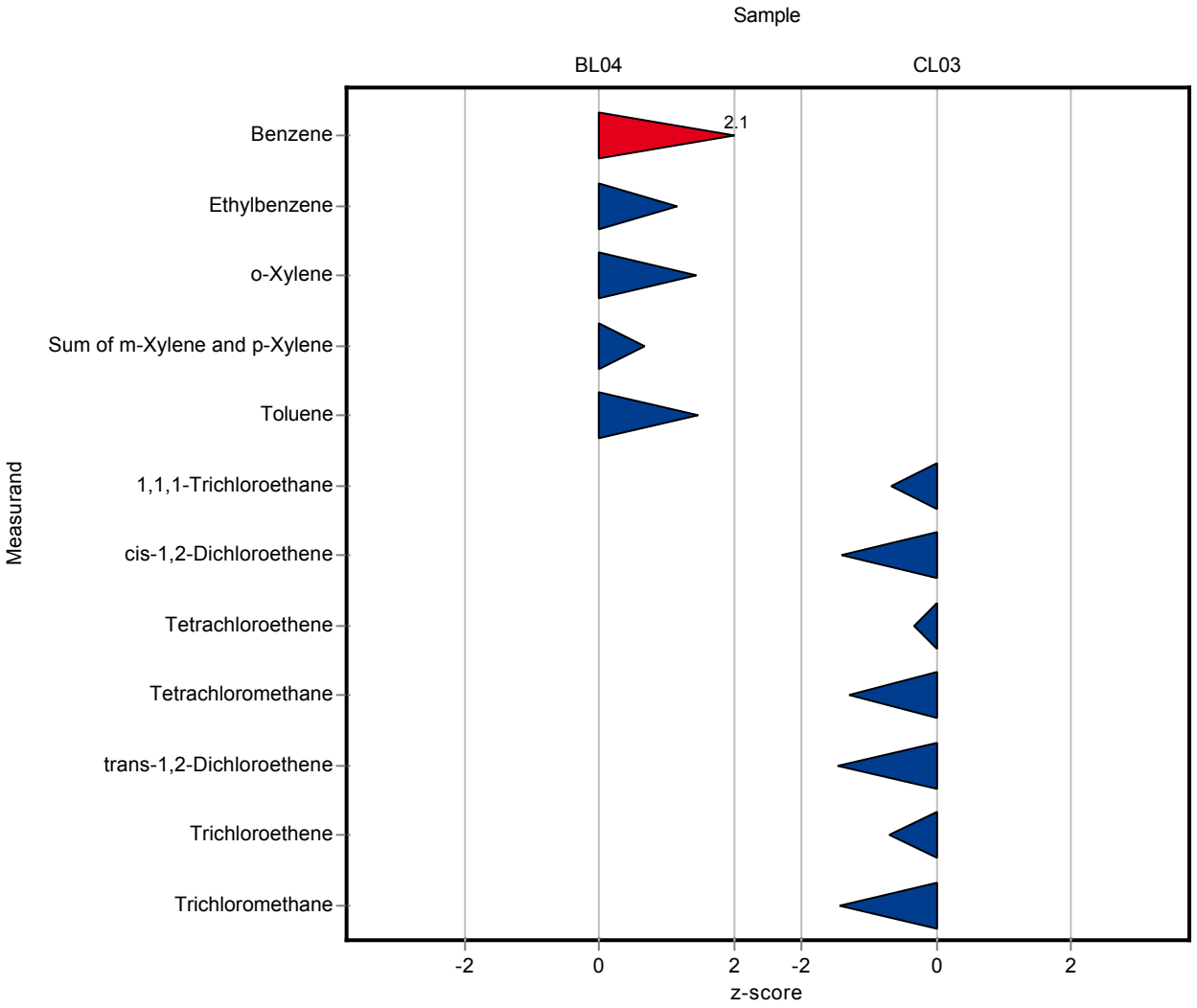
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.67	0.95	0.287	129	2.12
Ethylbenzene	µg/tube	6.04	± 0.517	7.06	4.25	0.879	117	1.17
o-Xylene	µg/tube	5.74	± 0.448	6.81	6.39	0.747	119	1.43
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	12.85	8.97	2.37	114	0.68
Toluene	µg/tube	4.39	± 0.313	5.16	3.05	0.522	117	1.46

Sample: CL03

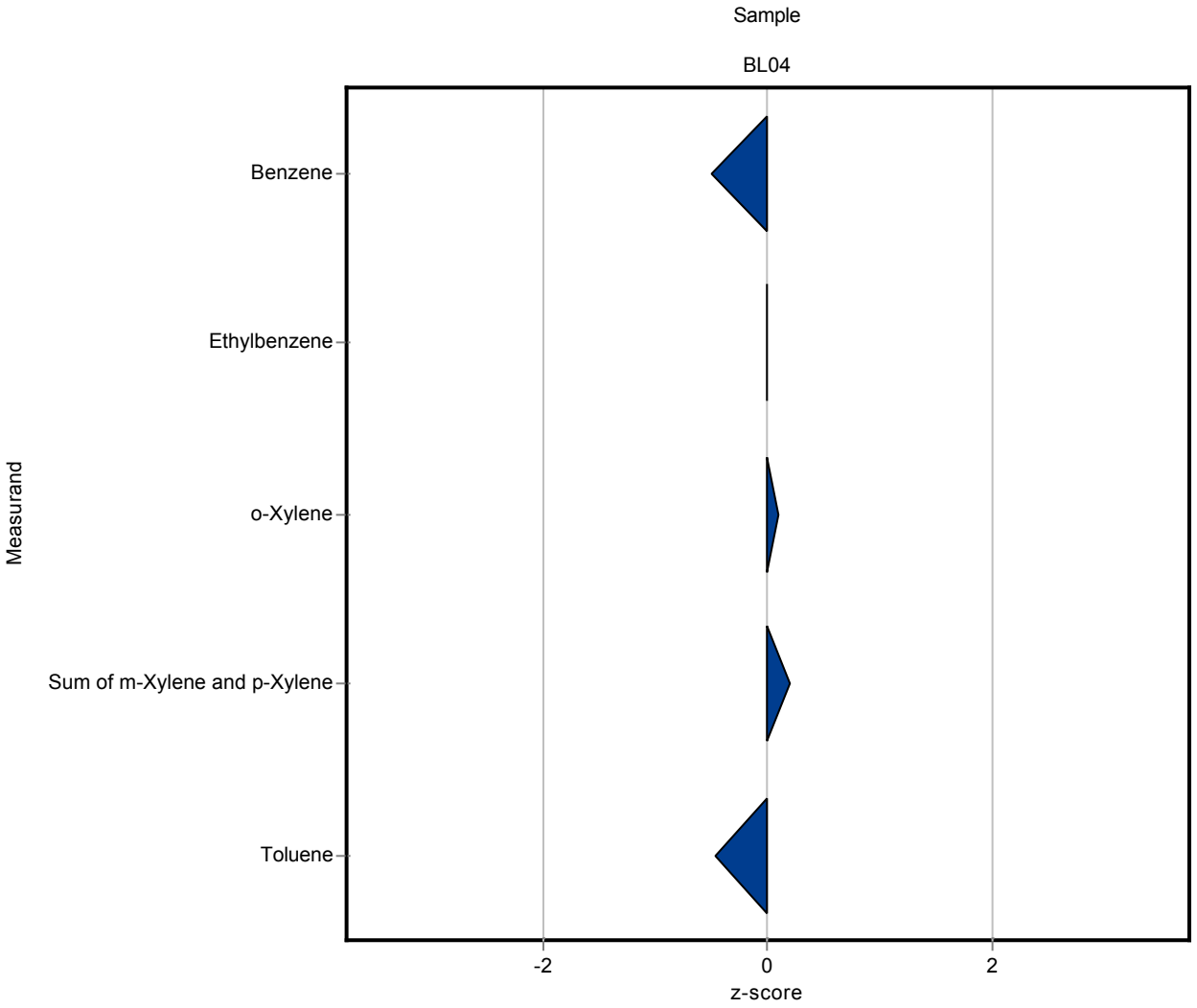
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	18.155	13	2.75	90.8	-0.67
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	14.299	9.37	5.11	66.3	-1.42
Tetrachloroethene	µg/tube	32.2	± 3	30.759	34.2	4.47	95.4	-0.33
Tetrachloromethane	µg/tube	32	± 2.34	27.914	27.5	3.12	87.3	-1.3
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	8.28	9.93	7.71	42.4	-1.46
Trichloroethene	µg/tube	27.7	± 2.39	25.279	25.5	3.48	91.1	-0.71
Trichloromethane	µg/tube	25.9	± 2.17	21.352	7.48	3.15	82.5	-1.43


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
2.1
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: BL04

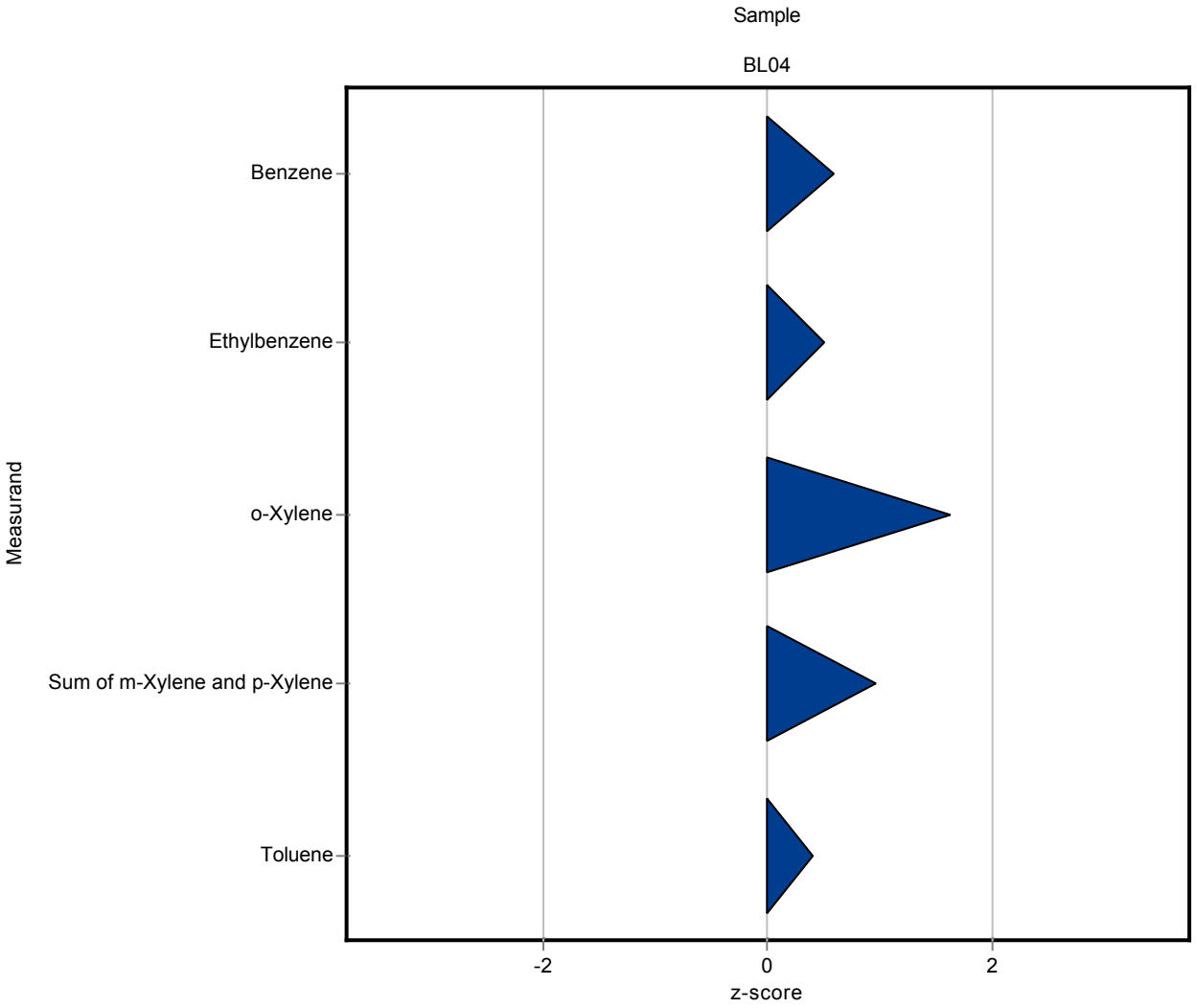
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.92	0.315	0.287	93.1	-0.49
Ethylbenzene	µg/tube	6.04	± 0.517	6.03	0.196	0.879	99.9	-0.01
o-Xylene	µg/tube	5.74	± 0.448	5.81	0.2	0.747	101	0.09
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	11.7	0.32	2.37	104	0.19
Toluene	µg/tube	4.39	± 0.313	4.15	0.237	0.522	94.4	-0.47


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2
0
2
z-score

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.23	0.36	0.287	108	0.59
Ethylbenzene	µg/tube	6.04	± 0.517	6.48	0.51	0.879	107	0.51
o-Xylene	µg/tube	5.74	± 0.448	6.95	0.61	0.747	121	1.62
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	13.5	1.62	2.37	120	0.95
Toluene	µg/tube	4.39	± 0.313	4.6	0.67	0.522	105	0.39


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2
0
2
z-score

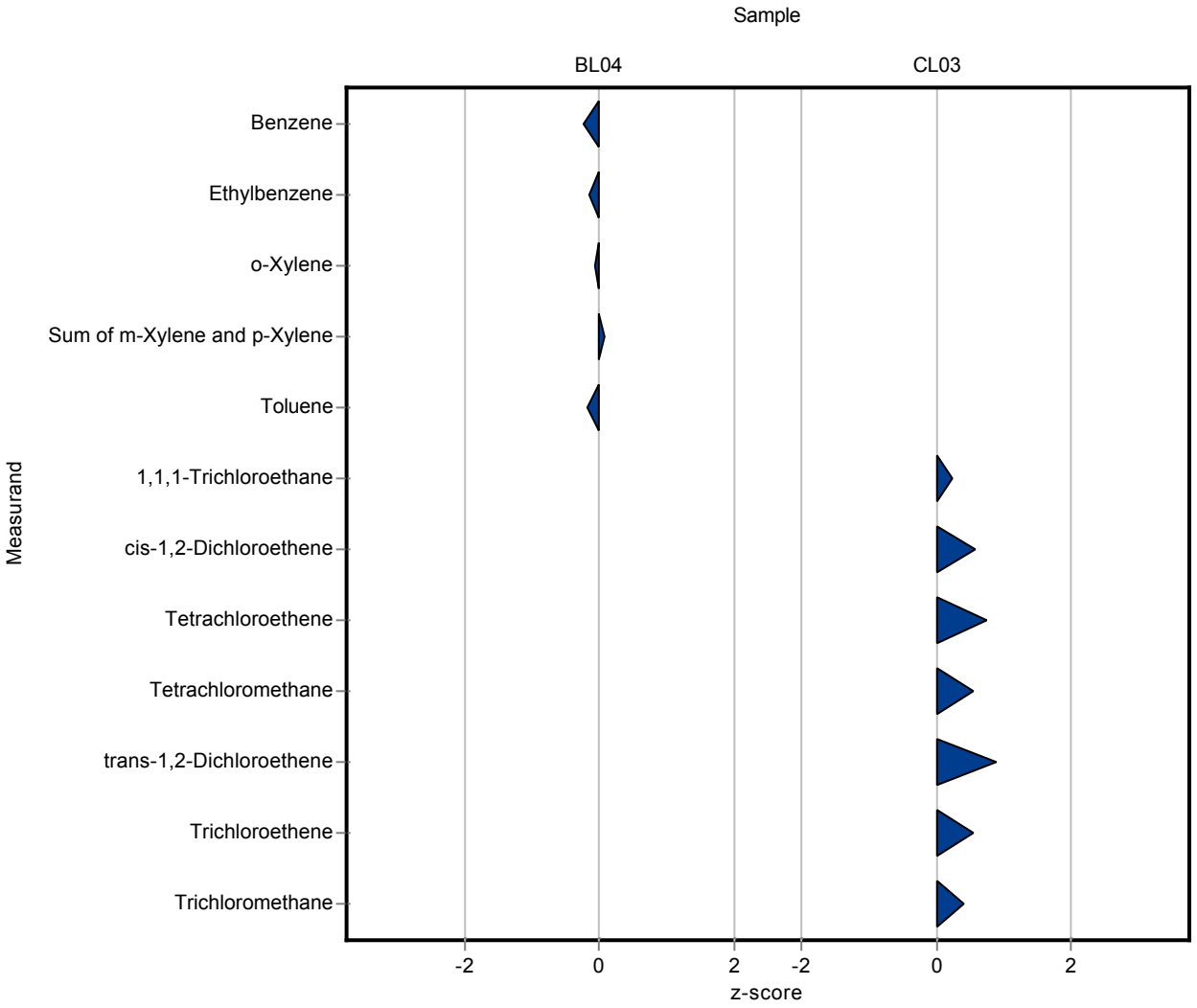
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.995	-	0.287	96.8	-0.23
Ethylbenzene	µg/tube	6.04	± 0.517	5.915	-	0.879	98	-0.14
o-Xylene	µg/tube	5.74	± 0.448	5.698	-	0.747	99.2	-0.06
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	11.442	-	2.37	102	0.08
Toluene	µg/tube	4.39	± 0.313	4.295	-	0.522	97.7	-0.19

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	20.63	-	2.75	103	0.23
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	24.44	-	5.11	113	0.56
Tetrachloroethene	µg/tube	32.2	± 3	35.64	-	4.47	111	0.76
Tetrachloromethane	µg/tube	32	± 2.34	33.67	-	3.12	105	0.55
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	26.34	-	7.71	135	0.89
Trichloroethene	µg/tube	27.7	± 2.39	29.66	-	3.48	107	0.55
Trichloromethane	µg/tube	25.9	± 2.17	27.17	-	3.15	105	0.41


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

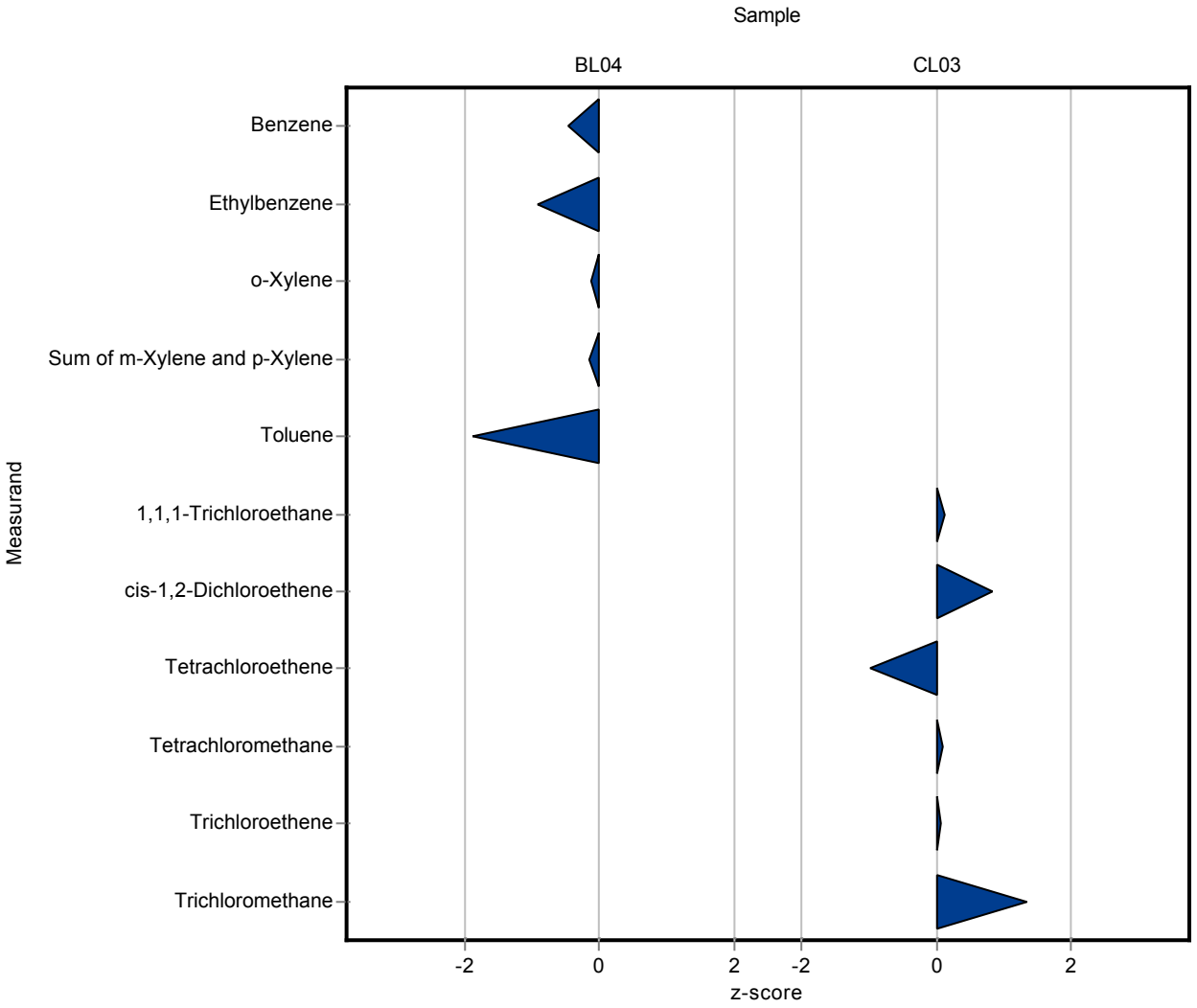
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.93	0.29	0.287	93.6	-0.46
Ethylbenzene	µg/tube	6.04	± 0.517	5.23	0.78	0.879	86.6	-0.92
o-Xylene	µg/tube	5.74	± 0.448	5.65	0.85	0.747	98.4	-0.13
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	10.89	1.63	2.37	96.9	-0.15
Toluene	µg/tube	4.39	± 0.313	3.42	0.51	0.522	77.8	-1.87

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	20.32	3.05	2.75	102	0.12
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	25.74	3.86	5.11	119	0.82
Tetrachloroethene	µg/tube	32.2	± 3	27.85	4.18	4.47	86.4	-0.98
Tetrachloromethane	µg/tube	32	± 2.34	32.24	4.84	3.12	101	0.09
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	-	-	7.71	-	-
Trichloroethene	µg/tube	27.7	± 2.39	27.93	4.19	3.48	101	0.05
Trichloromethane	µg/tube	25.9	± 2.17	30.08	4.51	3.15	116	1.34


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

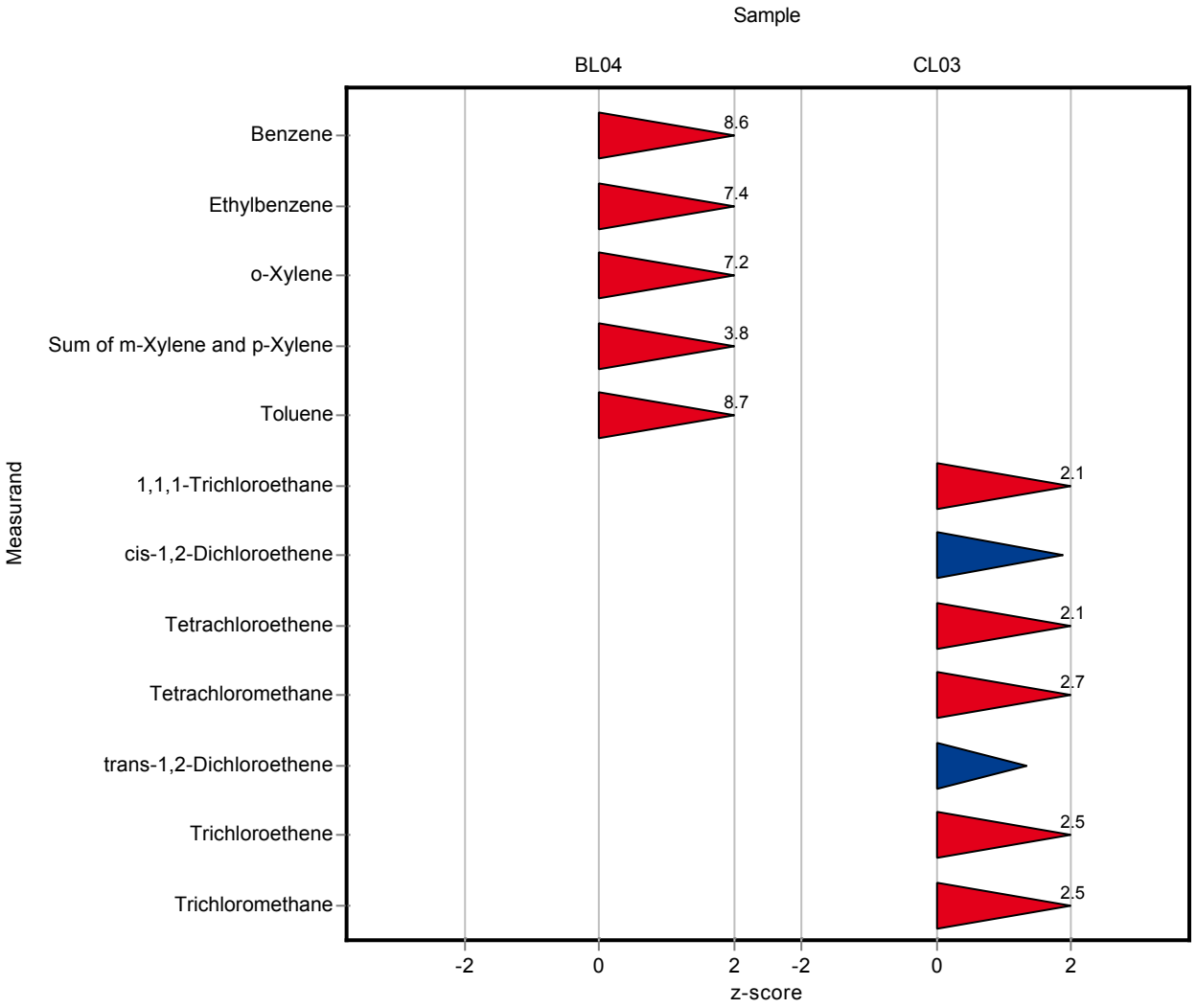
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	4.52	0.64	0.287	219	8.56
Ethylbenzene	µg/tube	6.04	± 0.517	12.5	2.3	0.879	207	7.36
o-Xylene	µg/tube	5.74	± 0.448	11.1	1.8	0.747	193	7.18
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	20.2	3.6	2.37	180	3.78
Toluene	µg/tube	4.39	± 0.313	8.94	1.4	0.522	203	8.7

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	25.8	4.3	2.75	129	2.11
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	31.1	4.8	5.11	144	1.87
Tetrachloroethene	µg/tube	32.2	± 3	41.6	7	4.47	129	2.09
Tetrachloromethane	µg/tube	32	± 2.34	40.3	8	3.12	126	2.68
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	29.8	5.4	7.71	153	1.33
Trichloroethene	µg/tube	27.7	± 2.39	36.5	5.1	3.48	132	2.52
Trichloromethane	µg/tube	25.9	± 2.17	33.6	5.6	3.15	130	2.45


Sample
BL04
CL03
Measurand
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
8.6
7.4
7.2
3.8
8.7
2.1
2.1
2.7
2.5
2.5
-2
0
2
-2
0
2
z-score

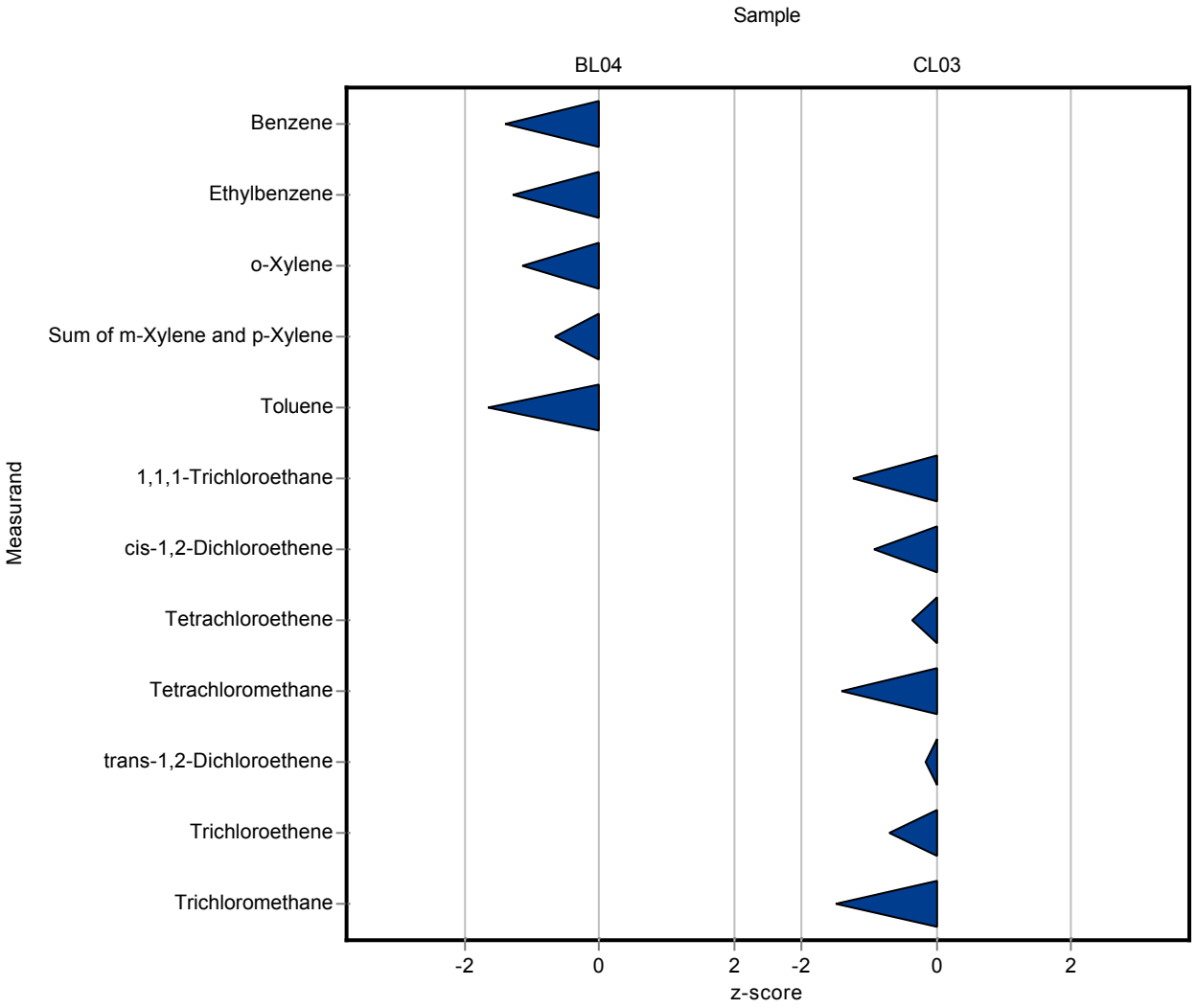
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	1.66	0.3	0.287	80.5	-1.4
Ethylbenzene	µg/tube	6.04	± 0.517	4.91	1	0.879	81.3	-1.28
o-Xylene	µg/tube	5.74	± 0.448	4.9	1	0.747	85.3	-1.13
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	9.7	1.9	2.37	86.3	-0.65
Toluene	µg/tube	4.39	± 0.313	3.53	0.7	0.522	80.3	-1.66

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	16.6	3.3	2.75	83	-1.23
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	16.8	3.4	5.11	78	-0.93
Tetrachloroethene	µg/tube	32.2	± 3	30.7	6.1	4.47	95.2	-0.35
Tetrachloromethane	µg/tube	32	± 2.34	27.6	5.5	3.12	86.4	-1.4
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	18.2	3.6	7.71	93.2	-0.17
Trichloroethene	µg/tube	27.7	± 2.39	25.3	5.1	3.48	91.2	-0.7
Trichloromethane	µg/tube	25.9	± 2.17	21.2	4.2	3.15	82	-1.48


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

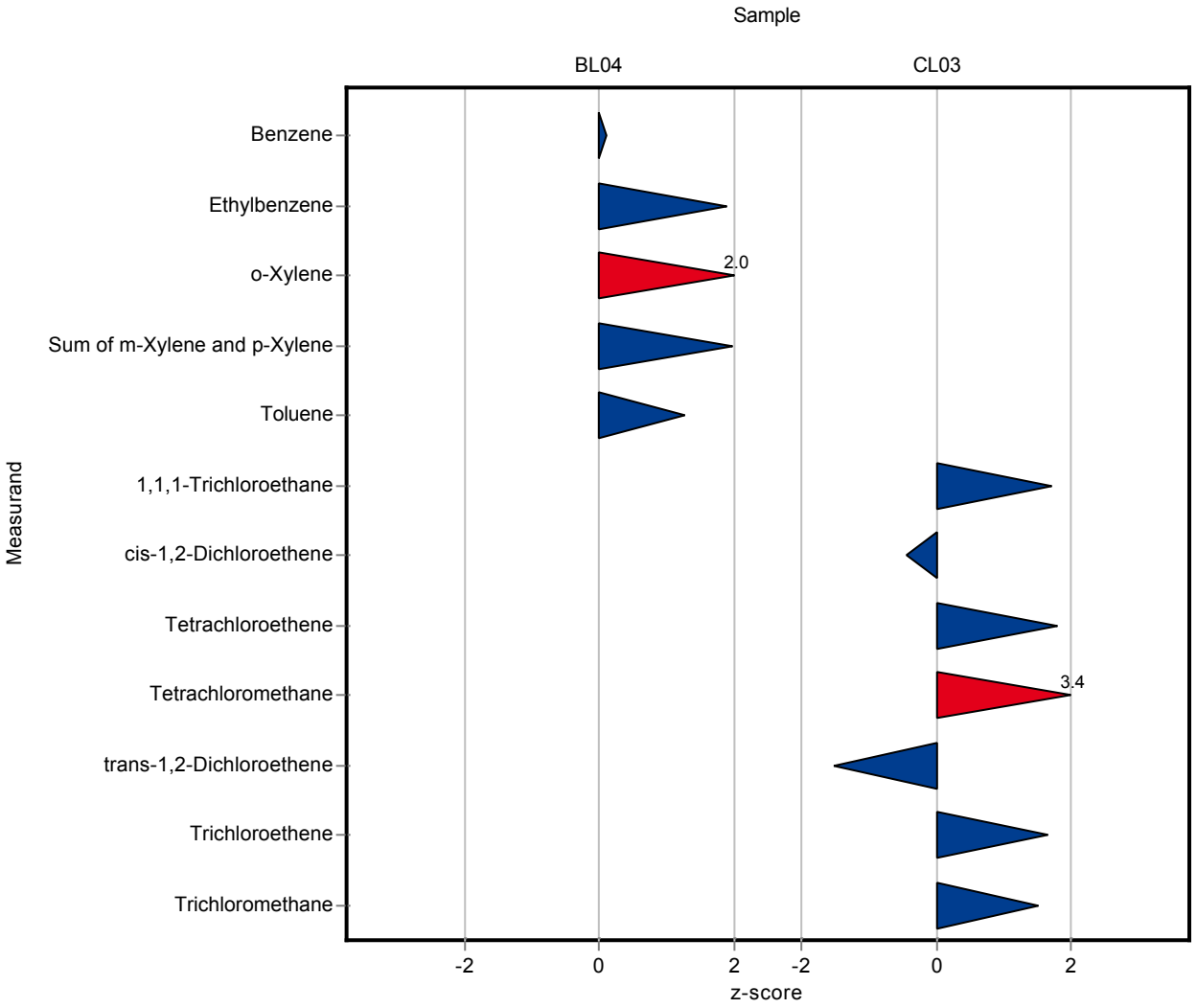
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.09	0.08	0.287	101	0.1
Ethylbenzene	µg/tube	6.04	± 0.517	7.7	0.44	0.879	128	1.89
o-Xylene	µg/tube	5.74	± 0.448	7.26	0.35	0.747	126	2.03
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	15.9	0.89	2.37	141	1.97
Toluene	µg/tube	4.39	± 0.313	5.06	0.26	0.522	115	1.27

Sample: CL03

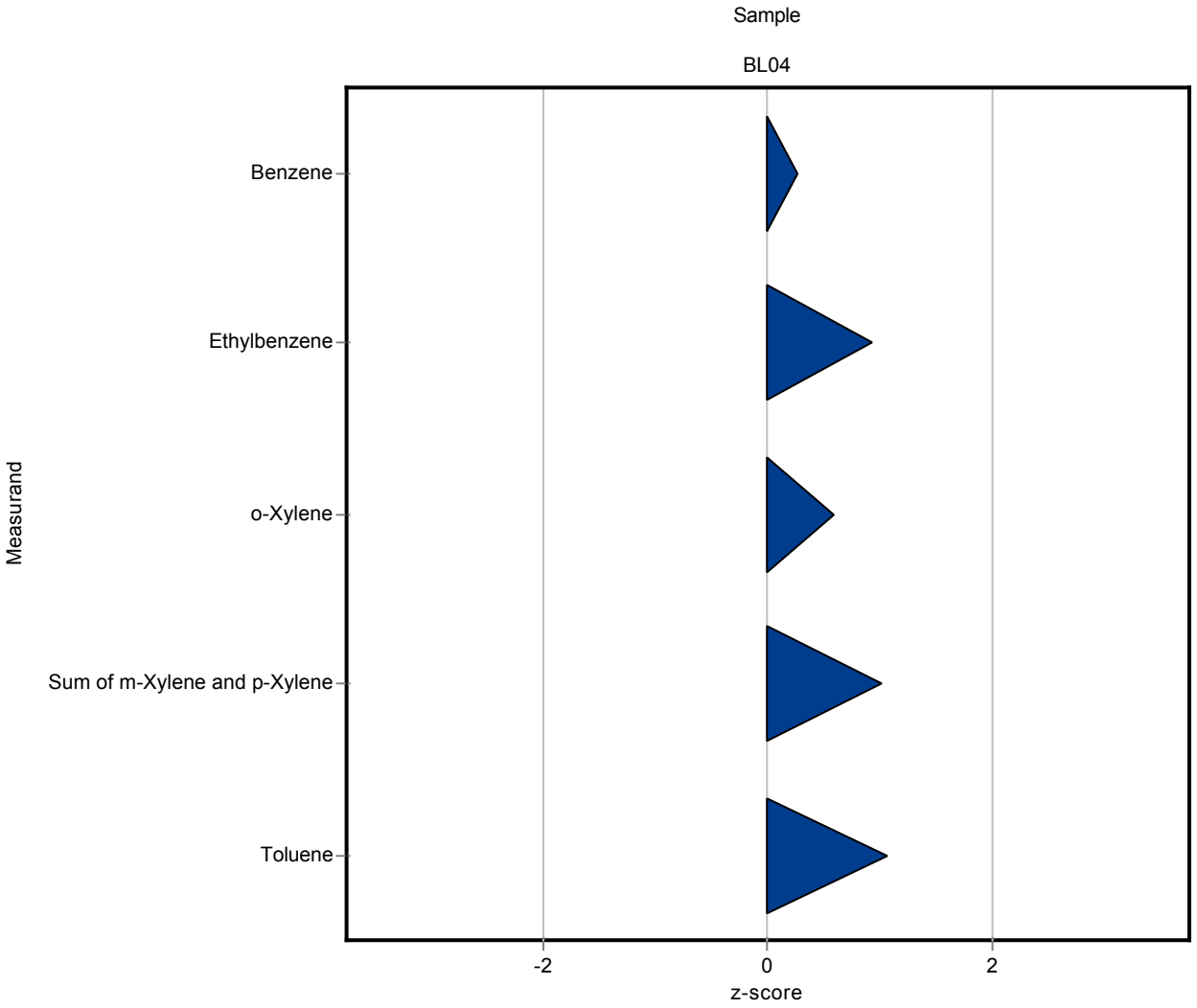
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	24.7	1.07	2.75	124	1.71
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	19.3	1	5.11	89.6	-0.44
Tetrachloroethene	µg/tube	32.2	± 3	40.3	1.49	4.47	125	1.8
Tetrachloromethane	µg/tube	32	± 2.34	42.5	2.09	3.12	133	3.38
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	7.79	0.39	7.71	39.9	-1.52
Trichloroethene	µg/tube	27.7	± 2.39	33.5	2.51	3.48	121	1.66
Trichloromethane	µg/tube	25.9	± 2.17	30.6	1.93	3.15	118	1.5


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
2.0
3.4
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.137	0.192	0.287	104	0.26
Ethylbenzene	µg/tube	6.04	± 0.517	6.85	1.395	0.879	113	0.93
o-Xylene	µg/tube	5.74	± 0.448	6.179	1.181	0.747	108	0.58
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	13.648	2.833	2.37	121	1.02
Toluene	µg/tube	4.39	± 0.313	4.951	0.797	0.522	113	1.06


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2
0
2
z-score

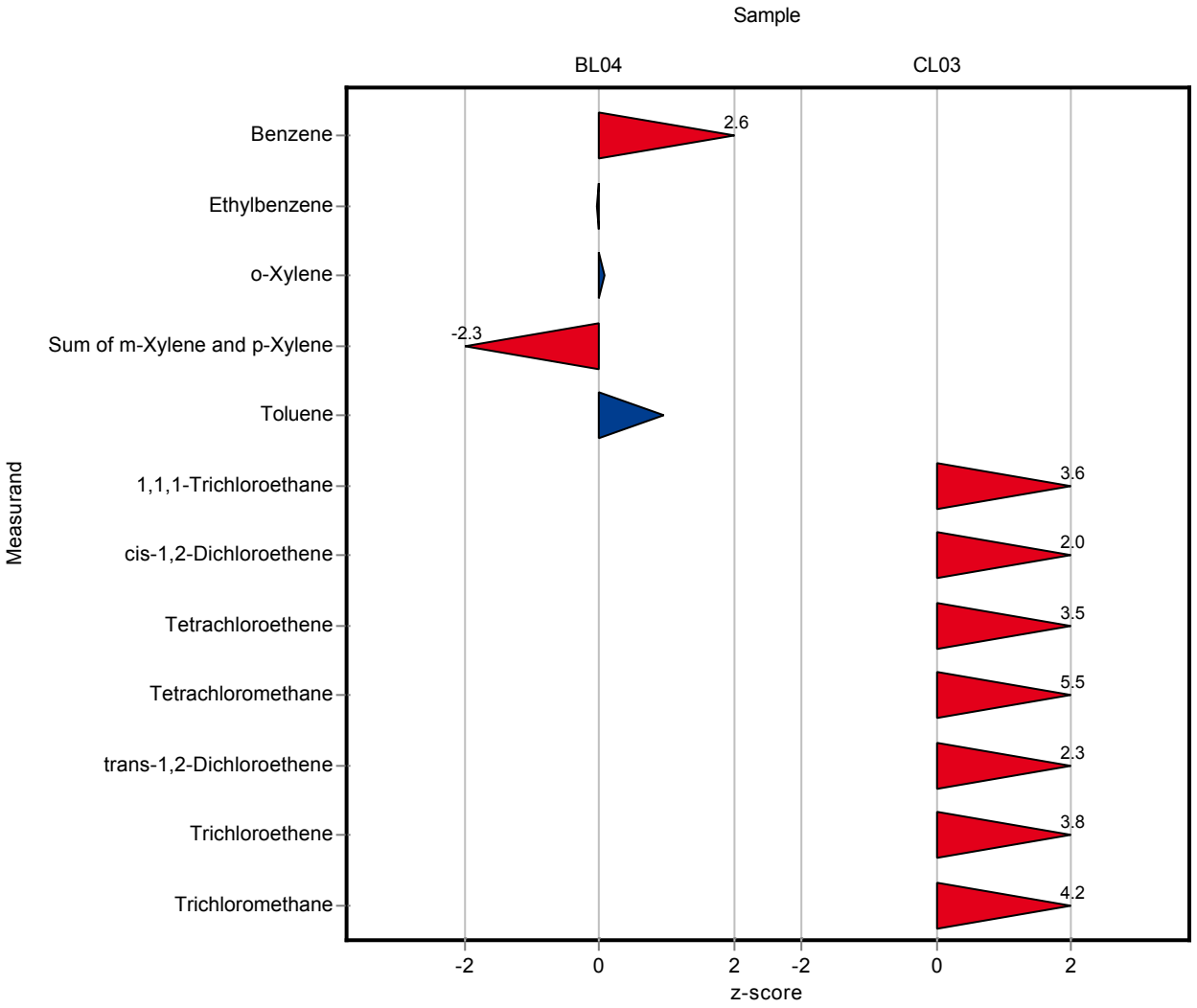
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.8	-	0.287	136	2.57
Ethylbenzene	µg/tube	6.04	± 0.517	6	-	0.879	99.4	-0.04
o-Xylene	µg/tube	5.74	± 0.448	5.8	-	0.747	101	0.08
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	5.8	-	2.37	51.6	-2.3
Toluene	µg/tube	4.39	± 0.313	4.9	-	0.522	111	0.97

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	30	-	2.75	150	3.63
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	32	-	5.11	148	2.04
Tetrachloroethene	µg/tube	32.2	± 3	48	-	4.47	149	3.52
Tetrachloromethane	µg/tube	32	± 2.34	49	-	3.12	153	5.47
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	37	-	7.71	190	2.27
Trichloroethene	µg/tube	27.7	± 2.39	41	-	3.48	148	3.81
Trichloromethane	µg/tube	25.9	± 2.17	39	-	3.15	151	4.17


Sample
BL04
CL03
Measurand
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
2.6
-2.3
3.6
2.0
3.5
5.5
2.3
3.8
4.2
-2
0
2
-2
0
2
z-score

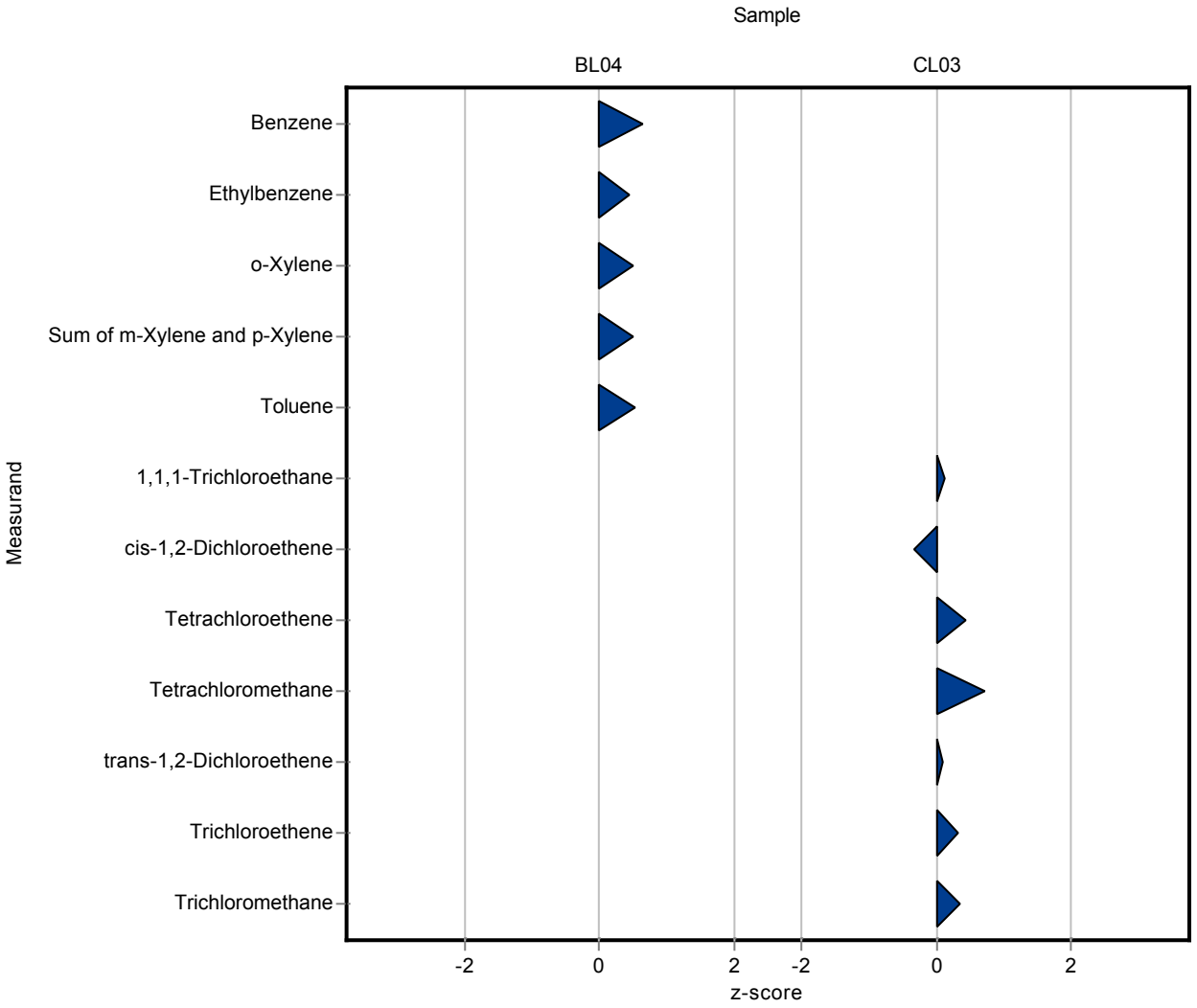
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.25	0.5	0.287	109	0.66
Ethylbenzene	µg/tube	6.04	± 0.517	6.42	1.3	0.879	106	0.44
o-Xylene	µg/tube	5.74	± 0.448	6.11	1.2	0.747	106	0.49
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	12.4	2.5	2.37	110	0.49
Toluene	µg/tube	4.39	± 0.313	4.67	0.9	0.522	106	0.53

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	20.3	4.1	2.75	102	0.11
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	19.9	4	5.11	92.3	-0.32
Tetrachloroethene	µg/tube	32.2	± 3	34.2	6.8	4.47	106	0.44
Tetrachloromethane	µg/tube	32	± 2.34	34.2	6.8	3.12	107	0.72
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	20.2	4	7.71	103	0.09
Trichloroethene	µg/tube	27.7	± 2.39	28.9	5.8	3.48	104	0.33
Trichloromethane	µg/tube	25.9	± 2.17	27	5.4	3.15	104	0.36


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

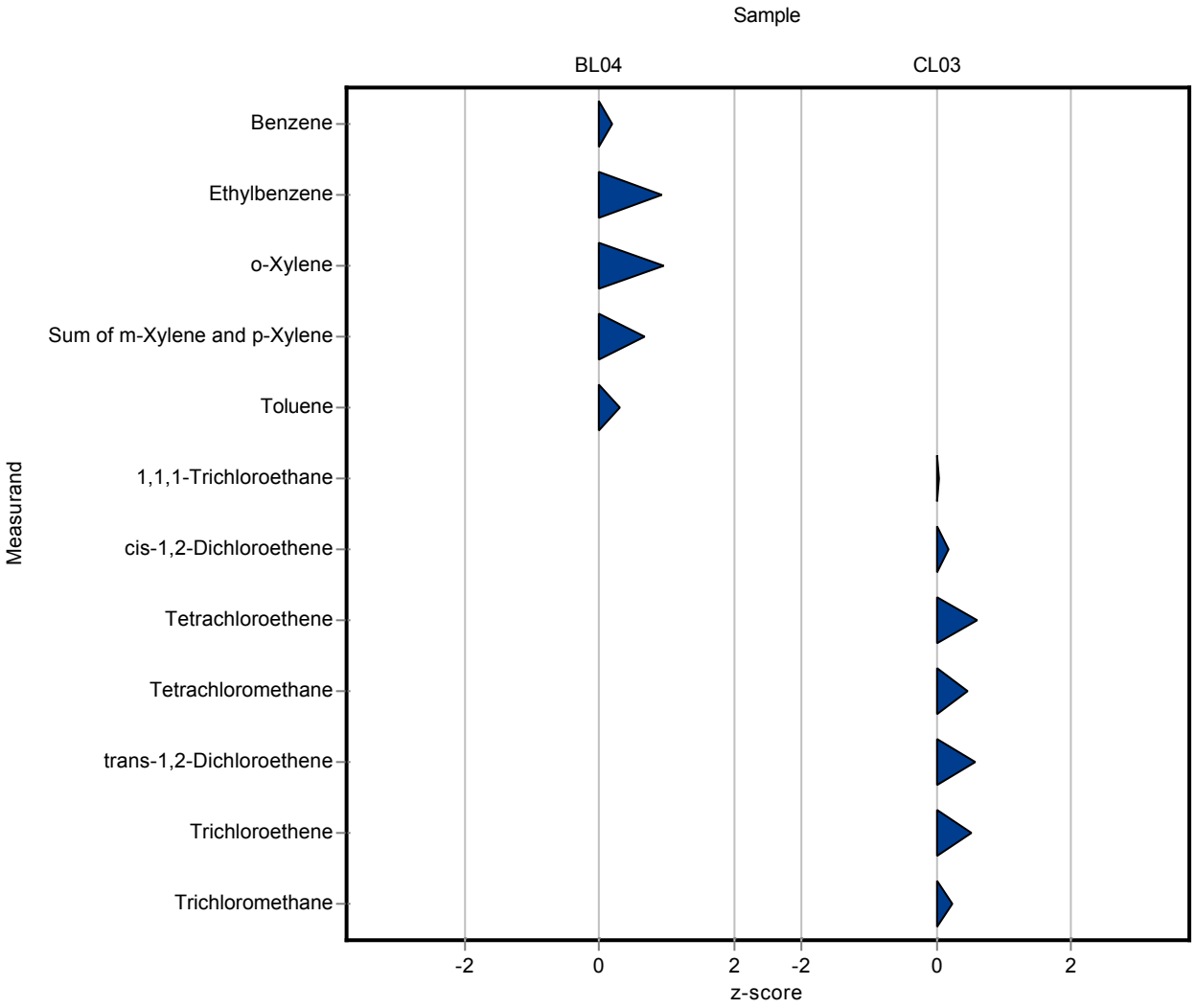
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.12	-	0.287	103	0.2
Ethylbenzene	µg/tube	6.04	± 0.517	6.84	-	0.879	113	0.92
o-Xylene	µg/tube	5.74	± 0.448	6.45	-	0.747	112	0.95
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	12.8	-	2.37	114	0.66
Toluene	µg/tube	4.39	± 0.313	4.55	-	0.522	104	0.3

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	20.1	-	2.75	101	0.04
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	22.5	-	5.11	104	0.18
Tetrachloroethene	µg/tube	32.2	± 3	35	-	4.47	109	0.62
Tetrachloromethane	µg/tube	32	± 2.34	33.4	-	3.12	105	0.46
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	23.9	-	7.71	122	0.57
Trichloroethene	µg/tube	27.7	± 2.39	29.5	-	3.48	106	0.51
Trichloromethane	µg/tube	25.9	± 2.17	26.6	-	3.15	103	0.23


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

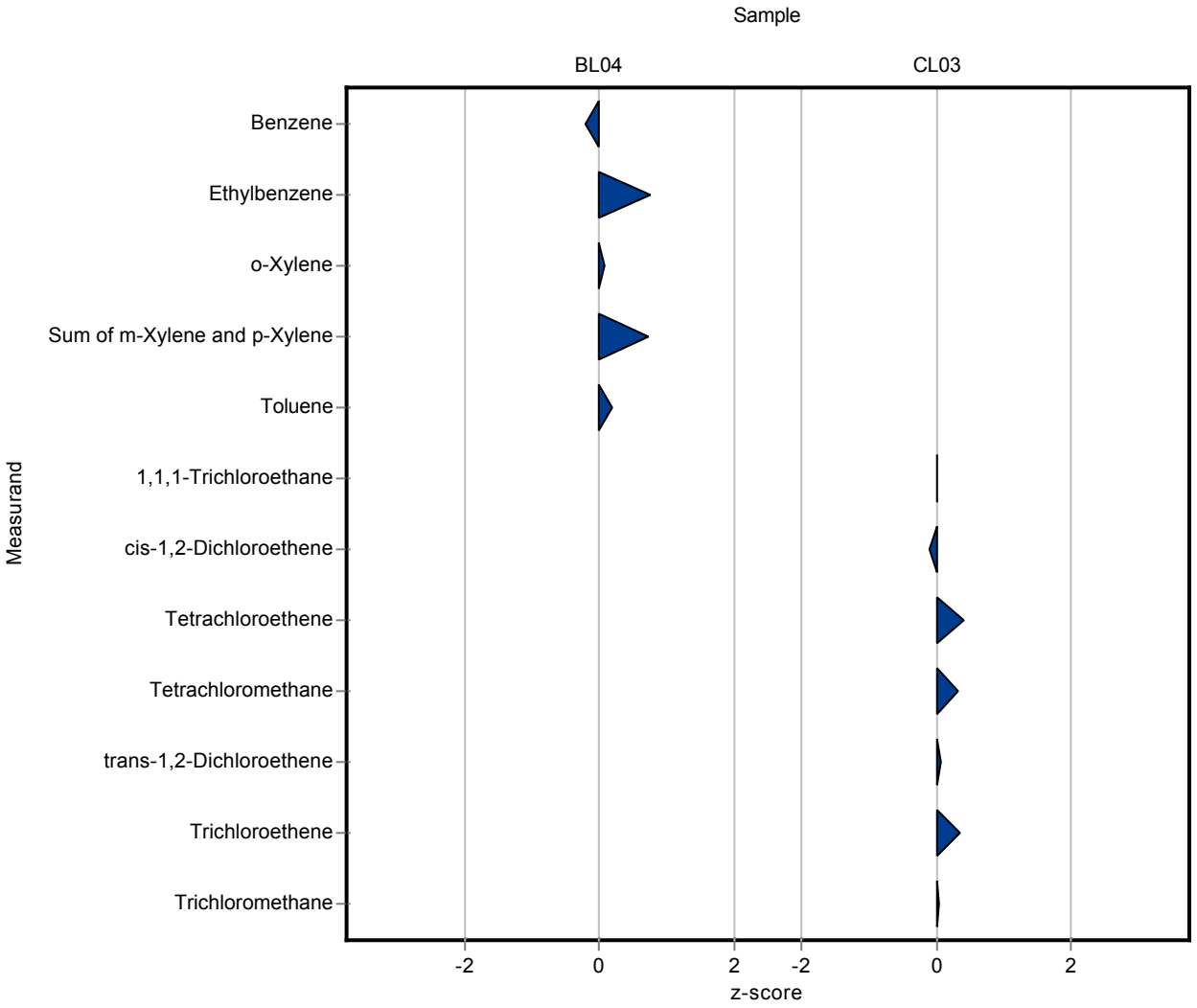
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2	0.2	0.287	97	-0.22
Ethylbenzene	µg/tube	6.04	± 0.517	6.7	0.6	0.879	111	0.76
o-Xylene	µg/tube	5.74	± 0.448	5.8	0.5	0.747	101	0.08
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	13	1.1	2.37	116	0.74
Toluene	µg/tube	4.39	± 0.313	4.5	0.4	0.522	102	0.2

Sample: CL03

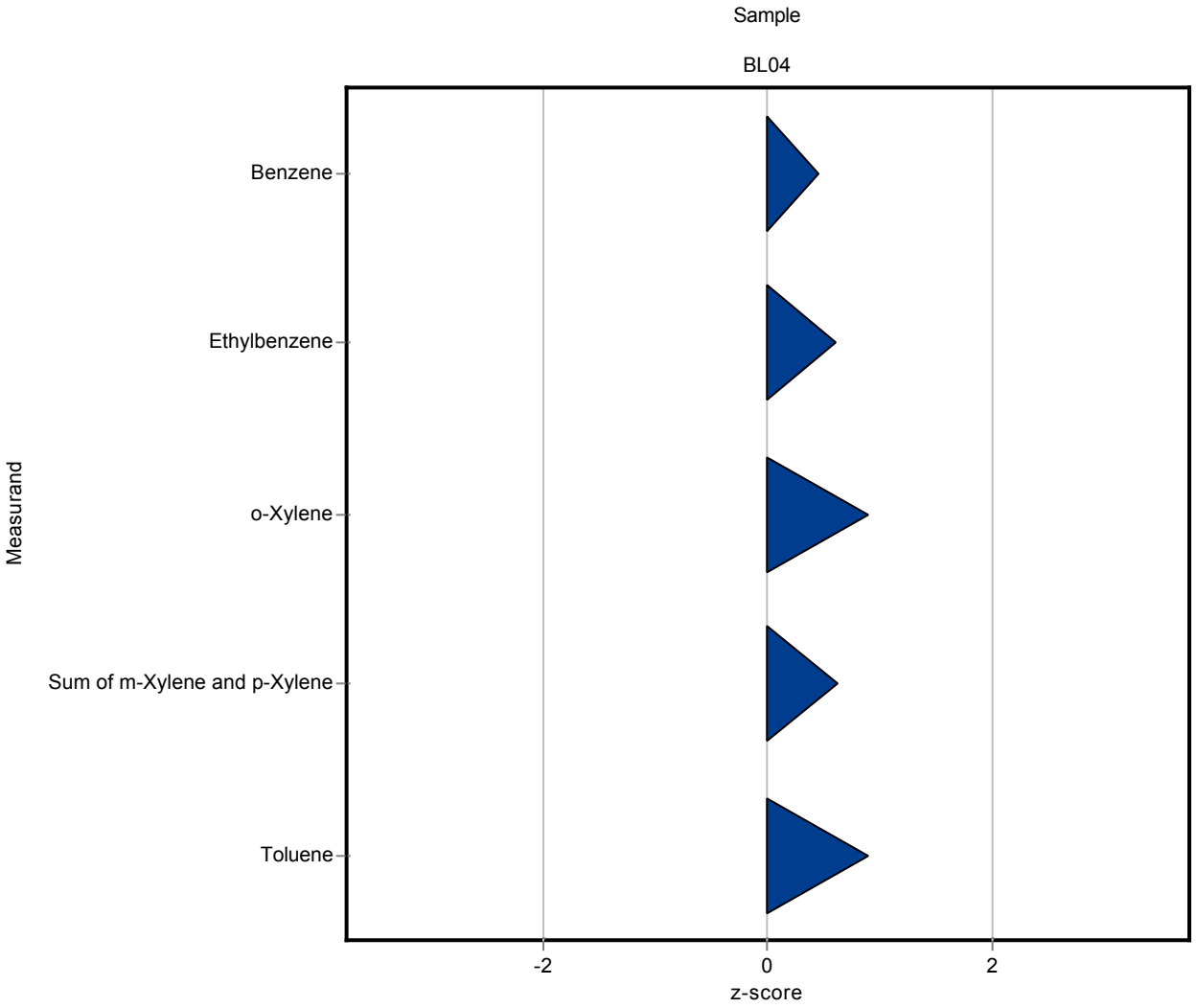
Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	20	3	2.75	100	0.00
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	21	3	5.11	97.4	-0.11
Tetrachloroethene	µg/tube	32.2	± 3	34	4	4.47	105	0.39
Tetrachloromethane	µg/tube	32	± 2.34	33	5	3.12	103	0.33
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	20	6	7.71	102	0.06
Trichloroethene	µg/tube	27.7	± 2.39	29	4	3.48	105	0.36
Trichloromethane	µg/tube	25.9	± 2.17	26	5	3.15	101	0.04


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.19	0.26	0.287	106	0.45
Ethylbenzene	µg/tube	6.04	± 0.517	6.56	0.59	0.879	109	0.6
o-Xylene	µg/tube	5.74	± 0.448	6.41	1.27	0.747	112	0.89
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	12.7	0.77	2.37	113	0.61
Toluene	µg/tube	4.39	± 0.313	4.86	0.68	0.522	111	0.89


Sample
BL04
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Measurand
-2
0
2
z-score

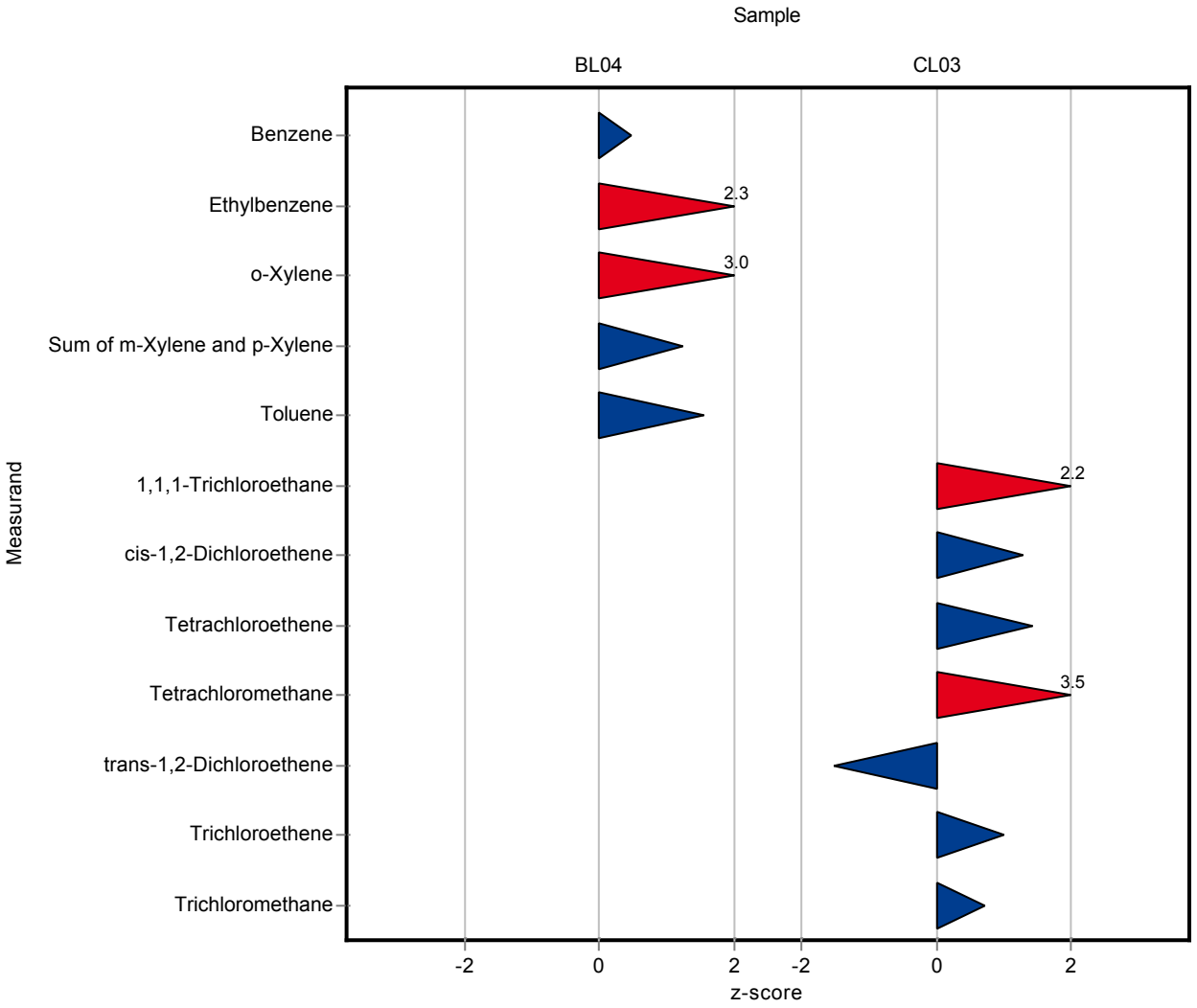
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.2	0.22	0.287	107	0.48
Ethylbenzene	µg/tube	6.04	± 0.517	8.1	0.81	0.879	134	2.35
o-Xylene	µg/tube	5.74	± 0.448	8	0.8	0.747	139	3.02
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	14.2	1.42	2.37	126	1.25
Toluene	µg/tube	4.39	± 0.313	5.2	0.52	0.522	118	1.54

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	26	2.6	2.75	130	2.18
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	28.1	2.81	5.11	130	1.28
Tetrachloroethene	µg/tube	32.2	± 3	38.6	3.86	4.47	120	1.42
Tetrachloromethane	µg/tube	32	± 2.34	43	4.3	3.12	135	3.54
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	7.8	0.78	7.71	40	-1.52
Trichloroethene	µg/tube	27.7	± 2.39	31.2	3.1	3.48	112	0.99
Trichloromethane	µg/tube	25.9	± 2.17	28.1	2.8	3.15	109	0.71


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
cis-1,2-Dichloroethene
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
2.3
3.0
2.2
3.5
-2
0
2
-2
0
2
z-score

The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	<0.5 (LOQ)	-	0.287	-	-
Ethylbenzene	µg/tube	6.04	± 0.517	<0.5 (LOQ)	-	0.879	-	-
o-Xylene	µg/tube	5.74	± 0.448	<0.5 (LOQ)	-	0.747	-	-
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	<0.5 (LOQ)	-	2.37	-	-
Toluene	µg/tube	4.39	± 0.313	<0.5 (LOQ)	-	0.522	-	-

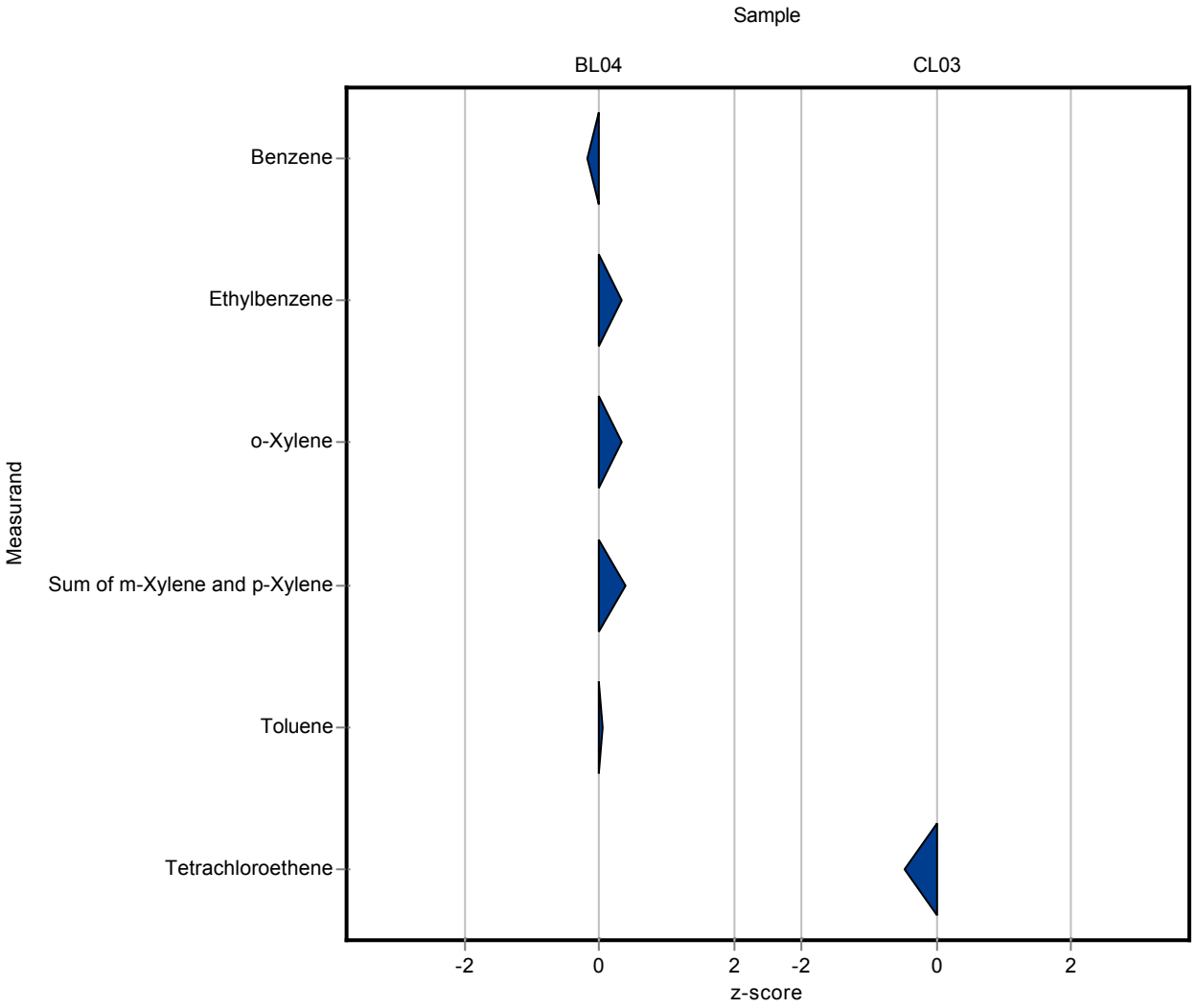
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	2.012	0.04	0.287	97.6	-0.17
Ethylbenzene	µg/tube	6.04	± 0.517	6.327	0.316	0.879	105	0.33
o-Xylene	µg/tube	5.74	± 0.448	5.98	0.299	0.747	104	0.32
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	12.191	0.61	2.37	108	0.4
Toluene	µg/tube	4.39	± 0.313	4.416	0.221	0.522	100	0.04

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	-	-	2.75	-	-
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	-	-	5.11	-	-
Tetrachloroethene	µg/tube	32.2	± 3	30.096	3	4.47	93.3	-0.48
Tetrachloromethane	µg/tube	32	± 2.34	-	-	3.12	-	-
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	-	-	7.71	-	-
Trichloroethene	µg/tube	27.7	± 2.39	-	-	3.48	-	-
Trichloromethane	µg/tube	25.9	± 2.17	-	-	3.15	-	-


Sample
BL04
CL03
Benzene
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
Tetrachloroethene
Measurand
-2
0
2
-2
0
2
z-score

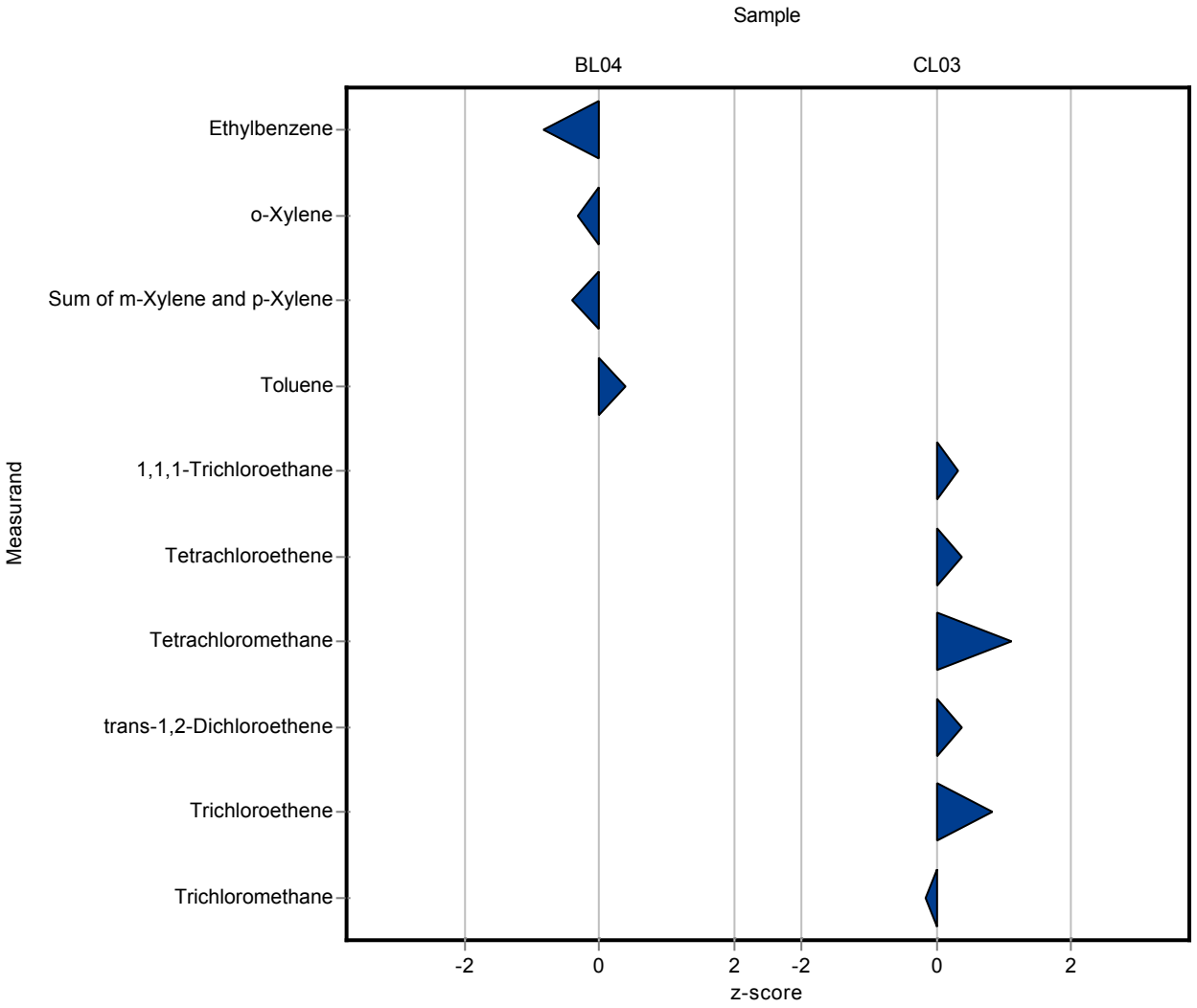
The following results were achieved:

Sample: BL04

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
Benzene	µg/tube	2.06	± 0.176	<3 (LOQ)	-	0.287	-	-
Ethylbenzene	µg/tube	6.04	± 0.517	5.3	1.1	0.879	87.8	-0.84
o-Xylene	µg/tube	5.74	± 0.448	5.5	1.1	0.747	95.8	-0.33
Sum of m-Xylene and p-Xylene	µg/tube	11.2	± 1.42	10.3	2.1	2.37	91.6	-0.4
Toluene	µg/tube	4.39	± 0.313	4.6	0.9	0.522	105	0.39

Sample: CL03

Parameter	Unit	Target	± CI(99%)	Result	± U	Criteria	Recovery	z-score
1,1,1-Trichloroethane	µg/tube	20	± 1.9	20.9	4.2	2.75	105	0.33
cis-1,2-Dichloroethene	µg/tube	21.6	± 3.61	-	-	5.11	-	-
Tetrachloroethene	µg/tube	32.2	± 3	33.9	6.8	4.47	105	0.37
Tetrachloromethane	µg/tube	32	± 2.34	35.4	7.1	3.12	111	1.1
trans-1,2-Dichloroethene	µg/tube	19.5	± 5.3	22.4	4.5	7.71	115	0.37
Trichloroethene	µg/tube	27.7	± 2.39	30.6	6.1	3.48	110	0.82
Trichloromethane	µg/tube	25.9	± 2.17	25.4	5.1	3.15	98.2	-0.15


Sample
BL04
CL03
Ethylbenzene
o-Xylene
Sum of m-Xylene and p-Xylene
Toluene
1,1,1-Trichloroethane
Tetrachloroethene
Tetrachloromethane
trans-1,2-Dichloroethene
Trichloroethene
Trichloromethane
Measurand
-2
0
2
-2
0
2
z-score