

Proficiency Testing Scheme for Water Analysis

Round P14
Polycyclic aromatic hydrocarbons

Sample Dispatch: 25 November 2013





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This report summarises the results of round P14 (polycyclic aromatic hydrocarbons) within the IFA-Test Proficiency Testing Scheme for Water Analysis. The samples P14A and P14B were distributed to the participants on Monday, 25 November 2013. Closing date for reporting results to the IFA-Tulln was Friday, 20 December 2013. 19 laboratories participated in this interlaboratory comparison. Two laboratories did not submit any results.

Samples

The samples consisted of simulated ground water, which was spiked with solutions of the polycyclic aromatic hydrocarbons. For sample preparation, ultrapure water was spiked with concentrated solutions of inorganic salts in order to simulate the ionic composition of natural ground water. The following salts were added to the samples: $Mg(NO_3)_2$, $MgSO_4$, Na_2SO_4 , $NaHCO_3$, $KHCO_3$, $CaCl_2$ and $Ca(NO_3)_2$. The calculation of the target concentrations of the compounds was based on the mass of standard added to the samples.

Benz[a]anthracene and Pyrene were not added to sample P14A. Fluorene was not added to sample P14B in order to check the analytical blank values.

Accuracy and stability tests at the IFA-Tulln

Accuracy of the assigned pesticide concentrations was confirmed by analysis of three bottles of P14A and P14B each, prior to sample dispatch. The results are listed in the results tables and the parameter oriented part of the report ("IFA result").

Stability tests for the water samples of the present proficiency testing round were carried out four weeks after dispatch. From each sample, two bottles that had been stored at 5°C in the dark were analysed for their PAH concentrations. The results (mean values) are listed in the parameter-oriented part of this report ("Stability test").

Results

Data evaluation was based on target concentrations that were calculated from the weights of the standards used to produce the samples. Their uncertainty intervals correspond to the expanded uncertainty (coverage factor $k = 2$) as described in the EURACHEM/CITAC Guide "Quantifying Uncertainty in Analytical Measurement" (Second Edition).

Recoveries for individual laboratory results and overall mean values were calculated from these target concentrations. The results were tested for outliers using the Hampel outlier test (level of significance 99 %). A minimum number of four results was required for the outlier test.

The target concentration of Benz[a]anthracene and Pyrene in sample P14A and Fluorene in sample P14B, which were not added to the sample, were set to $< 0,023 \mu\text{g/L}$ Benz[a]anthracene, $< 0,021 \mu\text{g/L}$ Pyrene, $< 0,006 \mu\text{g/L}$ Fluorene, which meets the minimum quantifiable values defined by the Austrian ground and river water monitoring program and the quantification limits of the analytical methods applied in the IFA.

Standard deviations and coefficients of variation (CVs) were only calculated when at least three results were available. The between laboratory CVs covered the range between 10,0 % (Phenanthrene in sample P14A) and 40 % (Dibenz[a,h]anthracene in sample P14B).

The recoveries of the target concentrations, calculated from outlier-corrected data mean values ranged between 66 % (Benzo[ghi]perylene in sample P14B) and 110 % (Naphthalene in sample P14A).

z-Scores

The most common approach is to form the z-score given by

$$z = \frac{x_i - \bar{x}}{\sigma}$$

z	z-score
x_i	result of laboratory
\bar{x}	target value or mean value („consensus value“)
σ	standard deviation

Thus, the z-score is the ratio of the estimated bias (difference between result and target value) and a standard deviation. The z-score criteria were determined from relative standard deviations from all interlaboratory comparisons that were organised by the IFA-Tulln in the period from 1999 to 2009. They represent long-term performance data of all former participating laboratories. The z-scores are listed together with the recoveries in the tables of the parameter oriented part.

Additionally, each laboratory obtained for every sample a single sheet that summarises the z-scores of the laboratory in graphical and tabular form.

The following table lists the z-score criteria as relative standard deviation and their limits of applicability. Z-scores were only calculated, if the target values were higher than these limits.

Parameter	z-Score-criteria (%)	Lower limit [$\mu\text{g/L}$]
Acenaphthene	27	0,05
Acenaphthylene	19	0,05
Anthracene	19	0,05
Benz[a]anthracene	17	0,05
Benzo[b]fluoranthene	22	0,02
Benzo[k]fluoranthene	23	0,02
Benzo[a]pyrene	28	0,02
Benzo[ghi]perylene	31	0,01
Chrysene	17	0,05
Dibenz[a,h]anthracene	31	0,05
Fluoranthene	19	0,01
Fluorene	22	0,05
Indeno[1,2,3-cd]pyrene	38	0,01
Naphthalene	33	0,05
Phenanthrene	19	0,05
Pyrene	20	0,05

Normally, a classification based on z-scores is made this way:

z-Score	Classification
<2	satisfactory
2< z <3	questionable
>3	unsatisfactory

Please note that this evaluation is made on the background of the average performance of all participants of the IFA-Test-Systems proficiency testing scheme during the period from 1999 to 2009.

Illustration of results

An explanation to the illustration of the results is given on the following page. Graphical and tabular illustration of results can be divided into a parameter oriented and a laboratory-oriented part.

The **laboratory-oriented part** contains the measurement results and reported uncertainties of each individual laboratory for all parameters together with the achieved recoveries in graphical and tabular form. This part of the report also lists tables with the results originally reported by the laboratories.

In the **parameter-oriented part** the reported results and corresponding uncertainties are illustrated together with recoveries of the target values for each parameter and all laboratories. This information is presented in graphical and tabular form. Results which were identified as outliers by the Hampel test are marked with an asterisk in the column "out". These values were not considered for calculating statistical parameters (mean values, standard deviations and confidence intervals). Moreover, the parameter oriented part contains the uncertainties of the target value. The reported uncertainty is an expanded uncertainty calculated using a coverage factor (k) of 2 which gives a level of confidence of approximately 95% (as described in the EURACHEM / CITAC Guide "Quantifying Uncertainty in Analytical Measurement" (Second Edition)). The uncertainty interval of the reference concentration is illustrated in the graph as a grey band around the 100% recovery line.

Results for which no recoveries can be calculated, are illustrated by one of the following symbols: **FN** (false negative), **FP** (false positive) or the • - symbol.

- **FN**: A result is false negative when the "< result" reported is lower than the corresponding target value (under consideration of the uncertainty of the target value)
- **FP**: False positive results can be obtained for compounds not added to the samples: a result is termed FP when it is higher than the corresponding method quantification limit of the procedure employed at the IFA-Tulln.
- •: all other results for which no recovery rate can be calculated are illustrated by this symbol

Tulln, 15 January 2014

Sample M106A

Parameter Copper

Target value ± U (k=2) 4,79 µg/l ± 0,13 µg/l

IFA result ± U (k=2) 4,79 µg/l ± 0,38 µg/l

Stability test ± U (k=2) 4,69 µg/l ± 0,38 µg/l

*Obtained from sample preparation, U=uncertainty
Determined at IFA prior to shipment of samples
Determined at IFA 3 weeks after sample dispatch*

Lab Code	Result	±	Unit	Recovery	z-Score
A	5,16	0,4128	µg/l	108%	0,90
B	4,22	0,42	µg/l	88%	-1,38
C	4,45	0,13	µg/l	93%	-0,83
D			µg/l		
E			µg/l		
F	4,10	0,08	µg/l	86%	-1,68
G			µg/l		
H			µg/l		
I	4,75	0,74	µg/l	99%	-0,10
J	<5		µg/l	•	
K	4,76		µg/l	99%	-0,07
L	<10		µg/l	•	
M	4,8	0,5	µg/l	100%	0,02
N	3,7	0,4	µg/l	77%	-2,65
O	4,47	0,447	µg/l	93%	-0,78
P	6,0		µg/l	125%	2,94
Q	4,17	0,2	µg/l	87%	-1,51
R	4,6	0,8	µg/l	96%	-0,46
S	4,44	0,67	µg/l	93%	-0,85
T			µg/l		
U	4,675	0,935	µg/l	98%	-0,28
V	5,0	0,50	µg/l	104%	0,51
W	3,54	0,3	µg/l	74%	-3,03
X	7,108 *	0,749	µg/l	148%	5,63
Y	<10		µg/l	•	
Z			µg/l		
AA	<3,0		µg/l	FN	
AB	3,775	0,107	µg/l	79%	-2,46
AC	<10,0		µg/l	•	

Recovery of target value in percent

z-Score of the laboratory

An asterik indicates a result detected as outlier by Hampel test

Interval expected to encompass target value as stated by participant

	All results	Outliers excl.	Unit
Mean ± CI(99%)	4,65 ± 0,57	4,51 ± 0,42	µg/l
Recov. ± CI(99%)	97,1 ± 12,0	94,1 ± 8,8	%
SD between labs	0,84	0,59	µg/l
RSD between labs	18,1	13,2	%
n for calculation	18	17	

Between laboratory standard deviation

Laboratory mean and recovery of target value with corresponding confidence intervals (p=99%)

Number of results used for calculation of statistic parameters

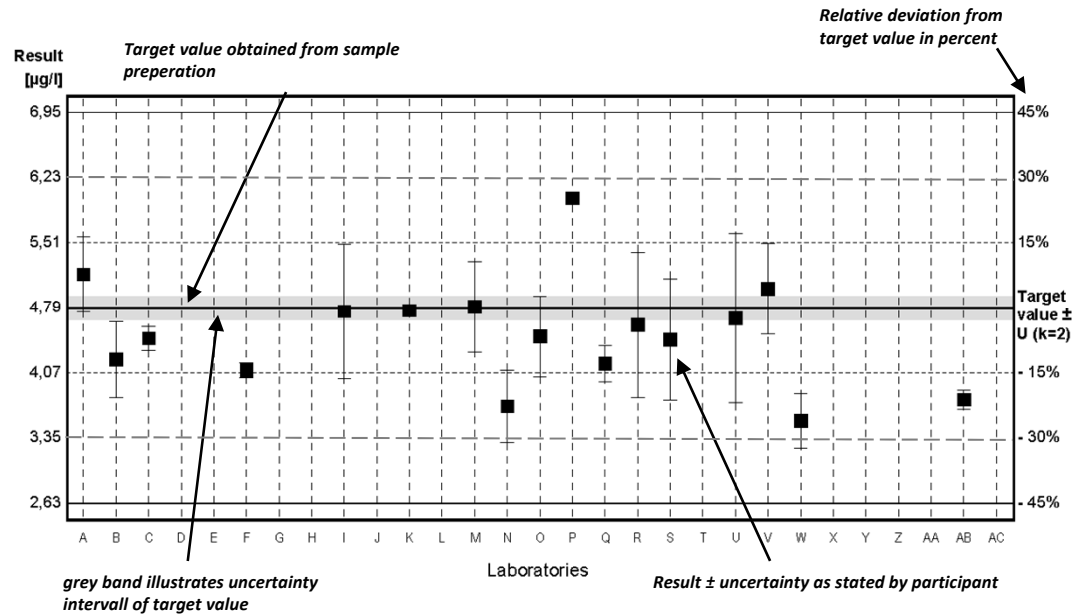


Diagram 1: Measurement results and their uncertainties

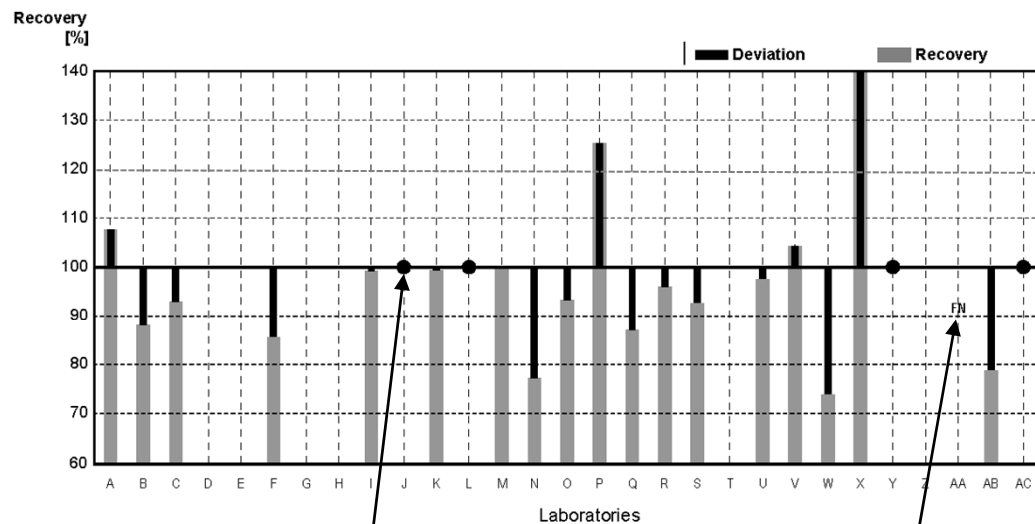


Diagram 2: Recoveries and deviations from target values

EXPLANATION

Illustration of Results Tables and Parameter Oriented Part

Round P14
Polycyclic aromatic hydrocarbons

Sample Dispatch: 25 November 2013



Results Sample P14A

	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.050	0.073	0.191	0.404	0.235	0.245
IFA result	0.054	0.081	0.185	0.391	0.234	0.228
Stability test	0.052	0.082	0.185	0.402	0.239	0.225
A	0.070	0.090	0.231	0.391	0.220	0.222
B	<0.005	<0.005	0.013	0.099	0.114	0.116
C	0.05	0.04	0.17	0.38	0.20	0.19
D	0.029	0.039	0.102	0.228	0.126	0.129
E	0.056	0.059	0.170	0.366	0.197	0.192
F						
G	0.045	0.059	0.18	0.59	0.21	0.21
H	0.061	0.072	0.17	0.38	0.225	0.21
I	0.072	0.058	0.078	0.228	0.130	0.115
J	<0.05	0.0644	0.166	0.365	0.205	0.192
K	0.05	0.08	0.19	0.42	0.27	0.22
L	0.613	0.241	0.158	0.390	0.223	0.191
M	0.058	0.080	0.19	0.42	0.22	0.23
N						
O	0.05693	0.08556	0.1904	0.5223	0.2565	0.2741
P	0.053	0.077	0.170	0.399	0.206	0.194
Q	3.34		1.98	4.87	17.8	8.67
R	0.043	0.079	0.166	0.351	0.214	0.217
S	0.071	0.08	0.21	0.435	0.246	0.23

Uncertainties Sample P14A

	Naphthalene ±	Acenaphthylene ±	Acenaphthene ±	Fluorene ±	Phenanthrene ±	Anthracene ±
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.003	0.004	0.010	0.020	0.012	0.012
IFA result	0.014	0.020	0.046	0.098	0.059	0.080
Stability test	0.013	0.021	0.046	0.101	0.060	0.079
A	0.025	0.030	0.080	0.140	0.080	0.080
B						
C	0.01	0.01	0.05	0.11	0.06	0.06
D	0.0007	0.0008	0.0028	0.0035	0.0029	0.0064
E	0.016	0.017	0.043	0.092	0.049	0.048
F						
G	0.00720	0.00940	0.0281	0.0942	0.0334	0.0329
H	0.006	0.007	0.02	0.04	0.02	0.02
I	0.012	0.007	0.011	0.028	0.014	0.015
J		0.0064	0.017	0.037	0.021	0.019
K	0.01	0.02	0.04	0.08	0.05	0.04
L	0.120	0.050	0.030	0.078	0.045	0.040
M	0.013	0.0057	0.012	0.025	0.047	0.019
N						
O	0.001	0.005	0.001	0.001	0.005	0.005
P	0.002	0.001	0.011	0.021	0.002	0.017
Q	0.20		0.12	0.29	1.07	0.57
R	0.012	0.008	0.010	0.020	0.010	0.010
S	0.007	0.008	0.021	0.044	0.025	0.023

Results Sample P14A

	Fluoranthene	Pyrene	Benz[a]-anthracene	Chrysene	Benzo[b]-fluoranthene
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.352	<0.021	<0.023	0.309	0.169
IFA result	0.304	<0.011	<0.012	0.310	0.170
Stability test	0.310	<0.011	<0.012	0.313	0.168
A	0.291	<0.010	<0.010	0.236	0.139
B	0.216	0.005	<0.005	0.182	0.073
C	0.30	<	<	0.23	0.14
D	0.190	0.003	0.059	0.178	
E	0.311	<0.01	<0.01	0.235	0.179
F					
G	0.54	<0.010	<0.010	0.32	0.11
H	0.34	<0.05	<0.05	0.26	0.16
I	0.194	<0.05	0.046	0.188	0.103
J	0.287	<0.05	0.244	<0.05	0.145
K	0.37	n.d.	n.d.	0.26	0.14
L	0.283	0.085	<0.010	0.285	0.118
M	0.39	<0.01	<0.01	0.30	0.19
N					
O	0.3713	<0.01	<0.01	0.2920	0.1646
P	0.430	<0.02	<0.01	0.269	0.210
Q	17.90	8.75	5.45	5.12	4.66
R	0.303	<0.010	<0.010	0.350	0.140
S	0.365	<0.003	<0.003	0.293	0.18

Uncertainties Sample P14A

	Fluoranthene ±	Pyrene ±	Benz[a]-anthracene ±	Chrysene ±	Benzo[b]-fluoranthene ±
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.018			0.015	0.008
IFA result	0.076			0.078	0.060
Stability test	0.078			0.078	0.059
A	0.100			0.085	0.050
B					
C	0.09			0.07	0.04
D	0.0028	0.0002	0.00071	0.0042	
E	0.078			0.059	0.063
F					
G	0.0867			0.0515	0.0174
H	0.03			0.03	0.02
I	0.014		0.01	0.012	0.007
J	0.029		0.024		0.015
K	0.07			0.05	0.03
L	0.056	0.017	0.020	0.060	0.024
M	0.024			0.012	0.013
N					
O	0.001	0.005	0.005	0.005	0.001
P	0.001			0.020	0.001
Q	1.07	0.53	0.33	0.31	0.28
R	0.020			0.020	0.015
S	0.036			0.029	0.018

Results Sample P14A

	Benzo[k]-fluoranthene	Benzo[a]-pyrene	Indeno-[1,2,3-cd]pyrene	Dibenz[a,h]-anthracene	Benzo[ghi]-perylene
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.186	0.157	0.139	0.114	0.134
IFA result	0.199	0.164	0.131	0.100	0.144
Stability test	0.189	0.159	0.128	0.094	0.138
A	0.146	0.124	0.107	0.099	0.104
B	0.091	0.071	0.080	0.037	0.044
C	0.15	0.13	0.14	0.08	0.08
D		0.086	0.074	<0.003	0.073
E	0.171	0.149	0.057	0.032	0.044
F					
G	0.10	0.11	0.086	0.076	0.079
H	0.165	0.14	0.115	0.098	0.1
I	0.113	0.061	0.035	0.050	0.032
J	0.138	0.120	0.0998	0.0929	0.105
K	0.17	0.15	0.12	0.09	0.12
L	0.168	0.119	0.124	0.114	0.136
M	0.21	0.21	0.14	0.10	0.13
N					
O	0.1802	0.1713	0.1340	0.1136	0.1331
P	0.222	0.149	0.129	0.105	0.108
Q	2.43	5.50	4.58	0.42	3.01
R	0.147	0.127	0.127	0.106	0.124
S	0.166	0.135	0.127	0.09	0.117

Uncertainties Sample P14A

	Benzo[k]-fluoranthene ±	Benzo[a]-pyrene ±	Indeno-[1,2,3-cd]pyrene ±	Dibenz[a,h]-anthracene ±	Benzo[ghi]-perylene ±
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.009	0.008	0.007	0.006	0.007
IFA result	0.070	0.041	0.033	0.025	0.036
Stability test	0.066	0.040	0.032	0.024	0.035
A	0.050	0.045	0.035	0.035	0.035
B					
C	0.05	0.04	0.04	0.02	0.03
D		0.0035	0.00071		0.00071
E	0.060	0.073	0.025	0.014	0.036
F					
G	0.0166	0.0179	0.0138	0.0122	0.0127
H	0.02	0.01	0.01	0.01	0.01
I	0.013	0.008	0.008	0.005	0.009
J	0.014	0.012	0.010	0.0093	0.011
K	0.03	0.03	0.02	0.02	0.02
L	0.035	0.025	0.025	0.023	0.027
M	0.014	0.010	0.0075	0.0090	0.011
N					
O	0.001	0.001	0.005	0.005	0.005
P	0.013	0.002	0.004	0.018	0.009
Q	0.15	0.33	0.27	0.05	0.18
R	0.020	0.010	0.010	0.010	0.010
S	0.017	0.014	0.013	0.009	0.012

Results Sample P14B

	Naphthalene	Acenaphthylene	Acenaphthene	Fluorene	Phenanthrene	Anthracene
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.402	0.327	0.306	<0.006	0.160	0.325
IFA result	0.398	0.359	0.302	<0.003	0.158	0.304
Stability test	0.398	0.355	0.301	<0.003	0.159	0.298
A	0.409	0.293	0.278	<0.010	0.149	0.294
B	0.135	0.142	0.149	<0.005	0.105	0.208
C	0.26	0.26	0.25	0.01	0.13	0.17
D	0.208	0.173	0.163	<0.003	0.088	0.174
E	0.388	0.256	0.269	<0.01	0.133	0.259
F						
G	0.30	0.29	0.28	<0.010	0.14	0.27
H	0.36	0.315	0.27	<0.005	0.15	0.28
I	0.246	0.179	0.176	<0.05	0.091	0.177
J	0.357	0.289	0.268	<0.05	0.143	0.264
K	0.35	0.31	0.31	n.d.	0.18	0.29
L	0.809	0.559	0.226	0.049	0.234	0.190
M	0.39	0.34	0.30	<0.01	0.15	0.29
N						
O	0.4440	0.3012	0.4485	<0.01	0.1676	0.3340
P	0.378	0.342	0.277	<0.02	0.141	0.254
Q	4.80		0.98	1.92	3.24	4.79
R	0.397	0.292	0.279	<0.010	0.156	0.302
S	0.43	0.351	0.345	<0.003	0.165	0.307

Uncertainties Sample P14B

	Naphthalene ±	Acenaphthylene ±	Acenaphthene ±	Fluorene ±	Phenanthrene ±	Anthracene ±
Unit	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.020	0.016	0.015		0.008	0.016
IFA result	0.100	0.090	0.076		0.040	0.106
Stability test	0.100	0.089	0.075		0.040	0.104
A	0.140	0.105	0.100		0.050	0.105
B						
C	0.08	0.08	0.08	0.003	0.04	0.05
D	0.016	0.013	0.011		0.0035	0.0035
E	0.113	0.074	0.067		0.033	0.065
F						
G	0.0485	0.0464	0.0446		0.0217	0.0437
H	0.04	0.03	0.03		0.02	0.03
I	0.022	0.017	0.020		0.015	0.02
J	0.036	0.029	0.027		0.014	0.026
K	0.07	0.06	0.06		0.04	0.06
L	0.160	0.110	0.045	0.010	0.027	0.040
M	0.089	0.024	0.019		0.032	0.025
N						
O	0.001	0.005	0.001	0.001	0.005	0.005
P	0.004	0.007	0.009		0.002	0.004
Q	0.29		0.06	0.12	0.19	0.29
R	0.025	0.015	0.015		0.010	0.010
S	0.043	0.035	0.035		0.016	0.031

Results Sample P14B

	Fluoranthene	Pyrene	Benz[a]-anthracene	Chrysene	Benzo[b]-fluoranthene
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.199	0.255	0.081	0.150	0.090
IFA result	0.170	0.263	0.081	0.145	0.085
Stability test	0.171	0.262	0.079	0.145	0.089
A	0.155	0.181	0.070	0.108	0.065
B	0.128	0.147	0.043	0.078	0.039
C	0.11	0.18	0.07	0.11	0.07
D	0.103	0.132	0.090	0.081	
E	0.160	0.215	0.050	0.100	0.089
F					
G	0.31	0.37	0.096	0.14	0.068
H	0.19	0.23	0.0735	0.13	0.085
I	0.110	0.135	0.04	0.072	0.040
J	0.170	0.224	0.125	0.0660	0.0592
K	0.21	0.25	0.08	0.14	0.09
L	0.080	0.227	0.077	0.160	0.073
M	0.23	0.30	0.11	0.14	0.10
N					
O	0.1919	0.2308	0.07632	0.1341	0.08105
P	0.245	0.289	0.087	0.123	0.106
Q	3.01	4.02	1.22	2.04	1.28
R	0.181	0.243	0.074	0.139	0.072
S	0.204	0.256	0.075	0.131	0.084

Uncertainties Sample P14B

	Fluoranthene ±	Pyrene ±	Benz[a]-anthracene ±	Chrysene ±	Benzo[b]-fluoranthene ±
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.010	0.013	0.004	0.008	0.005
IFA result	0.043	0.092	0.028	0.036	0.030
Stability test	0.043	0.092	0.028	0.036	0.031
A	0.055	0.065	0.025	0.040	0.025
B					
C	0.03	0.05	0.02	0.03	0.02
D	0.0071	0.0113	0.0064	0.00495	
E	0.040	0.054	0.013	0.025	0.031
F					
G	0.0490	0.0599	0.0154	0.0230	0.0108
H	0.02	0.02	0.007	0.02	0.008
I	0.015	0.019	0.008	0.007	0.005
J	0.017	0.022	0.013	0.0066	0.0059
K	0.04	0.05	0.02	0.03	0.02
L	0.010	0.045	0.016	0.032	0.015
M	0.014	0.012	0.0050	0.0056	0.0069
N					
O	0.001	0.005	0.005	0.005	0.001
P	0.006	0.010	0.009	0.002	0.019
Q	0.18	0.24	0.07	0.12	0.08
R	0.010	0.015	0.010	0.010	0.010
S	0.02	0.025	0.007	0.013	0.008

Results Sample P14B

	Benzo[k]-fluoranthene	Benzo[a]-pyrene	Indeno-[1,2,3-cd]pyrene	Dibenz[a,h]-anthracene	Benzo[ghi]-perylene
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.071	0.196	0.078	0.178	0.231
IFA result	0.076	0.202	0.068	0.143	0.239
Stability test	0.074	0.202	0.069	0.147	0.243
A	0.067	0.157	0.077	0.112	0.152
B	0.034	0.090	0.032	0.050	0.068
C	0.06	0.16	0.03	0.11	0.08
D		0.110	0.033	0.039	0.121
E	0.069	0.185	0.036	0.048	0.077
F					
G	0.049	0.15	0.068	0.10	0.13
H	0.066	0.18	0.0705	0.18	0.2
I	0.033	0.051	0.025	0.060	0.065
J	0.0774	0.146	0.0600	0.152	0.183
K	0.07	0.18	0.07	0.13	0.20
L	0.063	0.123	0.104	0.128	0.169
M	0.089	0.26	0.086	0.16	0.22
N					
O	0.06414	0.1996	0.06753	0.1773	0.2235
P	0.079	0.187	0.058	0.159	0.169
Q	0.97	2.80	<1	2.08	2.99
R	0.109	0.161	0.064	0.153	0.197
S	0.069	0.165	0.069	0.144	0.194

Uncertainties Sample P14B

	Benzo[k]-fluoranthene ±	Benzo[a]-pyrene ±	Indeno- [1,2,3-cd]pyrene ±	Dibenz[a,h]-anthracene ±	Benzo[ghi]-perylene ±
Unit	µg/L	µg/L	µg/L	µg/L	µg/L
Target value	0.004	0.010	0.004	0.009	0.012
IFA result	0.027	0.051	0.017	0.036	0.060
Stability test	0.026	0.051	0.017	0.037	0.061
A	0.025	0.055	0.025	0.040	0.055
B					
C	0.02	0.05	0.01	0.03	0.03
D		0.0071	0.013	0.0028	0.085
E	0.024	0.080	0.016	0.021	0.063
F					
G	0.00783	0.0234	0.0109	0.0165	0.0211
H	0.007	0.02	0.007	0.02	0.02
I	0.01	0.012	0.007	0.013	0.009
J	0.0077	0.015	0.006	0.015	0.018
K	0.01	0.04	0.01	0.03	0.04
L	0.013	0.024	0.020	0.025	0.034
M	0.0057	0.012	0.0046	0.014	0.018
N					
O	0.001	0.001	0.005	0.005	0.005
P	0.010	0.005	0.002	0.007	0.003
Q	0.06	0.17		0.12	0.18
R	0.010	0.010	0.012	0.010	0.015
S	0.007	0.016	0.007	0.014	0.019

Sample P14A

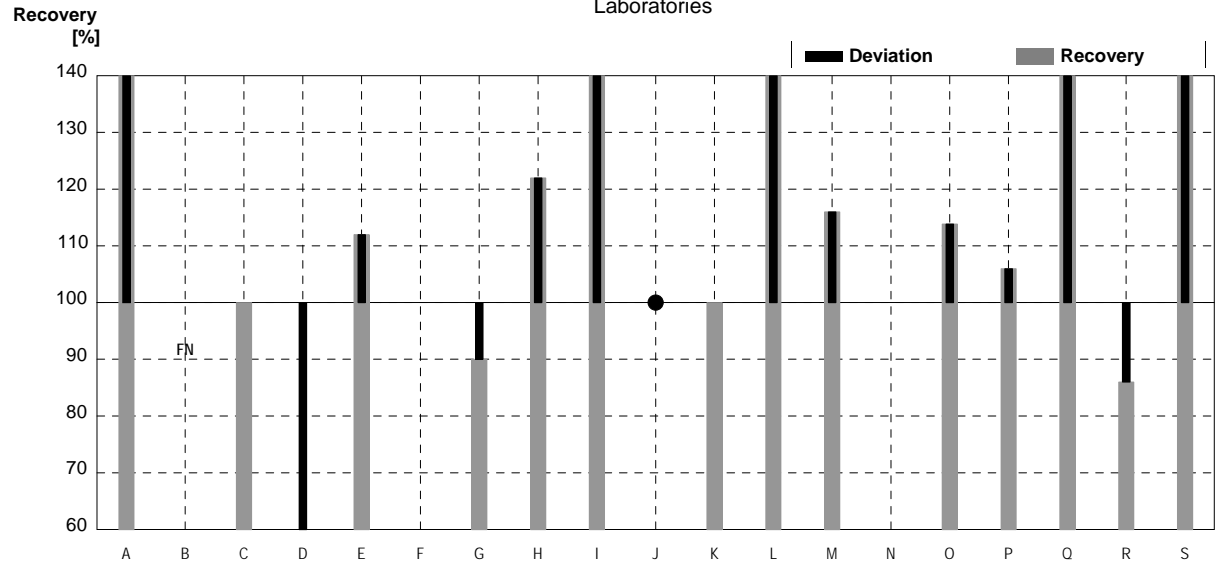
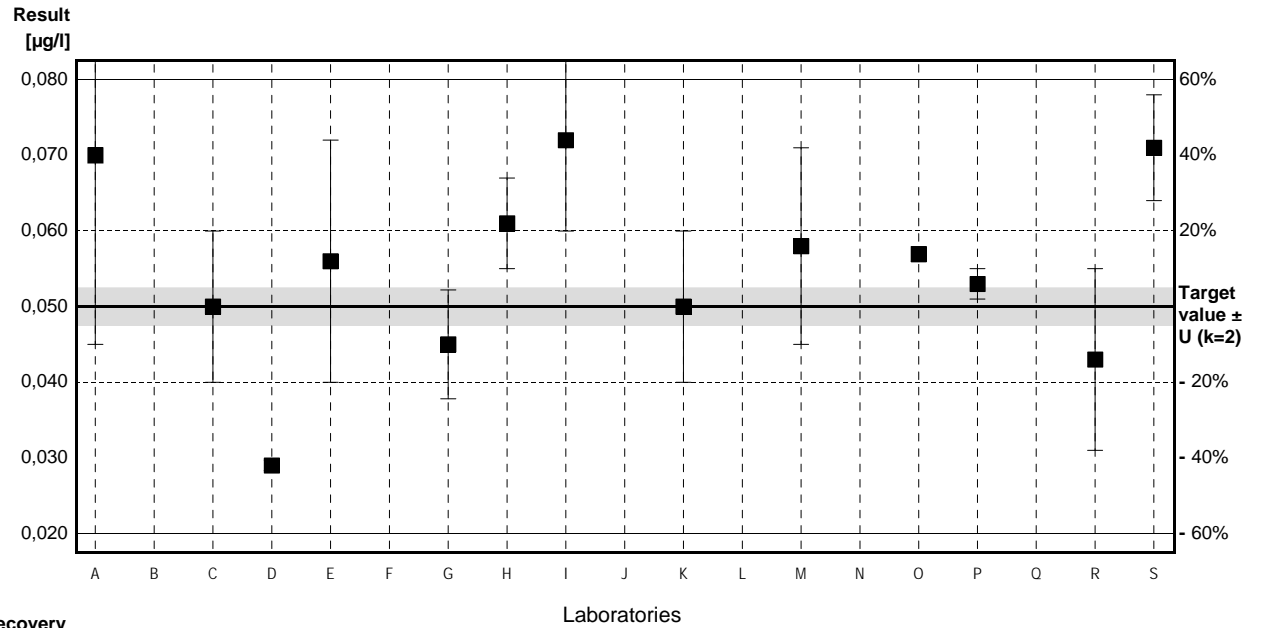
Parameter Naphthalene

Target value ± U (k=2) 0,050 µg/l ± 0,003 µg/l

IFA result ± U (k=2) 0,054 µg/l ± 0,014 µg/l

Stability test ± U (k=2) 0,052 µg/l ± 0,013 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,070	0,025	µg/l	140%	1,21
B	<0,005		µg/l	FN	
C	0,05	0,01	µg/l	100%	0,00
D	0,029	0,0007	µg/l	58%	-1,27
E	0,056	0,016	µg/l	112%	0,36
F			µg/l		
G	0,045	0,00720	µg/l	90%	-0,30
H	0,061	0,006	µg/l	122%	0,67
I	0,072	0,012	µg/l	144%	1,33
J	<0,05		µg/l	•	
K	0,05	0,01	µg/l	100%	0,00
L	0,613 *	0,120	µg/l	1226%	34,12
M	0,058	0,013	µg/l	116%	0,48
N			µg/l		
O	0,05693	0,001	µg/l	114%	0,42
P	0,053	0,002	µg/l	106%	0,18
Q	3,34 *	0,20	µg/l	6680%	199,39
R	0,043	0,012	µg/l	86%	-0,42
S	0,071	0,007	µg/l	142%	1,27



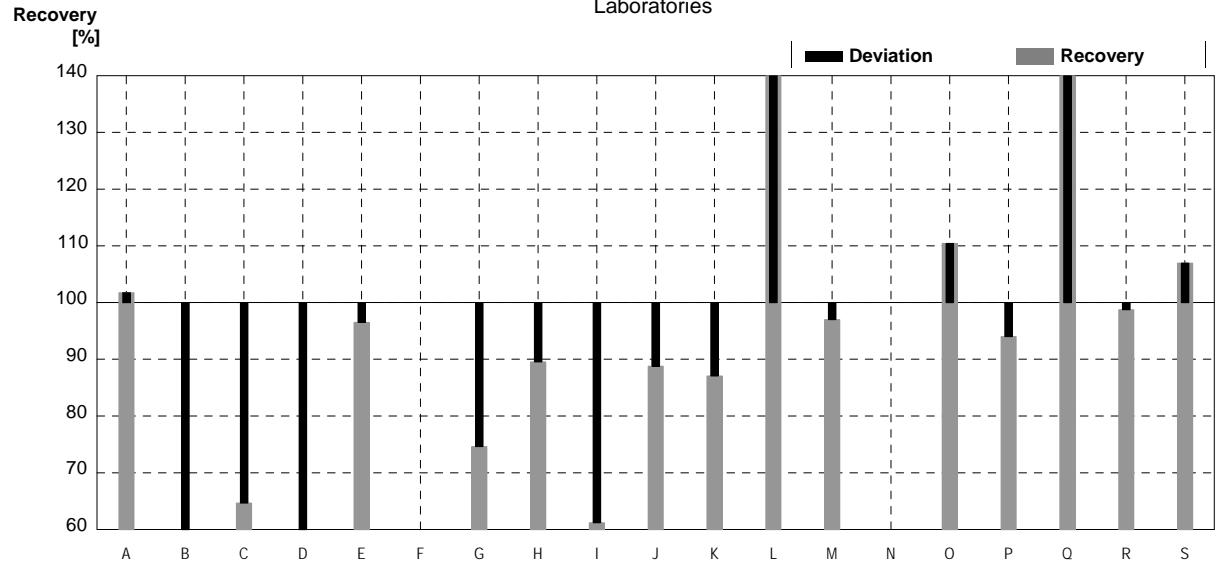
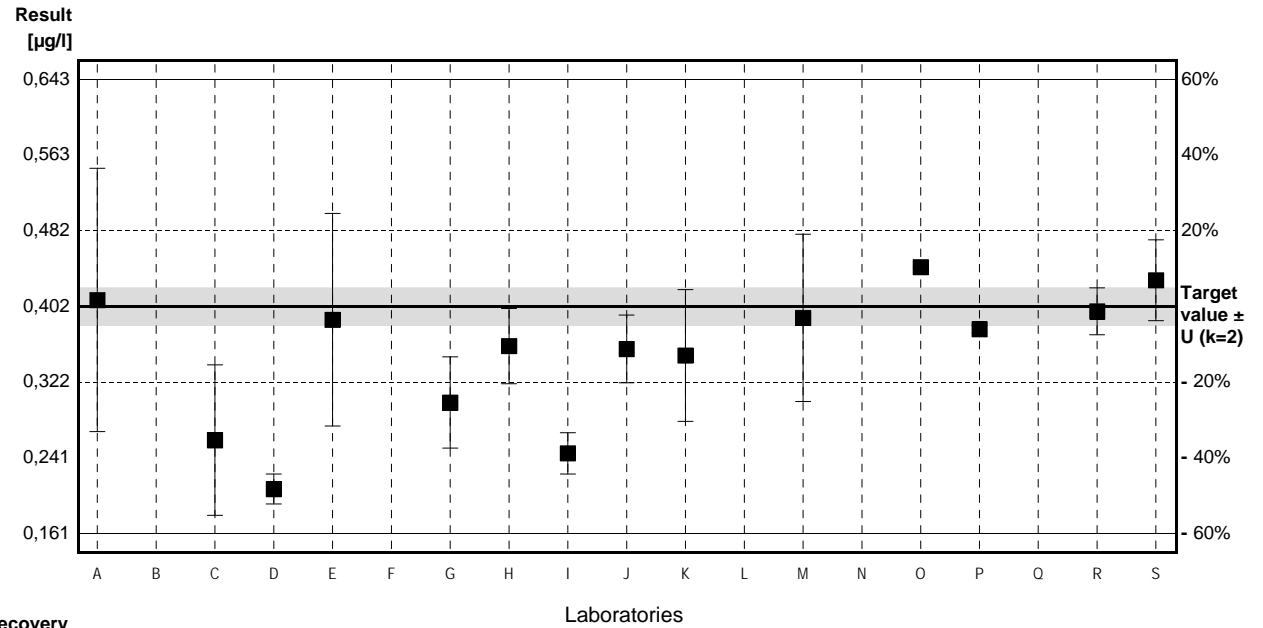
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,311 ± 0,654	0,055 ± 0,010	µg/l
Recov. ± CI(99%)	622,4 ± 1308,3	110,0 ± 20,7	%
SD between labs	0,850	0,012	µg/l
RSD between labs	273,2	22,2	%
n for calculation	15	13	

Sample P14B

Parameter Naphthalene

Target value $\pm U$ (k=2) 0,402 $\mu\text{g/l}$ \pm 0,020 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,398 $\mu\text{g/l}$ \pm 0,100 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,398 $\mu\text{g/l}$ \pm 0,100 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,409	0,140	$\mu\text{g/l}$	102%	0,05
B	0,135		$\mu\text{g/l}$	34%	-2,01
C	0,26	0,08	$\mu\text{g/l}$	65%	-1,07
D	0,208	0,016	$\mu\text{g/l}$	52%	-1,46
E	0,388	0,113	$\mu\text{g/l}$	97%	-0,11
F			$\mu\text{g/l}$		
G	0,30	0,0485	$\mu\text{g/l}$	75%	-0,77
H	0,36	0,04	$\mu\text{g/l}$	90%	-0,32
I	0,246	0,022	$\mu\text{g/l}$	61%	-1,18
J	0,357	0,036	$\mu\text{g/l}$	89%	-0,34
K	0,35	0,07	$\mu\text{g/l}$	87%	-0,39
L	0,809 *	0,160	$\mu\text{g/l}$	201%	3,07
M	0,39	0,089	$\mu\text{g/l}$	97%	-0,09
N			$\mu\text{g/l}$		
O	0,4440	0,001	$\mu\text{g/l}$	110%	0,32
P	0,378	0,004	$\mu\text{g/l}$	94%	-0,18
Q	4,80 *	0,29	$\mu\text{g/l}$	1194%	33,15
R	0,397	0,025	$\mu\text{g/l}$	99%	-0,04
S	0,43	0,043	$\mu\text{g/l}$	107%	0,21



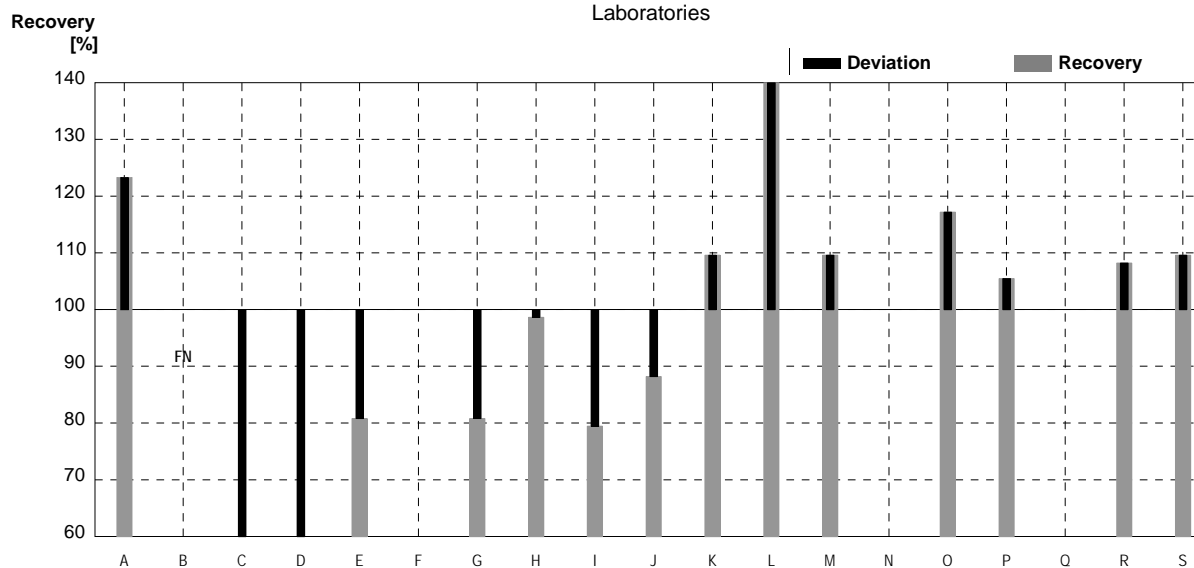
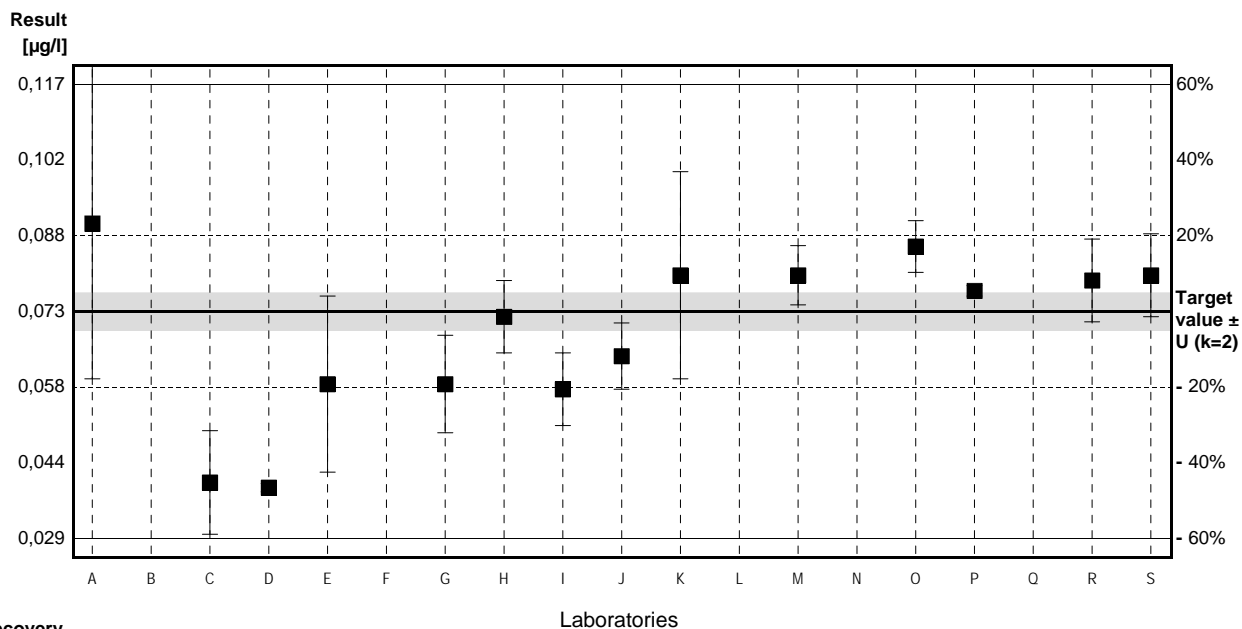
	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,627 \pm 0,768	0,337 \pm 0,068	$\mu\text{g/l}$
Recov. \pm CI(99%)	156,0 \pm 191,1	83,8 \pm 17,0	%
SD between labs	1,085	0,089	$\mu\text{g/l}$
RSD between labs	172,9	26,3	%
n for calculation	17	15	

Sample P14A

Parameter Acenaphthalene

Target value $\pm U$ (k=2) 0,073 $\mu\text{g/l}$ \pm 0,004 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,081 $\mu\text{g/l}$ \pm 0,020 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,082 $\mu\text{g/l}$ \pm 0,021 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,090	0,030	$\mu\text{g/l}$	123%	1,23
B	<0,005		$\mu\text{g/l}$	FN	
C	0,04	0,01	$\mu\text{g/l}$	55%	-2,38
D	0,039	0,0008	$\mu\text{g/l}$	53%	-2,45
E	0,059	0,017	$\mu\text{g/l}$	81%	-1,01
F			$\mu\text{g/l}$		
G	0,059	0,00940	$\mu\text{g/l}$	81%	-1,01
H	0,072	0,007	$\mu\text{g/l}$	99%	-0,07
I	0,058	0,007	$\mu\text{g/l}$	79%	-1,08
J	0,0644	0,0064	$\mu\text{g/l}$	88%	-0,62
K	0,08	0,02	$\mu\text{g/l}$	110%	0,50
L	0,241 *	0,050	$\mu\text{g/l}$	330%	12,11
M	0,080	0,0057	$\mu\text{g/l}$	110%	0,50
N			$\mu\text{g/l}$		
O	0,08556	0,005	$\mu\text{g/l}$	117%	0,91
P	0,077	0,001	$\mu\text{g/l}$	105%	0,29
Q			$\mu\text{g/l}$		
R	0,079	0,008	$\mu\text{g/l}$	108%	0,43
S	0,08	0,008	$\mu\text{g/l}$	110%	0,50



	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,080 \pm 0,036	0,069 \pm 0,013	$\mu\text{g/l}$
Recov. \pm CI(99%)	110,0 \pm 49,6	94,2 \pm 17,6	%
SD between labs	0,047	0,016	$\mu\text{g/l}$
RSD between labs	58,6	23,3	%
n for calculation	15	14	

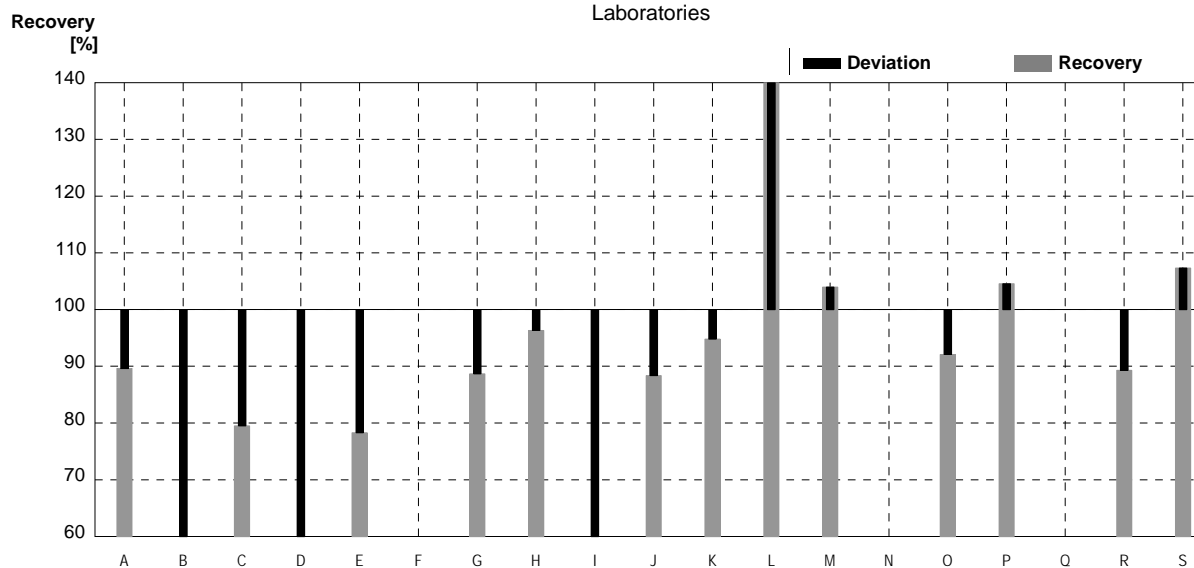
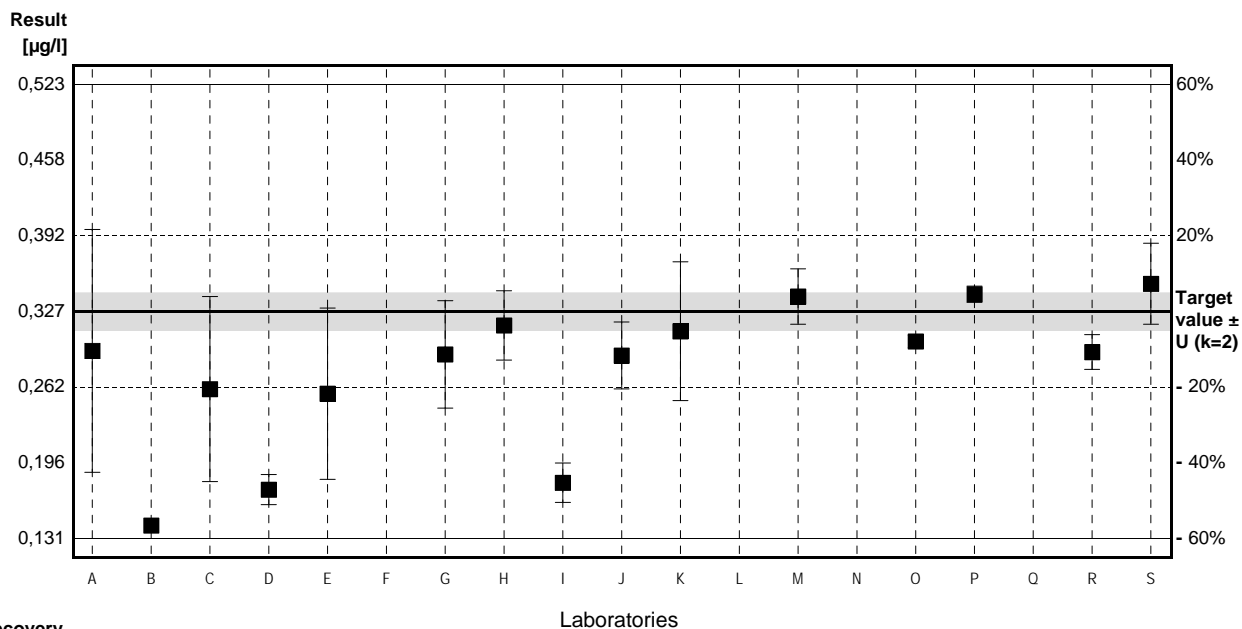
Sample P14B

Parameter Acenaphthalene

Target value $\pm U$ (k=2) 0,327 $\mu\text{g/l}$ \pm 0,016 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,359 $\mu\text{g/l}$ \pm 0,090 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,355 $\mu\text{g/l}$ \pm 0,089 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,293	0,105	$\mu\text{g/l}$	90%	-0,55
B	0,142		$\mu\text{g/l}$	43%	-2,98
C	0,26	0,08	$\mu\text{g/l}$	80%	-1,08
D	0,173	0,013	$\mu\text{g/l}$	53%	-2,48
E	0,256	0,074	$\mu\text{g/l}$	78%	-1,14
F			$\mu\text{g/l}$		
G	0,29	0,0464	$\mu\text{g/l}$	89%	-0,60
H	0,315	0,03	$\mu\text{g/l}$	96%	-0,19
I	0,179	0,017	$\mu\text{g/l}$	55%	-2,38
J	0,289	0,029	$\mu\text{g/l}$	88%	-0,61
K	0,31	0,06	$\mu\text{g/l}$	95%	-0,27
L	0,559 *	0,110	$\mu\text{g/l}$	171%	3,73
M	0,34	0,024	$\mu\text{g/l}$	104%	0,21
N			$\mu\text{g/l}$		
O	0,3012	0,005	$\mu\text{g/l}$	92%	-0,42
P	0,342	0,007	$\mu\text{g/l}$	105%	0,24
Q			$\mu\text{g/l}$		
R	0,292	0,015	$\mu\text{g/l}$	89%	-0,56
S	0,351	0,035	$\mu\text{g/l}$	107%	0,39

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,293 \pm 0,069	0,276 \pm 0,049	$\mu\text{g/l}$
Recov. \pm CI(99%)	89,7 \pm 21,2	84,3 \pm 15,0	%
SD between labs	0,094	0,064	$\mu\text{g/l}$
RSD between labs	32,0	23,1	%
n for calculation	16	15	

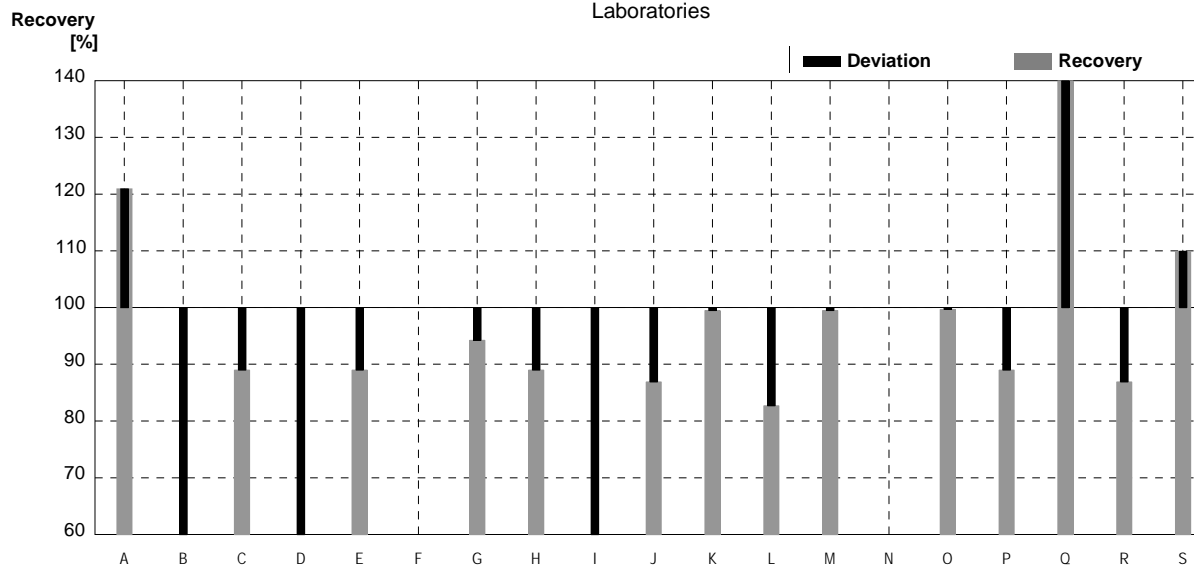
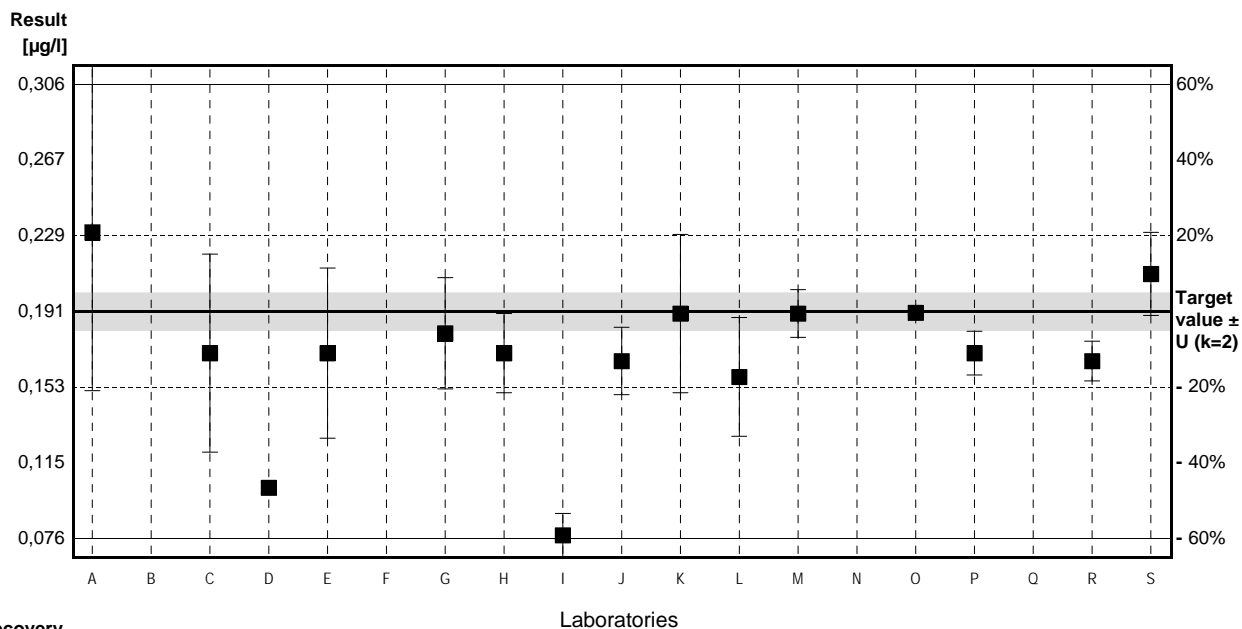


Sample P14A

Parameter Acenaphthene

Target value $\pm U$ (k=2) 0,191 $\mu\text{g/l}$ \pm 0,010 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,185 $\mu\text{g/l}$ \pm 0,046 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,185 $\mu\text{g/l}$ \pm 0,046 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,231	0,080	$\mu\text{g/l}$	121%	0,78
B	0,013 *		$\mu\text{g/l}$	7%	-3,45
C	0,17	0,05	$\mu\text{g/l}$	89%	-0,41
D	0,102	0,0028	$\mu\text{g/l}$	53%	-1,73
E	0,170	0,043	$\mu\text{g/l}$	89%	-0,41
F			$\mu\text{g/l}$		
G	0,18	0,0281	$\mu\text{g/l}$	94%	-0,21
H	0,17	0,02	$\mu\text{g/l}$	89%	-0,41
I	0,078	0,011	$\mu\text{g/l}$	41%	-2,19
J	0,166	0,017	$\mu\text{g/l}$	87%	-0,48
K	0,19	0,04	$\mu\text{g/l}$	99%	-0,02
L	0,158	0,030	$\mu\text{g/l}$	83%	-0,64
M	0,19	0,012	$\mu\text{g/l}$	99%	-0,02
N			$\mu\text{g/l}$		
O	0,1904	0,001	$\mu\text{g/l}$	100%	-0,01
P	0,170	0,011	$\mu\text{g/l}$	89%	-0,41
Q	1,98 *	0,12	$\mu\text{g/l}$	1037%	34,69
R	0,166	0,010	$\mu\text{g/l}$	87%	-0,48
S	0,21	0,021	$\mu\text{g/l}$	110%	0,37



	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,267 \pm 0,315	0,169 \pm 0,029	$\mu\text{g/l}$
Recov. \pm CI(99%)	139,6 \pm 164,8	88,7 \pm 15,2	%
SD between labs	0,445	0,038	$\mu\text{g/l}$
RSD between labs	166,7	22,3	%
n for calculation	17	15	

Sample P14B

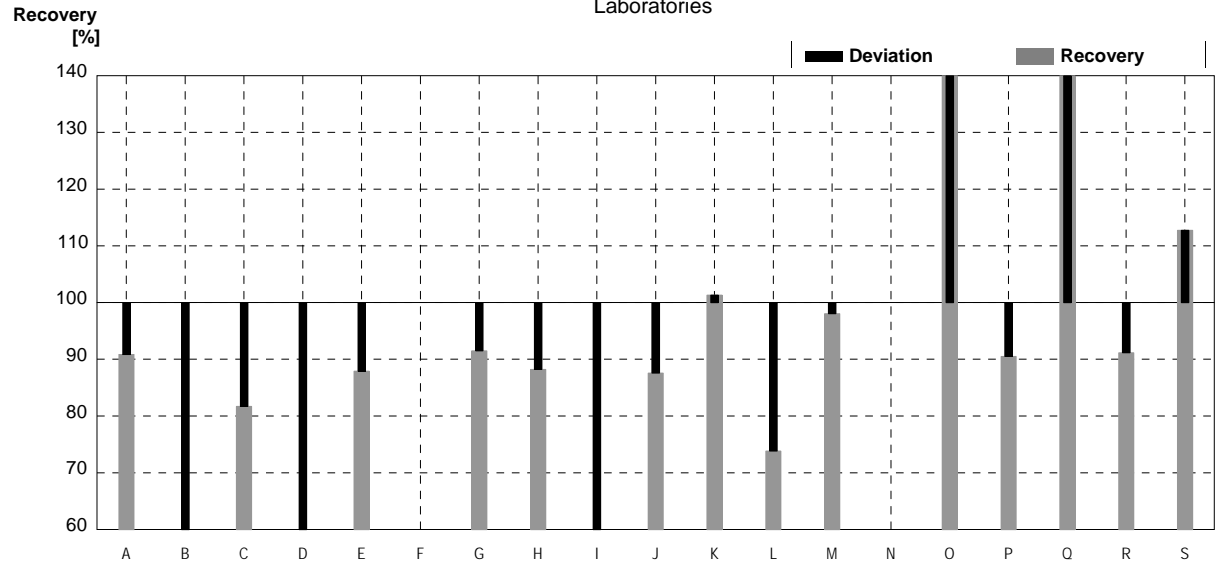
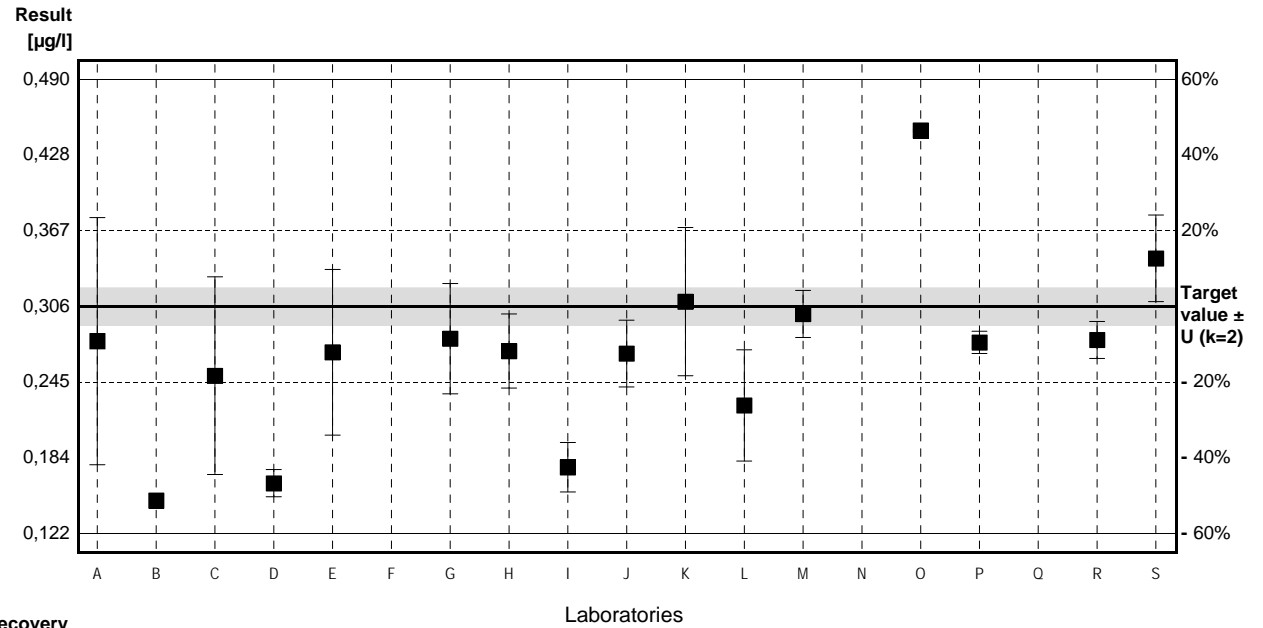
Parameter Acenaphthene

Target value ± U (k=2) 0,306 µg/l ± 0,015 µg/l

IFA result ± U (k=2) 0,302 µg/l ± 0,076 µg/l

Stability test ± U (k=2) 0,301 µg/l ± 0,075 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,278	0,100	µg/l	91%	-0,34
B	0,149		µg/l	49%	-1,90
C	0,25	0,08	µg/l	82%	-0,68
D	0,163	0,011	µg/l	53%	-1,73
E	0,269	0,067	µg/l	88%	-0,45
F			µg/l		
G	0,28	0,0446	µg/l	92%	-0,31
H	0,27	0,03	µg/l	88%	-0,44
I	0,176	0,020	µg/l	58%	-1,57
J	0,268	0,027	µg/l	88%	-0,46
K	0,31	0,06	µg/l	101%	0,05
L	0,226	0,045	µg/l	74%	-0,97
M	0,30	0,019	µg/l	98%	-0,07
N			µg/l		
O	0,4485 *	0,001	µg/l	147%	1,72
P	0,277	0,009	µg/l	91%	-0,35
Q	0,98 *	0,06	µg/l	320%	8,16
R	0,279	0,015	µg/l	91%	-0,33
S	0,345	0,035	µg/l	113%	0,47



	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,310 ± 0,132	0,256 ± 0,043	µg/l
Recov. ± CI(99%)	101,3 ± 43,1	83,7 ± 13,9	%
SD between labs	0,186	0,055	µg/l
RSD between labs	60,1	21,6	%
n for calculation	17	15	

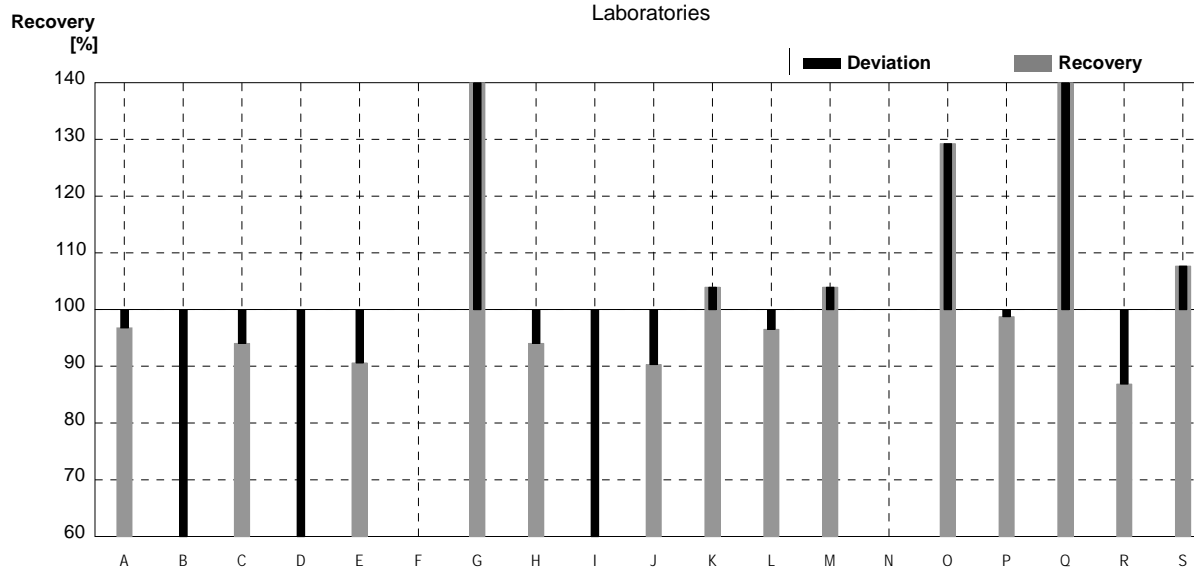
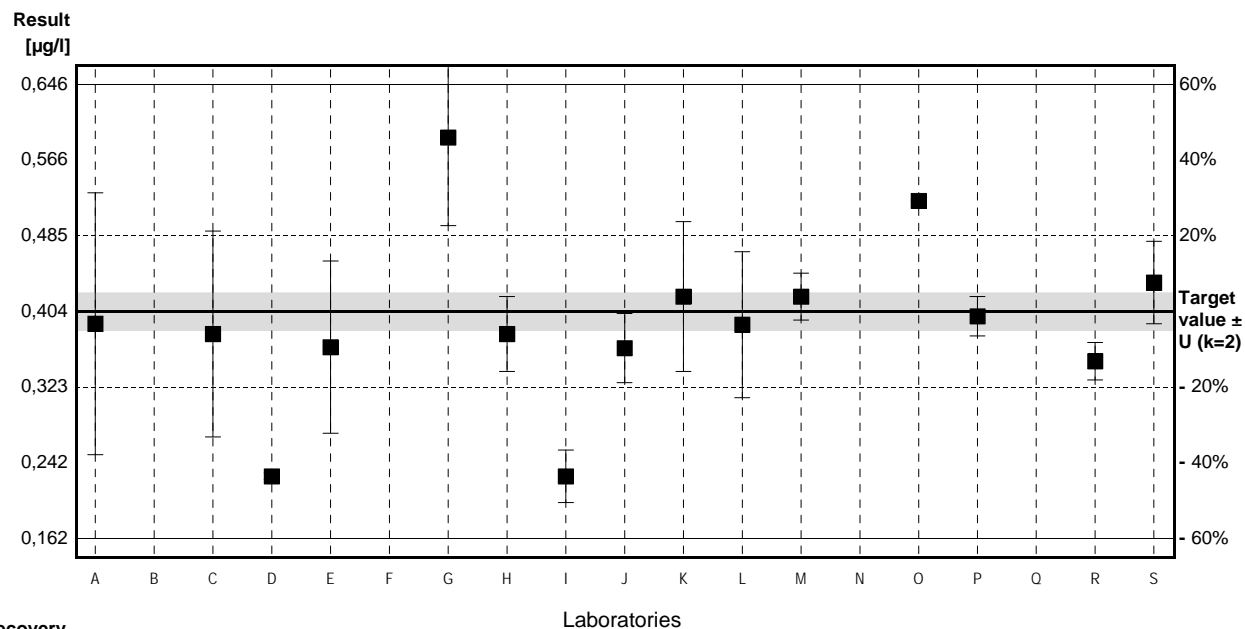
Sample P14A

Parameter Fluorene

Target value $\pm U$ (k=2) 0,404 $\mu\text{g/l}$ \pm 0,020 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,391 $\mu\text{g/l}$ \pm 0,098 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,402 $\mu\text{g/l}$ \pm 0,101 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,391	0,140	$\mu\text{g/l}$	97%	-0,15
B	0,099 *		$\mu\text{g/l}$	25%	-3,43
C	0,38	0,11	$\mu\text{g/l}$	94%	-0,27
D	0,228 *	0,0035	$\mu\text{g/l}$	56%	-1,98
E	0,366	0,092	$\mu\text{g/l}$	91%	-0,43
F			$\mu\text{g/l}$		
G	0,59 *	0,0942	$\mu\text{g/l}$	146%	2,09
H	0,38	0,04	$\mu\text{g/l}$	94%	-0,27
I	0,228 *	0,028	$\mu\text{g/l}$	56%	-1,98
J	0,365	0,037	$\mu\text{g/l}$	90%	-0,44
K	0,42	0,08	$\mu\text{g/l}$	104%	0,18
L	0,390	0,078	$\mu\text{g/l}$	97%	-0,16
M	0,42	0,025	$\mu\text{g/l}$	104%	0,18
N			$\mu\text{g/l}$		
O	0,5223	0,001	$\mu\text{g/l}$	129%	1,33
P	0,399	0,021	$\mu\text{g/l}$	99%	-0,06
Q	4,87 *	0,29	$\mu\text{g/l}$	1205%	50,25
R	0,351	0,020	$\mu\text{g/l}$	87%	-0,60
S	0,435	0,044	$\mu\text{g/l}$	108%	0,35

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,637 \pm 0,776	0,402 \pm 0,041	$\mu\text{g/l}$
Recov. \pm CI(99%)	157,8 \pm 192,2	99,4 \pm 10,1	%
SD between labs	1,096	0,045	$\mu\text{g/l}$
RSD between labs	172,0	11,3	%
n for calculation	17	12	

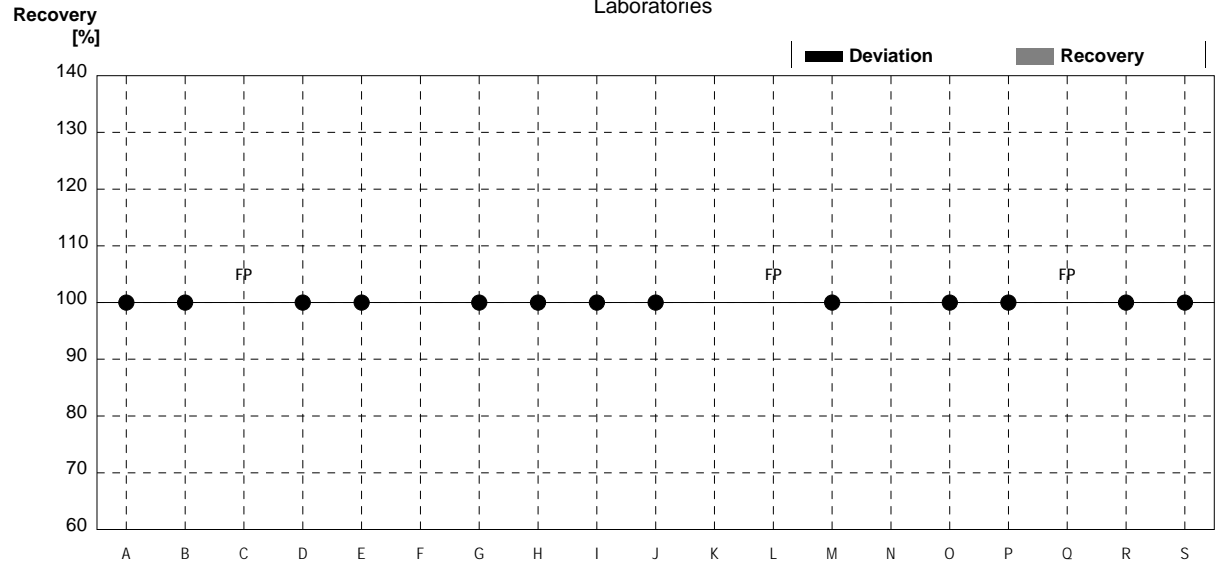
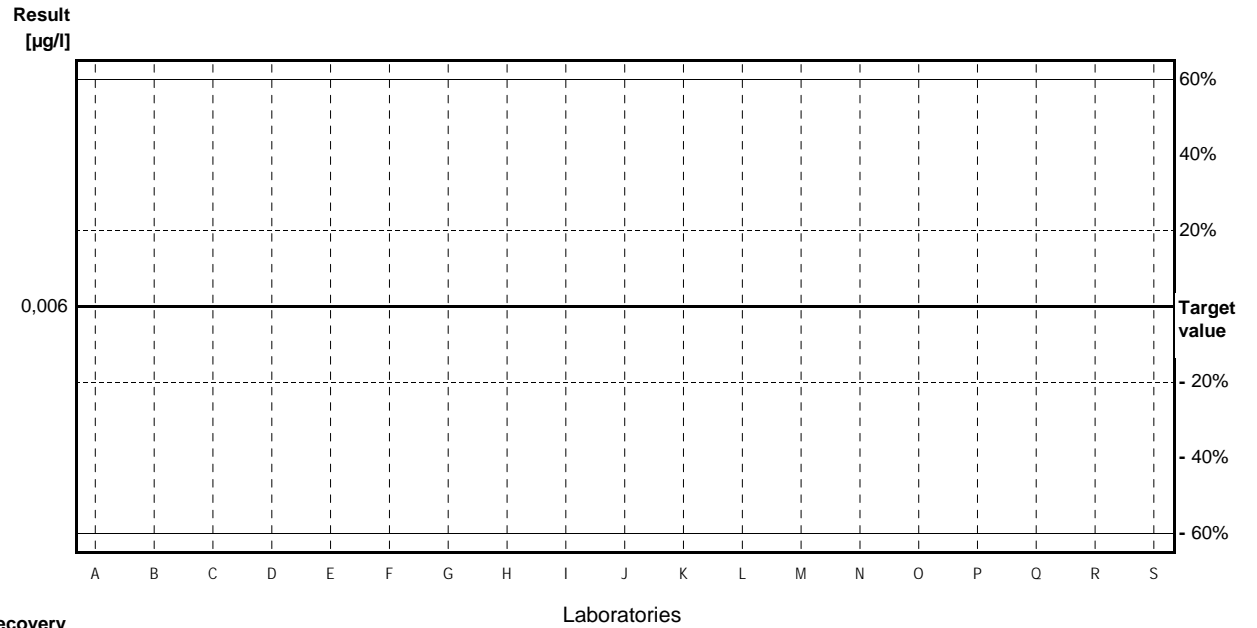


Sample P14B

Parameter Fluorene

Target value <0,006 µg/l
 IFA result <0,003 µg/l
 Stability test <0,003 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,010		µg/l	•	
B	<0,005		µg/l	•	
C	0,01	0,003	µg/l	FP	
D	<0,003		µg/l	•	
E	<0,01		µg/l	•	
F			µg/l		
G	<0,010		µg/l	•	
H	<0,005		µg/l	•	
I	<0,05		µg/l	•	
J	<0,05		µg/l	•	
K	n.d.		µg/l		
L	0,049	0,010	µg/l	FP	
M	<0,01		µg/l	•	
N			µg/l		
O	<0,01	0,001	µg/l	•	
P	<0,02		µg/l	•	
Q	1,92	0,12	µg/l	FP	
R	<0,010		µg/l	•	
S	<0,003		µg/l	•	



	All results	Outliers excl.	Unit
Mean ± CI(99%)			µg/l
Recov. ± CI(99%)			%
SD between labs			µg/l
RSD between labs			%
n for calculation			

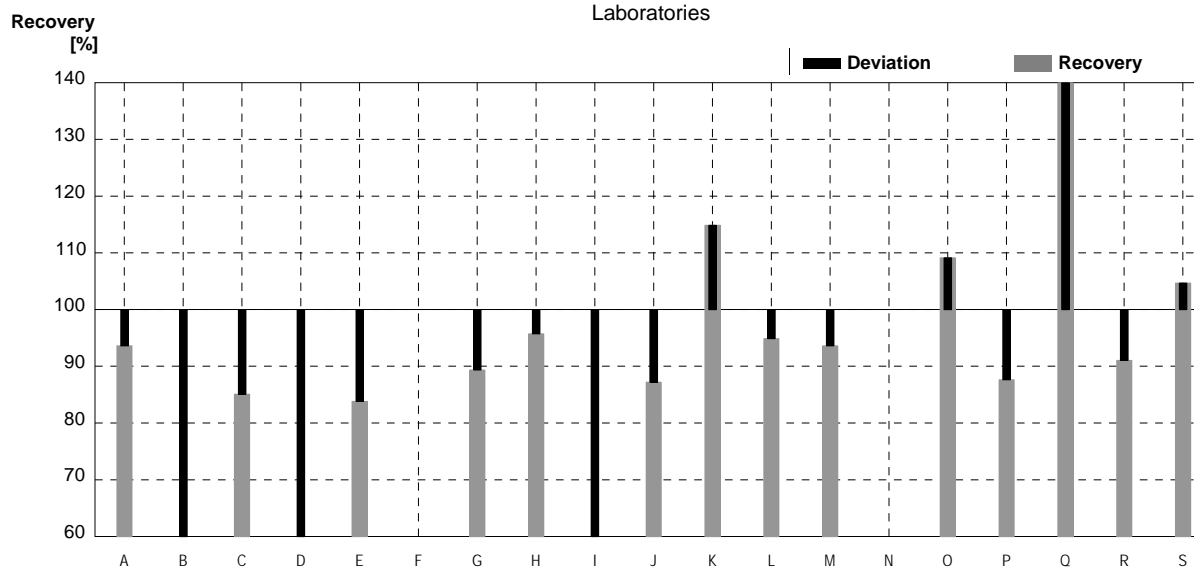
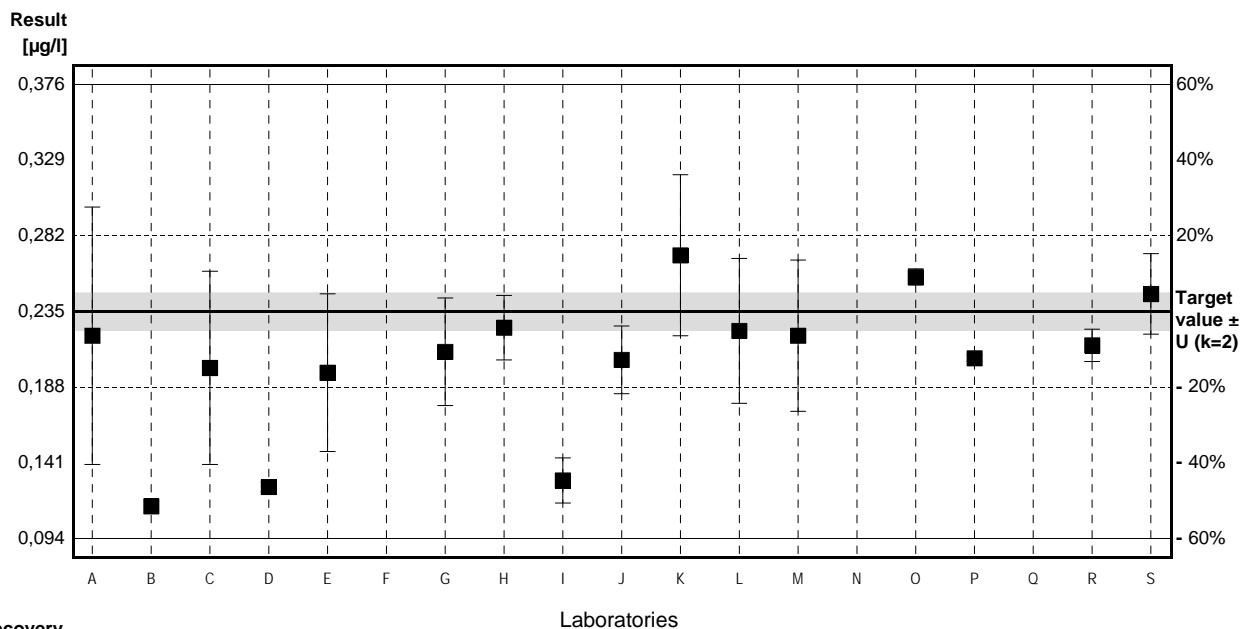
Sample P14A

Parameter Phenanthrene

Target value $\pm U$ (k=2) 0,235 $\mu\text{g/l}$ \pm 0,012 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,234 $\mu\text{g/l}$ \pm 0,059 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,239 $\mu\text{g/l}$ \pm 0,060 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,220	0,080	$\mu\text{g/l}$	94%	-0,34
B	0,114 *		$\mu\text{g/l}$	49%	-2,71
C	0,20	0,06	$\mu\text{g/l}$	85%	-0,78
D	0,126 *	0,0029	$\mu\text{g/l}$	54%	-2,44
E	0,197	0,049	$\mu\text{g/l}$	84%	-0,85
F			$\mu\text{g/l}$		
G	0,21	0,0334	$\mu\text{g/l}$	89%	-0,56
H	0,225	0,02	$\mu\text{g/l}$	96%	-0,22
I	0,130 *	0,014	$\mu\text{g/l}$	55%	-2,35
J	0,205	0,021	$\mu\text{g/l}$	87%	-0,67
K	0,27	0,05	$\mu\text{g/l}$	115%	0,78
L	0,223	0,045	$\mu\text{g/l}$	95%	-0,27
M	0,22	0,047	$\mu\text{g/l}$	94%	-0,34
N			$\mu\text{g/l}$		
O	0,2565	0,005	$\mu\text{g/l}$	109%	0,48
P	0,206	0,002	$\mu\text{g/l}$	88%	-0,65
Q	17,8 *	1,07	$\mu\text{g/l}$	7574%	393,39
R	0,214	0,010	$\mu\text{g/l}$	91%	-0,47
S	0,246	0,025	$\mu\text{g/l}$	105%	0,25

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	1,239 \pm 3,023	0,223 \pm 0,019	$\mu\text{g/l}$
Recov. \pm CI(99%)	527,2 \pm 1286,2	94,7 \pm 8,0	%
SD between labs	4,268	0,022	$\mu\text{g/l}$
RSD between labs	344,5	10,0	%
n for calculation	17	13	

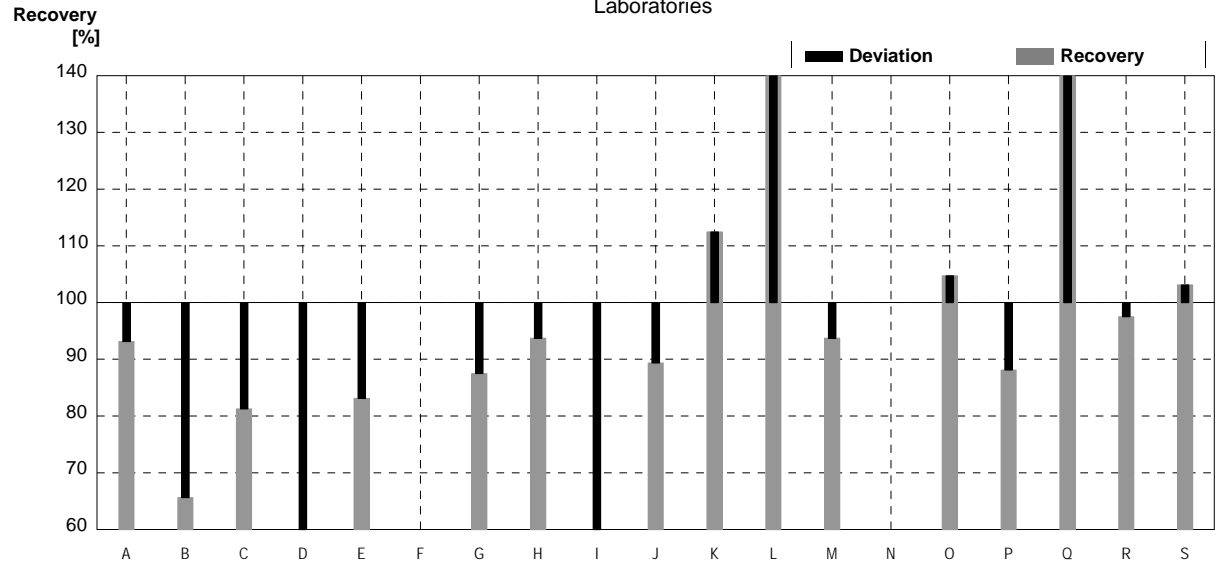
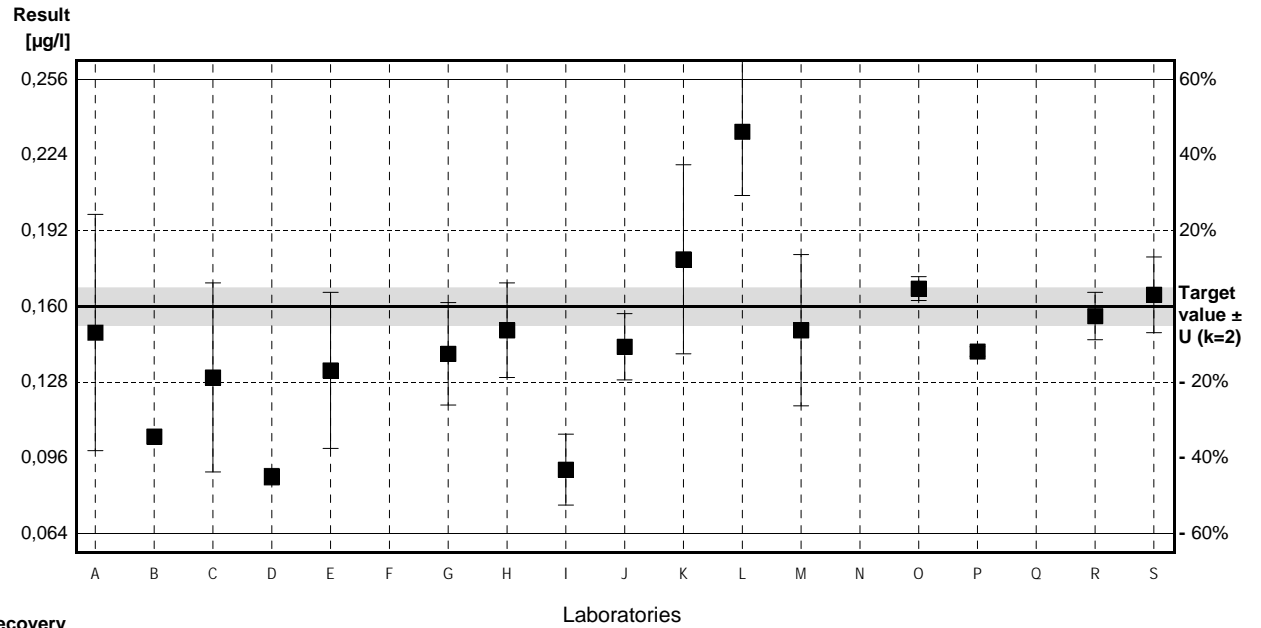


Sample P14B

Parameter Phenanthrene

Target value $\pm U$ (k=2) 0,160 $\mu\text{g/l}$ \pm 0,008 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,158 $\mu\text{g/l}$ \pm 0,040 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,159 $\mu\text{g/l}$ \pm 0,040 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,149	0,050	$\mu\text{g/l}$	93%	-0,36
B	0,105		$\mu\text{g/l}$	66%	-1,81
C	0,13	0,04	$\mu\text{g/l}$	81%	-0,99
D	0,088	0,0035	$\mu\text{g/l}$	55%	-2,37
E	0,133	0,033	$\mu\text{g/l}$	83%	-0,89
F			$\mu\text{g/l}$		
G	0,14	0,0217	$\mu\text{g/l}$	88%	-0,66
H	0,15	0,02	$\mu\text{g/l}$	94%	-0,33
I	0,091	0,015	$\mu\text{g/l}$	57%	-2,27
J	0,143	0,014	$\mu\text{g/l}$	89%	-0,56
K	0,18	0,04	$\mu\text{g/l}$	113%	0,66
L	0,234 *	0,027	$\mu\text{g/l}$	146%	2,43
M	0,15	0,032	$\mu\text{g/l}$	94%	-0,33
N			$\mu\text{g/l}$		
O	0,1676	0,005	$\mu\text{g/l}$	105%	0,25
P	0,141	0,002	$\mu\text{g/l}$	88%	-0,63
Q	3,24 *	0,19	$\mu\text{g/l}$	2025%	101,32
R	0,156	0,010	$\mu\text{g/l}$	98%	-0,13
S	0,165	0,016	$\mu\text{g/l}$	103%	0,16



	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,327 \pm 0,532	0,139 \pm 0,021	$\mu\text{g/l}$
Recov. \pm CI(99%)	204,5 \pm 332,6	87,0 \pm 12,9	%
SD between labs	0,751	0,027	$\mu\text{g/l}$
RSD between labs	229,6	19,2	%
n for calculation	17	15	

Sample P14A

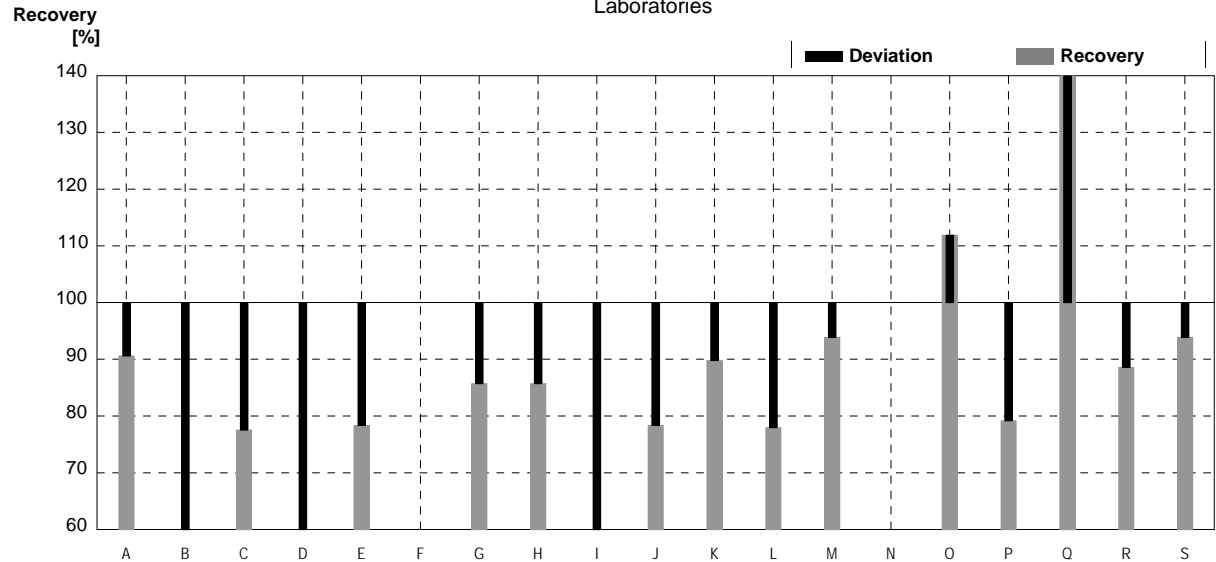
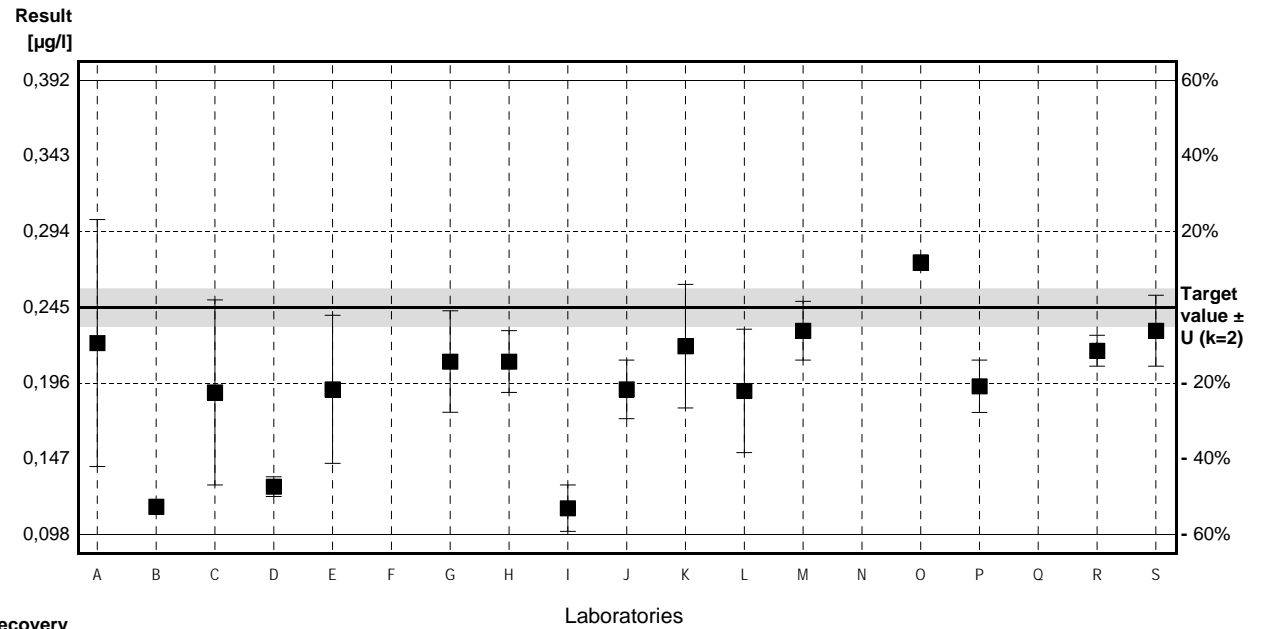
Parameter Anthracene

Target value ± U (k=2) 0,245 µg/l ± 0,012 µg/l

IFA result ± U (k=2) 0,228 µg/l ± 0,080 µg/l

Stability test ± U (k=2) 0,225 µg/l ± 0,079 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,222	0,080	µg/l	91%	-0,49
B	0,116 *		µg/l	47%	-2,77
C	0,19	0,06	µg/l	78%	-1,18
D	0,129	0,0064	µg/l	53%	-2,49
E	0,192	0,048	µg/l	78%	-1,14
F			µg/l		
G	0,21	0,0329	µg/l	86%	-0,75
H	0,21	0,02	µg/l	86%	-0,75
I	0,115 *	0,015	µg/l	47%	-2,79
J	0,192	0,019	µg/l	78%	-1,14
K	0,22	0,04	µg/l	90%	-0,54
L	0,191	0,040	µg/l	78%	-1,16
M	0,23	0,019	µg/l	94%	-0,32
N			µg/l		
O	0,2741	0,005	µg/l	112%	0,63
P	0,194	0,017	µg/l	79%	-1,10
Q	8,67 *	0,57	µg/l	3539%	180,99
R	0,217	0,010	µg/l	89%	-0,60
S	0,23	0,023	µg/l	94%	-0,32



	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,694 ± 1,456	0,207 ± 0,026	µg/l
Recov. ± CI(99%)	283,4 ± 594,2	84,6 ± 10,5	%
SD between labs	2,056	0,032	µg/l
RSD between labs	296,1	15,4	%
n for calculation	17	14	

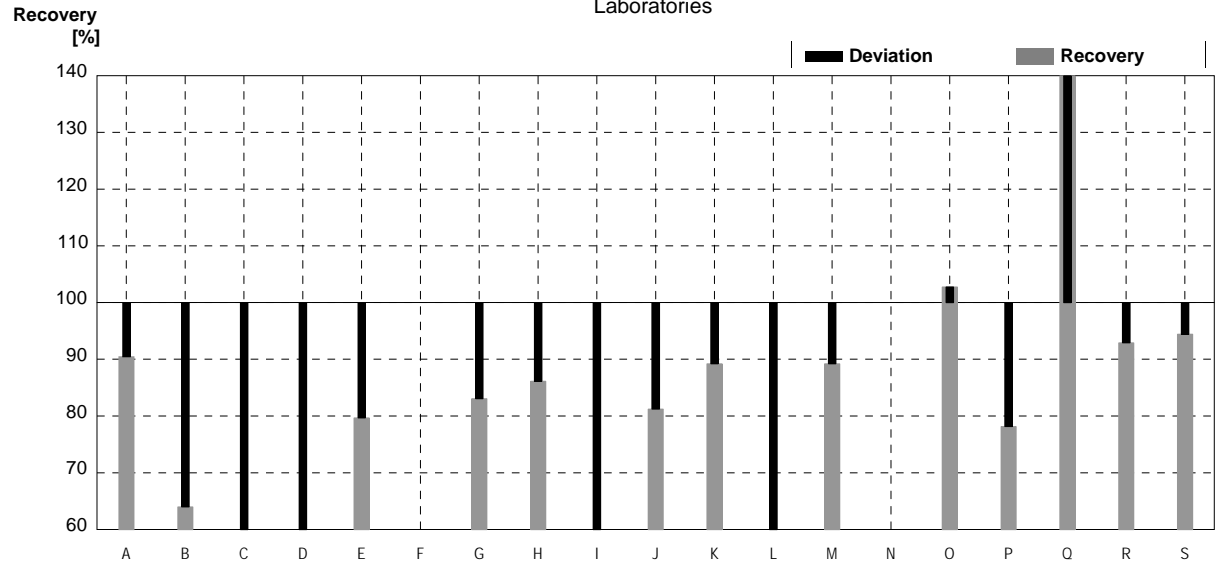
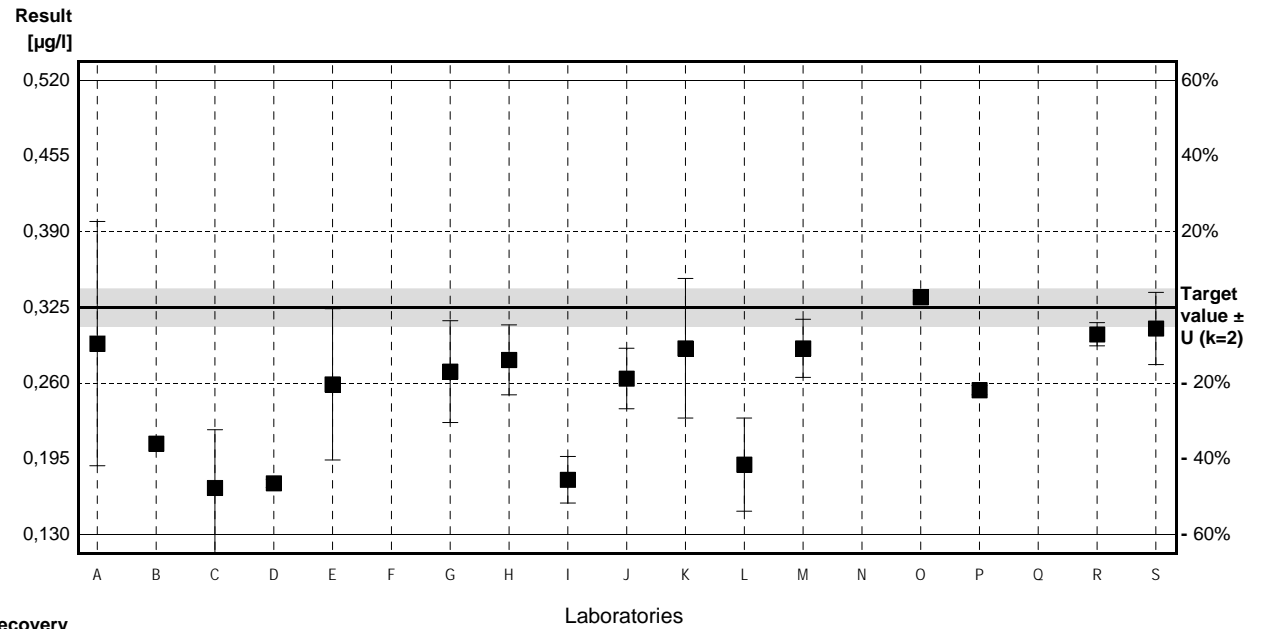
Sample P14B

Parameter Anthracene

Target value $\pm U$ (k=2) 0,325 $\mu\text{g/l}$ \pm 0,016 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,304 $\mu\text{g/l}$ \pm 0,106 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,298 $\mu\text{g/l}$ \pm 0,104 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,294	0,105	$\mu\text{g/l}$	90%	-0,50
B	0,208		$\mu\text{g/l}$	64%	-1,89
C	0,17	0,05	$\mu\text{g/l}$	52%	-2,51
D	0,174	0,0035	$\mu\text{g/l}$	54%	-2,45
E	0,259	0,065	$\mu\text{g/l}$	80%	-1,07
F			$\mu\text{g/l}$		
G	0,27	0,0437	$\mu\text{g/l}$	83%	-0,89
H	0,28	0,03	$\mu\text{g/l}$	86%	-0,73
I	0,177	0,02	$\mu\text{g/l}$	54%	-2,40
J	0,264	0,026	$\mu\text{g/l}$	81%	-0,99
K	0,29	0,06	$\mu\text{g/l}$	89%	-0,57
L	0,190	0,040	$\mu\text{g/l}$	58%	-2,19
M	0,29	0,025	$\mu\text{g/l}$	89%	-0,57
N			$\mu\text{g/l}$		
O	0,3340	0,005	$\mu\text{g/l}$	103%	0,15
P	0,254	0,004	$\mu\text{g/l}$	78%	-1,15
Q	4,79 *	0,29	$\mu\text{g/l}$	1474%	72,31
R	0,302	0,010	$\mu\text{g/l}$	93%	-0,37
S	0,307	0,031	$\mu\text{g/l}$	94%	-0,29

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,521 \pm 0,780	0,254 \pm 0,039	$\mu\text{g/l}$
Recov. \pm CI(99%)	160,2 \pm 240,0	78,1 \pm 12,1	%
SD between labs	1,101	0,053	$\mu\text{g/l}$
RSD between labs	211,5	20,9	%
n for calculation	17	16	

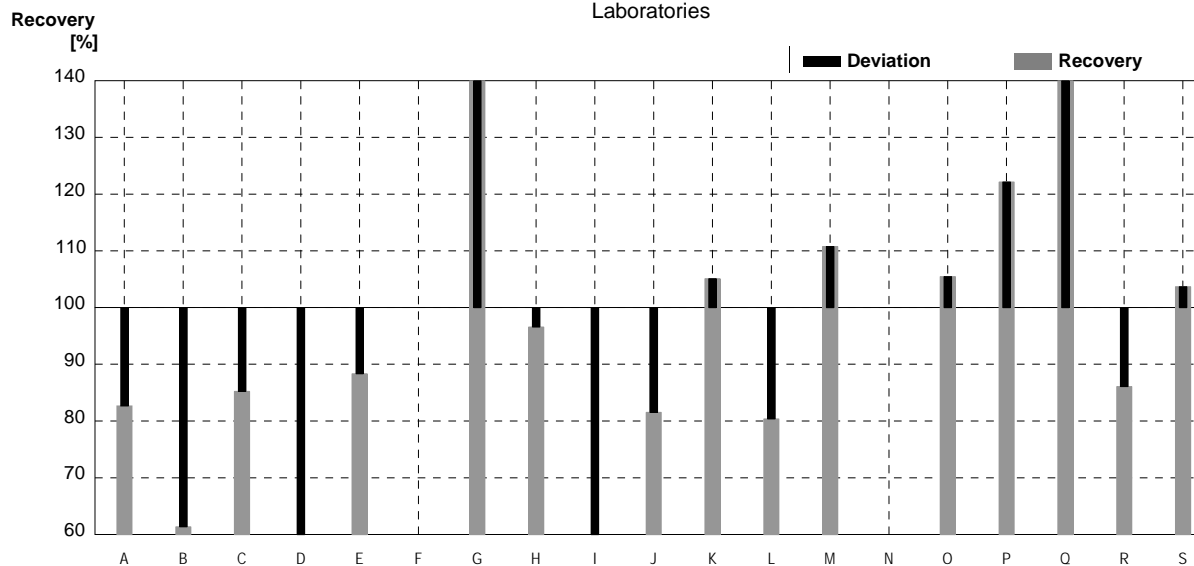
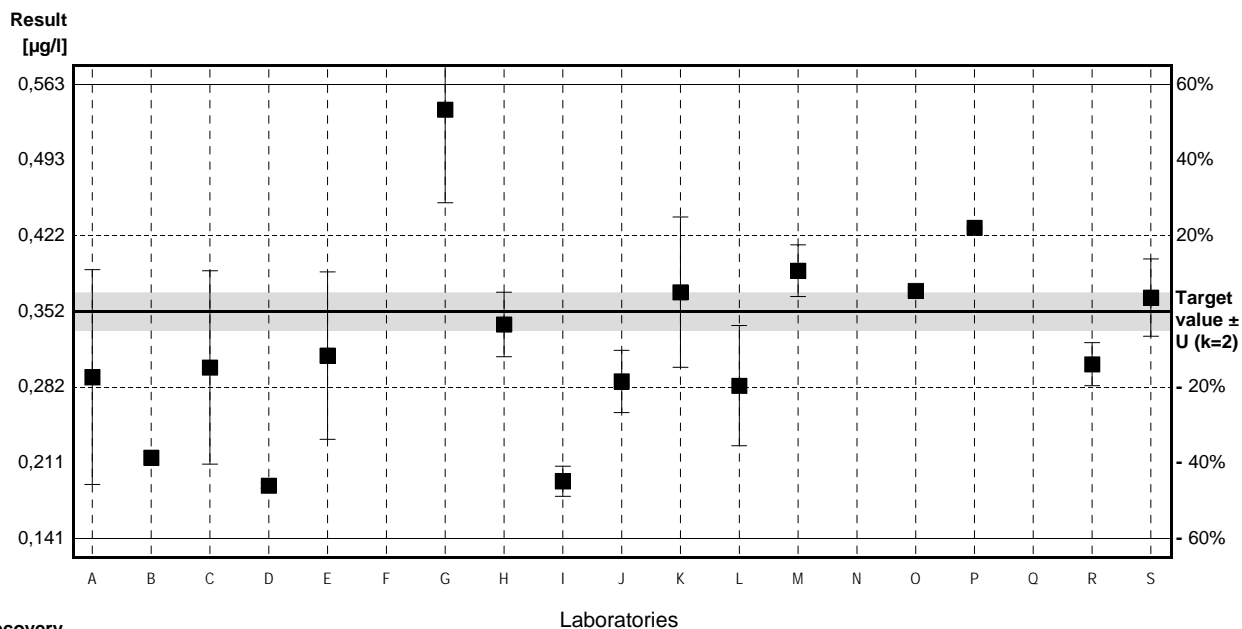


Sample P14A

Parameter Fluoranthene

Target value $\pm U$ (k=2) 0,352 $\mu\text{g/l}$ \pm 0,018 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,304 $\mu\text{g/l}$ \pm 0,076 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,310 $\mu\text{g/l}$ \pm 0,078 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,291	0,100	$\mu\text{g/l}$	83%	-0,91
B	0,216		$\mu\text{g/l}$	61%	-2,03
C	0,30	0,09	$\mu\text{g/l}$	85%	-0,78
D	0,190	0,0028	$\mu\text{g/l}$	54%	-2,42
E	0,311	0,078	$\mu\text{g/l}$	88%	-0,61
F			$\mu\text{g/l}$		
G	0,54	0,0867	$\mu\text{g/l}$	153%	2,81
H	0,34	0,03	$\mu\text{g/l}$	97%	-0,18
I	0,194	0,014	$\mu\text{g/l}$	55%	-2,36
J	0,287	0,029	$\mu\text{g/l}$	82%	-0,97
K	0,37	0,07	$\mu\text{g/l}$	105%	0,27
L	0,283	0,056	$\mu\text{g/l}$	80%	-1,03
M	0,39	0,024	$\mu\text{g/l}$	111%	0,57
N			$\mu\text{g/l}$		
O	0,3713	0,001	$\mu\text{g/l}$	105%	0,29
P	0,430	0,001	$\mu\text{g/l}$	122%	1,17
Q	17,90 *	1,07	$\mu\text{g/l}$	5085%	262,38
R	0,303	0,020	$\mu\text{g/l}$	86%	-0,73
S	0,365	0,036	$\mu\text{g/l}$	104%	0,19



	All results	Outliers excl.	Unit
Mean \pm CI(99%)	1,358 \pm 3,020	0,324 \pm 0,066	$\mu\text{g/l}$
Recov. \pm CI(99%)	385,7 \pm 857,8	92,0 \pm 18,8	%
SD between labs	4,264	0,090	$\mu\text{g/l}$
RSD between labs	314,0	27,7	%
n for calculation	17	16	

Sample P14B

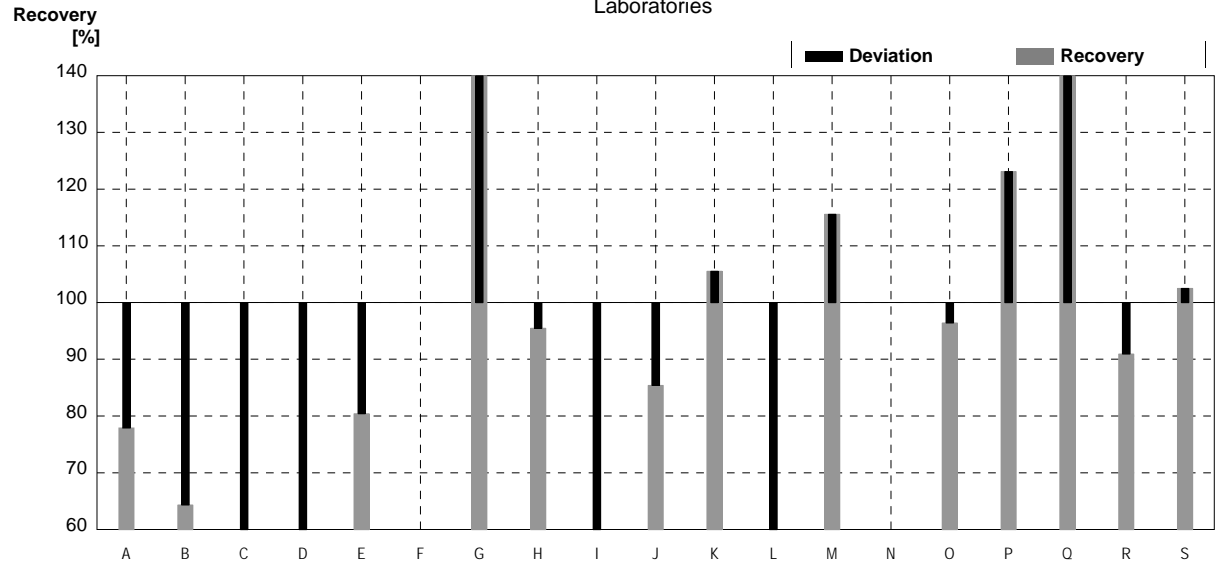
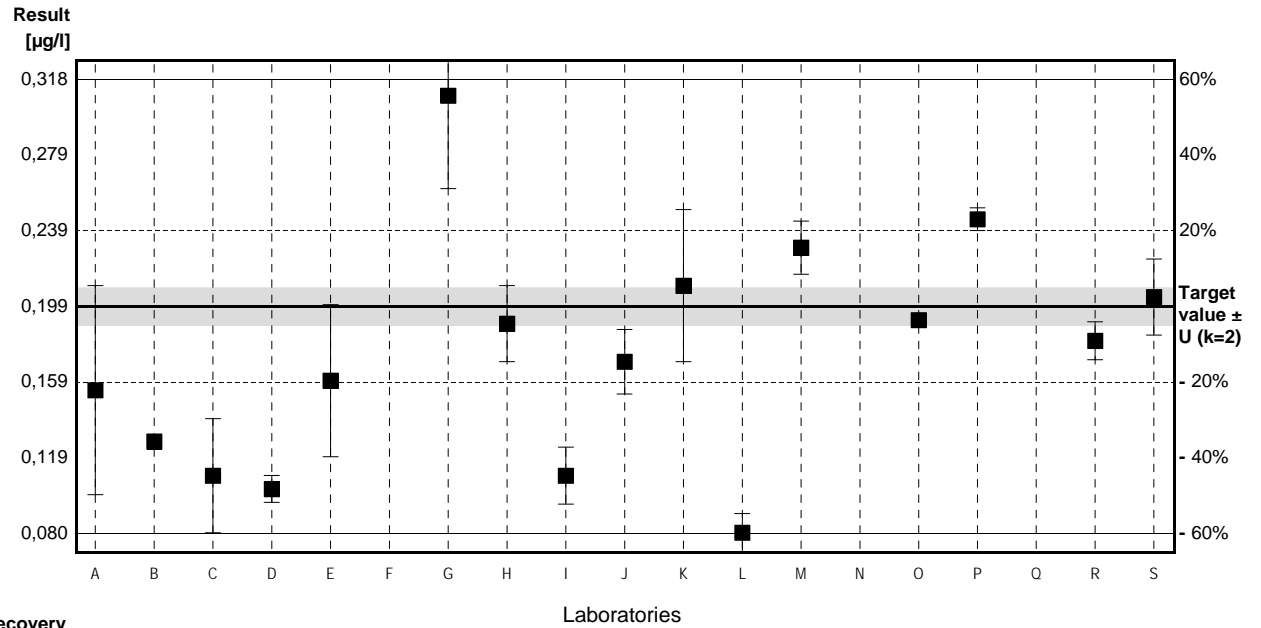
Parameter Fluoranthene

Target value ± U (k=2) 0,199 µg/l ± 0,010 µg/l

IFA result ± U (k=2) 0,170 µg/l ± 0,043 µg/l

Stability test ± U (k=2) 0,171 µg/l ± 0,043 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,155	0,055	µg/l	78%	-1,16
B	0,128		µg/l	64%	-1,88
C	0,11	0,03	µg/l	55%	-2,35
D	0,103	0,0071	µg/l	52%	-2,54
E	0,160	0,040	µg/l	80%	-1,03
F			µg/l		
G	0,31	0,0490	µg/l	156%	2,94
H	0,19	0,02	µg/l	95%	-0,24
I	0,110	0,015	µg/l	55%	-2,35
J	0,170	0,017	µg/l	85%	-0,77
K	0,21	0,04	µg/l	106%	0,29
L	0,080	0,010	µg/l	40%	-3,15
M	0,23	0,014	µg/l	116%	0,82
N			µg/l		
O	0,1919	0,001	µg/l	96%	-0,19
P	0,245	0,006	µg/l	123%	1,22
Q	3,01 *	0,18	µg/l	1513%	74,35
R	0,181	0,010	µg/l	91%	-0,48
S	0,204	0,02	µg/l	103%	0,13



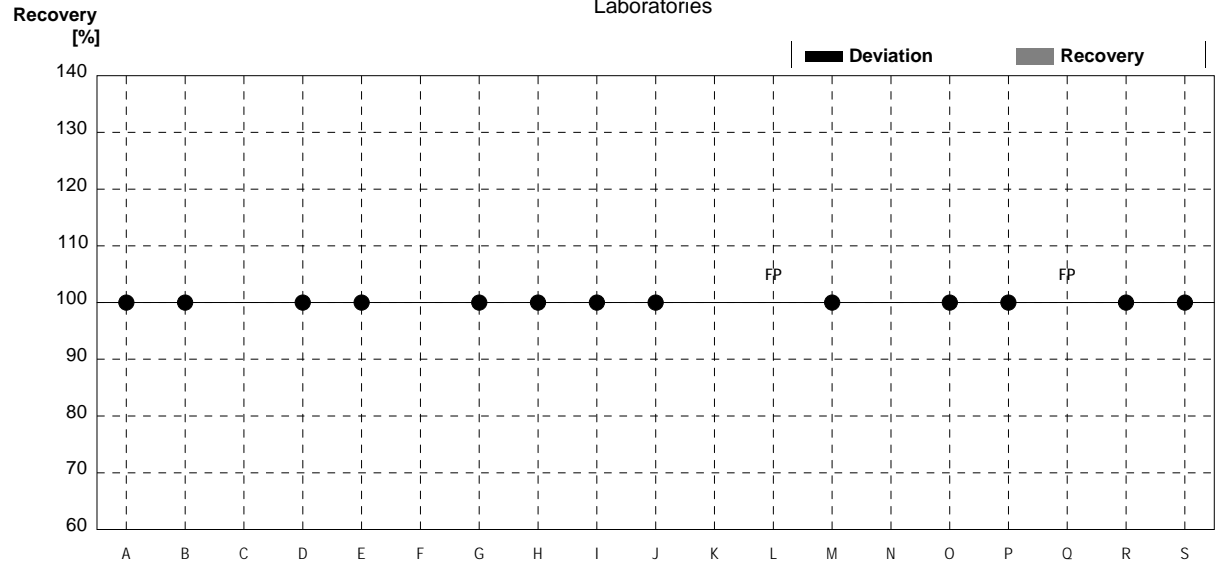
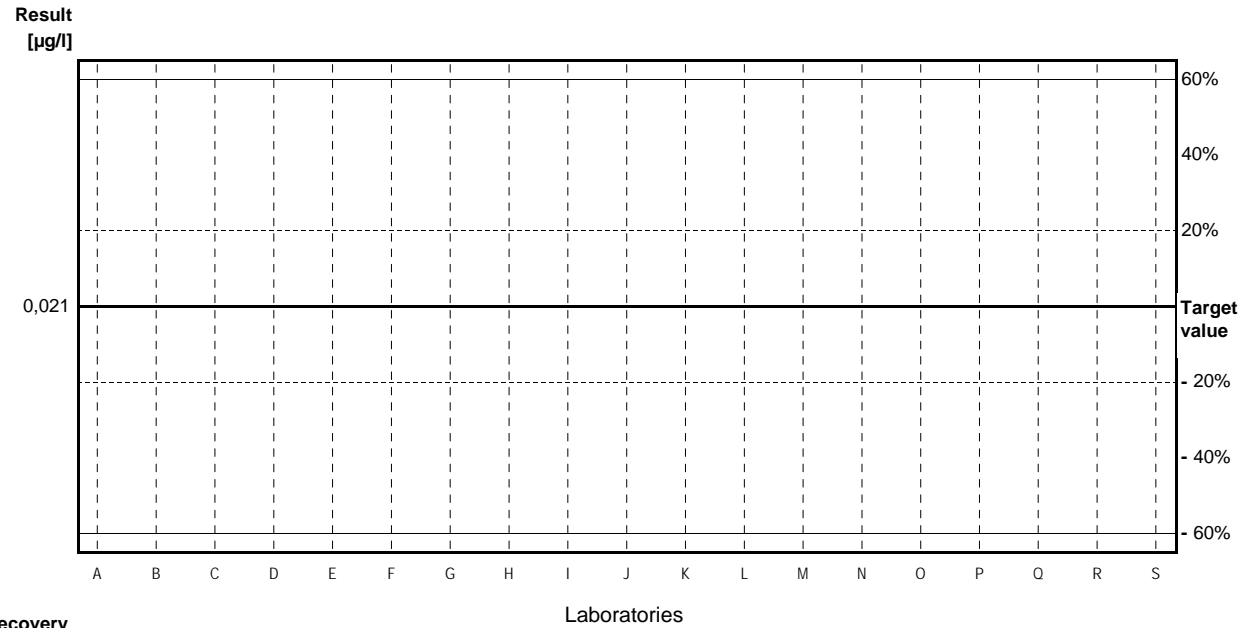
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,340 ± 0,489	0,174 ± 0,044	µg/l
Recov. ± CI(99%)	171,1 ± 245,7	87,2 ± 22,3	%
SD between labs	0,690	0,060	µg/l
RSD between labs	202,8	34,6	%
n for calculation	17	16	

Sample P14A

Parameter Pyrene

Target value <0,021 µg/l
 IFA result <0,011 µg/l
 Stability test <0,011 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,010		µg/l	•	
B	0,005		µg/l	•	
C	<		µg/l		
D	0,003	0,0002	µg/l	•	
E	<0,01		µg/l	•	
F			µg/l		
G	<0,010		µg/l	•	
H	<0,05		µg/l	•	
I	<0,05		µg/l	•	
J	<0,05		µg/l	•	
K	n.d.		µg/l		
L	0,085	0,017	µg/l	FP	
M	<0,01		µg/l	•	
N			µg/l		
O	<0,01	0,005	µg/l	•	
P	<0,02		µg/l	•	
Q	8,75	0,53	µg/l	FP	
R	<0,010		µg/l	•	
S	<0,003		µg/l	•	



Mean ± CI(99%) Recov. ± CI(99%) SD between labs RSD between labs n for calculation	All results	Outliers excl.	Unit µg/l % µg/l %

Sample P14B

Parameter Pyrene

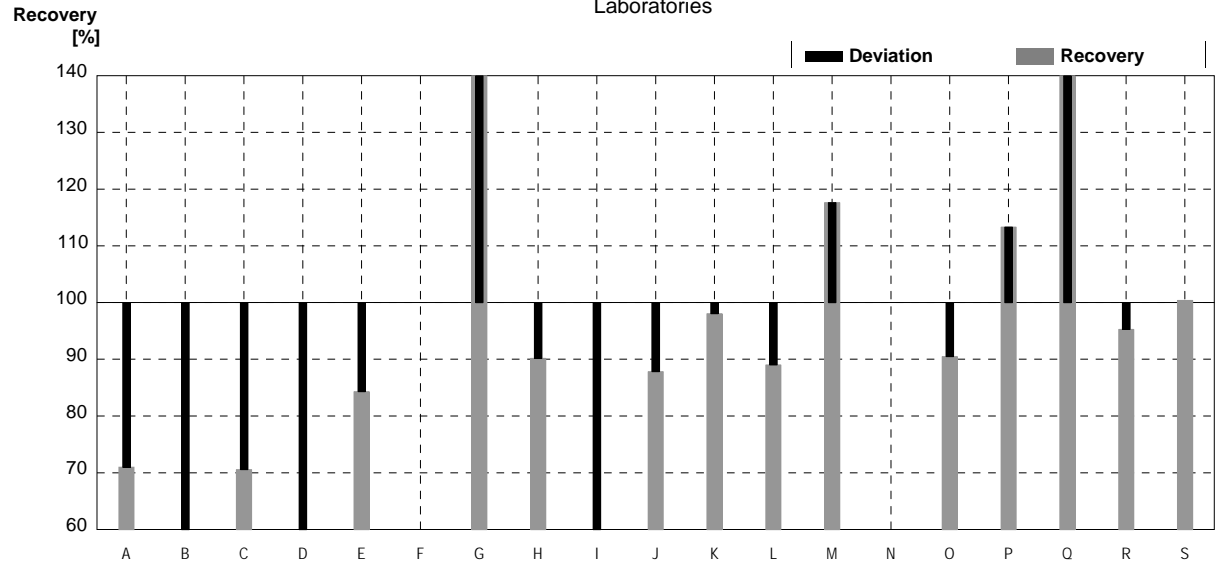
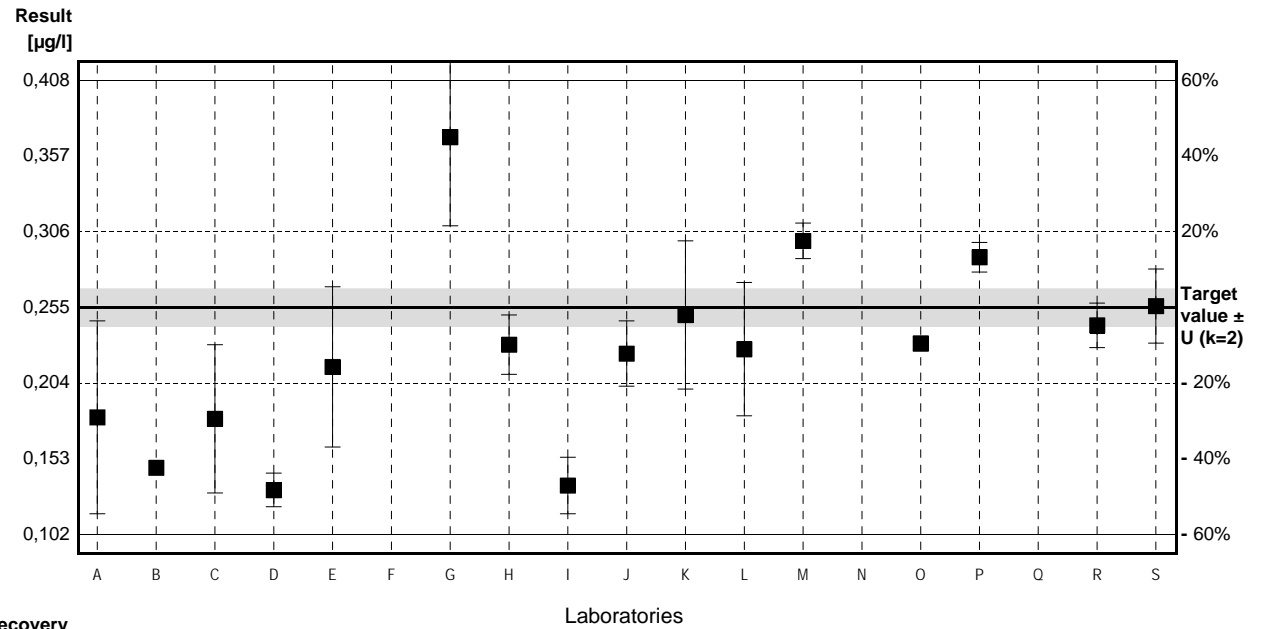
Target value $\pm U$ (k=2) 0,255 $\mu\text{g/l}$ \pm 0,013 $\mu\text{g/l}$

IFA result $\pm U$ (k=2) 0,263 $\mu\text{g/l}$ \pm 0,092 $\mu\text{g/l}$

Stability test $\pm U$ (k=2) 0,262 $\mu\text{g/l}$ \pm 0,092 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,181	0,065	$\mu\text{g/l}$	71%	-1,45
B	0,147		$\mu\text{g/l}$	58%	-2,12
C	0,18	0,05	$\mu\text{g/l}$	71%	-1,47
D	0,132	0,0113	$\mu\text{g/l}$	52%	-2,41
E	0,215	0,054	$\mu\text{g/l}$	84%	-0,78
F			$\mu\text{g/l}$		
G	0,37	0,0599	$\mu\text{g/l}$	145%	2,25
H	0,23	0,02	$\mu\text{g/l}$	90%	-0,49
I	0,135	0,019	$\mu\text{g/l}$	53%	-2,35
J	0,224	0,022	$\mu\text{g/l}$	88%	-0,61
K	0,25	0,05	$\mu\text{g/l}$	98%	-0,10
L	0,227	0,045	$\mu\text{g/l}$	89%	-0,55
M	0,30	0,012	$\mu\text{g/l}$	118%	0,88
N			$\mu\text{g/l}$		
O	0,2308	0,005	$\mu\text{g/l}$	91%	-0,47
P	0,289	0,010	$\mu\text{g/l}$	113%	0,67
Q	4,02 *	0,24	$\mu\text{g/l}$	1576%	73,82
R	0,243	0,015	$\mu\text{g/l}$	95%	-0,24
S	0,256	0,025	$\mu\text{g/l}$	100%	0,02

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,449 \pm 0,653	0,226 \pm 0,046	$\mu\text{g/l}$
Recov. \pm CI(99%)	176,0 \pm 256,1	88,5 \pm 18,2	%
SD between labs	0,922	0,063	$\mu\text{g/l}$
RSD between labs	205,5	27,9	%
n for calculation	17	16	

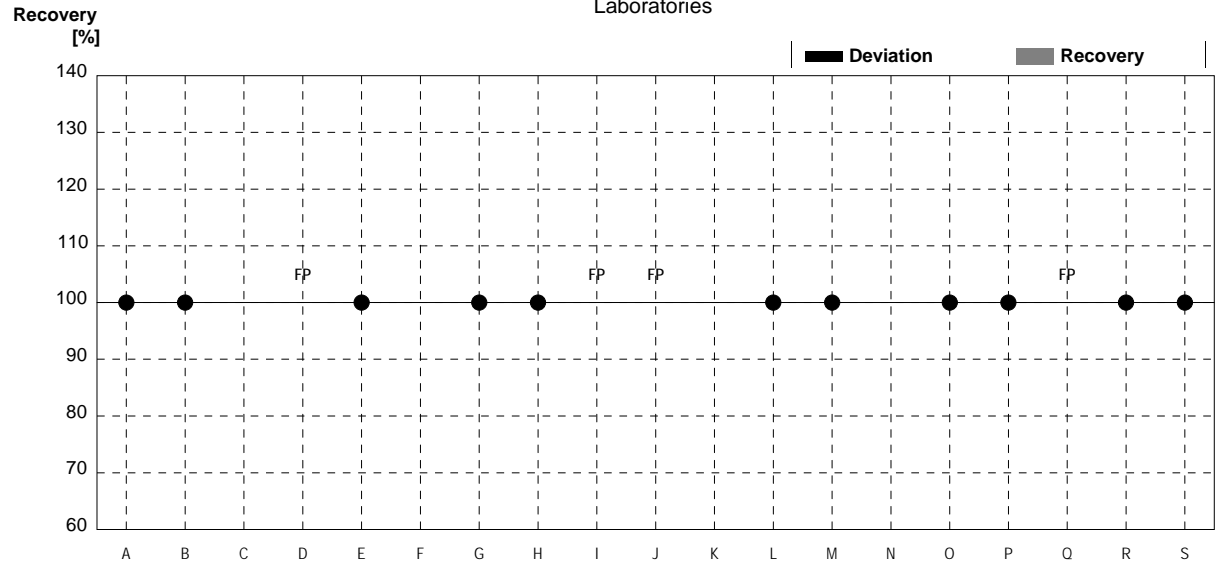
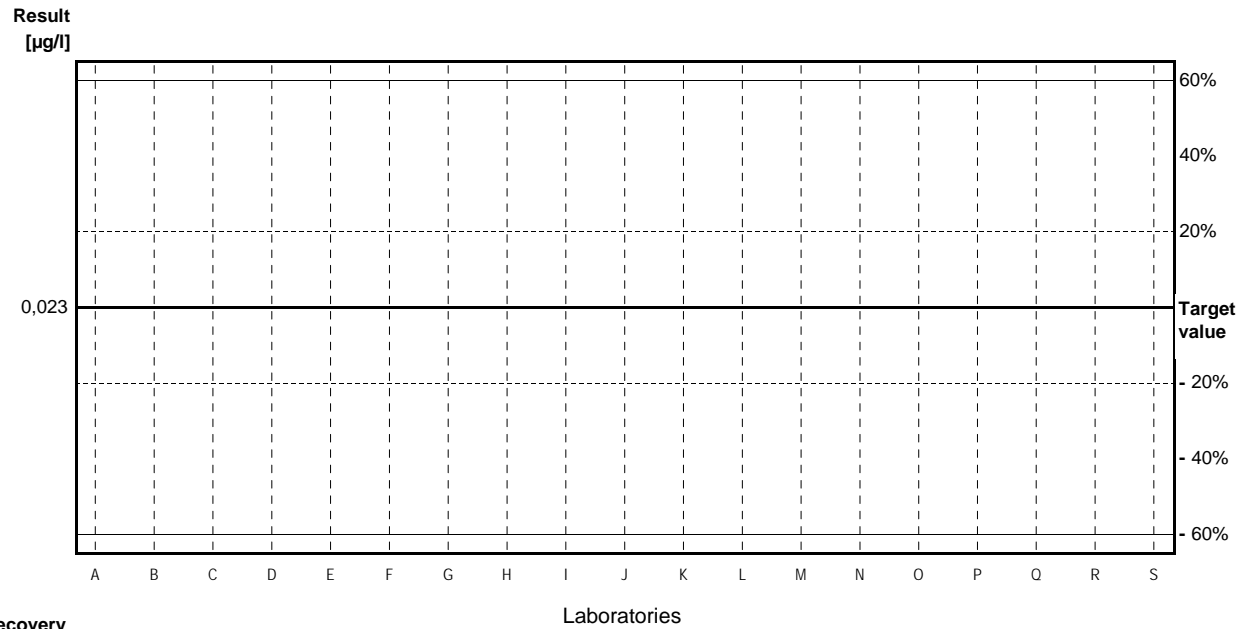


Sample P14A

Parameter Benzo(a)anthracene

Target value <0,023 µg/l
 IFA result <0,012 µg/l
 Stability test <0,012 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	<0,010		µg/l	•	
B	<0,005		µg/l	•	
C	<		µg/l		
D	0,059	0,00071	µg/l	FP	
E	<0,01		µg/l	•	
F			µg/l		
G	<0,010		µg/l	•	
H	<0,05		µg/l	•	
I	0,046	0,01	µg/l	FP	
J	0,244	0,024	µg/l	FP	
K	n.d.		µg/l		
L	<0,010	0,020	µg/l	•	
M	<0,01		µg/l	•	
N			µg/l		
O	<0,01	0,005	µg/l	•	
P	<0,01		µg/l	•	
Q	5,45	0,33	µg/l	FP	
R	<0,010		µg/l	•	
S	<0,003		µg/l	•	



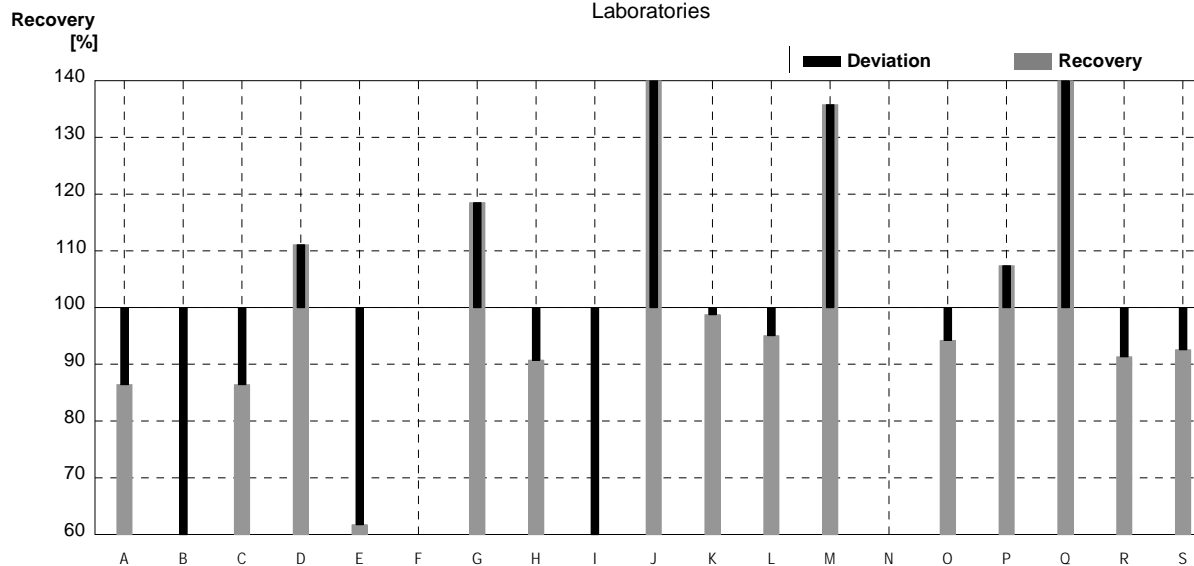
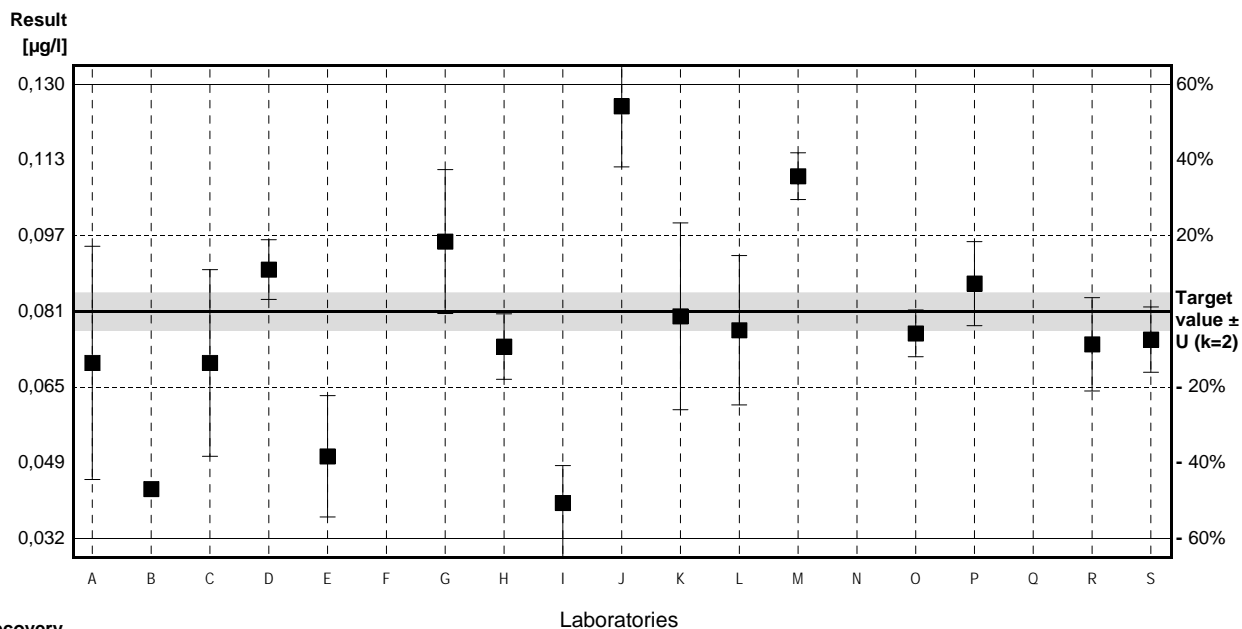
	All results	Outliers excl.	Unit
Mean ± CI(99%)			µg/l
Recov. ± CI(99%)			%
SD between labs			µg/l
RSD between labs			%
n for calculation			

Sample P14B

Parameter Benzo(a)anthracene

Target value ± U (k=2) 0,081 µg/l ± 0,004 µg/l
 IFA result ± U (k=2) 0,081 µg/l ± 0,028 µg/l
 Stability test ± U (k=2) 0,079 µg/l ± 0,028 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,070	0,025	µg/l	86%	-0,80
B	0,043		µg/l	53%	-2,76
C	0,07	0,02	µg/l	86%	-0,80
D	0,090	0,0064	µg/l	111%	0,65
E	0,050	0,013	µg/l	62%	-2,25
F			µg/l		
G	0,096	0,0154	µg/l	119%	1,09
H	0,0735	0,007	µg/l	91%	-0,54
I	0,04	0,008	µg/l	49%	-2,98
J	0,125	0,013	µg/l	154%	3,20
K	0,08	0,02	µg/l	99%	-0,07
L	0,077	0,016	µg/l	95%	-0,29
M	0,11	0,0050	µg/l	136%	2,11
N			µg/l		
O	0,07632	0,005	µg/l	94%	-0,34
P	0,087	0,009	µg/l	107%	0,44
Q	1,22 *	0,07	µg/l	1506%	82,72
R	0,074	0,010	µg/l	91%	-0,51
S	0,075	0,007	µg/l	93%	-0,44



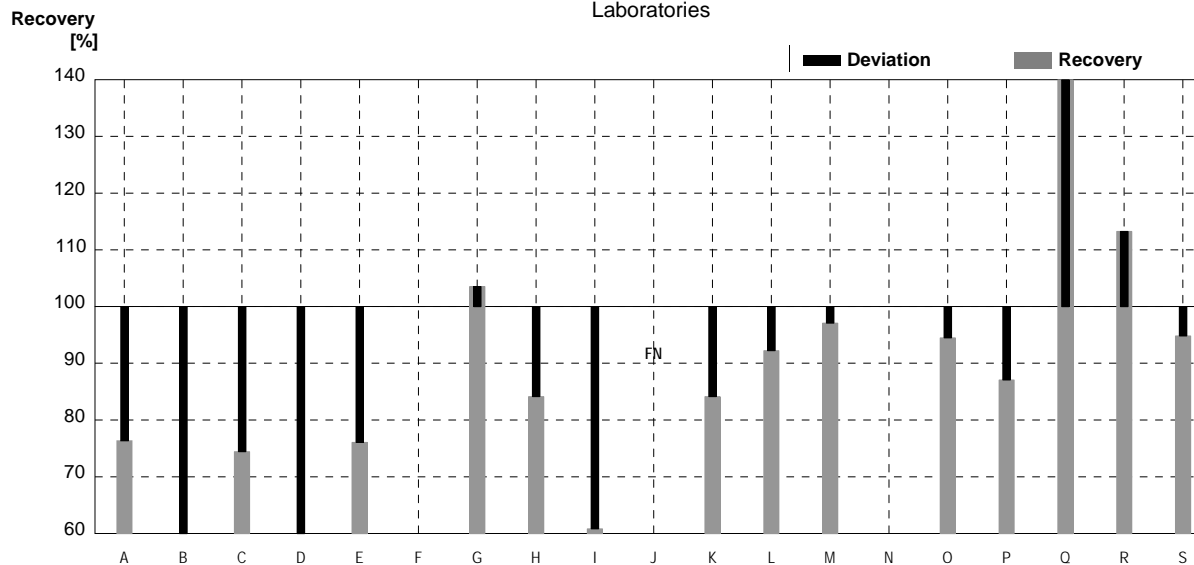
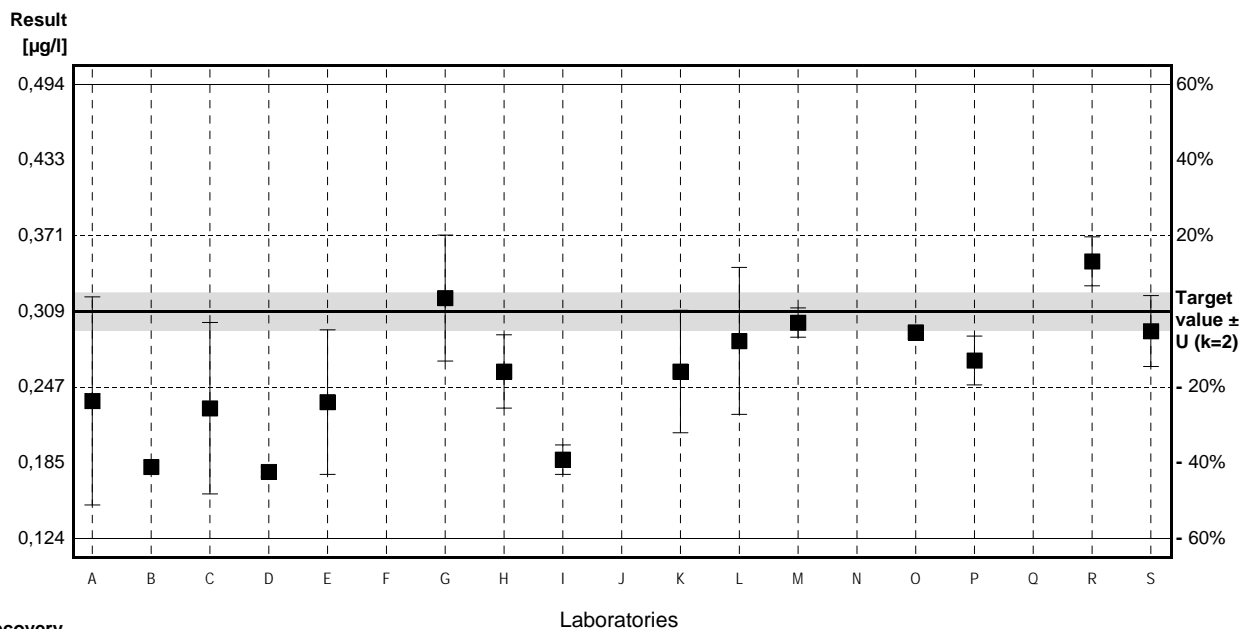
	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,145 ± 0,197	0,077 ± 0,016	µg/l
Recov. ± CI(99%)	178,4 ± 243,0	95,4 ± 20,2	%
SD between labs	0,278	0,022	µg/l
RSD between labs	192,3	28,7	%
n for calculation	17	16	

Sample P14A

Parameter Chrysene

Target value $\pm U$ (k=2) 0,309 $\mu\text{g/l}$ \pm 0,015 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,310 $\mu\text{g/l}$ \pm 0,078 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,313 $\mu\text{g/l}$ \pm 0,078 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,236	0,085	$\mu\text{g/l}$	76%	-1,39
B	0,182		$\mu\text{g/l}$	59%	-2,42
C	0,23	0,07	$\mu\text{g/l}$	74%	-1,50
D	0,178	0,0042	$\mu\text{g/l}$	58%	-2,49
E	0,235	0,059	$\mu\text{g/l}$	76%	-1,41
F			$\mu\text{g/l}$		
G	0,32	0,0515	$\mu\text{g/l}$	104%	0,21
H	0,26	0,03	$\mu\text{g/l}$	84%	-0,93
I	0,188	0,012	$\mu\text{g/l}$	61%	-2,30
J	<0,05		$\mu\text{g/l}$	FN	
K	0,26	0,05	$\mu\text{g/l}$	84%	-0,93
L	0,285	0,060	$\mu\text{g/l}$	92%	-0,46
M	0,30	0,012	$\mu\text{g/l}$	97%	-0,17
N			$\mu\text{g/l}$		
O	0,2920	0,005	$\mu\text{g/l}$	94%	-0,32
P	0,269	0,020	$\mu\text{g/l}$	87%	-0,76
Q	5,12 *	0,31	$\mu\text{g/l}$	1657%	91,59
R	0,350	0,020	$\mu\text{g/l}$	113%	0,78
S	0,293	0,029	$\mu\text{g/l}$	95%	-0,30



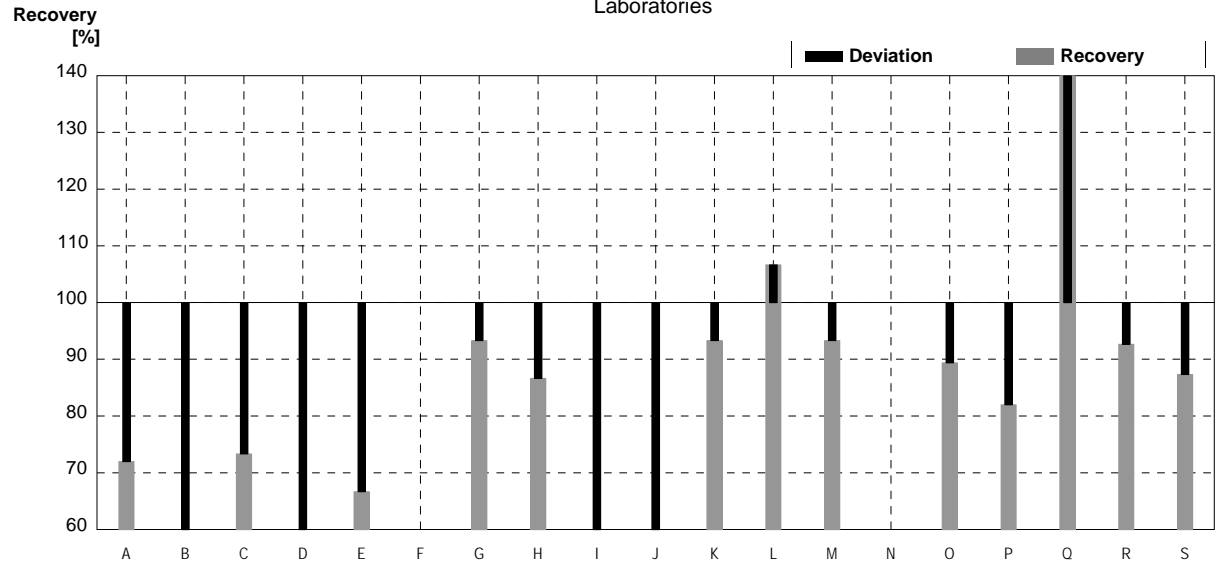
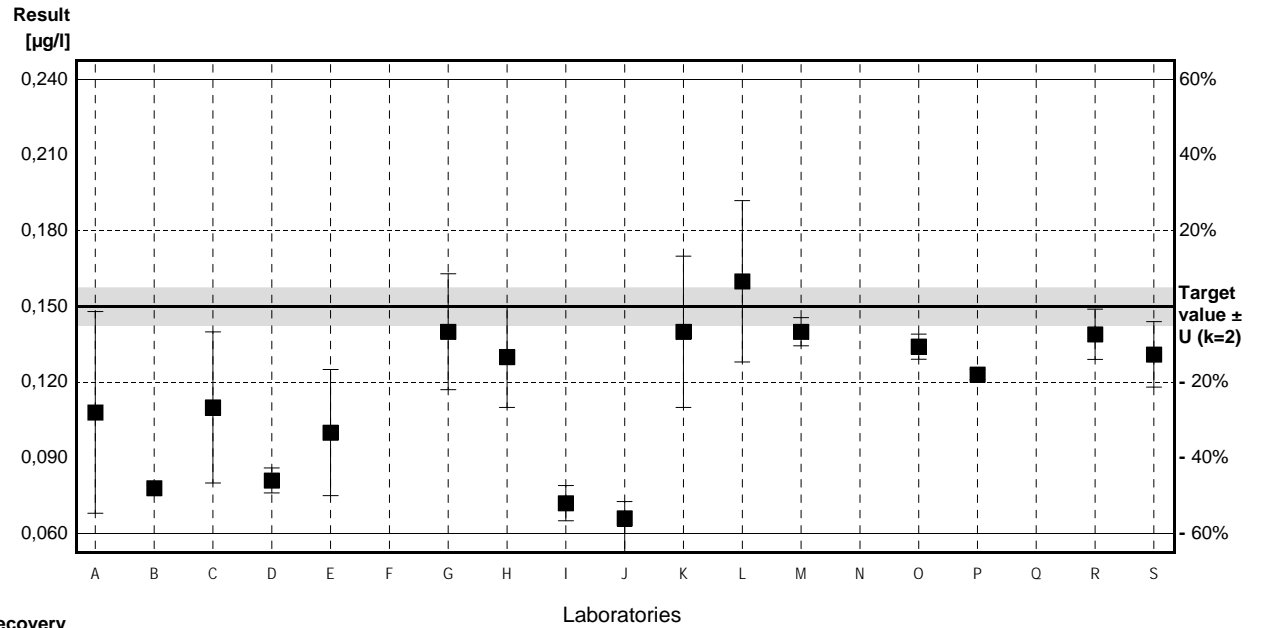
	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,562 \pm 0,897	0,259 \pm 0,039	$\mu\text{g/l}$
Recov. \pm CI(99%)	182,0 \pm 290,3	83,7 \pm 12,7	%
SD between labs	1,216	0,051	$\mu\text{g/l}$
RSD between labs	216,3	19,7	%
n for calculation	16	15	

Sample P14B

Parameter Chrysene

Target value $\pm U$ (k=2) 0,150 $\mu\text{g/l}$ \pm 0,008 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,145 $\mu\text{g/l}$ \pm 0,036 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,145 $\mu\text{g/l}$ \pm 0,036 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,108	0,040	$\mu\text{g/l}$	72%	-1,65
B	0,078		$\mu\text{g/l}$	52%	-2,82
C	0,11	0,03	$\mu\text{g/l}$	73%	-1,57
D	0,081	0,00495	$\mu\text{g/l}$	54%	-2,71
E	0,100	0,025	$\mu\text{g/l}$	67%	-1,96
F			$\mu\text{g/l}$		
G	0,14	0,0230	$\mu\text{g/l}$	93%	-0,39
H	0,13	0,02	$\mu\text{g/l}$	87%	-0,78
I	0,072	0,007	$\mu\text{g/l}$	48%	-3,06
J	0,0660	0,0066	$\mu\text{g/l}$	44%	-3,29
K	0,14	0,03	$\mu\text{g/l}$	93%	-0,39
L	0,160	0,032	$\mu\text{g/l}$	107%	0,39
M	0,14	0,0056	$\mu\text{g/l}$	93%	-0,39
N			$\mu\text{g/l}$		
O	0,1341	0,005	$\mu\text{g/l}$	89%	-0,62
P	0,123	0,002	$\mu\text{g/l}$	82%	-1,06
Q	2,04 *	0,12	$\mu\text{g/l}$	1360%	74,12
R	0,139	0,010	$\mu\text{g/l}$	93%	-0,43
S	0,131	0,013	$\mu\text{g/l}$	87%	-0,75



	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,229 \pm 0,331	0,116 \pm 0,021	$\mu\text{g/l}$
Recov. \pm CI(99%)	152,6 \pm 220,7	77,2 \pm 14,2	%
SD between labs	0,468	0,029	$\mu\text{g/l}$
RSD between labs	204,2	24,9	%
n for calculation	17	16	

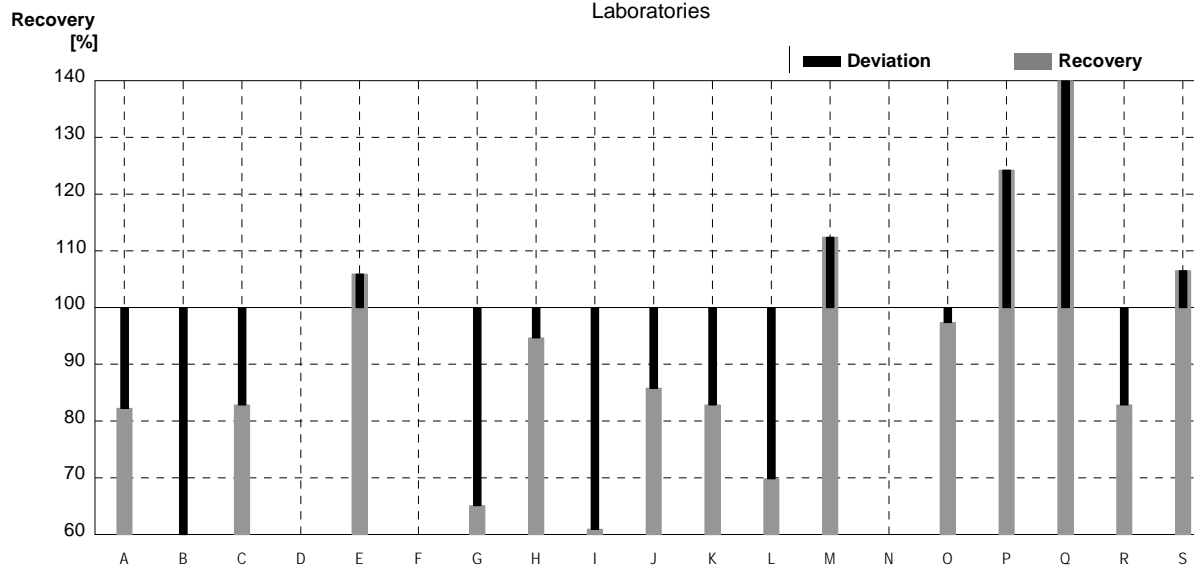
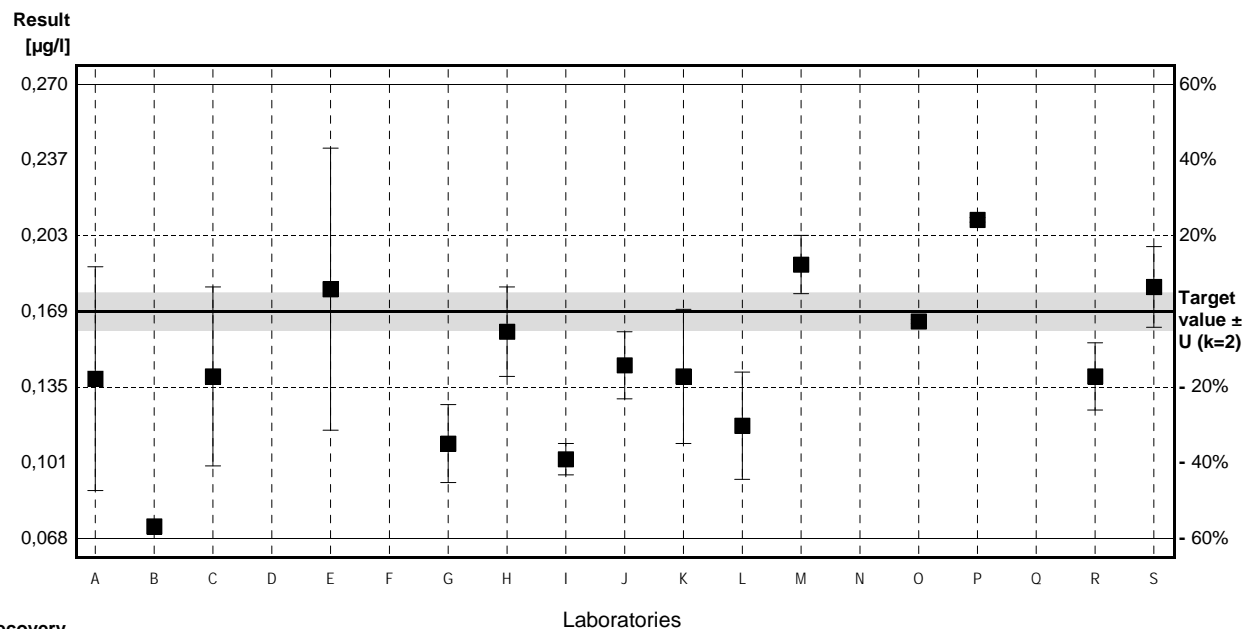
Sample P14A

Parameter Benzo(b)fluoranthene

Target value $\pm U$ (k=2) 0,169 $\mu\text{g/l}$ \pm 0,008 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,170 $\mu\text{g/l}$ \pm 0,060 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,168 $\mu\text{g/l}$ \pm 0,059 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,139	0,050	$\mu\text{g/l}$	82%	-0,81
B	0,073		$\mu\text{g/l}$	43%	-2,58
C	0,14	0,04	$\mu\text{g/l}$	83%	-0,78
D			$\mu\text{g/l}$		
E	0,179	0,063	$\mu\text{g/l}$	106%	0,27
F			$\mu\text{g/l}$		
G	0,11	0,0174	$\mu\text{g/l}$	65%	-1,59
H	0,16	0,02	$\mu\text{g/l}$	95%	-0,24
I	0,103	0,007	$\mu\text{g/l}$	61%	-1,78
J	0,145	0,015	$\mu\text{g/l}$	86%	-0,65
K	0,14	0,03	$\mu\text{g/l}$	83%	-0,78
L	0,118	0,024	$\mu\text{g/l}$	70%	-1,37
M	0,19	0,013	$\mu\text{g/l}$	112%	0,56
N			$\mu\text{g/l}$		
O	0,1646	0,001	$\mu\text{g/l}$	97%	-0,12
P	0,210	0,001	$\mu\text{g/l}$	124%	1,10
Q	4,66 *	0,28	$\mu\text{g/l}$	2757%	120,79
R	0,140	0,015	$\mu\text{g/l}$	83%	-0,78
S	0,18	0,018	$\mu\text{g/l}$	107%	0,30

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,428 \pm 0,833	0,146 \pm 0,028	$\mu\text{g/l}$
Recov. \pm CI(99%)	253,4 \pm 492,7	86,5 \pm 16,4	%
SD between labs	1,129	0,036	$\mu\text{g/l}$
RSD between labs	263,6	24,7	%
n for calculation	16	15	



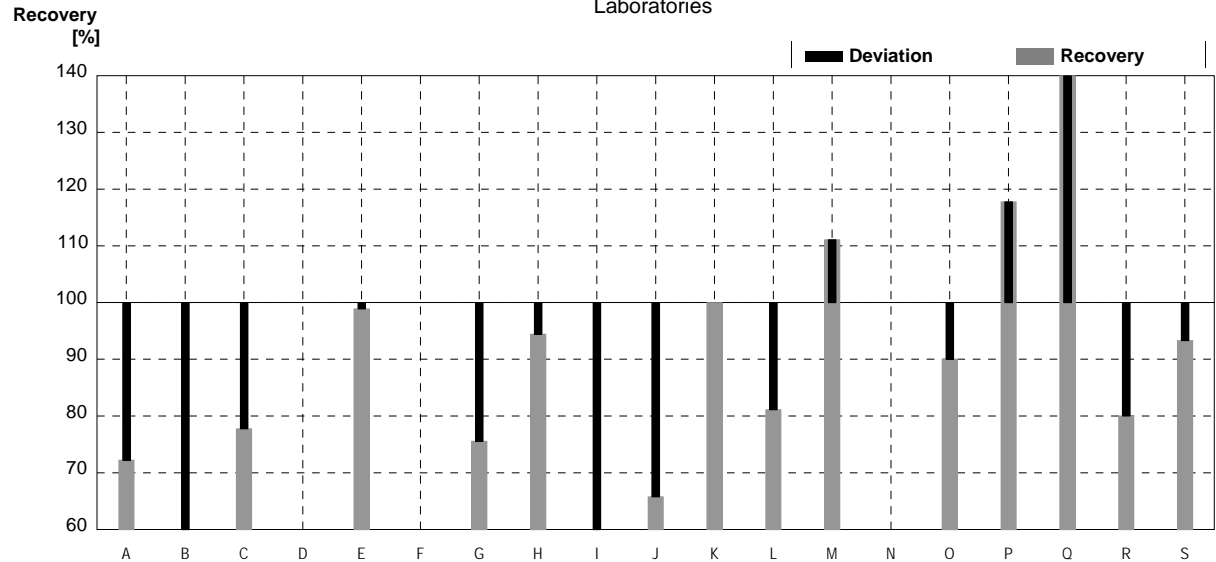
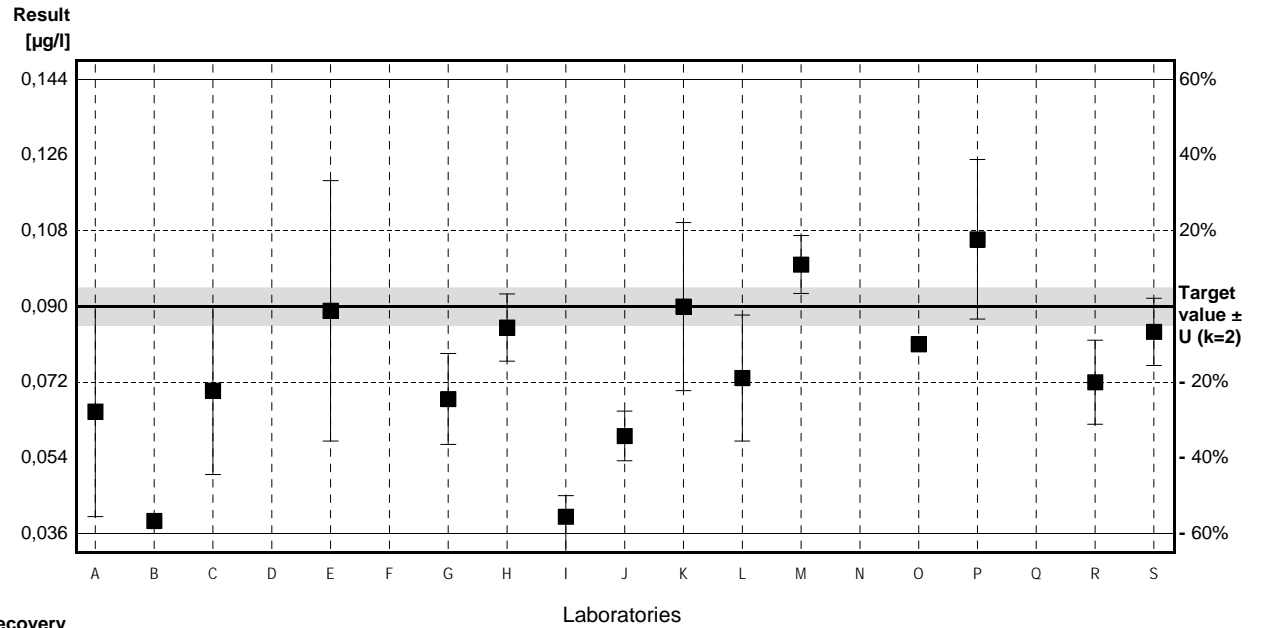
Sample P14B

Parameter Benzo(b)fluoranthene

Target value ± U (k=2) 0,090 µg/l ± 0,005 µg/l
 IFA result ± U (k=2) 0,085 µg/l ± 0,030 µg/l
 Stability test ± U (k=2) 0,089 µg/l ± 0,031 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,065	0,025	µg/l	72%	-1,26
B	0,039		µg/l	43%	-2,58
C	0,07	0,02	µg/l	78%	-1,01
D			µg/l		
E	0,089	0,031	µg/l	99%	-0,05
F			µg/l		
G	0,068	0,0108	µg/l	76%	-1,11
H	0,085	0,008	µg/l	94%	-0,25
I	0,040	0,005	µg/l	44%	-2,53
J	0,0592	0,0059	µg/l	66%	-1,56
K	0,09	0,02	µg/l	100%	0,00
L	0,073	0,015	µg/l	81%	-0,86
M	0,10	0,0069	µg/l	111%	0,51
N			µg/l		
O	0,08105	0,001	µg/l	90%	-0,45
P	0,106	0,019	µg/l	118%	0,81
Q	1,28 *	0,08	µg/l	1422%	60,10
R	0,072	0,010	µg/l	80%	-0,91
S	0,084	0,008	µg/l	93%	-0,30

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,150 ± 0,223	0,075 ± 0,015	µg/l
Recov. ± CI(99%)	166,8 ± 247,4	83,1 ± 16,4	%
SD between labs	0,302	0,019	µg/l
RSD between labs	201,2	25,7	%
n for calculation	16	15	



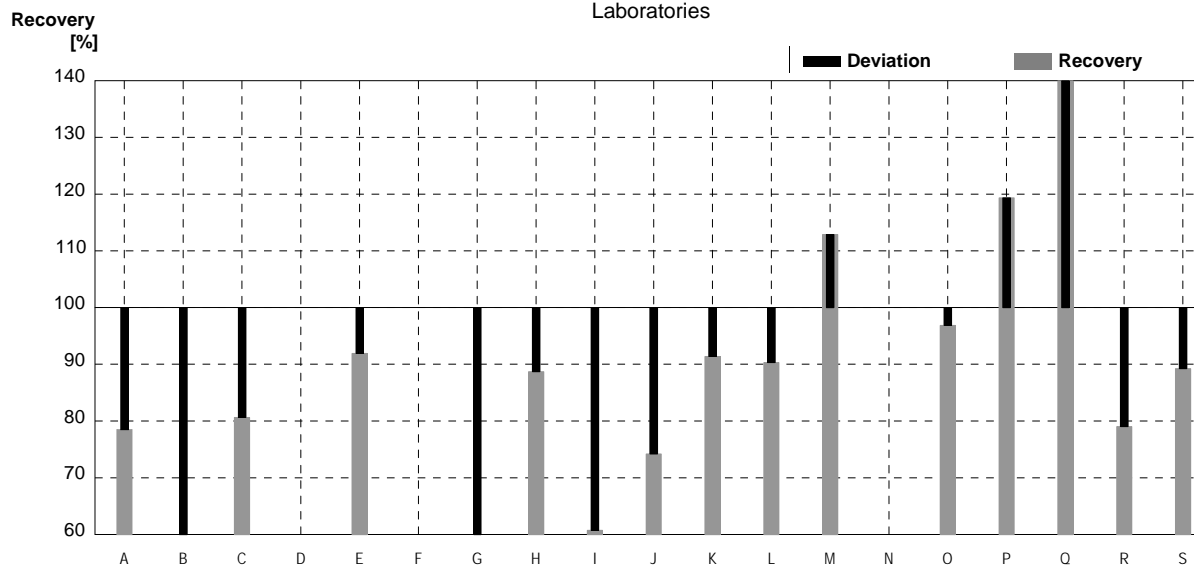
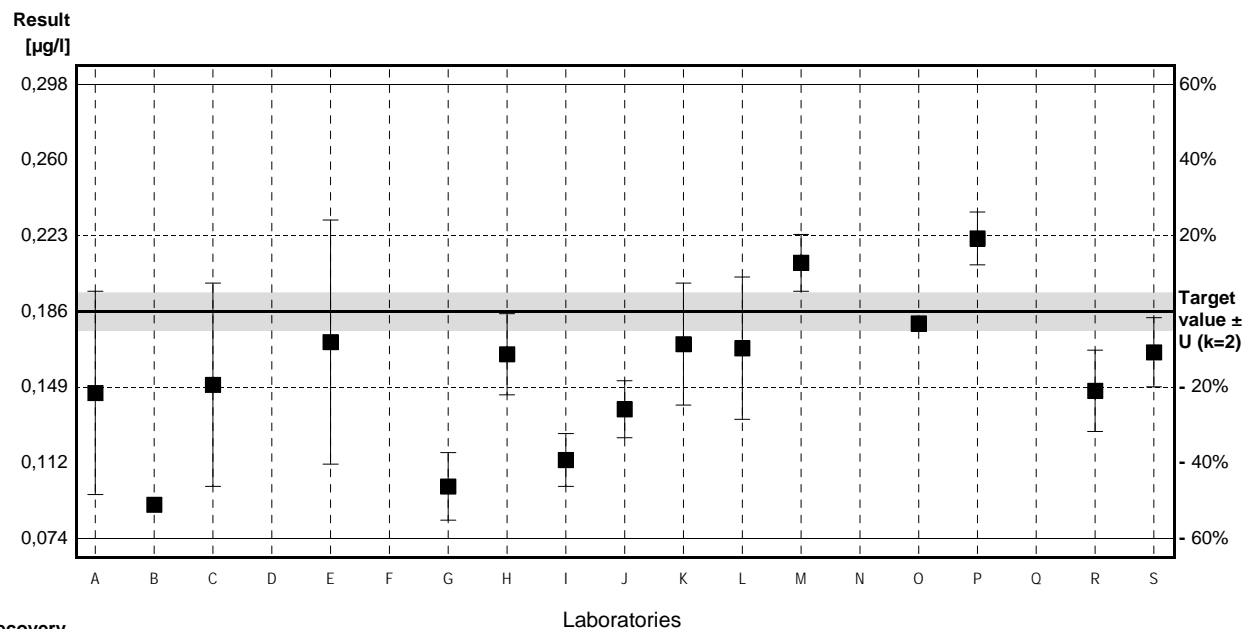
Sample P14A

Parameter Benzo(k)fluoranthene

Target value $\pm U$ (k=2) 0,186 $\mu\text{g/l}$ \pm 0,009 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,199 $\mu\text{g/l}$ \pm 0,070 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,189 $\mu\text{g/l}$ \pm 0,066 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,146	0,050	$\mu\text{g/l}$	78%	-0,94
B	0,091		$\mu\text{g/l}$	49%	-2,22
C	0,15	0,05	$\mu\text{g/l}$	81%	-0,84
D			$\mu\text{g/l}$		
E	0,171	0,060	$\mu\text{g/l}$	92%	-0,35
F			$\mu\text{g/l}$		
G	0,10	0,0166	$\mu\text{g/l}$	54%	-2,01
H	0,165	0,02	$\mu\text{g/l}$	89%	-0,49
I	0,113	0,013	$\mu\text{g/l}$	61%	-1,71
J	0,138	0,014	$\mu\text{g/l}$	74%	-1,12
K	0,17	0,03	$\mu\text{g/l}$	91%	-0,37
L	0,168	0,035	$\mu\text{g/l}$	90%	-0,42
M	0,21	0,014	$\mu\text{g/l}$	113%	0,56
N			$\mu\text{g/l}$		
O	0,1802	0,001	$\mu\text{g/l}$	97%	-0,14
P	0,222	0,013	$\mu\text{g/l}$	119%	0,84
Q	2,43 *	0,15	$\mu\text{g/l}$	1306%	52,45
R	0,147	0,020	$\mu\text{g/l}$	79%	-0,91
S	0,166	0,017	$\mu\text{g/l}$	89%	-0,47

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,298 \pm 0,420	0,156 \pm 0,028	$\mu\text{g/l}$
Recov. \pm CI(99%)	160,2 \pm 225,9	83,8 \pm 15,0	%
SD between labs	0,570	0,036	$\mu\text{g/l}$
RSD between labs	191,2	23,2	%
n for calculation	16	15	



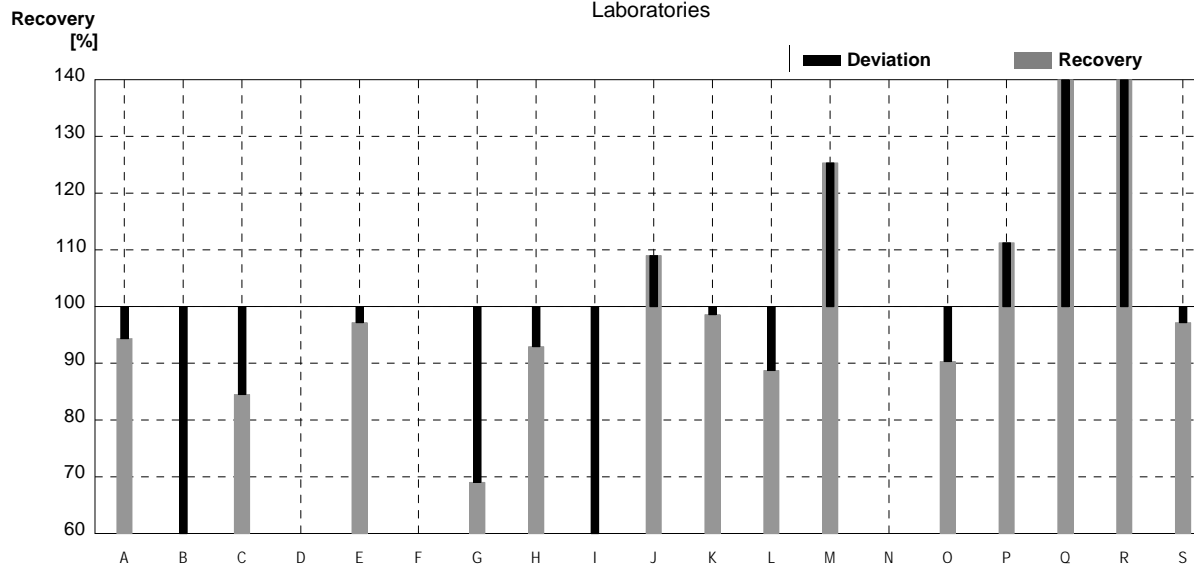
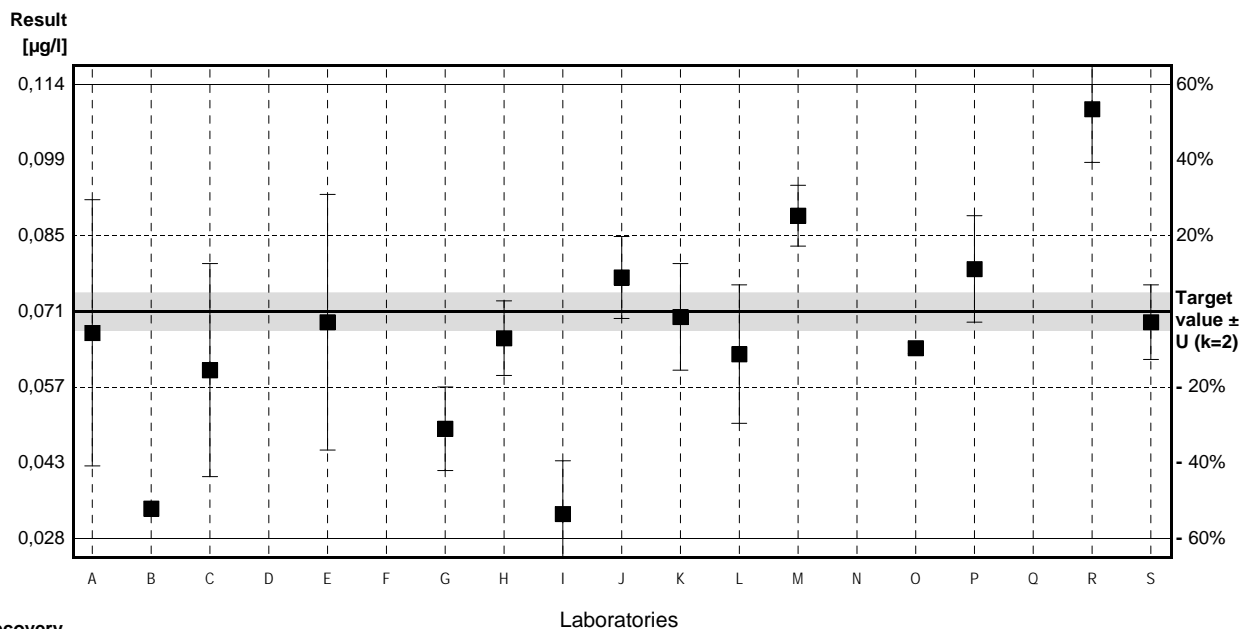
Sample P14B

Parameter Benzo(k)fluoranthene

Target value $\pm U$ (k=2) 0,071 $\mu\text{g/l}$ \pm 0,004 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,076 $\mu\text{g/l}$ \pm 0,027 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,074 $\mu\text{g/l}$ \pm 0,026 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,067	0,025	$\mu\text{g/l}$	94%	-0,24
B	0,034		$\mu\text{g/l}$	48%	-2,27
C	0,06	0,02	$\mu\text{g/l}$	85%	-0,67
D			$\mu\text{g/l}$		
E	0,069	0,024	$\mu\text{g/l}$	97%	-0,12
F			$\mu\text{g/l}$		
G	0,049	0,00783	$\mu\text{g/l}$	69%	-1,35
H	0,066	0,007	$\mu\text{g/l}$	93%	-0,31
I	0,033	0,01	$\mu\text{g/l}$	46%	-2,33
J	0,0774	0,0077	$\mu\text{g/l}$	109%	0,39
K	0,07	0,01	$\mu\text{g/l}$	99%	-0,06
L	0,063	0,013	$\mu\text{g/l}$	89%	-0,49
M	0,089	0,0057	$\mu\text{g/l}$	125%	1,10
N			$\mu\text{g/l}$		
O	0,06414	0,001	$\mu\text{g/l}$	90%	-0,42
P	0,079	0,010	$\mu\text{g/l}$	111%	0,49
Q	0,97 *	0,06	$\mu\text{g/l}$	1366%	55,05
R	0,109	0,010	$\mu\text{g/l}$	154%	2,33
S	0,069	0,007	$\mu\text{g/l}$	97%	-0,12

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,123 \pm 0,167	0,067 \pm 0,015	$\mu\text{g/l}$
Recov. \pm CI(99%)	173,3 \pm 235,4	93,8 \pm 20,8	%
SD between labs	0,227	0,019	$\mu\text{g/l}$
RSD between labs	184,2	28,8	%
n for calculation	16	15	



Sample P14A

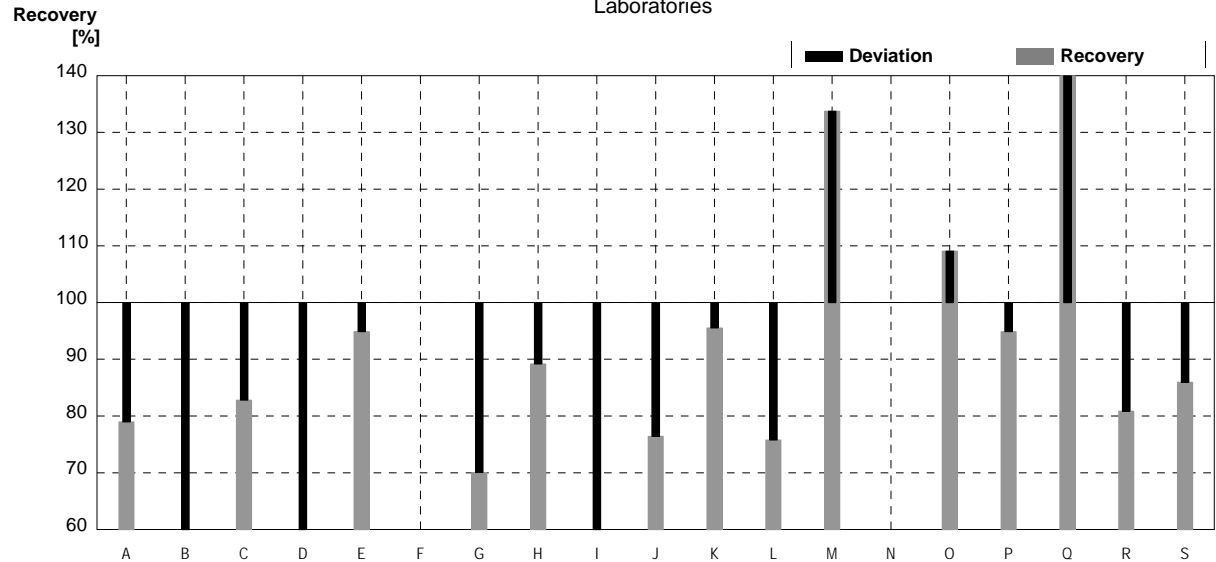
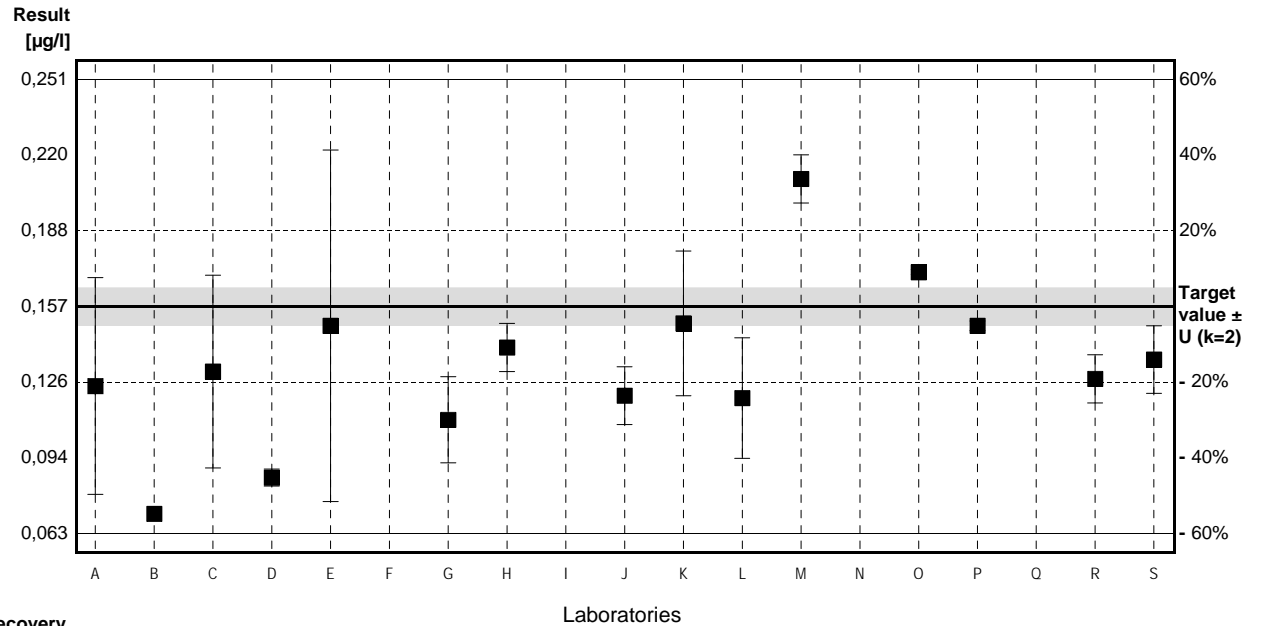
Parameter Benzo(a)pyrene

Target value ± U (k=2) 0,157 µg/l ± 0,008 µg/l

IFA result ± U (k=2) 0,164 µg/l ± 0,041 µg/l

Stability test ± U (k=2) 0,159 µg/l ± 0,040 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,124	0,045	µg/l	79%	-0,75
B	0,071		µg/l	45%	-1,96
C	0,13	0,04	µg/l	83%	-0,61
D	0,086	0,0035	µg/l	55%	-1,62
E	0,149	0,073	µg/l	95%	-0,18
F			µg/l		
G	0,11	0,0179	µg/l	70%	-1,07
H	0,14	0,01	µg/l	89%	-0,39
I	0,061	0,008	µg/l	39%	-2,18
J	0,120	0,012	µg/l	76%	-0,84
K	0,15	0,03	µg/l	96%	-0,16
L	0,119	0,025	µg/l	76%	-0,86
M	0,21	0,010	µg/l	134%	1,21
N			µg/l		
O	0,1713	0,001	µg/l	109%	0,33
P	0,149	0,002	µg/l	95%	-0,18
Q	5,50 *	0,33	µg/l	3503%	121,54
R	0,127	0,010	µg/l	81%	-0,68
S	0,135	0,014	µg/l	86%	-0,50



	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,444 ± 0,923	0,128 ± 0,027	µg/l
Recov. ± CI(99%)	283,0 ± 587,9	81,7 ± 17,2	%
SD between labs	1,303	0,037	µg/l
RSD between labs	293,4	28,6	%
n for calculation	17	16	

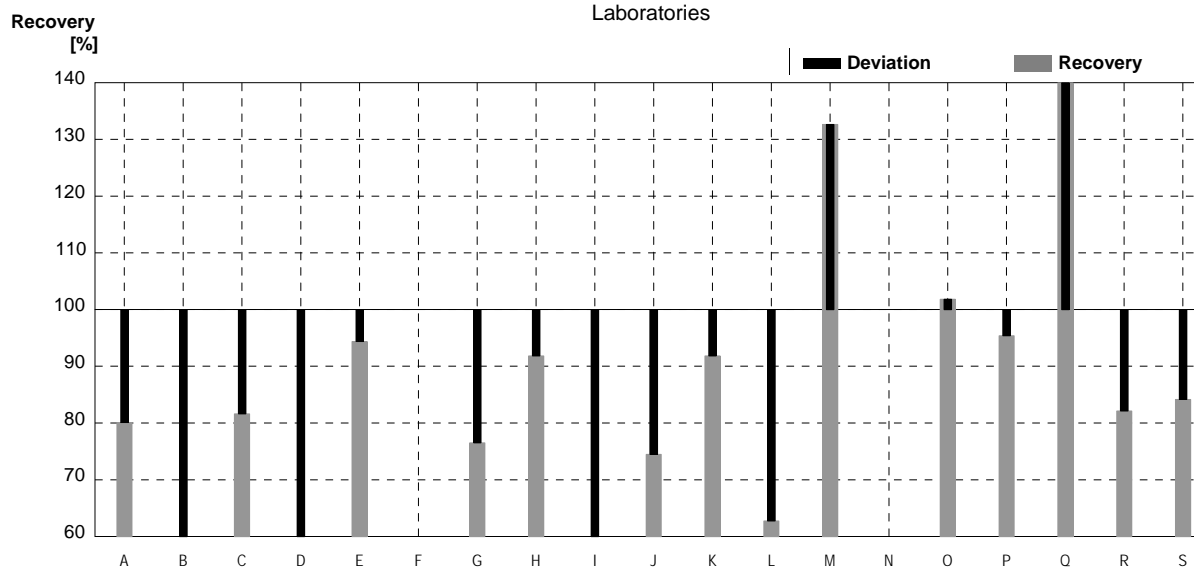
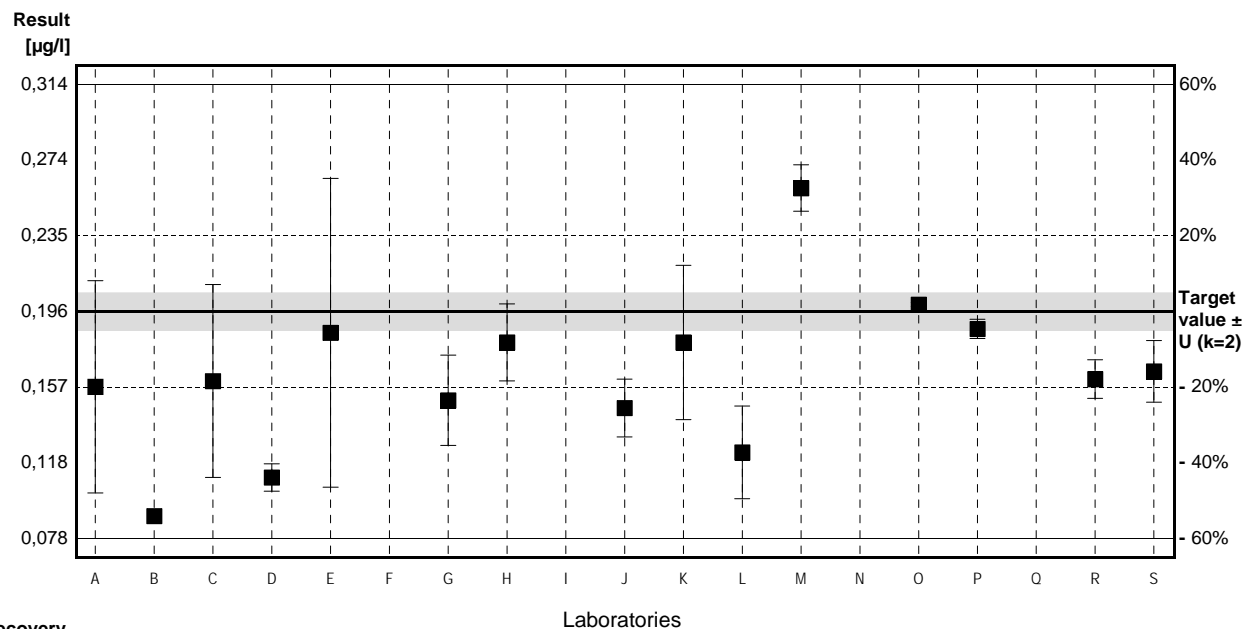
Sample P14B

Parameter Benzo(a)pyrene

Target value $\pm U$ (k=2) 0,196 $\mu\text{g/l}$ \pm 0,010 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,202 $\mu\text{g/l}$ \pm 0,051 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,202 $\mu\text{g/l}$ \pm 0,051 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,157	0,055	$\mu\text{g/l}$	80%	-0,71
B	0,090		$\mu\text{g/l}$	46%	-1,93
C	0,16	0,05	$\mu\text{g/l}$	82%	-0,66
D	0,110	0,0071	$\mu\text{g/l}$	56%	-1,57
E	0,185	0,080	$\mu\text{g/l}$	94%	-0,20
F			$\mu\text{g/l}$		
G	0,15	0,0234	$\mu\text{g/l}$	77%	-0,84
H	0,18	0,02	$\mu\text{g/l}$	92%	-0,29
I	0,051	0,012	$\mu\text{g/l}$	26%	-2,64
J	0,146	0,015	$\mu\text{g/l}$	74%	-0,91
K	0,18	0,04	$\mu\text{g/l}$	92%	-0,29
L	0,123	0,024	$\mu\text{g/l}$	63%	-1,33
M	0,26	0,012	$\mu\text{g/l}$	133%	1,17
N			$\mu\text{g/l}$		
O	0,1996	0,001	$\mu\text{g/l}$	102%	0,07
P	0,187	0,005	$\mu\text{g/l}$	95%	-0,16
Q	2,80 *	0,17	$\mu\text{g/l}$	1429%	47,45
R	0,161	0,010	$\mu\text{g/l}$	82%	-0,64
S	0,165	0,016	$\mu\text{g/l}$	84%	-0,56

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,312 \pm 0,455	0,157 \pm 0,035	$\mu\text{g/l}$
Recov. \pm CI(99%)	159,2 \pm 232,3	79,9 \pm 18,0	%
SD between labs	0,643	0,048	$\mu\text{g/l}$
RSD between labs	206,0	30,6	%
n for calculation	17	16	



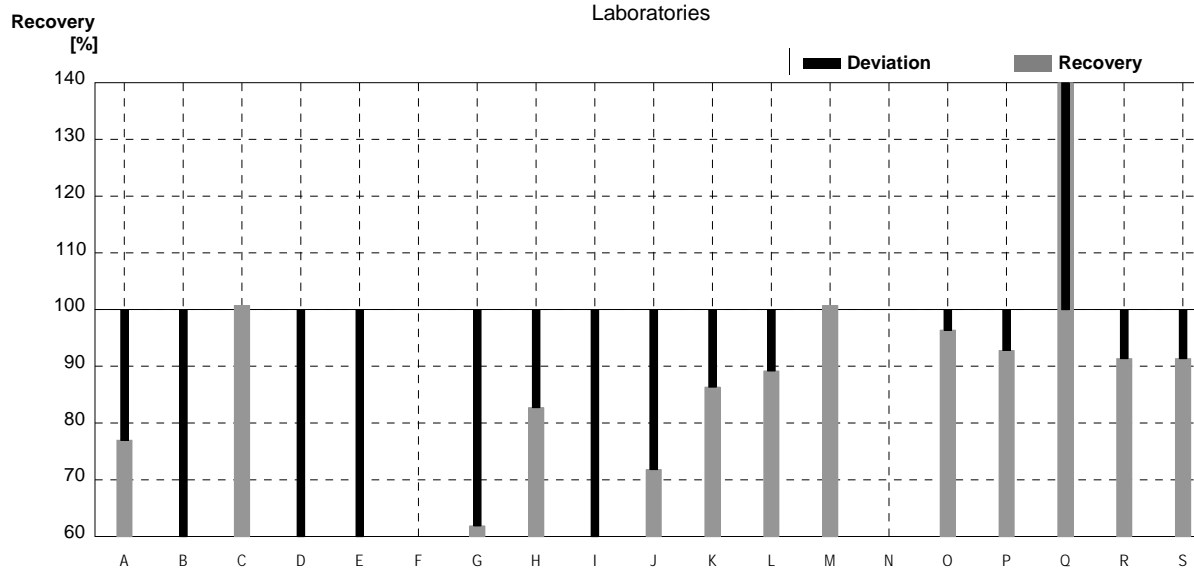
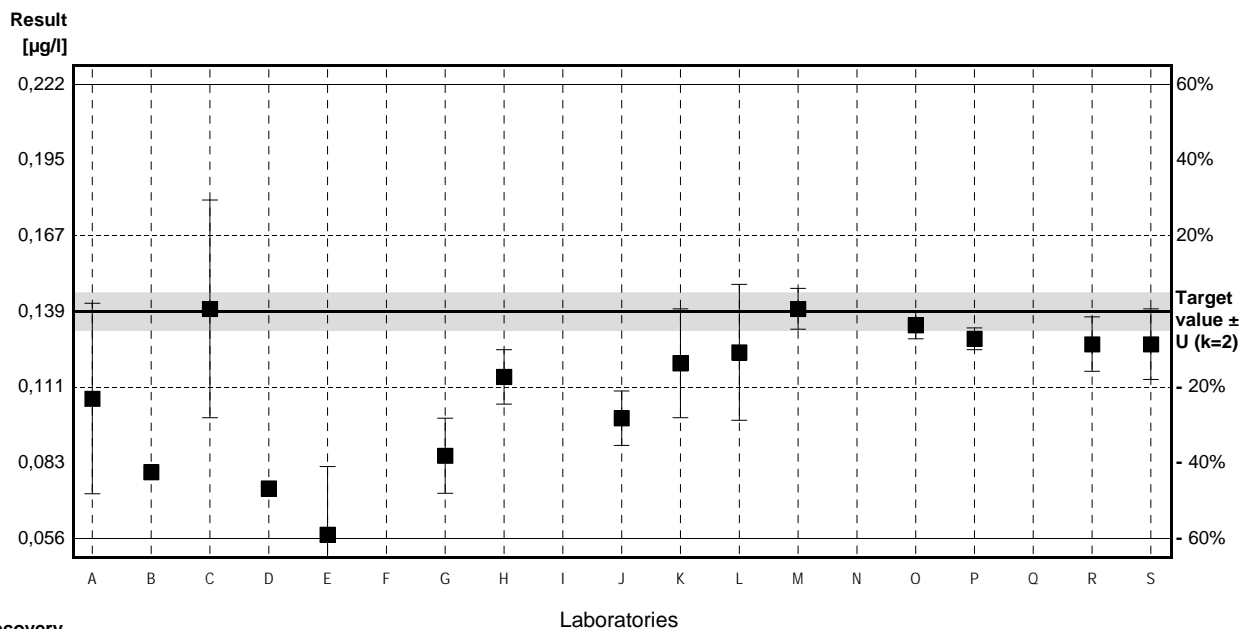
Sample P14A

Parameter Indeno(1,2,3-cd)pyrene

Target value $\pm U$ (k=2) 0,139 $\mu\text{g/l}$ \pm 0,007 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,131 $\mu\text{g/l}$ \pm 0,033 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,128 $\mu\text{g/l}$ \pm 0,032 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,107	0,035	$\mu\text{g/l}$	77%	-0,61
B	0,080		$\mu\text{g/l}$	58%	-1,12
C	0,14	0,04	$\mu\text{g/l}$	101%	0,02
D	0,074	0,00071	$\mu\text{g/l}$	53%	-1,23
E	0,057	0,025	$\mu\text{g/l}$	41%	-1,55
F			$\mu\text{g/l}$		
G	0,086	0,0138	$\mu\text{g/l}$	62%	-1,00
H	0,115	0,01	$\mu\text{g/l}$	83%	-0,45
I	0,035	0,008	$\mu\text{g/l}$	25%	-1,97
J	0,0998	0,010	$\mu\text{g/l}$	72%	-0,74
K	0,12	0,02	$\mu\text{g/l}$	86%	-0,36
L	0,124	0,025	$\mu\text{g/l}$	89%	-0,28
M	0,14	0,0075	$\mu\text{g/l}$	101%	0,02
N			$\mu\text{g/l}$		
O	0,1340	0,005	$\mu\text{g/l}$	96%	-0,09
P	0,129	0,004	$\mu\text{g/l}$	93%	-0,19
Q	4,58 *	0,27	$\mu\text{g/l}$	3295%	84,08
R	0,127	0,010	$\mu\text{g/l}$	91%	-0,23
S	0,127	0,013	$\mu\text{g/l}$	91%	-0,23

	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,369 \pm 0,769	0,106 \pm 0,023	$\mu\text{g/l}$
Recov. \pm CI(99%)	265,5 \pm 553,1	76,2 \pm 16,6	%
SD between labs	1,086	0,031	$\mu\text{g/l}$
RSD between labs	294,1	29,5	%
n for calculation	17	16	

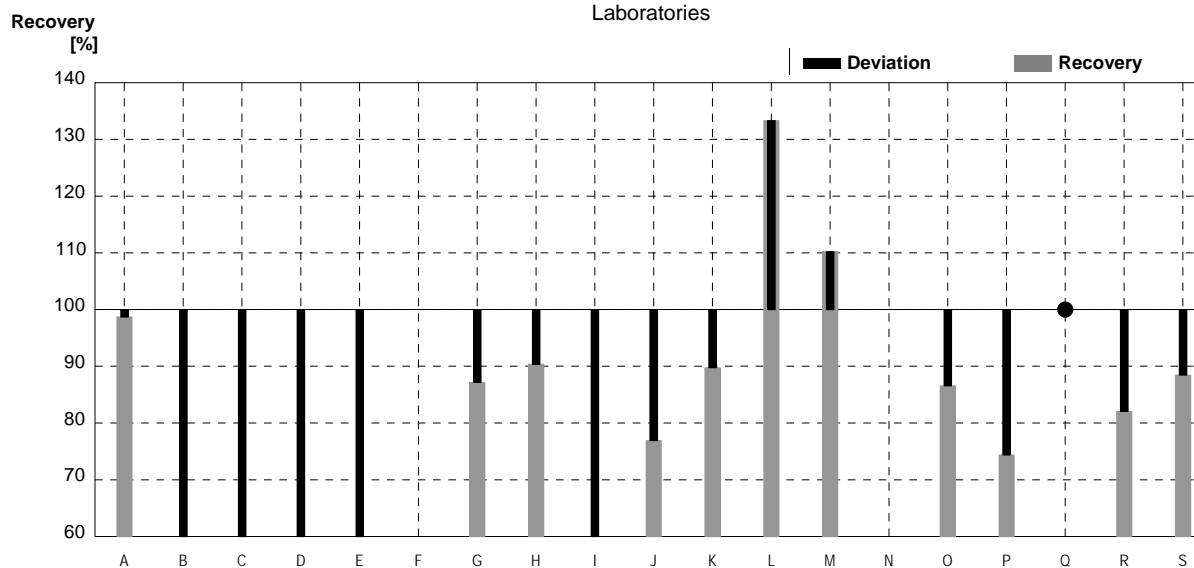
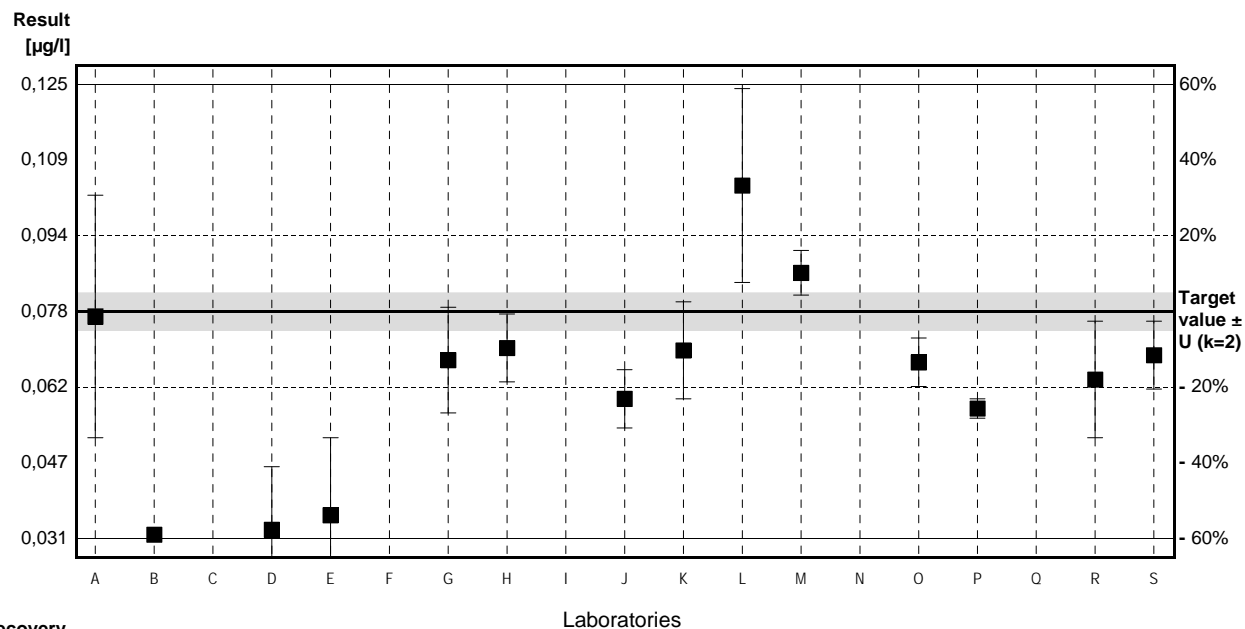


Sample P14B

Parameter Indeno(1,2,3-cd)pyrene

Target value ± U (k=2) 0,078 µg/l ± 0,004 µg/l
 IFA result ± U (k=2) 0,068 µg/l ± 0,017 µg/l
 Stability test ± U (k=2) 0,069 µg/l ± 0,017 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,077	0,025	µg/l	99%	-0,03
B	0,032		µg/l	41%	-1,55
C	0,03	0,01	µg/l	38%	-1,62
D	0,033	0,013	µg/l	42%	-1,52
E	0,036	0,016	µg/l	46%	-1,42
F			µg/l		
G	0,068	0,0109	µg/l	87%	-0,34
H	0,0705	0,007	µg/l	90%	-0,25
I	0,025	0,007	µg/l	32%	-1,79
J	0,0600	0,006	µg/l	77%	-0,61
K	0,07	0,01	µg/l	90%	-0,27
L	0,104	0,020	µg/l	133%	0,88
M	0,086	0,0046	µg/l	110%	0,27
N			µg/l		
O	0,06753	0,005	µg/l	87%	-0,35
P	0,058	0,002	µg/l	74%	-0,67
Q	<1		µg/l	•	
R	0,064	0,012	µg/l	82%	-0,47
S	0,069	0,007	µg/l	88%	-0,30



	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,059 ± 0,017	0,059 ± 0,017	µg/l
Recov. ± CI(99%)	76,1 ± 21,2	76,1 ± 21,2	%
SD between labs	0,022	0,022	µg/l
RSD between labs	37,8	37,8	%
n for calculation	16	16	

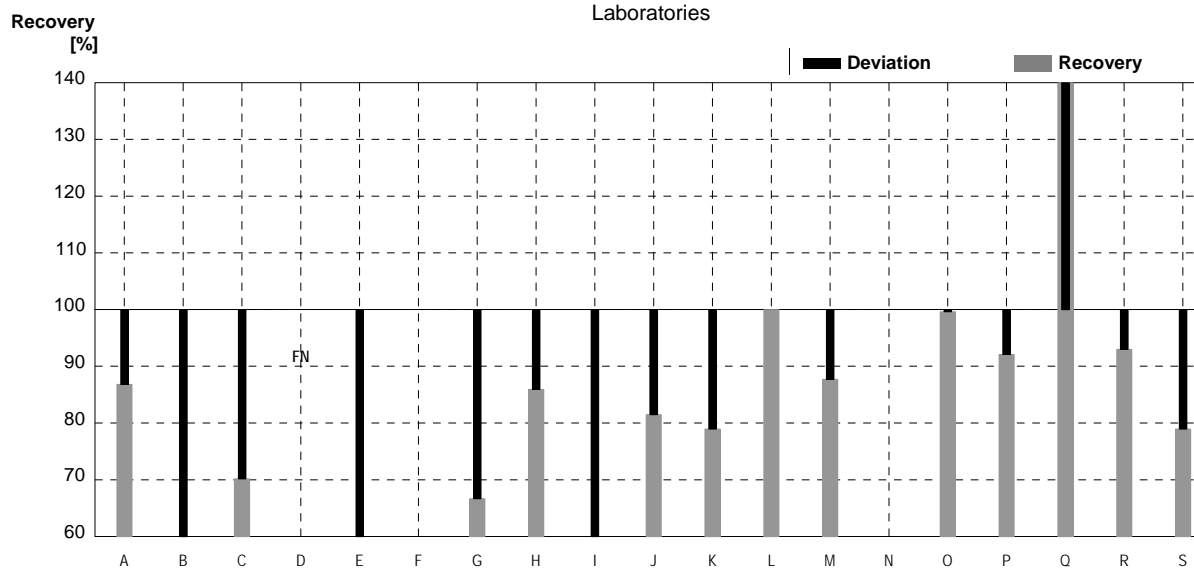
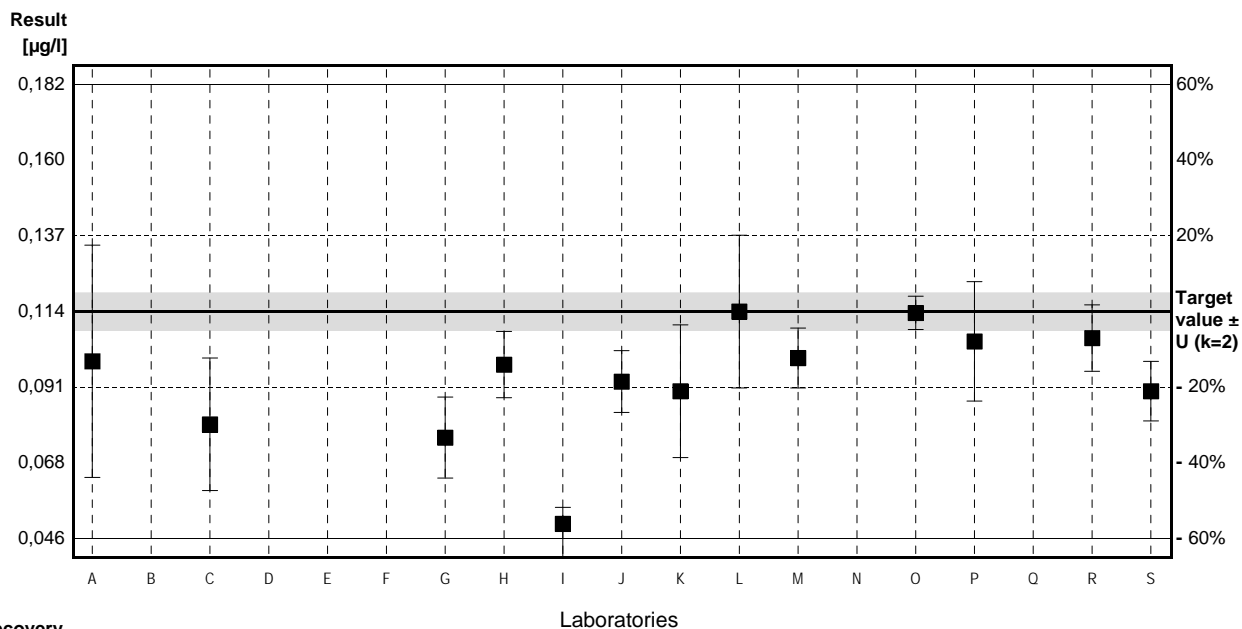
Sample P14A

Parameter Dibenzo(a,h)anthracene

Target value ± U (k=2) 0,114 µg/l ± 0,006 µg/l
 IFA result ± U (k=2) 0,100 µg/l ± 0,025 µg/l
 Stability test ± U (k=2) 0,094 µg/l ± 0,024 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,099	0,035	µg/l	87%	-0,42
B	0,037		µg/l	32%	-2,18
C	0,08	0,02	µg/l	70%	-0,96
D	<0,003		µg/l	FN	
E	0,032 *	0,014	µg/l	28%	-2,32
F			µg/l		
G	0,076	0,0122	µg/l	67%	-1,08
H	0,098	0,01	µg/l	86%	-0,45
I	0,050	0,005	µg/l	44%	-1,81
J	0,0929	0,0093	µg/l	81%	-0,60
K	0,09	0,02	µg/l	79%	-0,68
L	0,114	0,023	µg/l	100%	0,00
M	0,10	0,0090	µg/l	88%	-0,40
N			µg/l		
O	0,1136	0,005	µg/l	100%	-0,01
P	0,105	0,018	µg/l	92%	-0,25
Q	0,42 *	0,05	µg/l	368%	8,66
R	0,106	0,010	µg/l	93%	-0,23
S	0,09	0,009	µg/l	79%	-0,68

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,106 ± 0,064	0,089 ± 0,018	µg/l
Recov. ± CI(99%)	93,4 ± 56,5	78,4 ± 15,9	%
SD between labs	0,087	0,022	µg/l
RSD between labs	82,1	25,1	%
n for calculation	16	14	

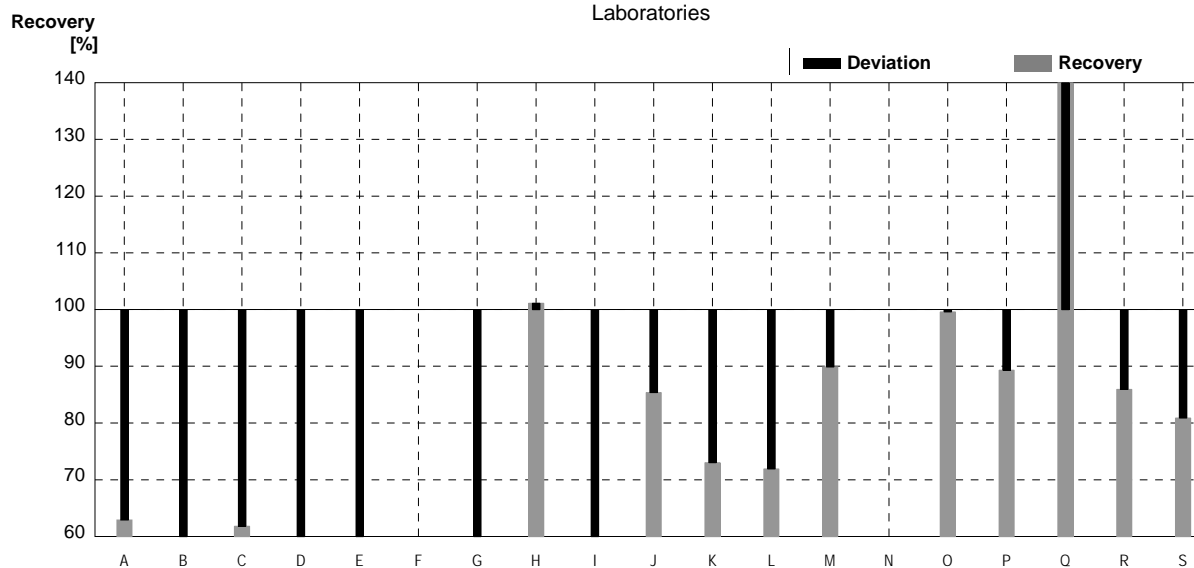
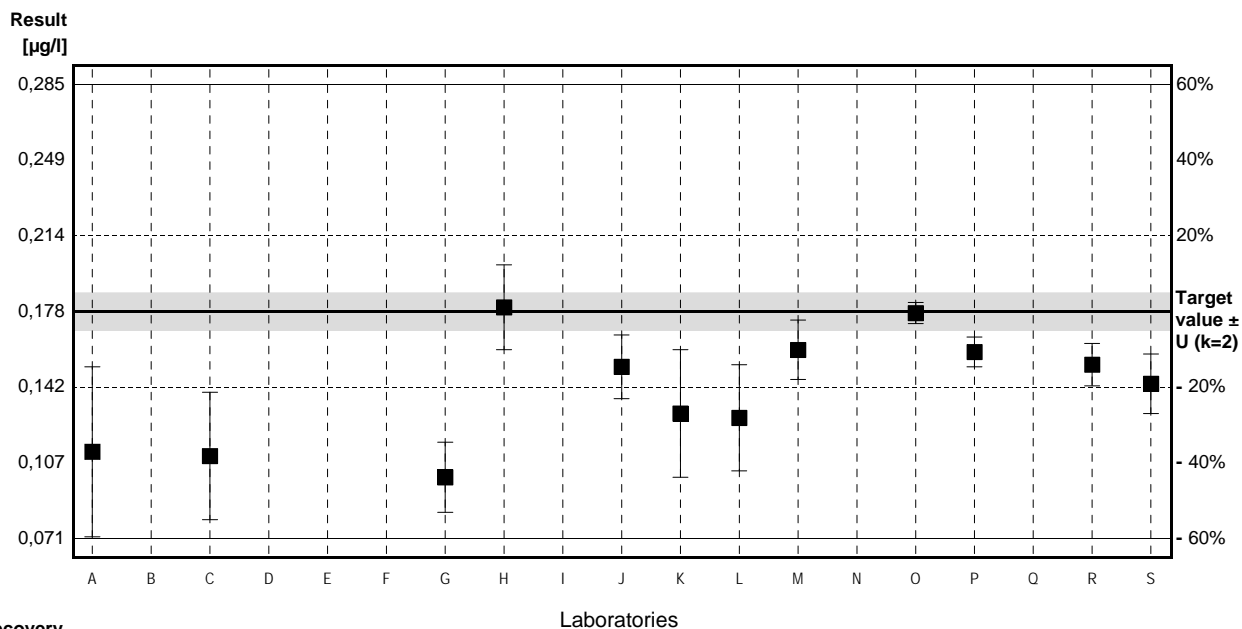


Sample P14B

Parameter Dibenzo(a,h)anthracene

Target value $\pm U$ (k=2) 0,178 $\mu\text{g/l}$ \pm 0,009 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,143 $\mu\text{g/l}$ \pm 0,036 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,147 $\mu\text{g/l}$ \pm 0,037 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,112	0,040	$\mu\text{g/l}$	63%	-1,20
B	0,050		$\mu\text{g/l}$	28%	-2,32
C	0,11	0,03	$\mu\text{g/l}$	62%	-1,23
D	0,039	0,0028	$\mu\text{g/l}$	22%	-2,52
E	0,048	0,021	$\mu\text{g/l}$	27%	-2,36
F			$\mu\text{g/l}$		
G	0,10	0,0165	$\mu\text{g/l}$	56%	-1,41
H	0,18	0,02	$\mu\text{g/l}$	101%	0,04
I	0,060	0,013	$\mu\text{g/l}$	34%	-2,14
J	0,152	0,015	$\mu\text{g/l}$	85%	-0,47
K	0,13	0,03	$\mu\text{g/l}$	73%	-0,87
L	0,128	0,025	$\mu\text{g/l}$	72%	-0,91
M	0,16	0,014	$\mu\text{g/l}$	90%	-0,33
N			$\mu\text{g/l}$		
O	0,1773	0,005	$\mu\text{g/l}$	100%	-0,01
P	0,159	0,007	$\mu\text{g/l}$	89%	-0,34
Q	2,08 *	0,12	$\mu\text{g/l}$	1169%	34,47
R	0,153	0,010	$\mu\text{g/l}$	86%	-0,45
S	0,144	0,014	$\mu\text{g/l}$	81%	-0,62



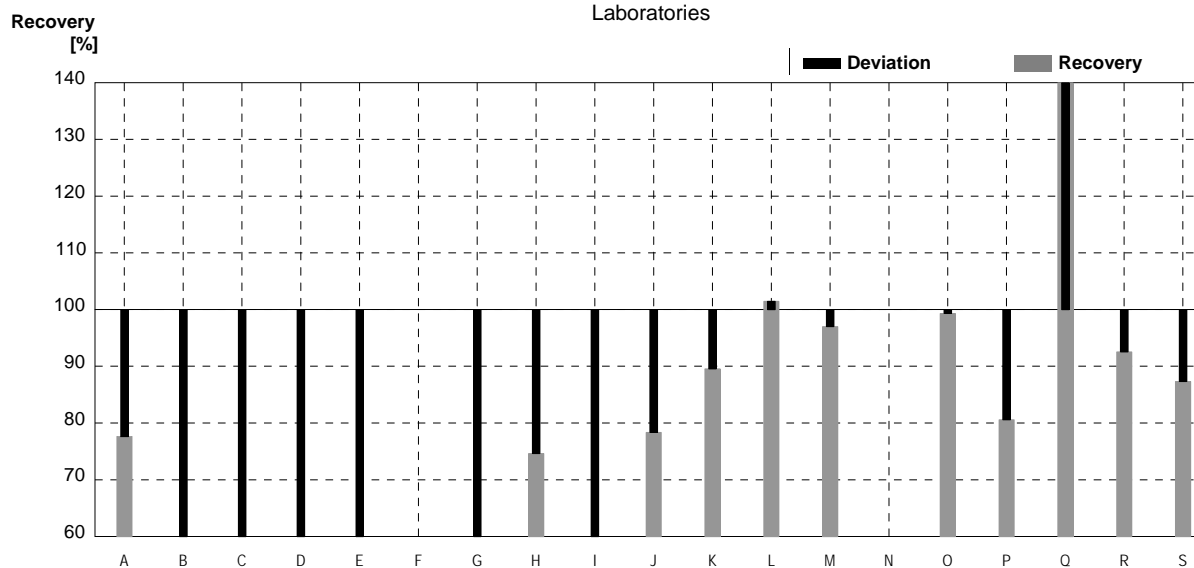
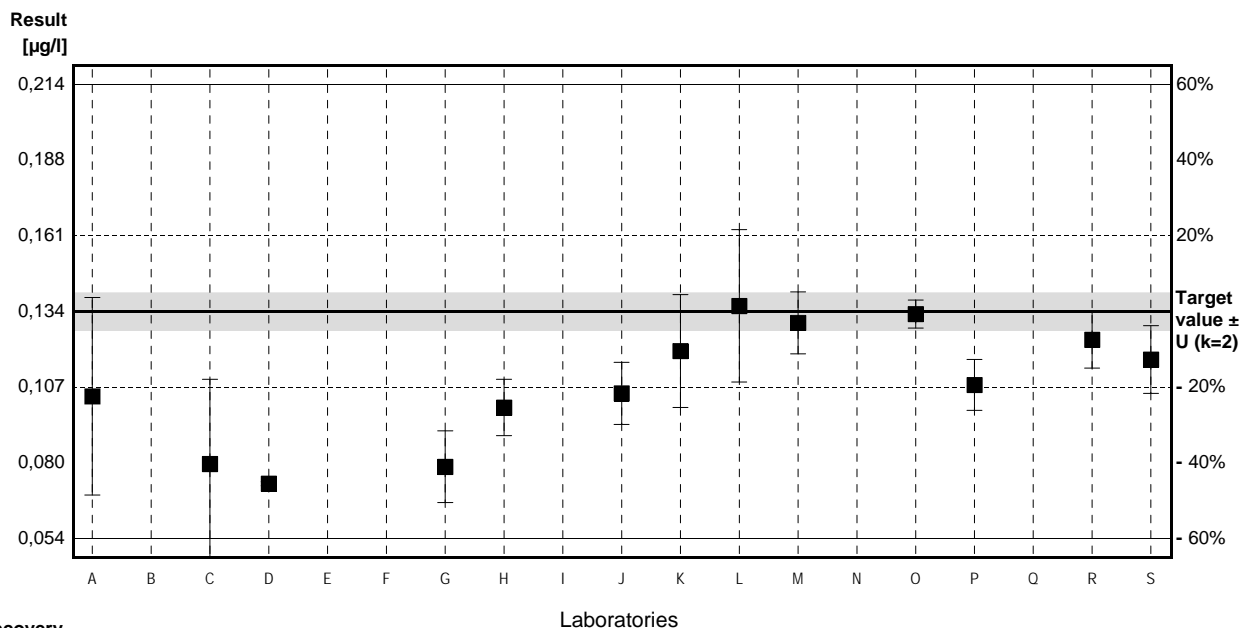
	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,234 \pm 0,338	0,119 \pm 0,035	$\mu\text{g/l}$
Recov. \pm CI(99%)	131,6 \pm 190,1	66,8 \pm 19,6	%
SD between labs	0,478	0,047	$\mu\text{g/l}$
RSD between labs	204,0	39,8	%
n for calculation	17	16	

Sample P14A

Parameter Benzo(ghi)perylene

Target value $\pm U$ (k=2) 0,134 $\mu\text{g/l}$ \pm 0,007 $\mu\text{g/l}$
 IFA result $\pm U$ (k=2) 0,144 $\mu\text{g/l}$ \pm 0,036 $\mu\text{g/l}$
 Stability test $\pm U$ (k=2) 0,138 $\mu\text{g/l}$ \pm 0,035 $\mu\text{g/l}$

Lab Code	Result	\pm	Unit	Recovery	z-Score
A	0,104	0,035	$\mu\text{g/l}$	78%	-0,72
B	0,044		$\mu\text{g/l}$	33%	-2,17
C	0,08	0,03	$\mu\text{g/l}$	60%	-1,30
D	0,073	0,00071	$\mu\text{g/l}$	54%	-1,47
E	0,044	0,036	$\mu\text{g/l}$	33%	-2,17
F			$\mu\text{g/l}$		
G	0,079	0,0127	$\mu\text{g/l}$	59%	-1,32
H	0,1	0,01	$\mu\text{g/l}$	75%	-0,82
I	0,032	0,009	$\mu\text{g/l}$	24%	-2,46
J	0,105	0,011	$\mu\text{g/l}$	78%	-0,70
K	0,12	0,02	$\mu\text{g/l}$	90%	-0,34
L	0,136	0,027	$\mu\text{g/l}$	101%	0,05
M	0,13	0,011	$\mu\text{g/l}$	97%	-0,10
N			$\mu\text{g/l}$		
O	0,1331	0,005	$\mu\text{g/l}$	99%	-0,02
P	0,108	0,009	$\mu\text{g/l}$	81%	-0,63
Q	3,01 *	0,18	$\mu\text{g/l}$	2246%	69,23
R	0,124	0,010	$\mu\text{g/l}$	93%	-0,24
S	0,117	0,012	$\mu\text{g/l}$	87%	-0,41



	All results	Outliers excl.	Unit
Mean \pm CI(99%)	0,267 \pm 0,501	0,096 \pm 0,025	$\mu\text{g/l}$
Recov. \pm CI(99%)	199,3 \pm 374,0	71,3 \pm 18,4	%
SD between labs	0,708	0,033	$\mu\text{g/l}$
RSD between labs	265,0	35,0	%
n for calculation	17	16	

Sample P14B

Parameter Benzo(ghi)perylene

Target value ± U (k=2) 0,231 µg/l ± 0,012 µg/l
 IFA result ± U (k=2) 0,239 µg/l ± 0,060 µg/l
 Stability test ± U (k=2) 0,243 µg/l ± 0,061 µg/l

Lab Code	Result	±	Unit	Recovery	z-Score
A	0,152	0,055	µg/l	66%	-1,10
B	0,068		µg/l	29%	-2,28
C	0,08	0,03	µg/l	35%	-2,11
D	0,121	0,085	µg/l	52%	-1,54
E	0,077	0,063	µg/l	33%	-2,15
F			µg/l		
G	0,13	0,0211	µg/l	56%	-1,41
H	0,2	0,02	µg/l	87%	-0,43
I	0,065	0,009	µg/l	28%	-2,32
J	0,183	0,018	µg/l	79%	-0,67
K	0,20	0,04	µg/l	87%	-0,43
L	0,169	0,034	µg/l	73%	-0,87
M	0,22	0,018	µg/l	95%	-0,15
N			µg/l		
O	0,2235	0,005	µg/l	97%	-0,10
P	0,169	0,003	µg/l	73%	-0,87
Q	2,99 *	0,18	µg/l	1294%	38,53
R	0,197	0,015	µg/l	85%	-0,47
S	0,194	0,019	µg/l	84%	-0,52

	All results	Outliers excl.	Unit
Mean ± CI(99%)	0,320 ± 0,489	0,153 ± 0,041	µg/l
Recov. ± CI(99%)	138,5 ± 211,6	66,2 ± 17,8	%
SD between labs	0,690	0,056	µg/l
RSD between labs	215,7	36,4	%
n for calculation	17	16	

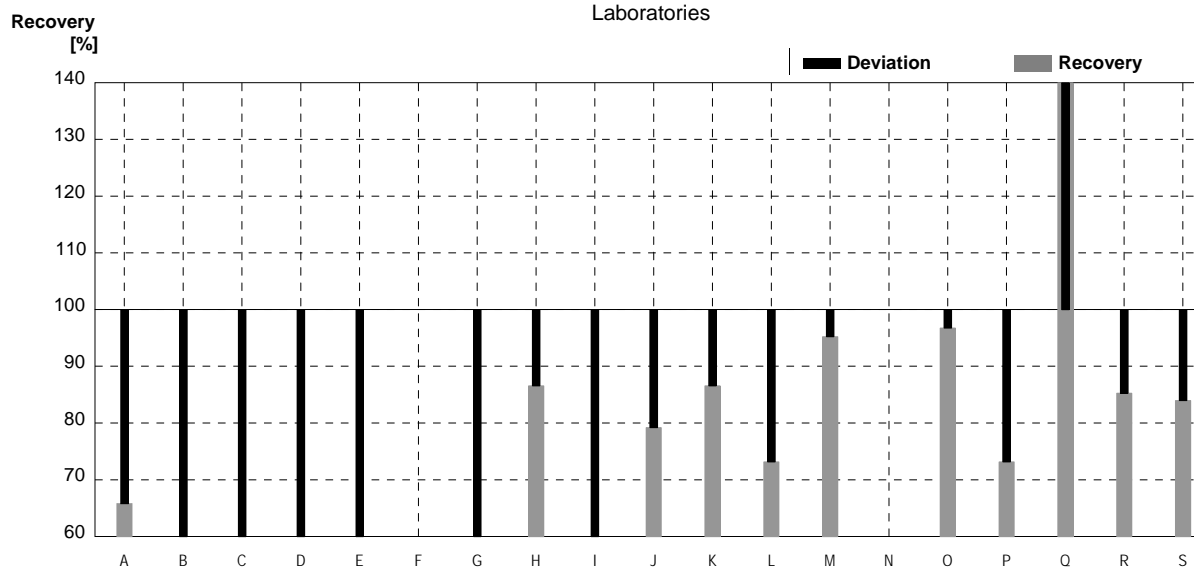
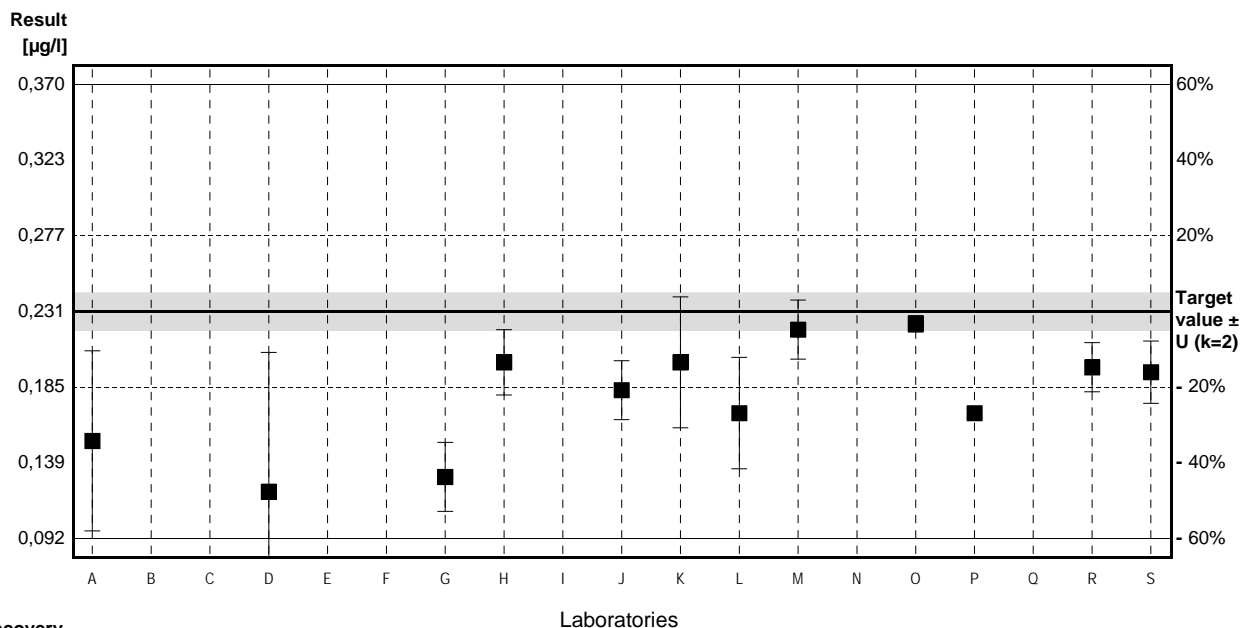


Illustration of Results Laboratory Oriented Part

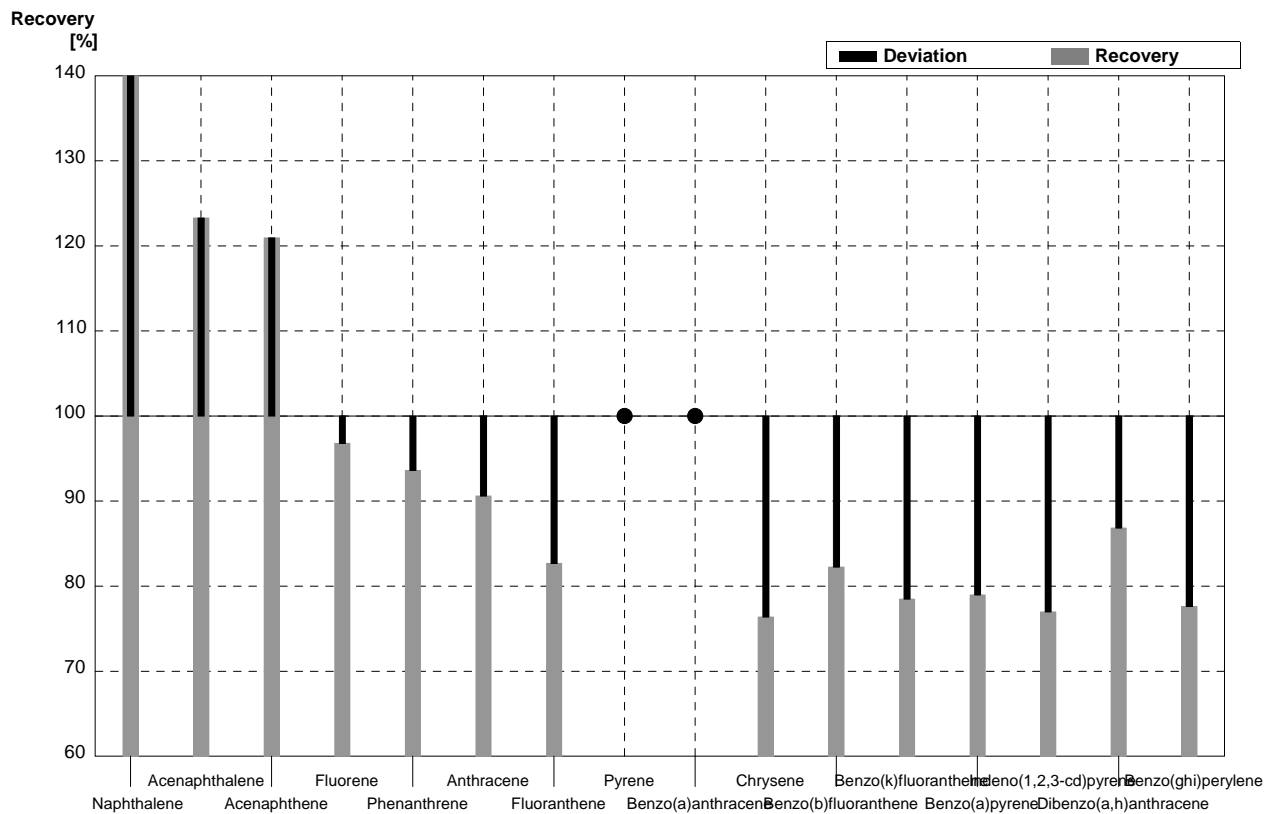
Round P14
Polycyclic aromatic hydrocarbons

Sample Dispatch: 25 November 2013



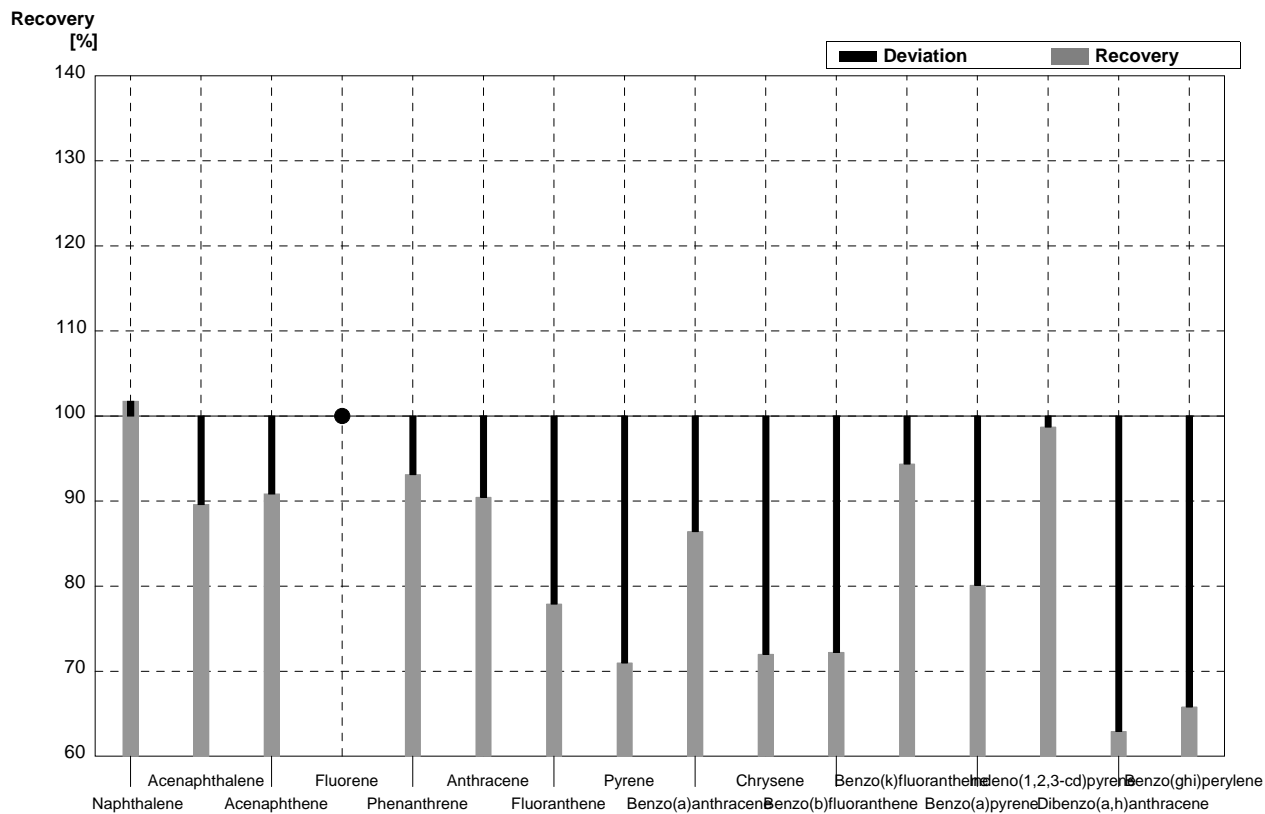
Sample P14A
Laboratory A

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,070	0,025	µg/l	140%
Acenaphthalene	0,073	0,004	0,090	0,030	µg/l	123%
Acenaphthene	0,191	0,010	0,231	0,080	µg/l	121%
Fluorene	0,404	0,020	0,391	0,140	µg/l	97%
Phenanthrene	0,235	0,012	0,220	0,080	µg/l	94%
Anthracene	0,245	0,012	0,222	0,080	µg/l	91%
Fluoranthene	0,352	0,018	0,291	0,100	µg/l	83%
Pyrene	<0,021		<0,010		µg/l	•
Benzo(a)anthracene	<0,023		<0,010		µg/l	•
Chrysene	0,309	0,015	0,236	0,085	µg/l	76%
Benzo(b)fluoranthene	0,169	0,008	0,139	0,050	µg/l	82%
Benzo(k)fluoranthene	0,186	0,009	0,146	0,050	µg/l	78%
Benzo(a)pyrene	0,157	0,008	0,124	0,045	µg/l	79%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,107	0,035	µg/l	77%
Dibenzo(a,h)anthracene	0,114	0,006	0,099	0,035	µg/l	87%
Benzo(ghi)perylene	0,134	0,007	0,104	0,035	µg/l	78%



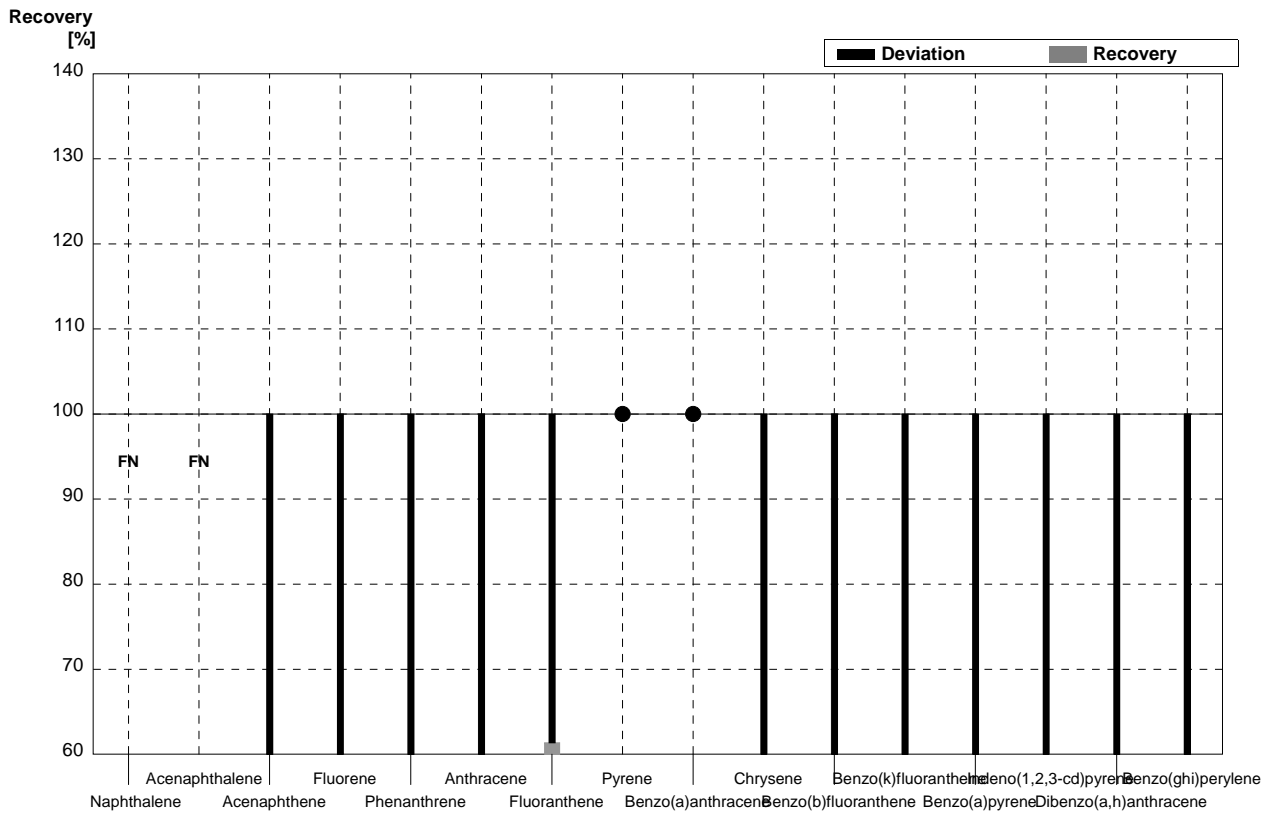
Sample P14B
Laboratory A

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,409	0,140	µg/l	102%
Acenaphthalene	0,327	0,016	0,293	0,105	µg/l	90%
Acenaphthene	0,306	0,015	0,278	0,100	µg/l	91%
Fluorene	<0,006		<0,010		µg/l	•
Phenanthrene	0,160	0,008	0,149	0,050	µg/l	93%
Anthracene	0,325	0,016	0,294	0,105	µg/l	90%
Fluoranthene	0,199	0,010	0,155	0,055	µg/l	78%
Pyrene	0,255	0,013	0,181	0,065	µg/l	71%
Benzo(a)anthracene	0,081	0,004	0,070	0,025	µg/l	86%
Chrysene	0,150	0,008	0,108	0,040	µg/l	72%
Benzo(b)fluoranthene	0,090	0,005	0,065	0,025	µg/l	72%
Benzo(k)fluoranthene	0,071	0,004	0,067	0,025	µg/l	94%
Benzo(a)pyrene	0,196	0,010	0,157	0,055	µg/l	80%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,077	0,025	µg/l	99%
Dibenzo(a,h)anthracene	0,178	0,009	0,112	0,040	µg/l	63%
Benzo(ghi)perylene	0,231	0,012	0,152	0,055	µg/l	66%



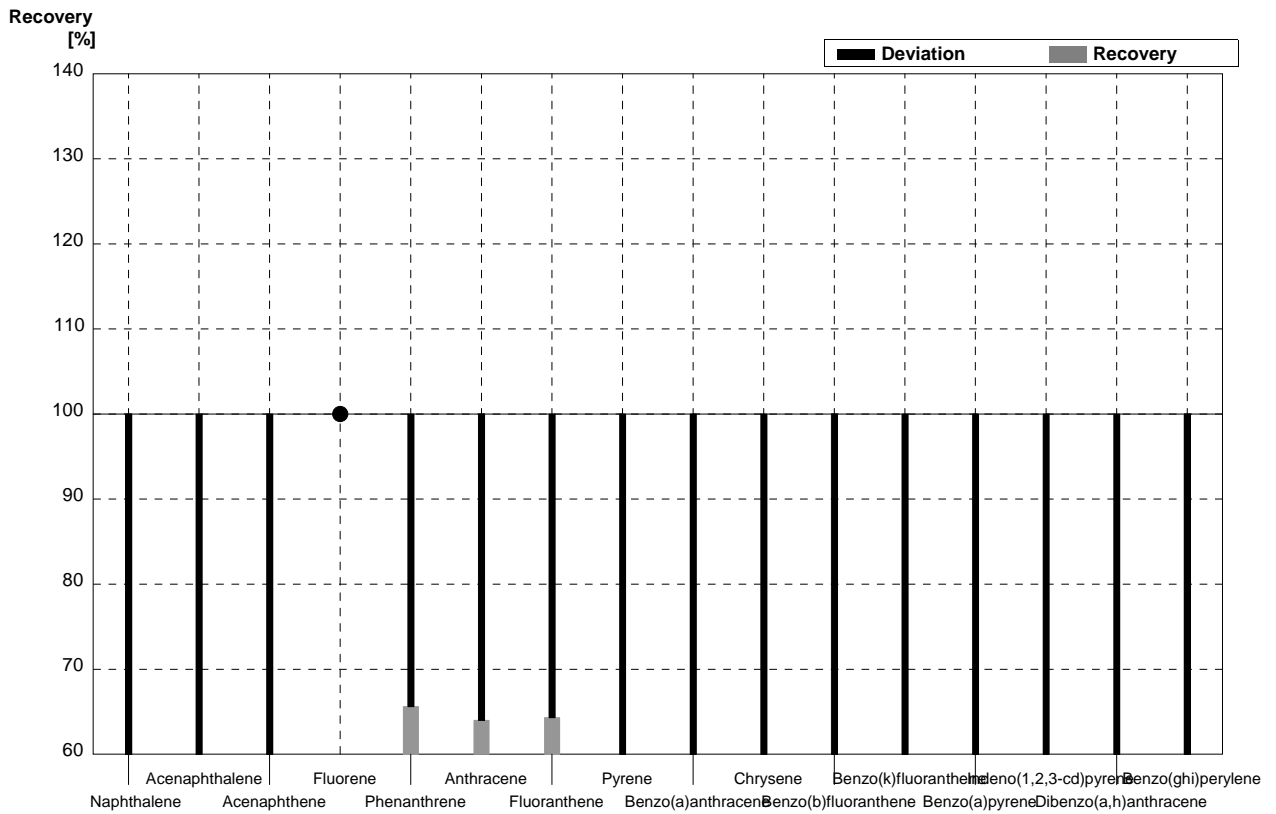
Sample P14A
Laboratory B

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	<0,005		µg/l	FN
Acenaphthalene	0,073	0,004	<0,005		µg/l	FN
Acenaphthene	0,191	0,010	0,013		µg/l	7%
Fluorene	0,404	0,020	0,099		µg/l	25%
Phenanthrene	0,235	0,012	0,114		µg/l	49%
Anthracene	0,245	0,012	0,116		µg/l	47%
Fluoranthene	0,352	0,018	0,216		µg/l	61%
Pyrene	<0,021		0,005		µg/l	•
Benzo(a)anthracene	<0,023		<0,005		µg/l	•
Chrysene	0,309	0,015	0,182		µg/l	59%
Benzo(b)fluoranthene	0,169	0,008	0,073		µg/l	43%
Benzo(k)fluoranthene	0,186	0,009	0,091		µg/l	49%
Benzo(a)pyrene	0,157	0,008	0,071		µg/l	45%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,080		µg/l	58%
Dibenzo(a,h)anthracene	0,114	0,006	0,037		µg/l	32%
Benzo(ghi)perylene	0,134	0,007	0,044		µg/l	33%



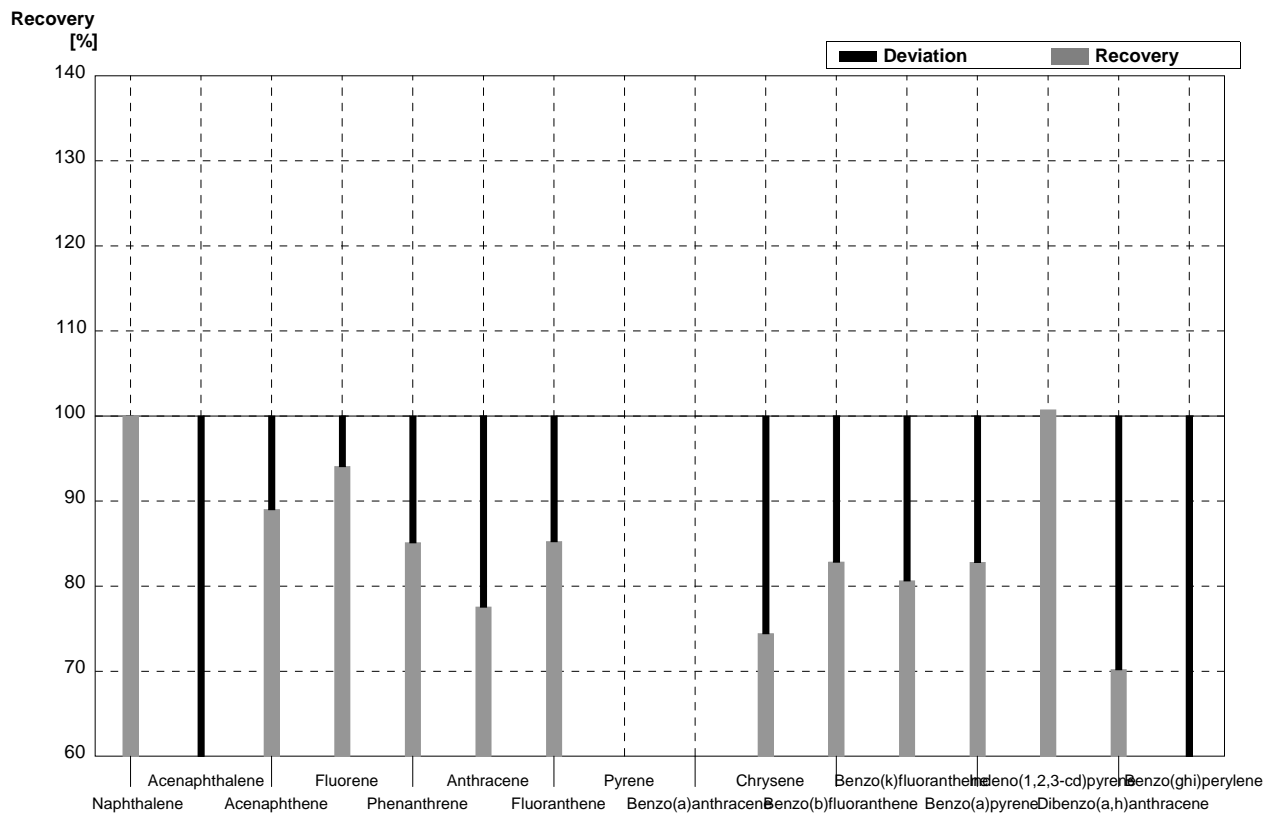
Sample P14B
Laboratory B

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,135		µg/l	34%
Acenaphthalene	0,327	0,016	0,142		µg/l	43%
Acenaphthene	0,306	0,015	0,149		µg/l	49%
Fluorene	<0,006		<0,005		µg/l	•
Phenanthrene	0,160	0,008	0,105		µg/l	66%
Anthracene	0,325	0,016	0,208		µg/l	64%
Fluoranthene	0,199	0,010	0,128		µg/l	64%
Pyrene	0,255	0,013	0,147		µg/l	58%
Benzo(a)anthracene	0,081	0,004	0,043		µg/l	53%
Chrysene	0,150	0,008	0,078		µg/l	52%
Benzo(b)fluoranthene	0,090	0,005	0,039		µg/l	43%
Benzo(k)fluoranthene	0,071	0,004	0,034		µg/l	48%
Benzo(a)pyrene	0,196	0,010	0,090		µg/l	46%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,032		µg/l	41%
Dibenzo(a,h)anthracene	0,178	0,009	0,050		µg/l	28%
Benzo(ghi)perylene	0,231	0,012	0,068		µg/l	29%



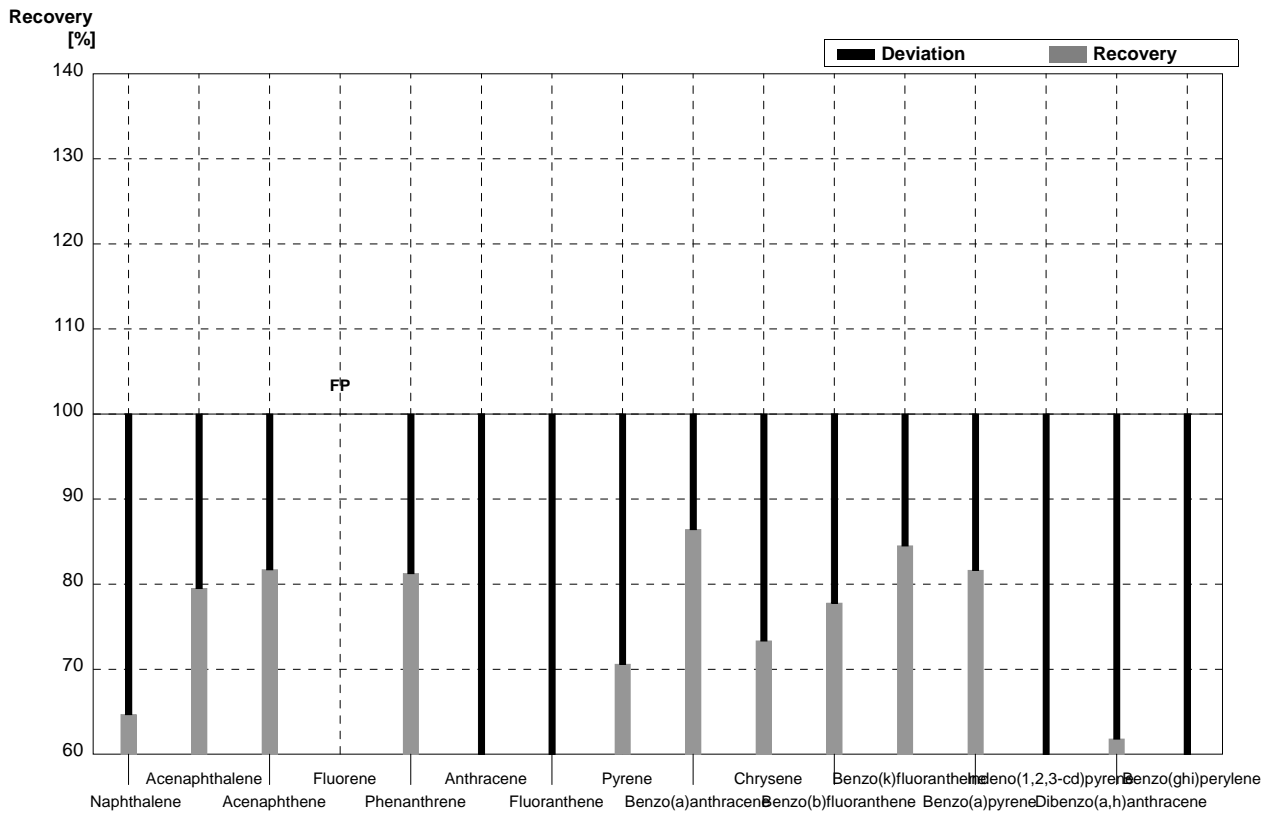
Sample P14A
Laboratory C

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,05	0,01	µg/l	100%
Acenaphthalene	0,073	0,004	0,04	0,01	µg/l	55%
Acenaphthene	0,191	0,010	0,17	0,05	µg/l	89%
Fluorene	0,404	0,020	0,38	0,11	µg/l	94%
Phenanthrene	0,235	0,012	0,20	0,06	µg/l	85%
Anthracene	0,245	0,012	0,19	0,06	µg/l	78%
Fluoranthene	0,352	0,018	0,30	0,09	µg/l	85%
Pyrene	<0,021		<		µg/l	
Benzo(a)anthracene	<0,023		<		µg/l	
Chrysene	0,309	0,015	0,23	0,07	µg/l	74%
Benzo(b)fluoranthene	0,169	0,008	0,14	0,04	µg/l	83%
Benzo(k)fluoranthene	0,186	0,009	0,15	0,05	µg/l	81%
Benzo(a)pyrene	0,157	0,008	0,13	0,04	µg/l	83%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,14	0,04	µg/l	101%
Dibenzo(a,h)anthracene	0,114	0,006	0,08	0,02	µg/l	70%
Benzo(ghi)perylene	0,134	0,007	0,08	0,03	µg/l	60%



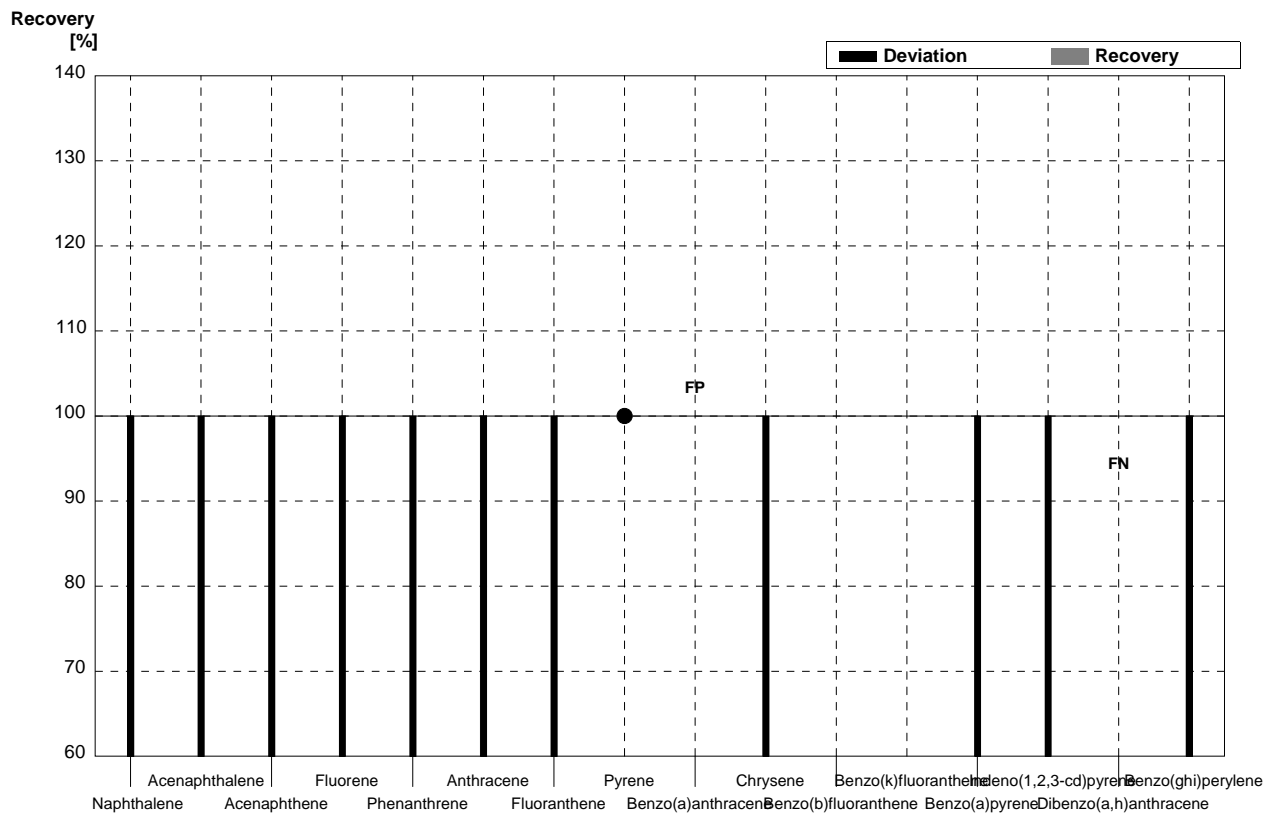
Sample P14B
Laboratory C

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,26	0,08	µg/l	65%
Acenaphthalene	0,327	0,016	0,26	0,08	µg/l	80%
Acenaphthene	0,306	0,015	0,25	0,08	µg/l	82%
Fluorene	<0,006		0,01	0,003	µg/l	FP
Phenanthrene	0,160	0,008	0,13	0,04	µg/l	81%
Anthracene	0,325	0,016	0,17	0,05	µg/l	52%
Fluoranthene	0,199	0,010	0,11	0,03	µg/l	55%
Pyrene	0,255	0,013	0,18	0,05	µg/l	71%
Benzo(a)anthracene	0,081	0,004	0,07	0,02	µg/l	86%
Chrysene	0,150	0,008	0,11	0,03	µg/l	73%
Benzo(b)fluoranthene	0,090	0,005	0,07	0,02	µg/l	78%
Benzo(k)fluoranthene	0,071	0,004	0,06	0,02	µg/l	85%
Benzo(a)pyrene	0,196	0,010	0,16	0,05	µg/l	82%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,03	0,01	µg/l	38%
Dibenzo(a,h)anthracene	0,178	0,009	0,11	0,03	µg/l	62%
Benzo(ghi)perylene	0,231	0,012	0,08	0,03	µg/l	35%



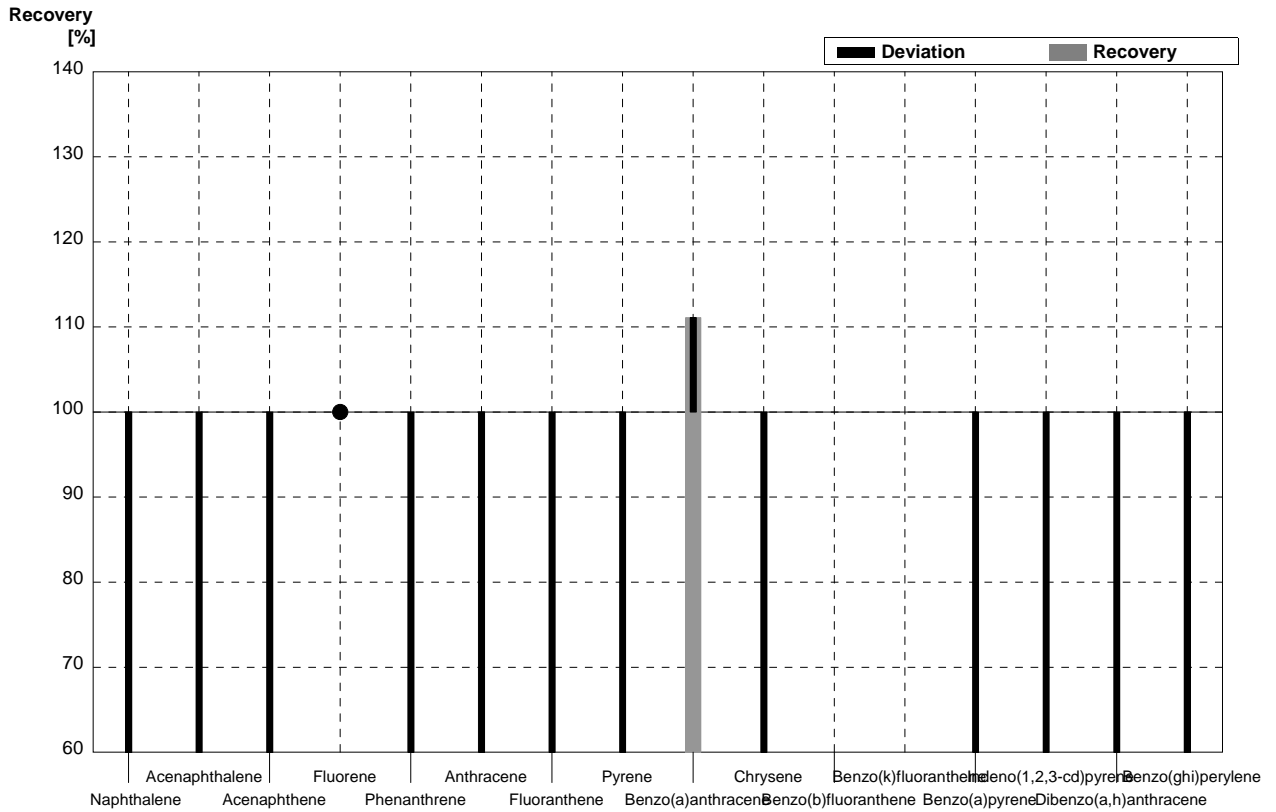
Sample P14A
Laboratory D

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,029	0,0007	µg/l	58%
Acenaphthalene	0,073	0,004	0,039	0,0008	µg/l	53%
Acenaphthene	0,191	0,010	0,102	0,0028	µg/l	53%
Fluorene	0,404	0,020	0,228	0,0035	µg/l	56%
Phenanthrene	0,235	0,012	0,126	0,0029	µg/l	54%
Anthracene	0,245	0,012	0,129	0,0064	µg/l	53%
Fluoranthene	0,352	0,018	0,190	0,0028	µg/l	54%
Pyrene	<0,021		0,003	0,0002	µg/l	•
Benzo(a)anthracene	<0,023		0,059	0,00071	µg/l	FP
Chrysene	0,309	0,015	0,178	0,0042	µg/l	58%
Benzo(b)fluoranthene	0,169	0,008			µg/l	
Benzo(k)fluoranthene	0,186	0,009			µg/l	
Benzo(a)pyrene	0,157	0,008	0,086	0,0035	µg/l	55%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,074	0,00071	µg/l	53%
Dibenzo(a,h)anthracene	0,114	0,006	<0,003		µg/l	FN
Benzo(ghi)perylene	0,134	0,007	0,073	0,00071	µg/l	54%



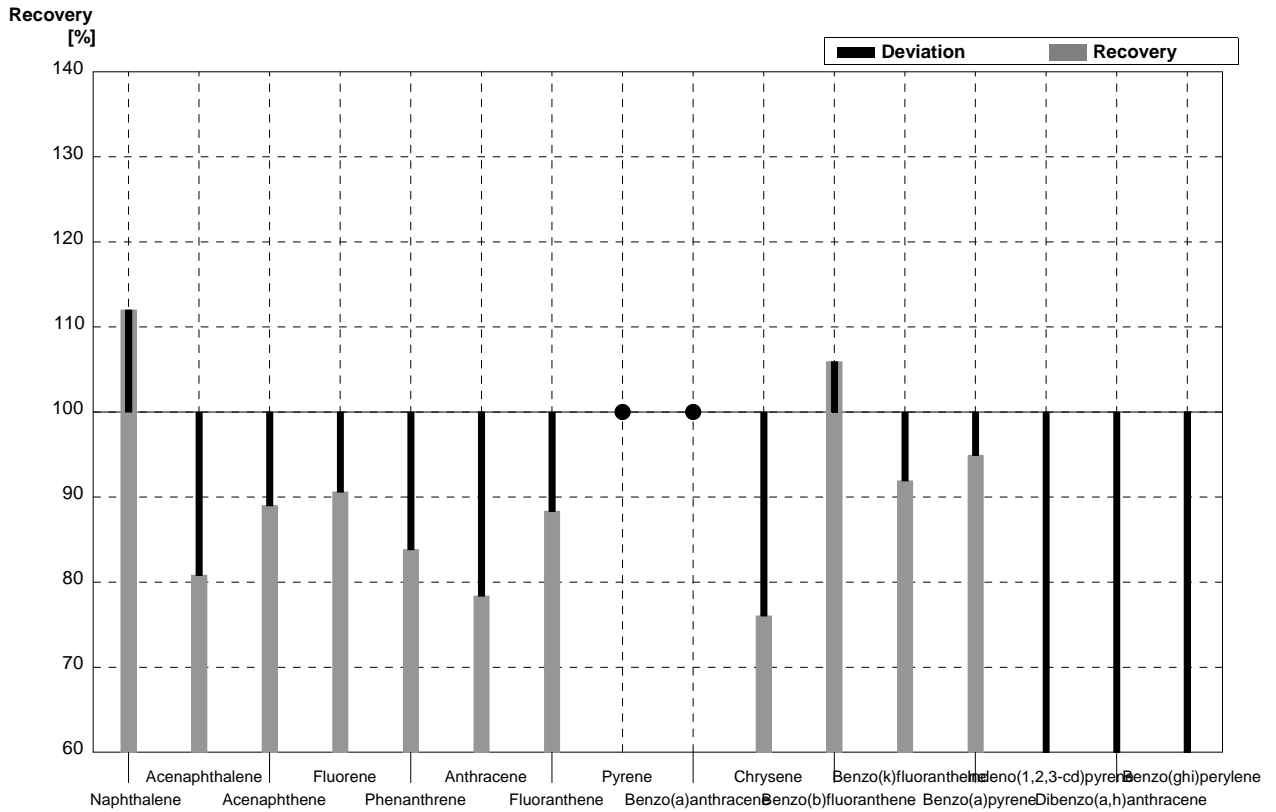
Sample P14B
Laboratory D

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,208	0,016	µg/l	52%
Acenaphthalene	0,327	0,016	0,173	0,013	µg/l	53%
Acenaphthene	0,306	0,015	0,163	0,011	µg/l	53%
Fluorene	<0,006		<0,003		µg/l	•
Phenanthrene	0,160	0,008	0,088	0,0035	µg/l	55%
Anthracene	0,325	0,016	0,174	0,0035	µg/l	54%
Fluoranthene	0,199	0,010	0,103	0,0071	µg/l	52%
Pyrene	0,255	0,013	0,132	0,0113	µg/l	52%
Benzo(a)anthracene	0,081	0,004	0,090	0,0064	µg/l	111%
Chrysene	0,150	0,008	0,081	0,00495	µg/l	54%
Benzo(b)fluoranthene	0,090	0,005			µg/l	
Benzo(k)fluoranthene	0,071	0,004			µg/l	
Benzo(a)pyrene	0,196	0,010	0,110	0,0071	µg/l	56%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,033	0,013	µg/l	42%
Dibenzo(a,h)anthracene	0,178	0,009	0,039	0,0028	µg/l	22%
Benzo(ghi)perylene	0,231	0,012	0,121	0,085	µg/l	52%



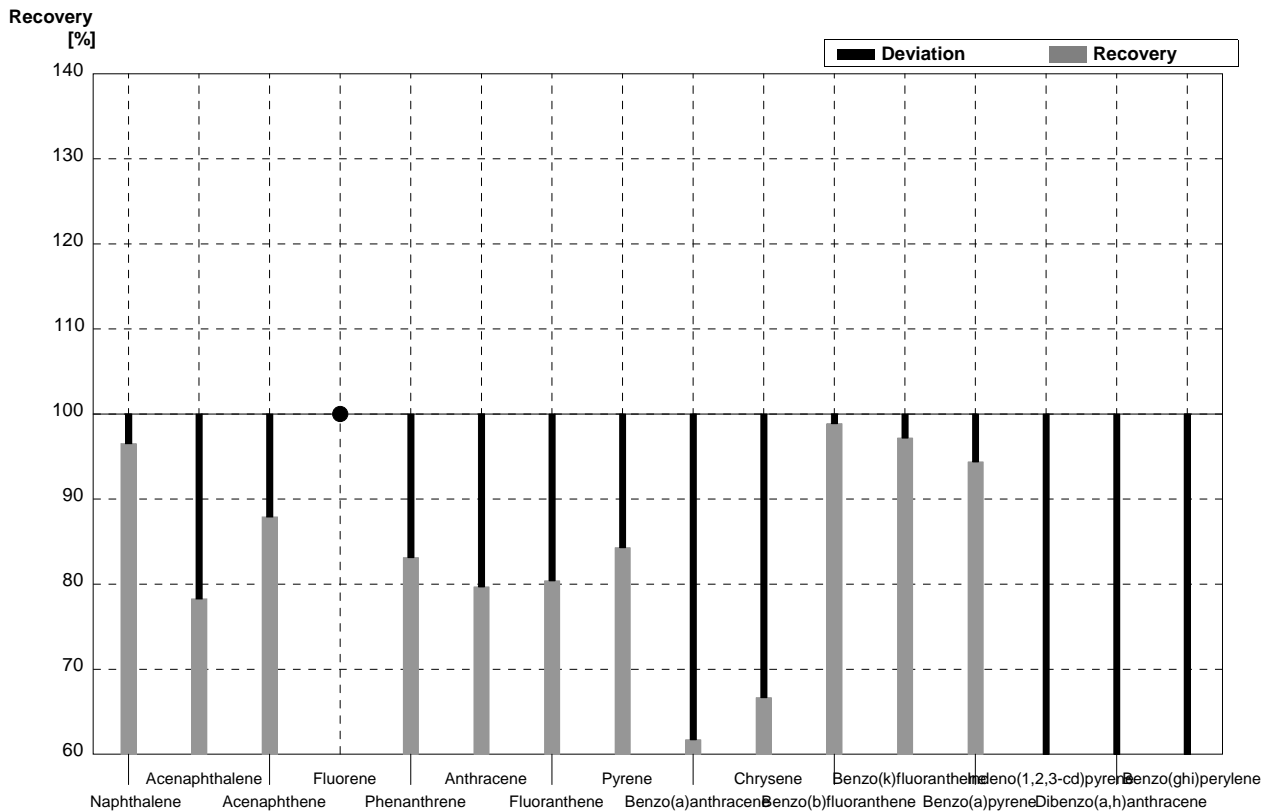
Sample P14A
Laboratory E

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,056	0,016	µg/l	112%
Acenaphthalene	0,073	0,004	0,059	0,017	µg/l	81%
Acenaphthene	0,191	0,010	0,170	0,043	µg/l	89%
Fluorene	0,404	0,020	0,366	0,092	µg/l	91%
Phenanthrene	0,235	0,012	0,197	0,049	µg/l	84%
Anthracene	0,245	0,012	0,192	0,048	µg/l	78%
Fluoranthene	0,352	0,018	0,311	0,078	µg/l	88%
Pyrene	<0,021		<0,01		µg/l	•
Benzo(a)anthracene	<0,023		<0,01		µg/l	•
Chrysene	0,309	0,015	0,235	0,059	µg/l	76%
Benzo(b)fluoranthene	0,169	0,008	0,179	0,063	µg/l	106%
Benzo(k)fluoranthene	0,186	0,009	0,171	0,060	µg/l	92%
Benzo(a)pyrene	0,157	0,008	0,149	0,073	µg/l	95%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,057	0,025	µg/l	41%
Dibenzo(a,h)anthracene	0,114	0,006	0,032	0,014	µg/l	28%
Benzo(ghi)perylene	0,134	0,007	0,044	0,036	µg/l	33%



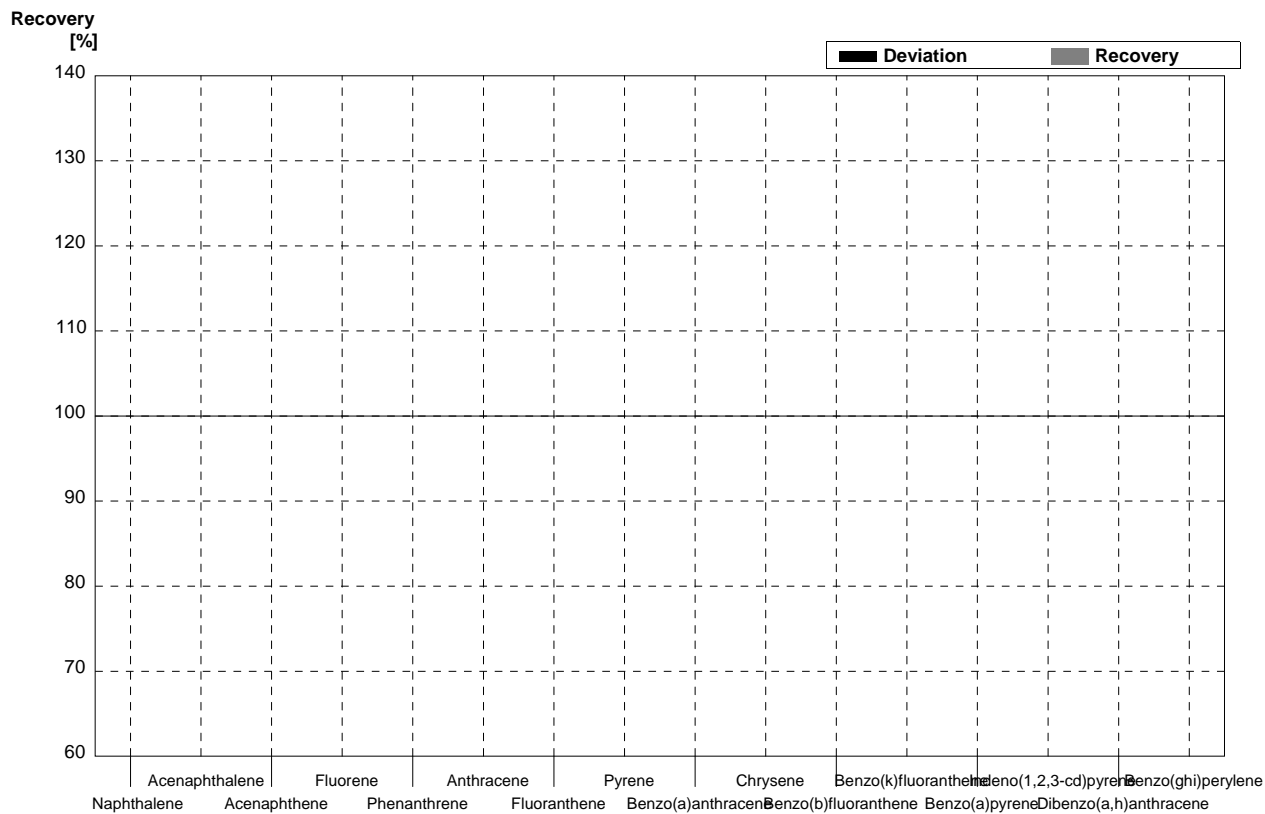
Sample P14B
Laboratory E

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,388	0,113	µg/l	97%
Acenaphthalene	0,327	0,016	0,256	0,074	µg/l	78%
Acenaphthene	0,306	0,015	0,269	0,067	µg/l	88%
Fluorene	<0,006		<0,01		µg/l	•
Phenanthrene	0,160	0,008	0,133	0,033	µg/l	83%
Anthracene	0,325	0,016	0,259	0,065	µg/l	80%
Fluoranthene	0,199	0,010	0,160	0,040	µg/l	80%
Pyrene	0,255	0,013	0,215	0,054	µg/l	84%
Benzo(a)anthracene	0,081	0,004	0,050	0,013	µg/l	62%
Chrysene	0,150	0,008	0,100	0,025	µg/l	67%
Benzo(b)fluoranthene	0,090	0,005	0,089	0,031	µg/l	99%
Benzo(k)fluoranthene	0,071	0,004	0,069	0,024	µg/l	97%
Benzo(a)pyrene	0,196	0,010	0,185	0,080	µg/l	94%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,036	0,016	µg/l	46%
Dibenzo(a,h)anthracene	0,178	0,009	0,048	0,021	µg/l	27%
Benzo(ghi)perylene	0,231	0,012	0,077	0,063	µg/l	33%



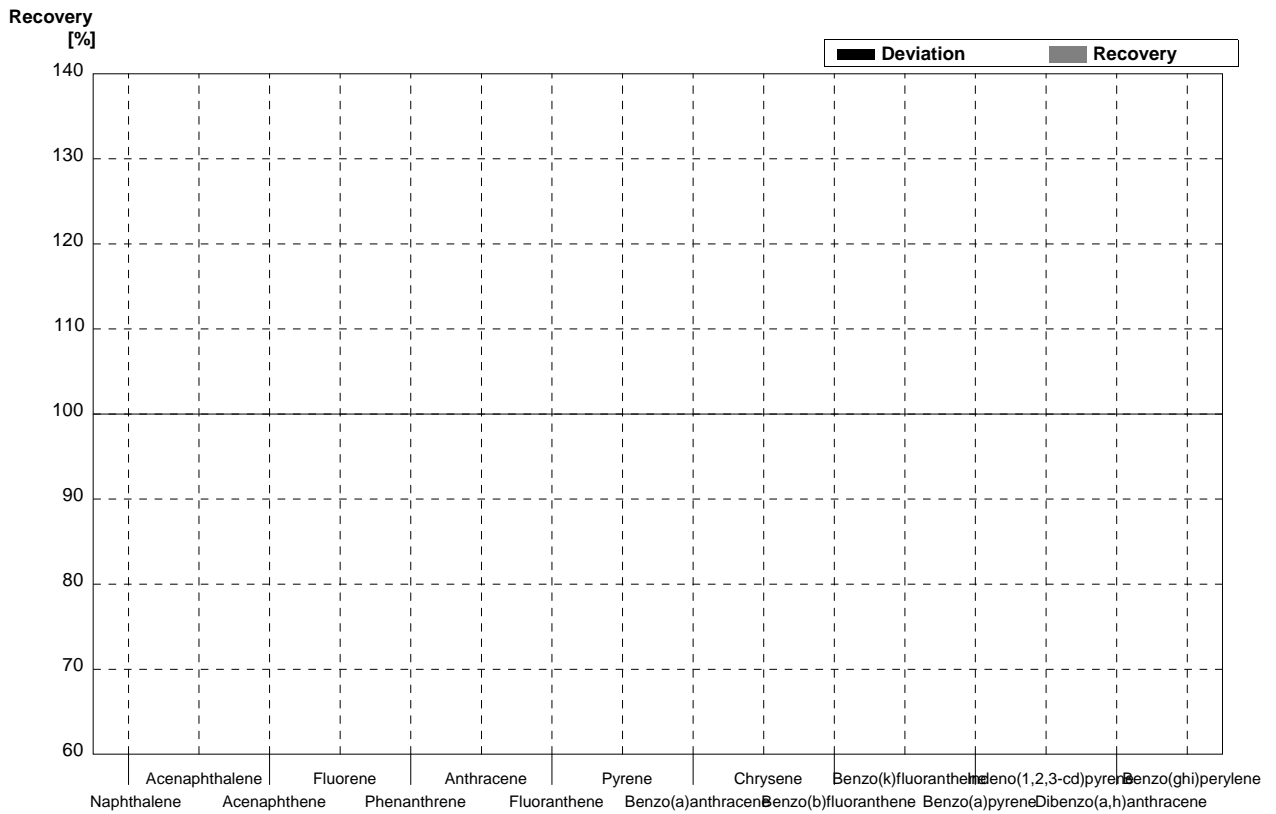
Sample P14A
Laboratory F

Parameter	Target value	$\pm U (k=2)$	Result	\pm	Unit	Recovery
Naphthalene	0,050	0,003			$\mu\text{g/l}$	
Acenaphthalene	0,073	0,004			$\mu\text{g/l}$	
Acenaphthene	0,191	0,010			$\mu\text{g/l}$	
Fluorene	0,404	0,020			$\mu\text{g/l}$	
Phenanthrene	0,235	0,012			$\mu\text{g/l}$	
Anthracene	0,245	0,012			$\mu\text{g/l}$	
Fluoranthene	0,352	0,018			$\mu\text{g/l}$	
Pyrene	<0,021				$\mu\text{g/l}$	
Benzo(a)anthracene	<0,023				$\mu\text{g/l}$	
Chrysene	0,309	0,015			$\mu\text{g/l}$	
Benzo(b)fluoranthene	0,169	0,008			$\mu\text{g/l}$	
Benzo(k)fluoranthene	0,186	0,009			$\mu\text{g/l}$	
Benzo(a)pyrene	0,157	0,008			$\mu\text{g/l}$	
Indeno(1,2,3-cd)pyrene	0,139	0,007			$\mu\text{g/l}$	
Dibenzo(a,h)anthracene	0,114	0,006			$\mu\text{g/l}$	
Benzo(ghi)perylene	0,134	0,007			$\mu\text{g/l}$	



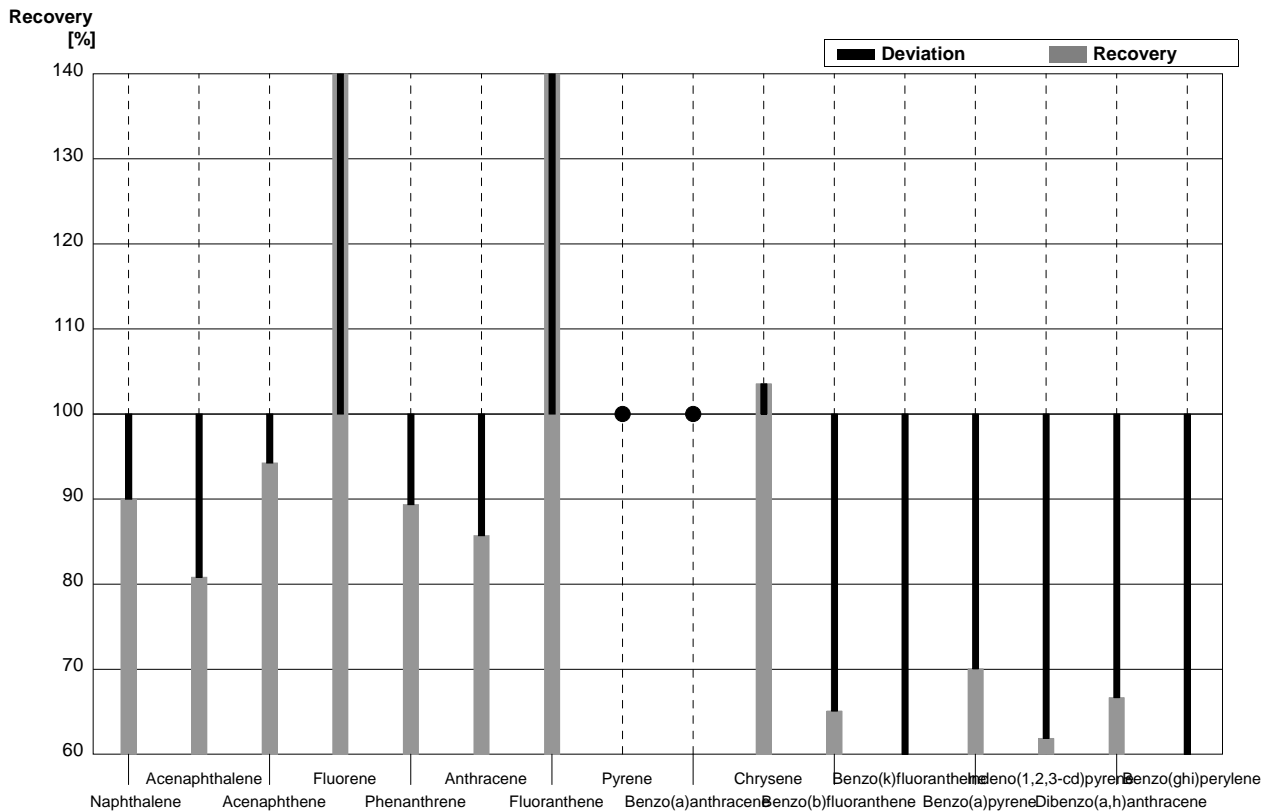
Sample P14B
Laboratory F

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020			µg/l	
Acenaphthalene	0,327	0,016			µg/l	
Acenaphthene	0,306	0,015			µg/l	
Fluorene	<0,006				µg/l	
Phenanthrene	0,160	0,008			µg/l	
Anthracene	0,325	0,016			µg/l	
Fluoranthene	0,199	0,010			µg/l	
Pyrene	0,255	0,013			µg/l	
Benzo(a)anthracene	0,081	0,004			µg/l	
Chrysene	0,150	0,008			µg/l	
Benzo(b)fluoranthene	0,090	0,005			µg/l	
Benzo(k)fluoranthene	0,071	0,004			µg/l	
Benzo(a)pyrene	0,196	0,010			µg/l	
Indeno(1,2,3-cd)pyrene	0,078	0,004			µg/l	
Dibenzo(a,h)anthracene	0,178	0,009			µg/l	
Benzo(ghi)perylene	0,231	0,012			µg/l	



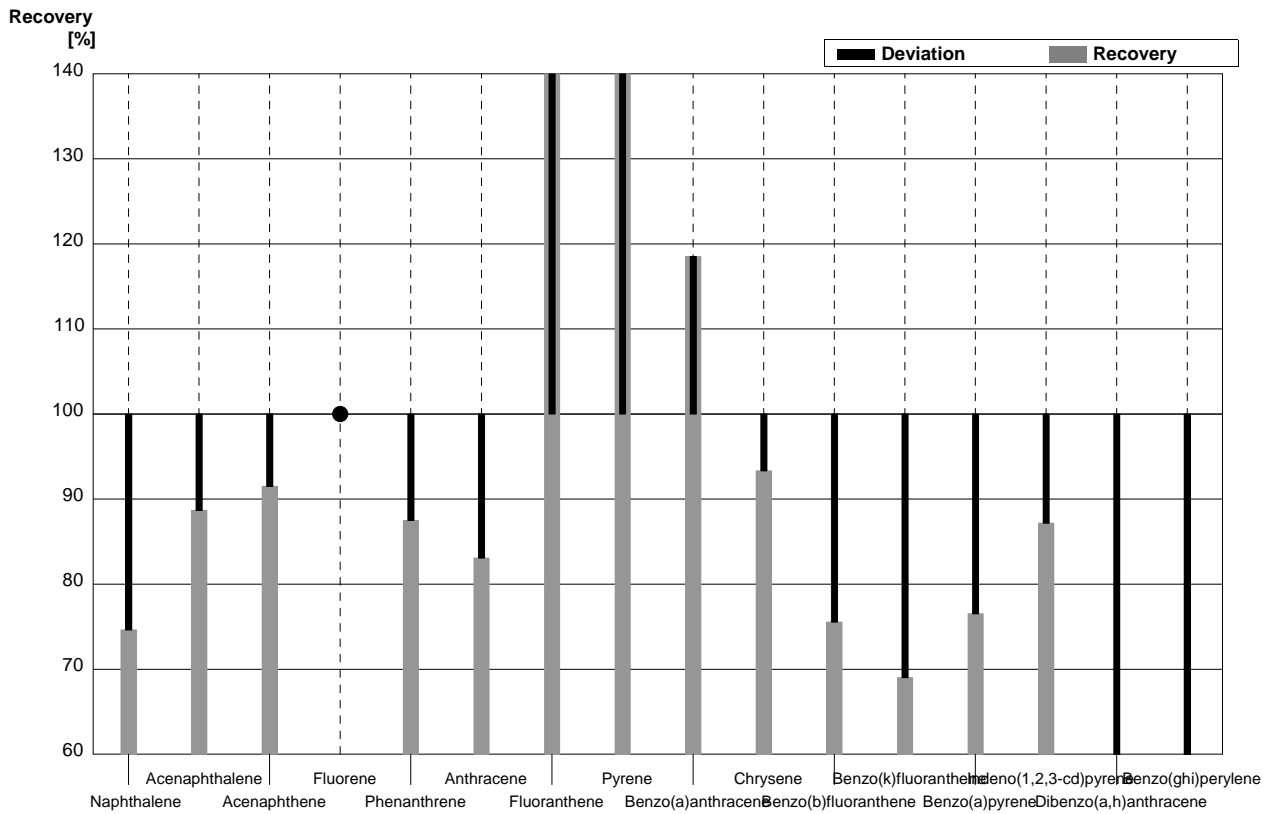
Sample P14A
Laboratory G

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,045	0,00720	µg/l	90%
Acenaphthalene	0,073	0,004	0,059	0,00940	µg/l	81%
Acenaphthene	0,191	0,010	0,18	0,0281	µg/l	94%
Fluorene	0,404	0,020	0,59	0,0942	µg/l	146%
Phenanthrene	0,235	0,012	0,21	0,0334	µg/l	89%
Anthracene	0,245	0,012	0,21	0,0329	µg/l	86%
Fluoranthene	0,352	0,018	0,54	0,0867	µg/l	153%
Pyrene	<0,021		<0,010		µg/l	•
Benzo(a)anthracene	<0,023		<0,010		µg/l	•
Chrysene	0,309	0,015	0,32	0,0515	µg/l	104%
Benzo(b)fluoranthene	0,169	0,008	0,11	0,0174	µg/l	65%
Benzo(k)fluoranthene	0,186	0,009	0,10	0,0166	µg/l	54%
Benzo(a)pyrene	0,157	0,008	0,11	0,0179	µg/l	70%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,086	0,0138	µg/l	62%
Dibenzo(a,h)anthracene	0,114	0,006	0,076	0,0122	µg/l	67%
Benzo(ghi)perylene	0,134	0,007	0,079	0,0127	µg/l	59%



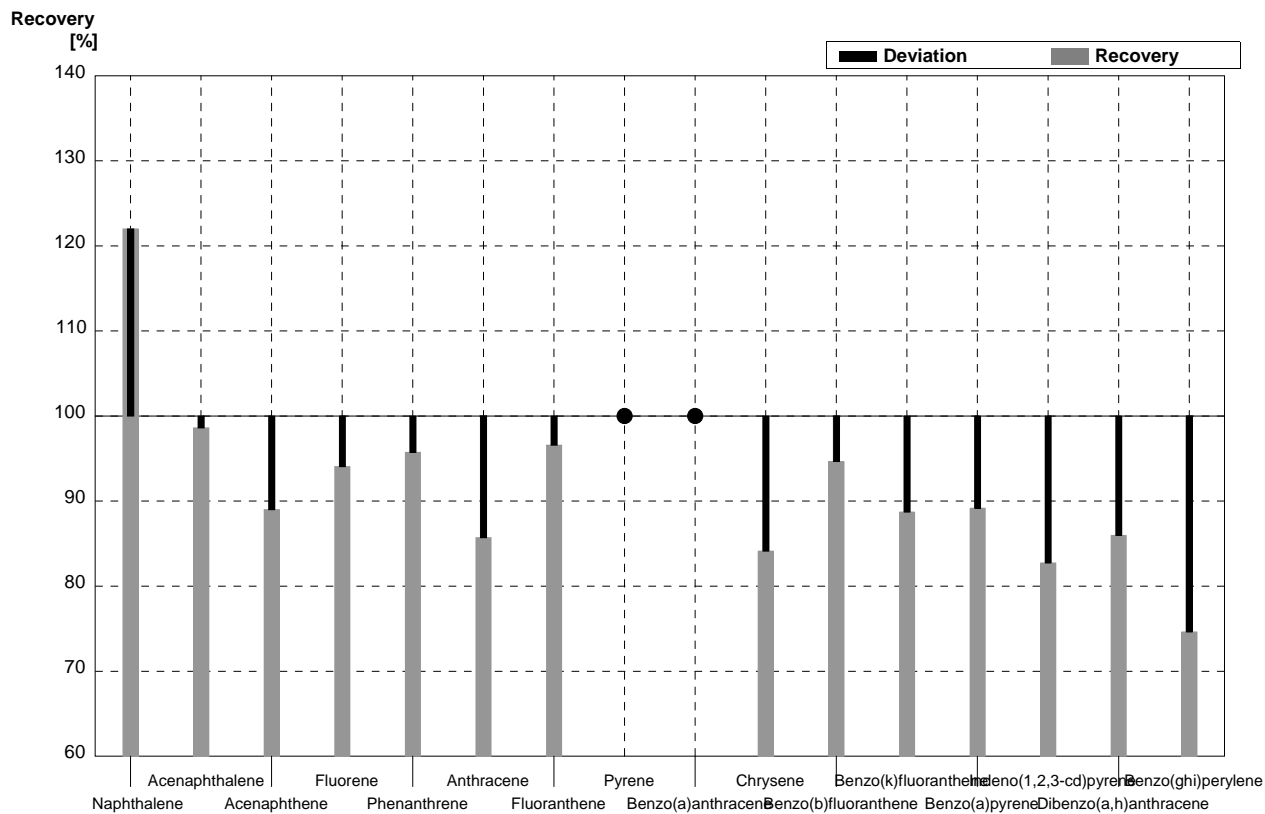
Sample P14B
Laboratory G

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,30	0,0485	µg/l	75%
Acenaphthalene	0,327	0,016	0,29	0,0464	µg/l	89%
Acenaphthene	0,306	0,015	0,28	0,0446	µg/l	92%
Fluorene	<0,006		<0,010		µg/l	•
Phenanthrene	0,160	0,008	0,14	0,0217	µg/l	88%
Anthracene	0,325	0,016	0,27	0,0437	µg/l	83%
Fluoranthene	0,199	0,010	0,31	0,0490	µg/l	156%
Pyrene	0,255	0,013	0,37	0,0599	µg/l	145%
Benzo(a)anthracene	0,081	0,004	0,096	0,0154	µg/l	119%
Chrysene	0,150	0,008	0,14	0,0230	µg/l	93%
Benzo(b)fluoranthene	0,090	0,005	0,068	0,0108	µg/l	76%
Benzo(k)fluoranthene	0,071	0,004	0,049	0,00783	µg/l	69%
Benzo(a)pyrene	0,196	0,010	0,15	0,0234	µg/l	77%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,068	0,0109	µg/l	87%
Dibenzo(a,h)anthracene	0,178	0,009	0,10	0,0165	µg/l	56%
Benzo(ghi)perylene	0,231	0,012	0,13	0,0211	µg/l	56%



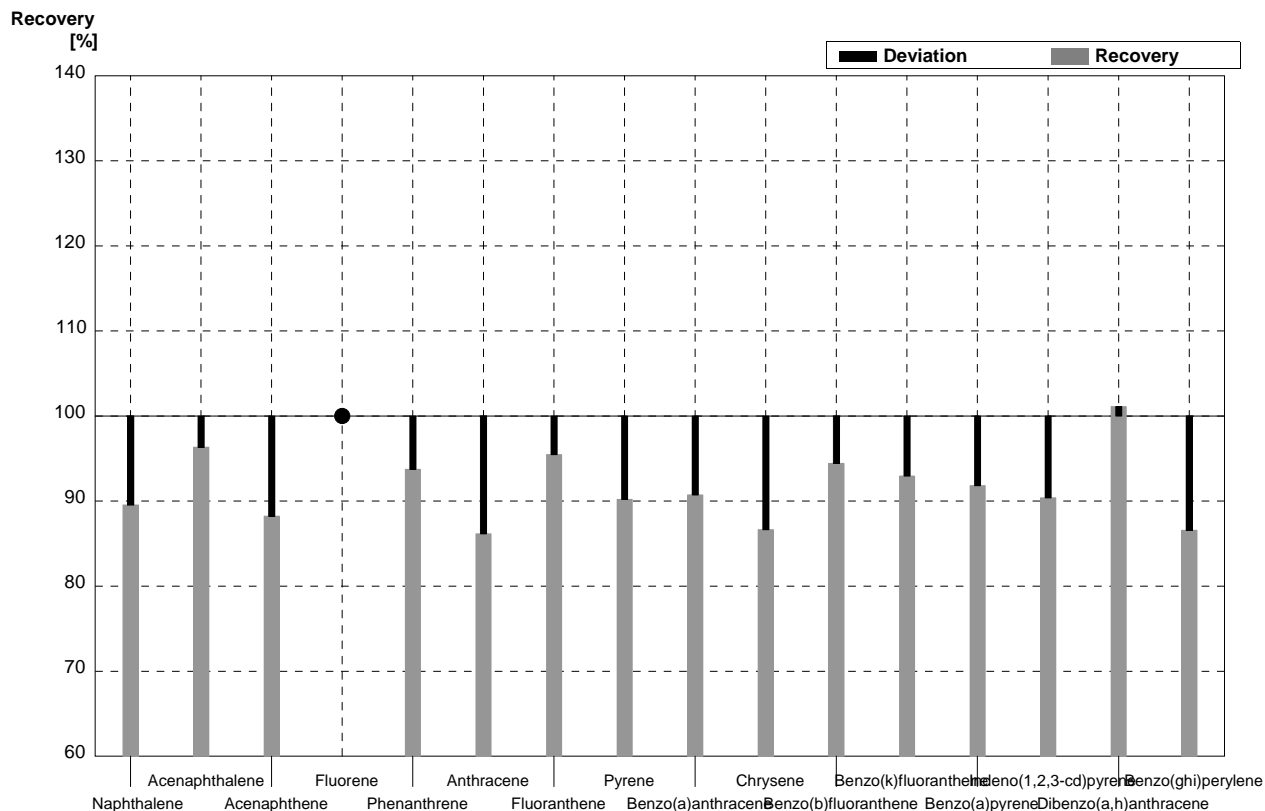
Sample P14A
Laboratory H

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,061	0,006	µg/l	122%
Acenaphthalene	0,073	0,004	0,072	0,007	µg/l	99%
Acenaphthene	0,191	0,010	0,17	0,02	µg/l	89%
Fluorene	0,404	0,020	0,38	0,04	µg/l	94%
Phenanthrene	0,235	0,012	0,225	0,02	µg/l	96%
Anthracene	0,245	0,012	0,21	0,02	µg/l	86%
Fluoranthene	0,352	0,018	0,34	0,03	µg/l	97%
Pyrene	<0,021		<0,05		µg/l	•
Benzo(a)anthracene	<0,023		<0,05		µg/l	•
Chrysene	0,309	0,015	0,26	0,03	µg/l	84%
Benzo(b)fluoranthene	0,169	0,008	0,16	0,02	µg/l	95%
Benzo(k)fluoranthene	0,186	0,009	0,165	0,02	µg/l	89%
Benzo(a)pyrene	0,157	0,008	0,14	0,01	µg/l	89%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,115	0,01	µg/l	83%
Dibenzo(a,h)anthracene	0,114	0,006	0,098	0,01	µg/l	86%
Benzo(ghi)perylene	0,134	0,007	0,1	0,01	µg/l	75%



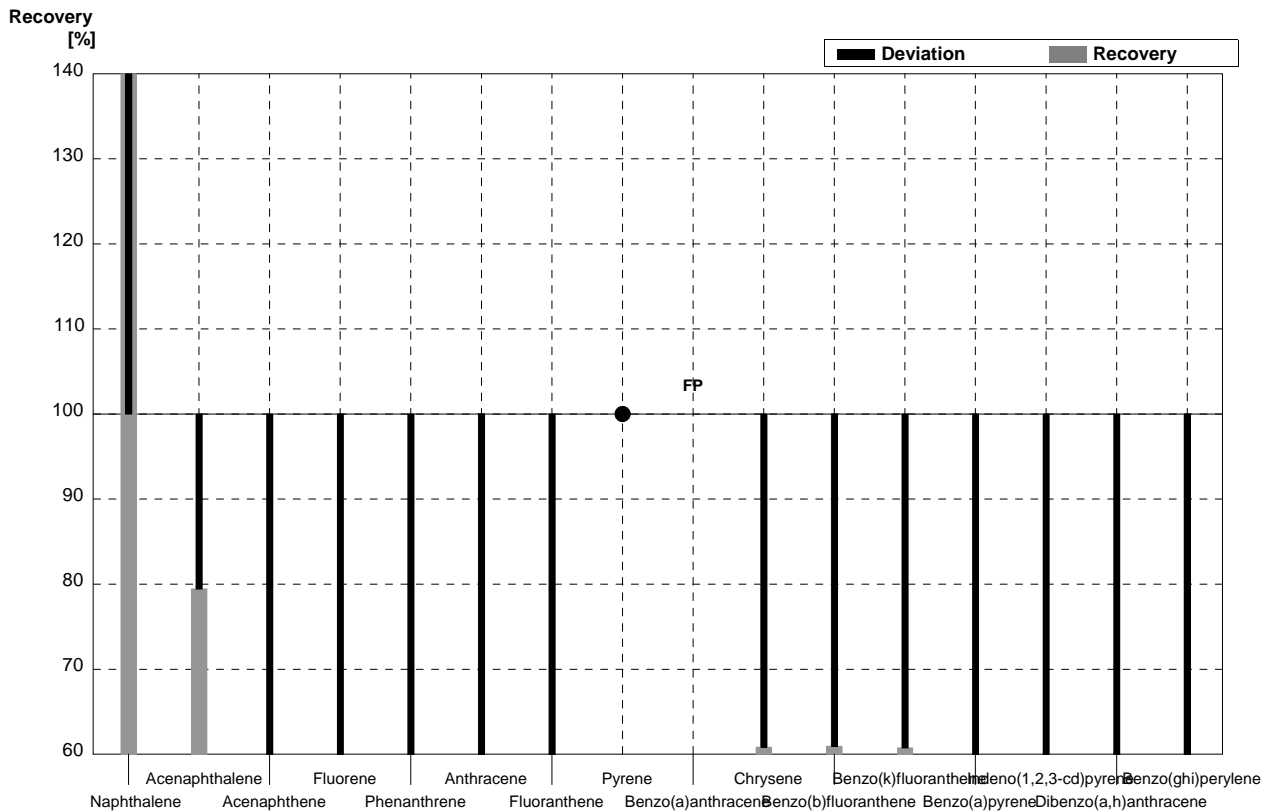
Sample P14B
Laboratory H

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,36	0,04	µg/l	90%
Acenaphthalene	0,327	0,016	0,315	0,03	µg/l	96%
Acenaphthene	0,306	0,015	0,27	0,03	µg/l	88%
Fluorene	<0,006		<0,005		µg/l	•
Phenanthrene	0,160	0,008	0,15	0,02	µg/l	94%
Anthracene	0,325	0,016	0,28	0,03	µg/l	86%
Fluoranthene	0,199	0,010	0,19	0,02	µg/l	95%
Pyrene	0,255	0,013	0,23	0,02	µg/l	90%
Benzo(a)anthracene	0,081	0,004	0,0735	0,007	µg/l	91%
Chrysene	0,150	0,008	0,13	0,02	µg/l	87%
Benzo(b)fluoranthene	0,090	0,005	0,085	0,008	µg/l	94%
Benzo(k)fluoranthene	0,071	0,004	0,066	0,007	µg/l	93%
Benzo(a)pyrene	0,196	0,010	0,18	0,02	µg/l	92%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,0705	0,007	µg/l	90%
Dibenzo(a,h)anthracene	0,178	0,009	0,18	0,02	µg/l	101%
Benzo(ghi)perylene	0,231	0,012	0,2	0,02	µg/l	87%



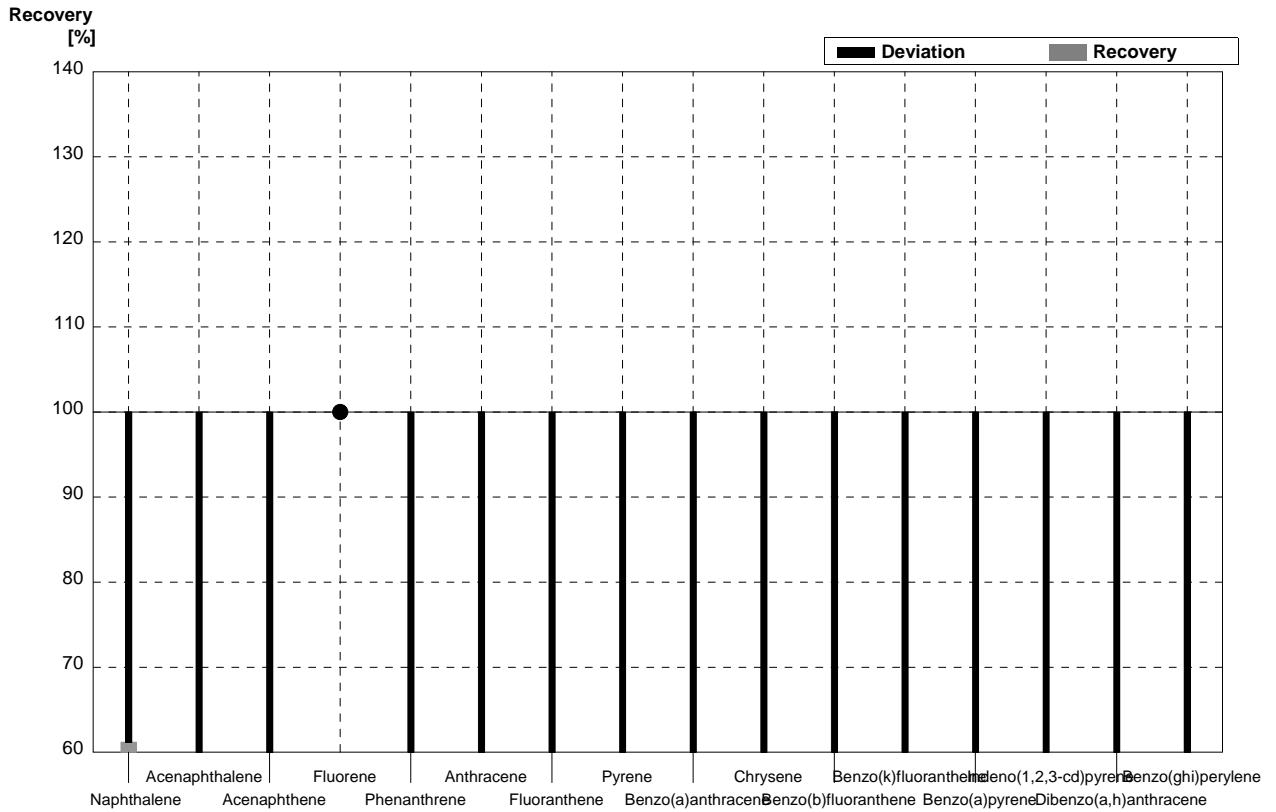
Sample P14A
Laboratory I

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,072	0,012	µg/l	144%
Acenaphthalene	0,073	0,004	0,058	0,007	µg/l	79%
Acenaphthene	0,191	0,010	0,078	0,011	µg/l	41%
Fluorene	0,404	0,020	0,228	0,028	µg/l	56%
Phenanthrene	0,235	0,012	0,130	0,014	µg/l	55%
Anthracene	0,245	0,012	0,115	0,015	µg/l	47%
Fluoranthene	0,352	0,018	0,194	0,014	µg/l	55%
Pyrene	<0,021		<0,05		µg/l	•
Benzo(a)anthracene	<0,023		0,046	0,01	µg/l	FP
Chrysene	0,309	0,015	0,188	0,012	µg/l	61%
Benzo(b)fluoranthene	0,169	0,008	0,103	0,007	µg/l	61%
Benzo(k)fluoranthene	0,186	0,009	0,113	0,013	µg/l	61%
Benzo(a)pyrene	0,157	0,008	0,061	0,008	µg/l	39%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,035	0,008	µg/l	25%
Dibenzo(a,h)anthracene	0,114	0,006	0,050	0,005	µg/l	44%
Benzo(ghi)perylene	0,134	0,007	0,032	0,009	µg/l	24%



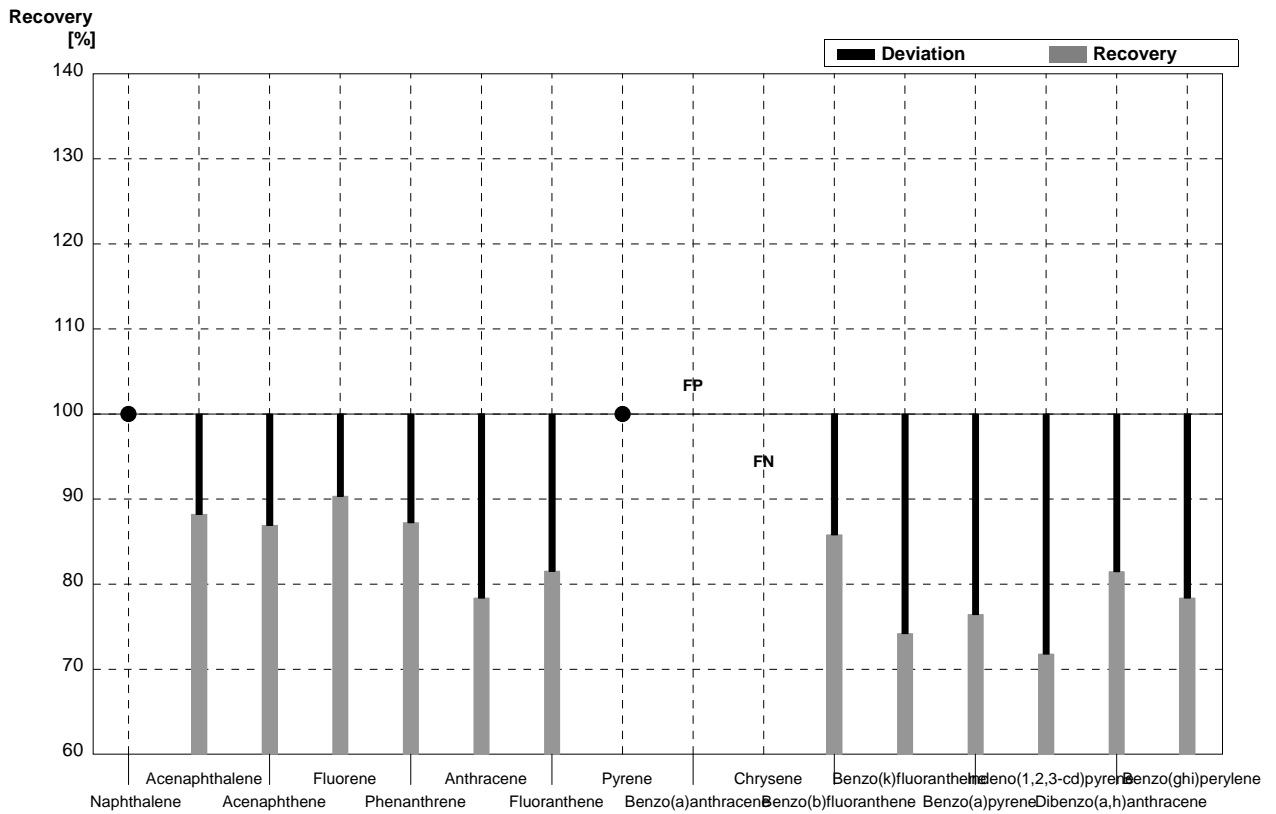
Sample P14B
Laboratory I

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,246	0,022	µg/l	61%
Acenaphthalene	0,327	0,016	0,179	0,017	µg/l	55%
Acenaphthene	0,306	0,015	0,176	0,020	µg/l	58%
Fluorene	<0,006		<0,05		µg/l	•
Phenanthrene	0,160	0,008	0,091	0,015	µg/l	57%
Anthracene	0,325	0,016	0,177	0,02	µg/l	54%
Fluoranthene	0,199	0,010	0,110	0,015	µg/l	55%
Pyrene	0,255	0,013	0,135	0,019	µg/l	53%
Benzo(a)anthracene	0,081	0,004	0,04	0,008	µg/l	49%
Chrysene	0,150	0,008	0,072	0,007	µg/l	48%
Benzo(b)fluoranthene	0,090	0,005	0,040	0,005	µg/l	44%
Benzo(k)fluoranthene	0,071	0,004	0,033	0,01	µg/l	46%
Benzo(a)pyrene	0,196	0,010	0,051	0,012	µg/l	26%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,025	0,007	µg/l	32%
Dibenzo(a,h)anthracene	0,178	0,009	0,060	0,013	µg/l	34%
Benzo(ghi)perylene	0,231	0,012	0,065	0,009	µg/l	28%



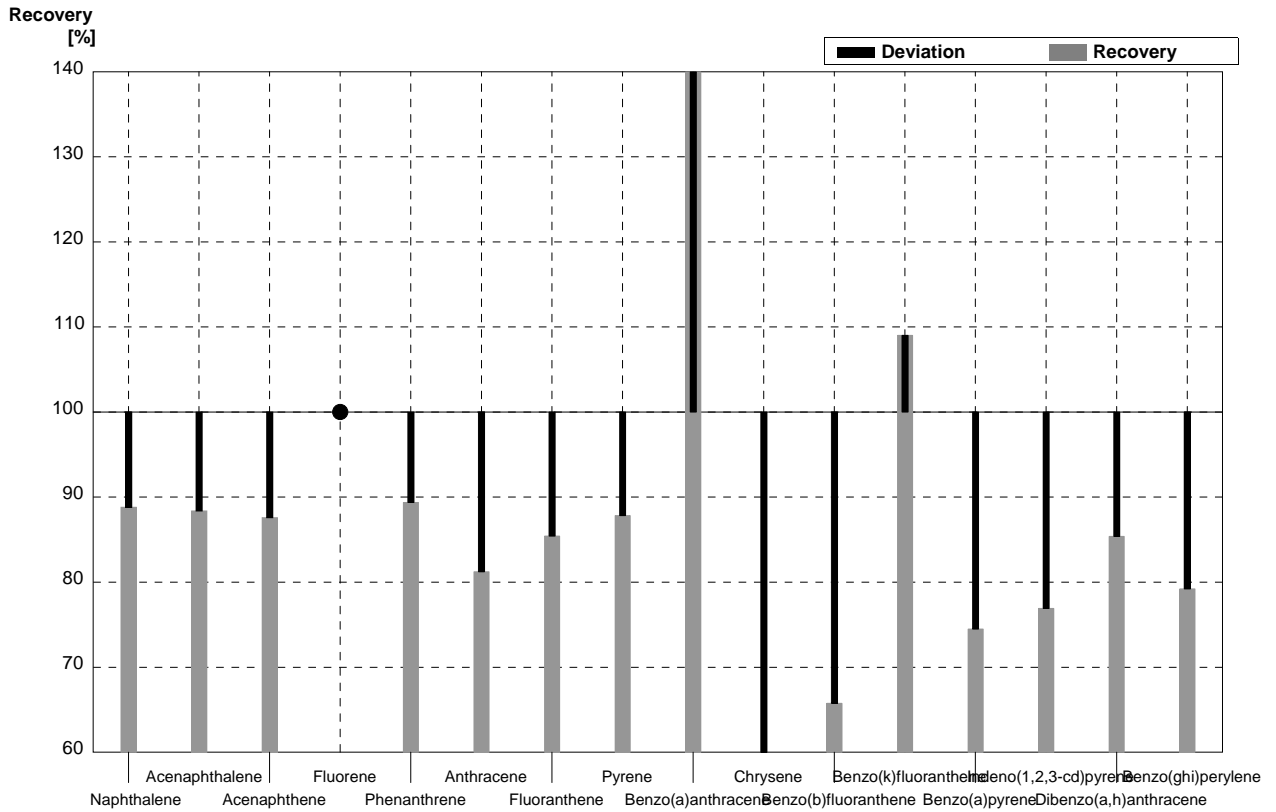
Sample P14A
Laboratory J

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	<0,05		µg/l	•
Acenaphthalene	0,073	0,004	0,0644	0,0064	µg/l	88%
Acenaphthene	0,191	0,010	0,166	0,017	µg/l	87%
Fluorene	0,404	0,020	0,365	0,037	µg/l	90%
Phenanthrene	0,235	0,012	0,205	0,021	µg/l	87%
Anthracene	0,245	0,012	0,192	0,019	µg/l	78%
Fluoranthene	0,352	0,018	0,287	0,029	µg/l	82%
Pyrene	<0,021		<0,05		µg/l	•
Benzo(a)anthracene	<0,023		0,244	0,024	µg/l	FP
Chrysene	0,309	0,015	<0,05		µg/l	FN
Benzo(b)fluoranthene	0,169	0,008	0,145	0,015	µg/l	86%
Benzo(k)fluoranthene	0,186	0,009	0,138	0,014	µg/l	74%
Benzo(a)pyrene	0,157	0,008	0,120	0,012	µg/l	76%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,0998	0,010	µg/l	72%
Dibenzo(a,h)anthracene	0,114	0,006	0,0929	0,0093	µg/l	81%
Benzo(ghi)perylene	0,134	0,007	0,105	0,011	µg/l	78%



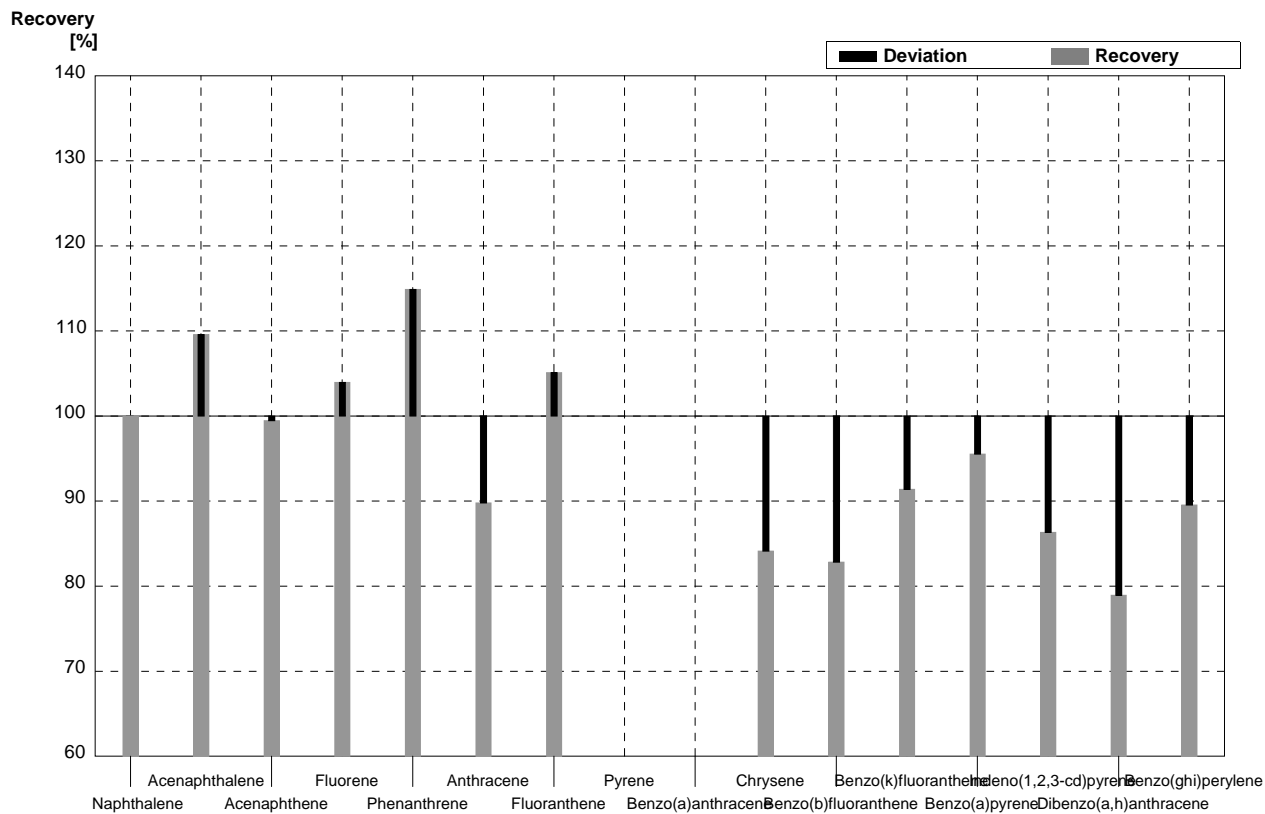
Sample P14B
Laboratory J

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,357	0,036	µg/l	89%
Acenaphthalene	0,327	0,016	0,289	0,029	µg/l	88%
Acenaphthene	0,306	0,015	0,268	0,027	µg/l	88%
Fluorene	<0,006		<0,05		µg/l	•
Phenanthrene	0,160	0,008	0,143	0,014	µg/l	89%
Anthracene	0,325	0,016	0,264	0,026	µg/l	81%
Fluoranthene	0,199	0,010	0,170	0,017	µg/l	85%
Pyrene	0,255	0,013	0,224	0,022	µg/l	88%
Benzo(a)anthracene	0,081	0,004	0,125	0,013	µg/l	154%
Chrysene	0,150	0,008	0,0660	0,0066	µg/l	44%
Benzo(b)fluoranthene	0,090	0,005	0,0592	0,0059	µg/l	66%
Benzo(k)fluoranthene	0,071	0,004	0,0774	0,0077	µg/l	109%
Benzo(a)pyrene	0,196	0,010	0,146	0,015	µg/l	74%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,0600	0,006	µg/l	77%
Dibenzo(a,h)anthracene	0,178	0,009	0,152	0,015	µg/l	85%
Benzo(ghi)perylene	0,231	0,012	0,183	0,018	µg/l	79%



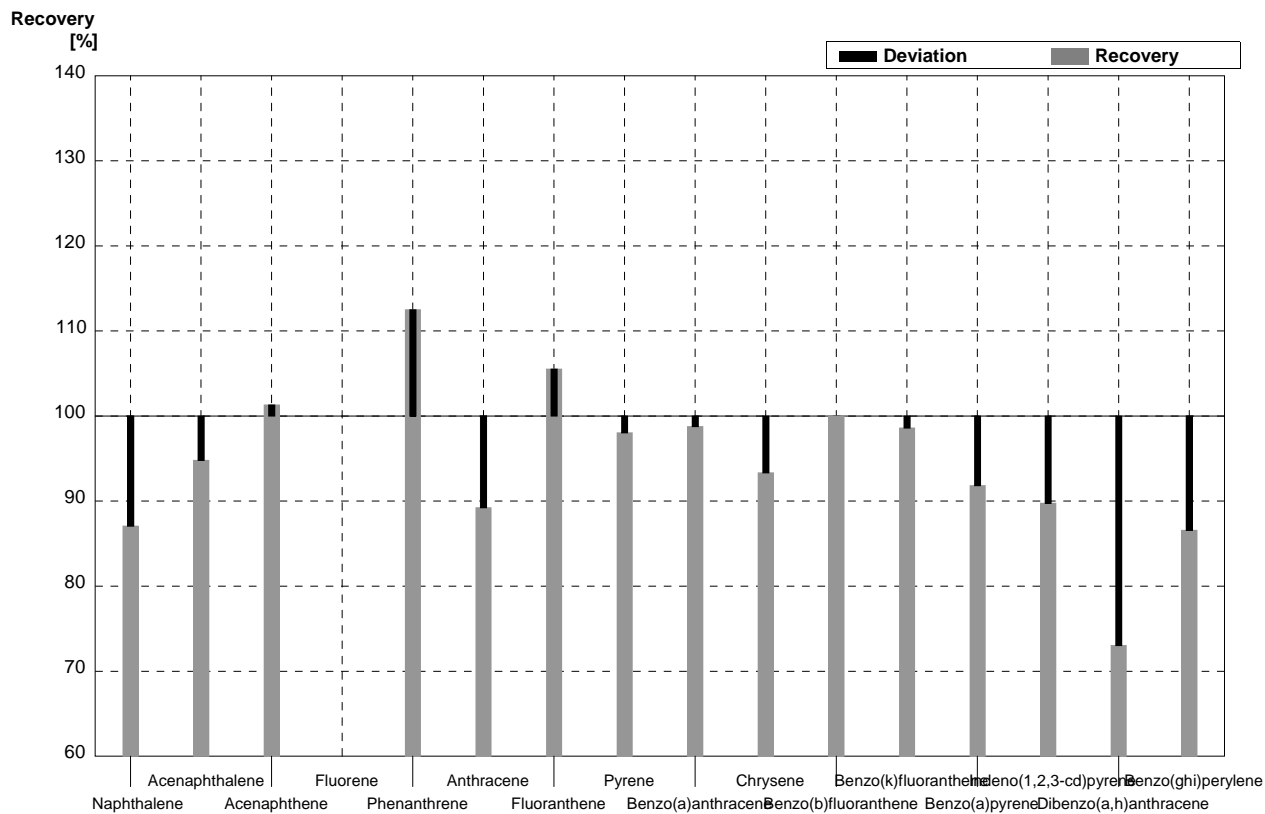
Sample P14A
Laboratory K

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,05	0,01	µg/l	100%
Acenaphthalene	0,073	0,004	0,08	0,02	µg/l	110%
Acenaphthene	0,191	0,010	0,19	0,04	µg/l	99%
Fluorene	0,404	0,020	0,42	0,08	µg/l	104%
Phenanthrene	0,235	0,012	0,27	0,05	µg/l	115%
Anthracene	0,245	0,012	0,22	0,04	µg/l	90%
Fluoranthene	0,352	0,018	0,37	0,07	µg/l	105%
Pyrene	<0,021		n.d.		µg/l	
Benzo(a)anthracene	<0,023		n.d.		µg/l	
Chrysene	0,309	0,015	0,26	0,05	µg/l	84%
Benzo(b)fluoranthene	0,169	0,008	0,14	0,03	µg/l	83%
Benzo(k)fluoranthene	0,186	0,009	0,17	0,03	µg/l	91%
Benzo(a)pyrene	0,157	0,008	0,15	0,03	µg/l	96%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,12	0,02	µg/l	86%
Dibenzo(a,h)anthracene	0,114	0,006	0,09	0,02	µg/l	79%
Benzo(ghi)perylene	0,134	0,007	0,12	0,02	µg/l	90%



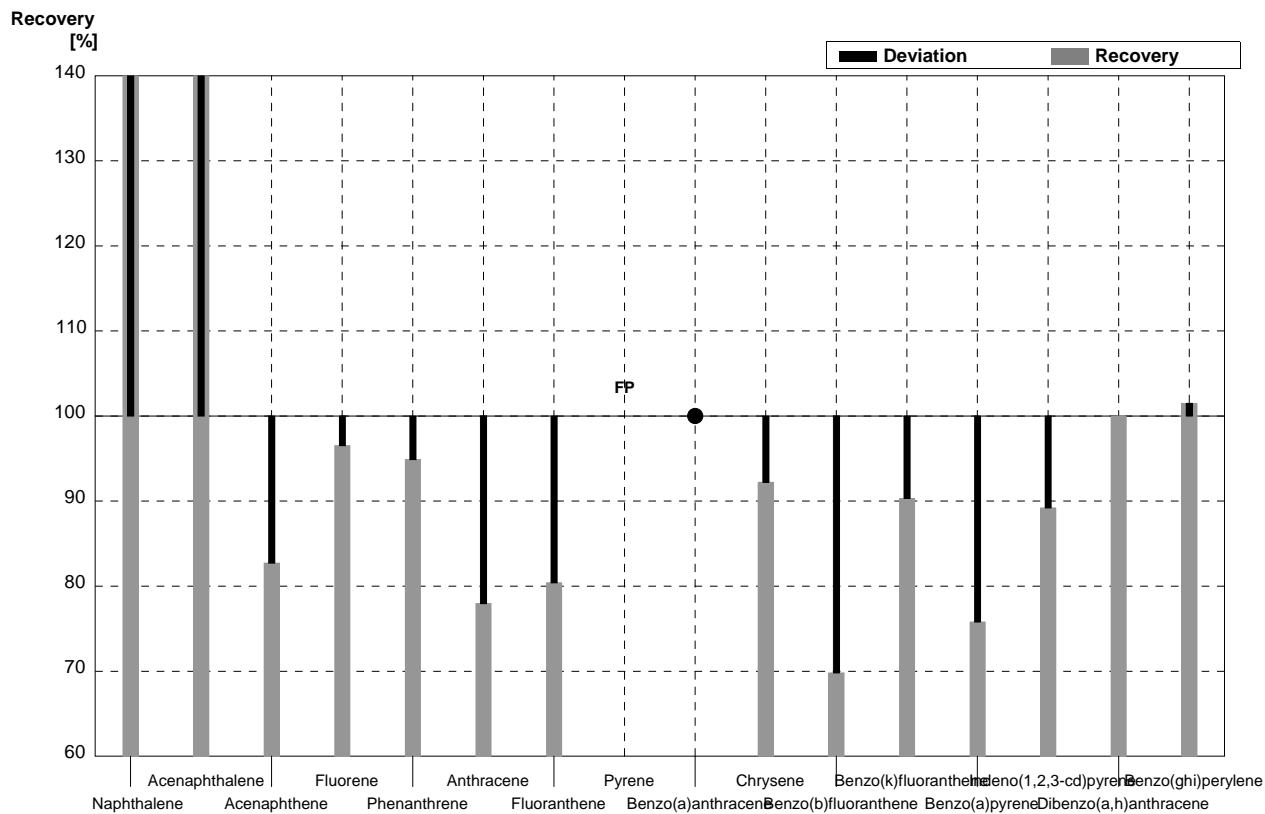
Sample P14B
Laboratory K

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,35	0,07	µg/l	87%
Acenaphthalene	0,327	0,016	0,31	0,06	µg/l	95%
Acenaphthene	0,306	0,015	0,31	0,06	µg/l	101%
Fluorene	<0,006		n.d.		µg/l	
Phenanthrene	0,160	0,008	0,18	0,04	µg/l	113%
Anthracene	0,325	0,016	0,29	0,06	µg/l	89%
Fluoranthene	0,199	0,010	0,21	0,04	µg/l	106%
Pyrene	0,255	0,013	0,25	0,05	µg/l	98%
Benzo(a)anthracene	0,081	0,004	0,08	0,02	µg/l	99%
Chrysene	0,150	0,008	0,14	0,03	µg/l	93%
Benzo(b)fluoranthene	0,090	0,005	0,09	0,02	µg/l	100%
Benzo(k)fluoranthene	0,071	0,004	0,07	0,01	µg/l	99%
Benzo(a)pyrene	0,196	0,010	0,18	0,04	µg/l	92%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,07	0,01	µg/l	90%
Dibenzo(a,h)anthracene	0,178	0,009	0,13	0,03	µg/l	73%
Benzo(ghi)perylene	0,231	0,012	0,20	0,04	µg/l	87%



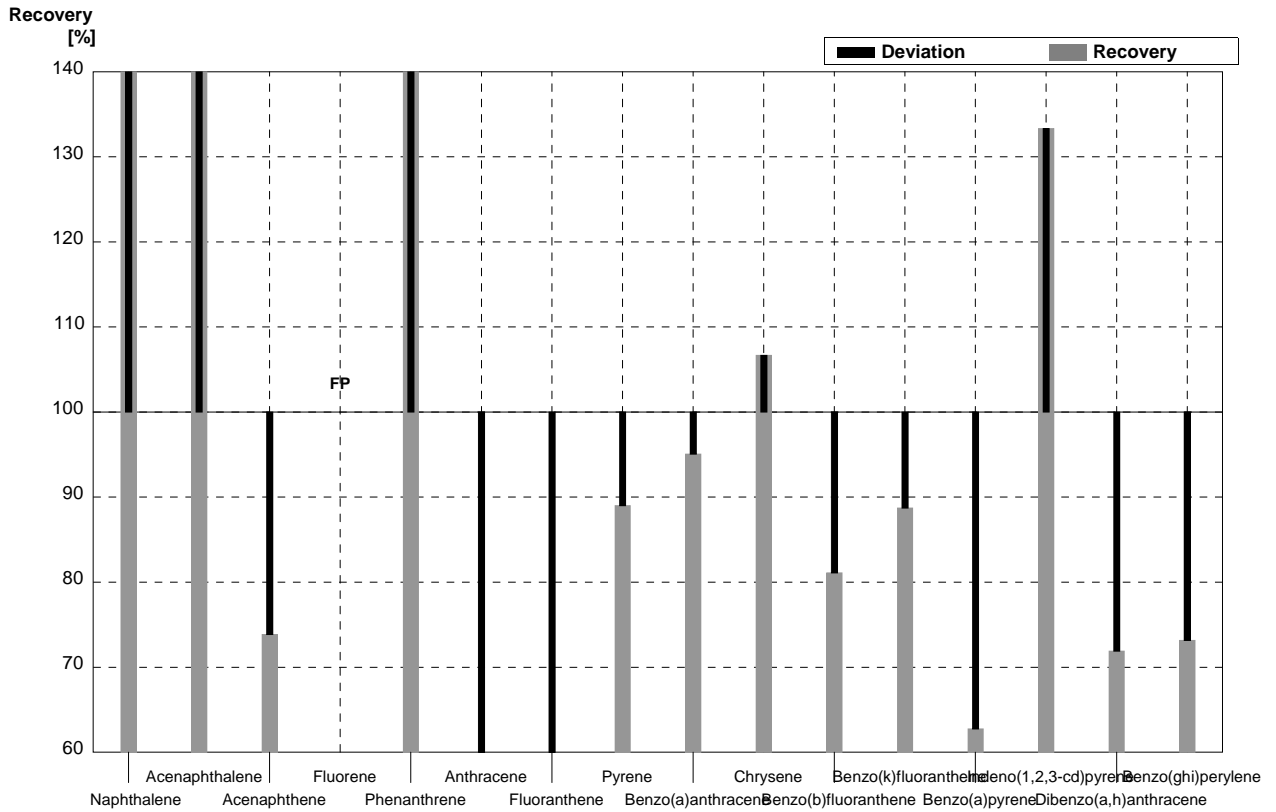
Sample P14A
Laboratory L

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,613	0,120	µg/l	1226%
Acenaphthalene	0,073	0,004	0,241	0,050	µg/l	330%
Acenaphthene	0,191	0,010	0,158	0,030	µg/l	83%
Fluorene	0,404	0,020	0,390	0,078	µg/l	97%
Phenanthrene	0,235	0,012	0,223	0,045	µg/l	95%
Anthracene	0,245	0,012	0,191	0,040	µg/l	78%
Fluoranthene	0,352	0,018	0,283	0,056	µg/l	80%
Pyrene	<0,021		0,085	0,017	µg/l	FP
Benzo(a)anthracene	<0,023		<0,010	0,020	µg/l	•
Chrysene	0,309	0,015	0,285	0,060	µg/l	92%
Benzo(b)fluoranthene	0,169	0,008	0,118	0,024	µg/l	70%
Benzo(k)fluoranthene	0,186	0,009	0,168	0,035	µg/l	90%
Benzo(a)pyrene	0,157	0,008	0,119	0,025	µg/l	76%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,124	0,025	µg/l	89%
Dibenzo(a,h)anthracene	0,114	0,006	0,114	0,023	µg/l	100%
Benzo(ghi)perylene	0,134	0,007	0,136	0,027	µg/l	101%



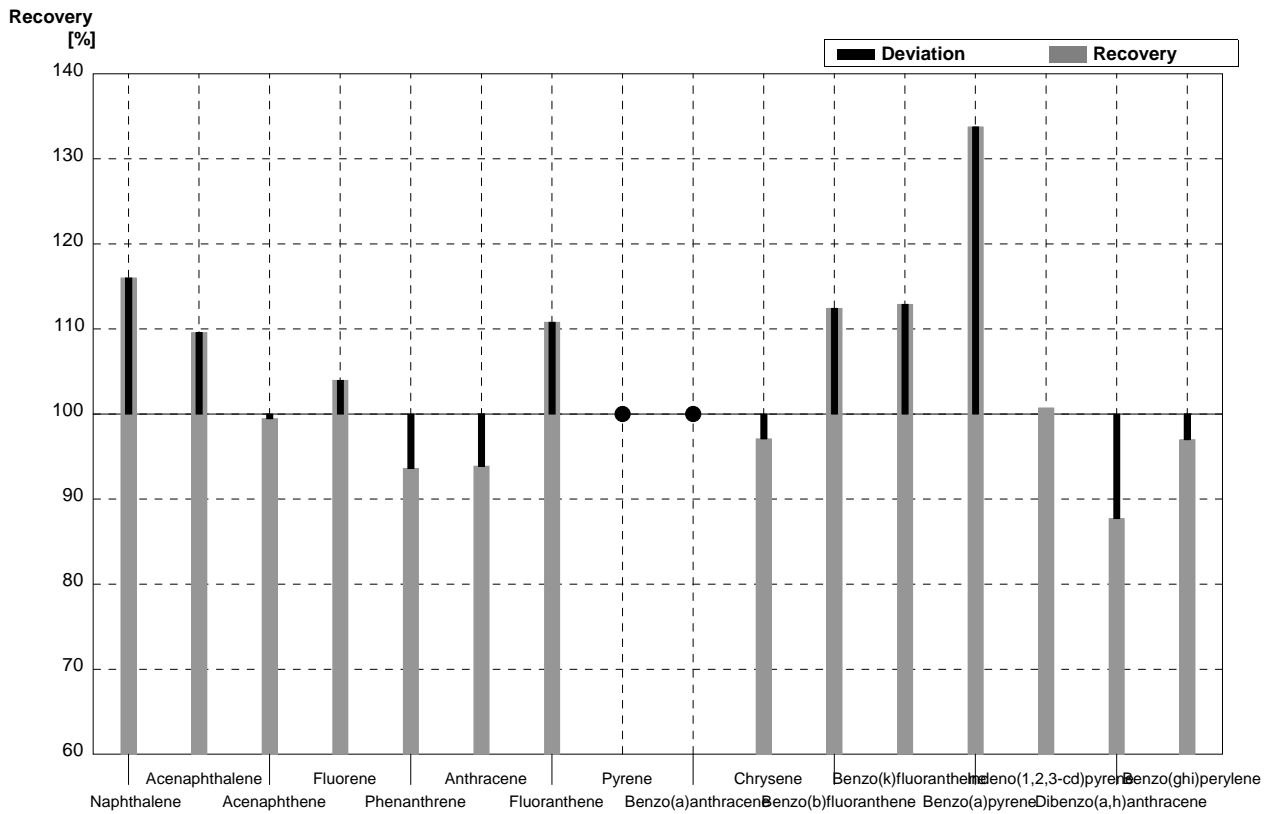
Sample P14B
Laboratory L

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,809	0,160	µg/l	201%
Acenaphthalene	0,327	0,016	0,559	0,110	µg/l	171%
Acenaphthene	0,306	0,015	0,226	0,045	µg/l	74%
Fluorene	<0,006		0,049	0,010	µg/l	FP
Phenanthrene	0,160	0,008	0,234	0,027	µg/l	146%
Anthracene	0,325	0,016	0,190	0,040	µg/l	58%
Fluoranthene	0,199	0,010	0,080	0,010	µg/l	40%
Pyrene	0,255	0,013	0,227	0,045	µg/l	89%
Benzo(a)anthracene	0,081	0,004	0,077	0,016	µg/l	95%
Chrysene	0,150	0,008	0,160	0,032	µg/l	107%
Benzo(b)fluoranthene	0,090	0,005	0,073	0,015	µg/l	81%
Benzo(k)fluoranthene	0,071	0,004	0,063	0,013	µg/l	89%
Benzo(a)pyrene	0,196	0,010	0,123	0,024	µg/l	63%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,104	0,020	µg/l	133%
Dibenzo(a,h)anthracene	0,178	0,009	0,128	0,025	µg/l	72%
Benzo(ghi)perylene	0,231	0,012	0,169	0,034	µg/l	73%



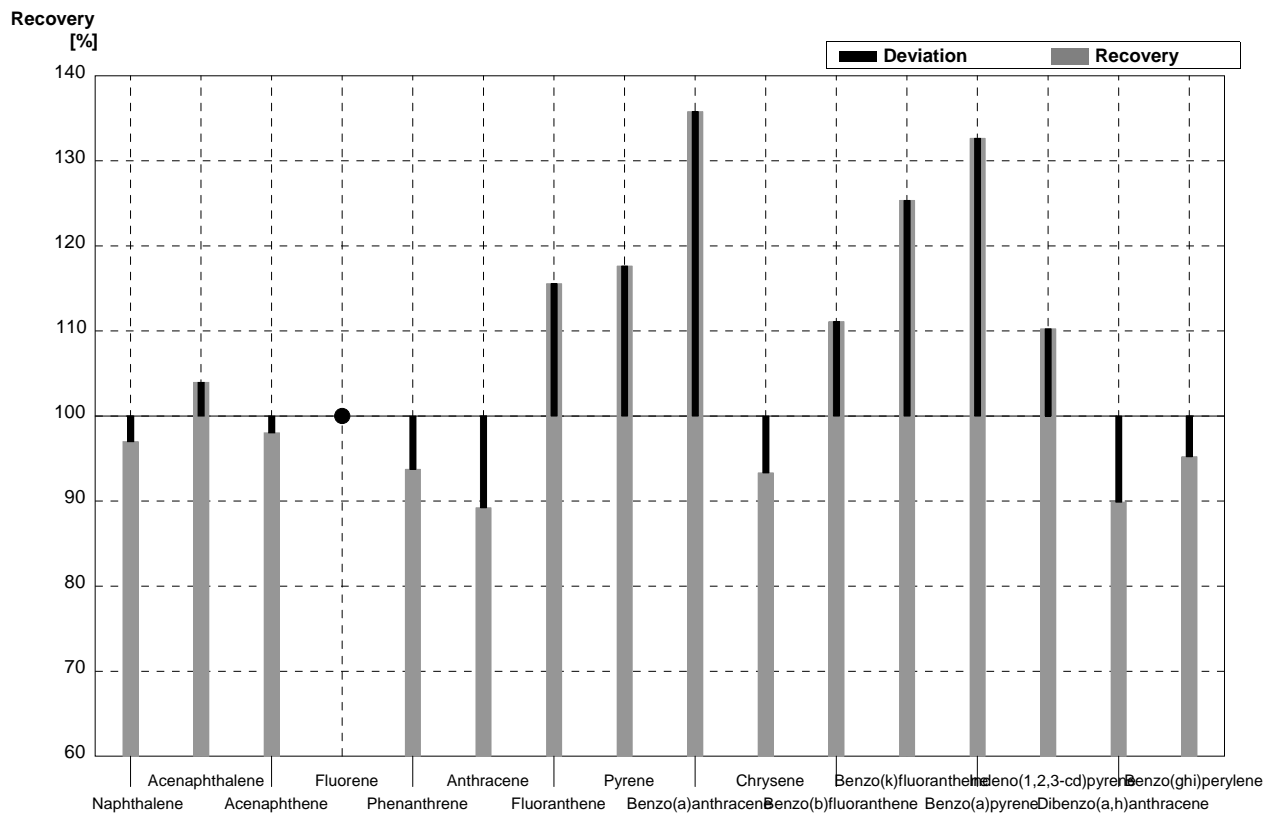
Sample P14A
Laboratory M

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,058	0,013	µg/l	116%
Acenaphthalene	0,073	0,004	0,080	0,0057	µg/l	110%
Acenaphthene	0,191	0,010	0,19	0,012	µg/l	99%
Fluorene	0,404	0,020	0,42	0,025	µg/l	104%
Phenanthrene	0,235	0,012	0,22	0,047	µg/l	94%
Anthracene	0,245	0,012	0,23	0,019	µg/l	94%
Fluoranthene	0,352	0,018	0,39	0,024	µg/l	111%
Pyrene	<0,021		<0,01		µg/l	•
Benzo(a)anthracene	<0,023		<0,01		µg/l	•
Chrysene	0,309	0,015	0,30	0,012	µg/l	97%
Benzo(b)fluoranthene	0,169	0,008	0,19	0,013	µg/l	112%
Benzo(k)fluoranthene	0,186	0,009	0,21	0,014	µg/l	113%
Benzo(a)pyrene	0,157	0,008	0,21	0,010	µg/l	134%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,14	0,0075	µg/l	101%
Dibenzo(a,h)anthracene	0,114	0,006	0,10	0,0090	µg/l	88%
Benzo(ghi)perylene	0,134	0,007	0,13	0,011	µg/l	97%



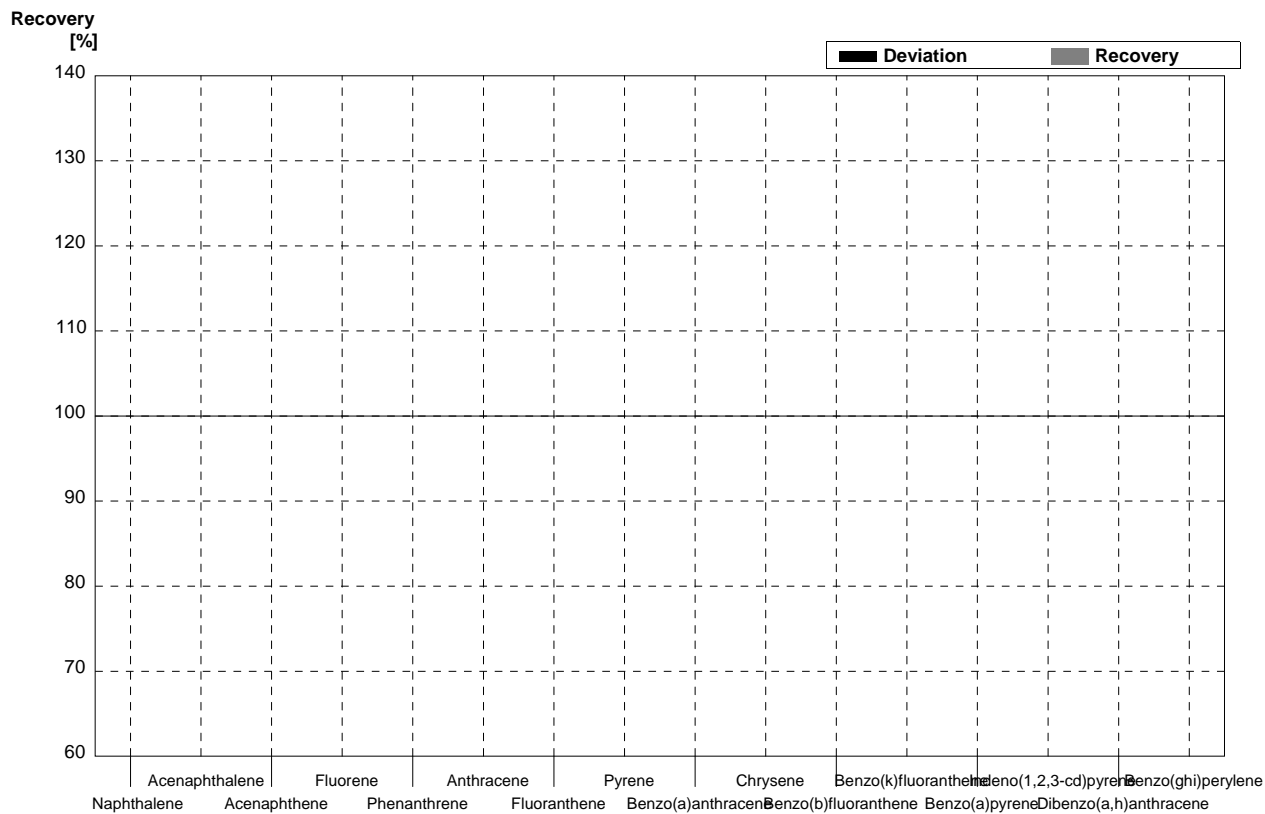
Sample P14B
Laboratory M

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,39	0,089	µg/l	97%
Acenaphthalene	0,327	0,016	0,34	0,024	µg/l	104%
Acenaphthene	0,306	0,015	0,30	0,019	µg/l	98%
Fluorene	<0,006		<0,01		µg/l	•
Phenanthrene	0,160	0,008	0,15	0,032	µg/l	94%
Anthracene	0,325	0,016	0,29	0,025	µg/l	89%
Fluoranthene	0,199	0,010	0,23	0,014	µg/l	116%
Pyrene	0,255	0,013	0,30	0,012	µg/l	118%
Benzo(a)anthracene	0,081	0,004	0,11	0,0050	µg/l	136%
Chrysene	0,150	0,008	0,14	0,0056	µg/l	93%
Benzo(b)fluoranthene	0,090	0,005	0,10	0,0069	µg/l	111%
Benzo(k)fluoranthene	0,071	0,004	0,089	0,0057	µg/l	125%
Benzo(a)pyrene	0,196	0,010	0,26	0,012	µg/l	133%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,086	0,0046	µg/l	110%
Dibenzo(a,h)anthracene	0,178	0,009	0,16	0,014	µg/l	90%
Benzo(ghi)perylene	0,231	0,012	0,22	0,018	µg/l	95%



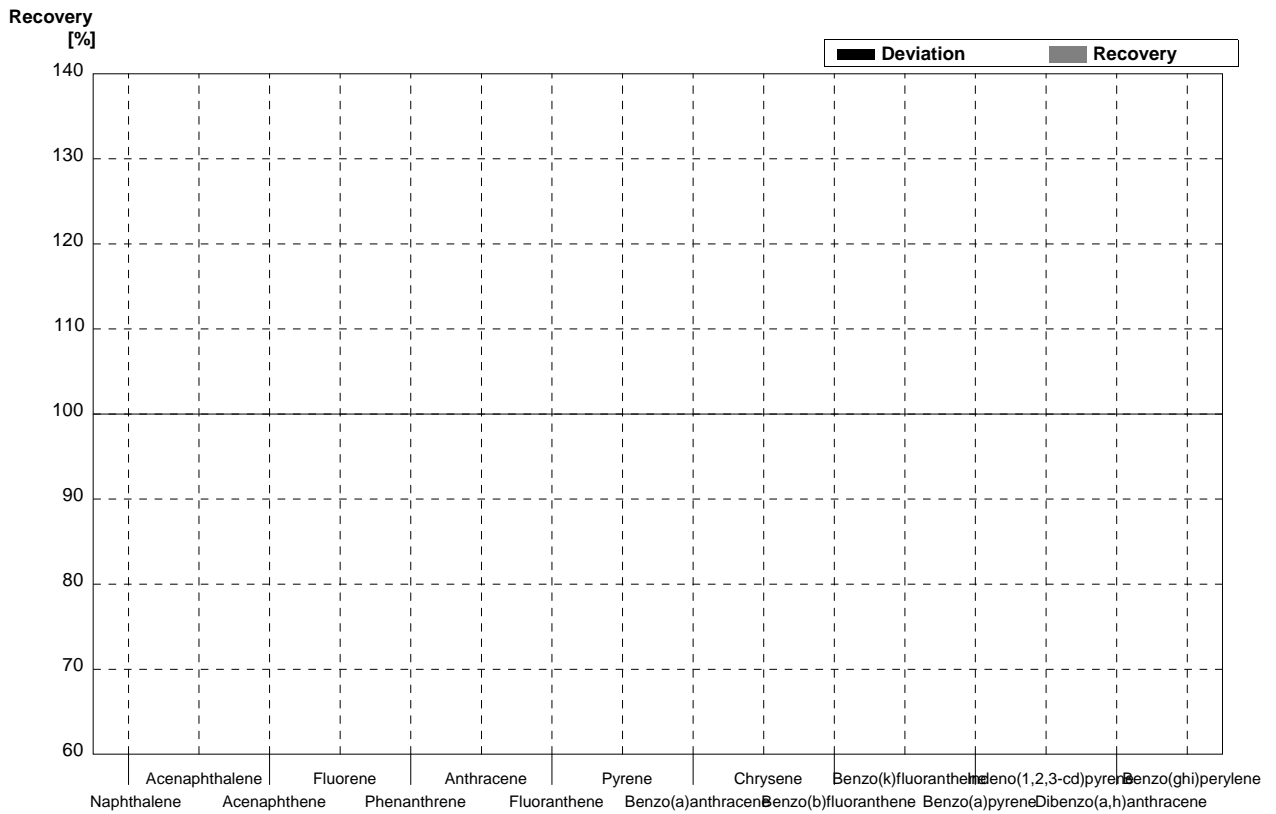
Sample P14A
Laboratory N

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003			µg/l	
Acenaphthalene	0,073	0,004			µg/l	
Acenaphthene	0,191	0,010			µg/l	
Fluorene	0,404	0,020			µg/l	
Phenanthrene	0,235	0,012			µg/l	
Anthracene	0,245	0,012			µg/l	
Fluoranthene	0,352	0,018			µg/l	
Pyrene	<0,021				µg/l	
Benzo(a)anthracene	<0,023				µg/l	
Chrysene	0,309	0,015			µg/l	
Benzo(b)fluoranthene	0,169	0,008			µg/l	
Benzo(k)fluoranthene	0,186	0,009			µg/l	
Benzo(a)pyrene	0,157	0,008			µg/l	
Indeno(1,2,3-cd)pyrene	0,139	0,007			µg/l	
Dibenzo(a,h)anthracene	0,114	0,006			µg/l	
Benzo(ghi)perylene	0,134	0,007			µg/l	



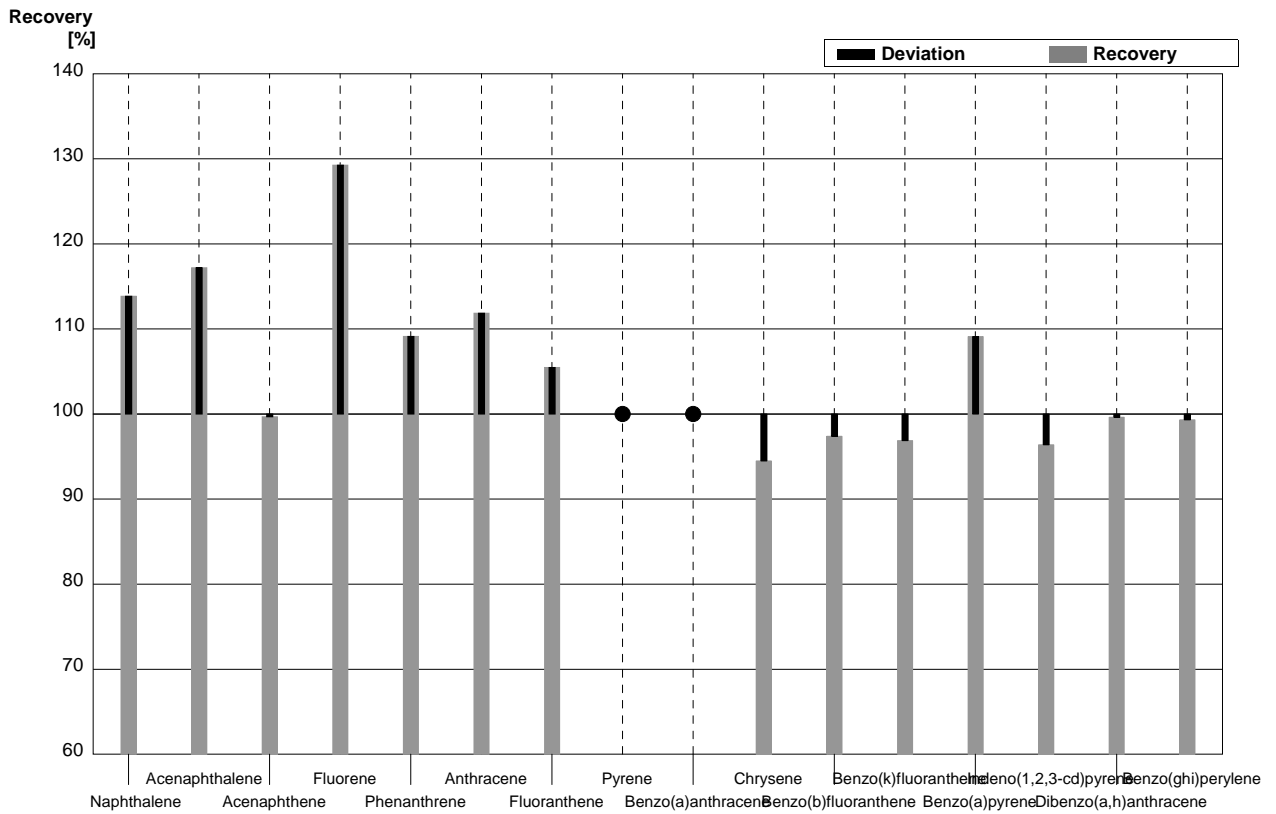
Sample P14B
Laboratory N

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020			µg/l	
Acenaphthalene	0,327	0,016			µg/l	
Acenaphthene	0,306	0,015			µg/l	
Fluorene	<0,006				µg/l	
Phenanthrene	0,160	0,008			µg/l	
Anthracene	0,325	0,016			µg/l	
Fluoranthene	0,199	0,010			µg/l	
Pyrene	0,255	0,013			µg/l	
Benzo(a)anthracene	0,081	0,004			µg/l	
Chrysene	0,150	0,008			µg/l	
Benzo(b)fluoranthene	0,090	0,005			µg/l	
Benzo(k)fluoranthene	0,071	0,004			µg/l	
Benzo(a)pyrene	0,196	0,010			µg/l	
Indeno(1,2,3-cd)pyrene	0,078	0,004			µg/l	
Dibenzo(a,h)anthracene	0,178	0,009			µg/l	
Benzo(ghi)perylene	0,231	0,012			µg/l	



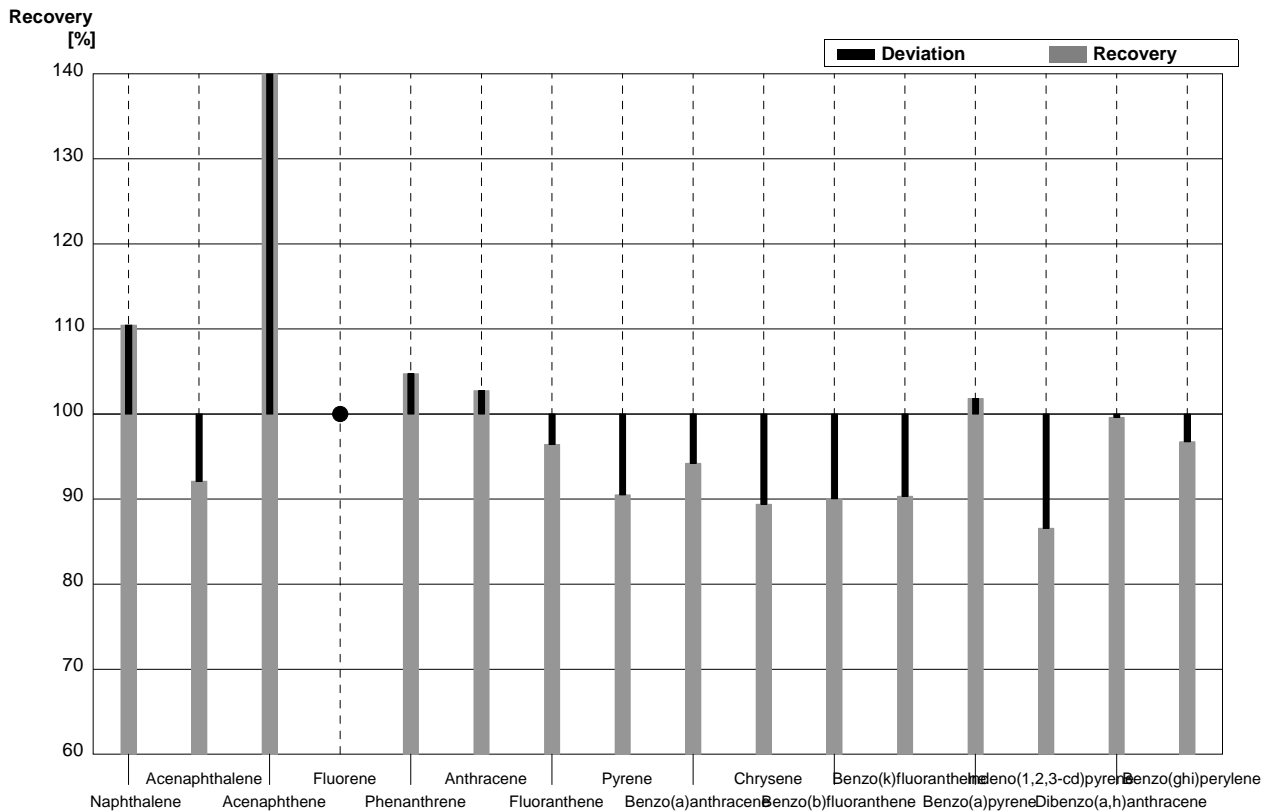
Sample P14A
Laboratory O

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,05693	0,001	µg/l	114%
Acenaphthalene	0,073	0,004	0,08556	0,005	µg/l	117%
Acenaphthene	0,191	0,010	0,1904	0,001	µg/l	100%
Fluorene	0,404	0,020	0,5223	0,001	µg/l	129%
Phenanthrene	0,235	0,012	0,2565	0,005	µg/l	109%
Anthracene	0,245	0,012	0,2741	0,005	µg/l	112%
Fluoranthene	0,352	0,018	0,3713	0,001	µg/l	105%
Pyrene	<0,021		<0,01	0,005	µg/l	•
Benzo(a)anthracene	<0,023		<0,01	0,005	µg/l	•
Chrysene	0,309	0,015	0,2920	0,005	µg/l	94%
Benzo(b)fluoranthene	0,169	0,008	0,1646	0,001	µg/l	97%
Benzo(k)fluoranthene	0,186	0,009	0,1802	0,001	µg/l	97%
Benzo(a)pyrene	0,157	0,008	0,1713	0,001	µg/l	109%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,1340	0,005	µg/l	96%
Dibenzo(a,h)anthracene	0,114	0,006	0,1136	0,005	µg/l	100%
Benzo(ghi)perylene	0,134	0,007	0,1331	0,005	µg/l	99%



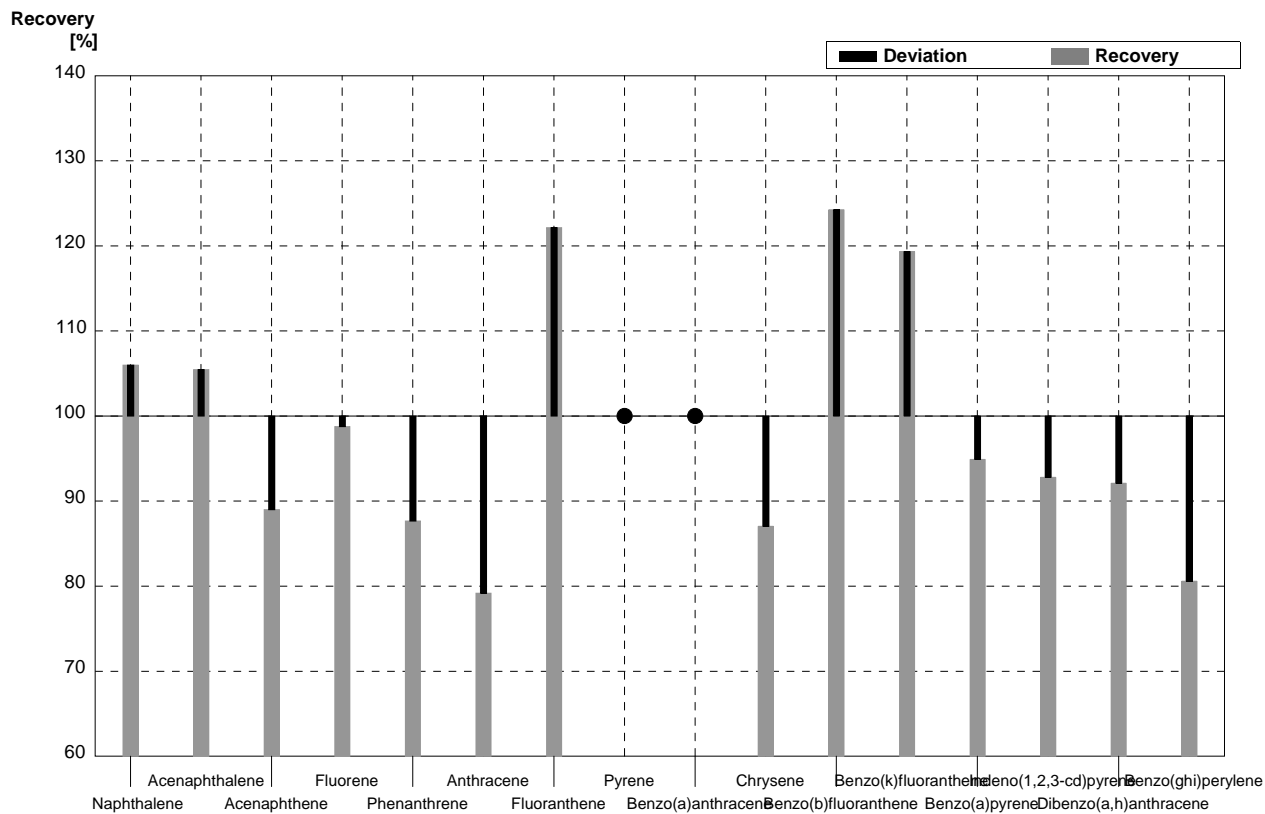
Sample P14B
Laboratory O

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,4440	0,001	µg/l	110%
Acenaphthalene	0,327	0,016	0,3012	0,005	µg/l	92%
Acenaphthene	0,306	0,015	0,4485	0,001	µg/l	147%
Fluorene	<0,006		<0,01	0,001	µg/l	•
Phenanthrene	0,160	0,008	0,1676	0,005	µg/l	105%
Anthracene	0,325	0,016	0,3340	0,005	µg/l	103%
Fluoranthene	0,199	0,010	0,1919	0,001	µg/l	96%
Pyrene	0,255	0,013	0,2308	0,005	µg/l	91%
Benzo(a)anthracene	0,081	0,004	0,07632	0,005	µg/l	94%
Chrysene	0,150	0,008	0,1341	0,005	µg/l	89%
Benzo(b)fluoranthene	0,090	0,005	0,08105	0,001	µg/l	90%
Benzo(k)fluoranthene	0,071	0,004	0,06414	0,001	µg/l	90%
Benzo(a)pyrene	0,196	0,010	0,1996	0,001	µg/l	102%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,06753	0,005	µg/l	87%
Dibenzo(a,h)anthracene	0,178	0,009	0,1773	0,005	µg/l	100%
Benzo(ghi)perylene	0,231	0,012	0,2235	0,005	µg/l	97%



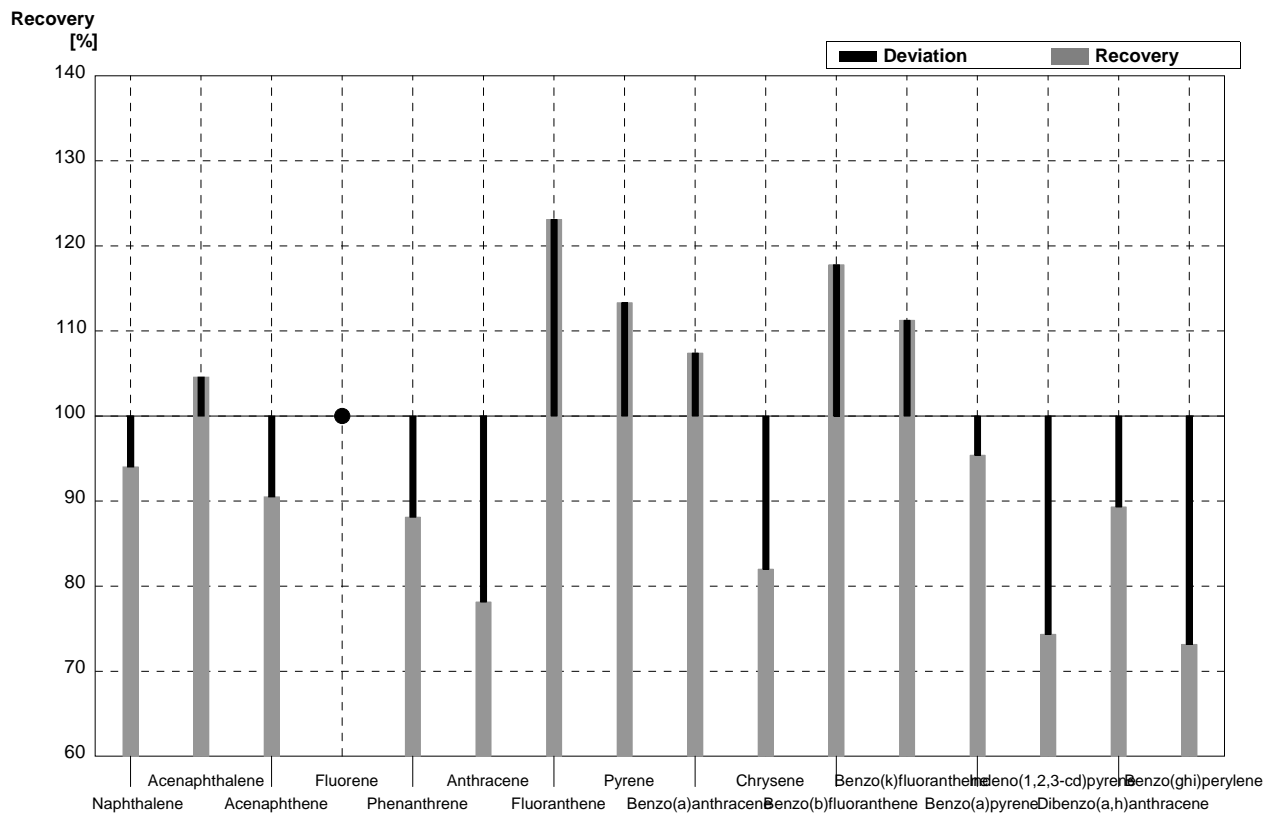
Sample P14A
Laboratory P

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,053	0,002	µg/l	106%
Acenaphthalene	0,073	0,004	0,077	0,001	µg/l	105%
Acenaphthene	0,191	0,010	0,170	0,011	µg/l	89%
Fluorene	0,404	0,020	0,399	0,021	µg/l	99%
Phenanthrene	0,235	0,012	0,206	0,002	µg/l	88%
Anthracene	0,245	0,012	0,194	0,017	µg/l	79%
Fluoranthene	0,352	0,018	0,430	0,001	µg/l	122%
Pyrene	<0,021		<0,02		µg/l	•
Benzo(a)anthracene	<0,023		<0,01		µg/l	•
Chrysene	0,309	0,015	0,269	0,020	µg/l	87%
Benzo(b)fluoranthene	0,169	0,008	0,210	0,001	µg/l	124%
Benzo(k)fluoranthene	0,186	0,009	0,222	0,013	µg/l	119%
Benzo(a)pyrene	0,157	0,008	0,149	0,002	µg/l	95%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,129	0,004	µg/l	93%
Dibenzo(a,h)anthracene	0,114	0,006	0,105	0,018	µg/l	92%
Benzo(ghi)perylene	0,134	0,007	0,108	0,009	µg/l	81%



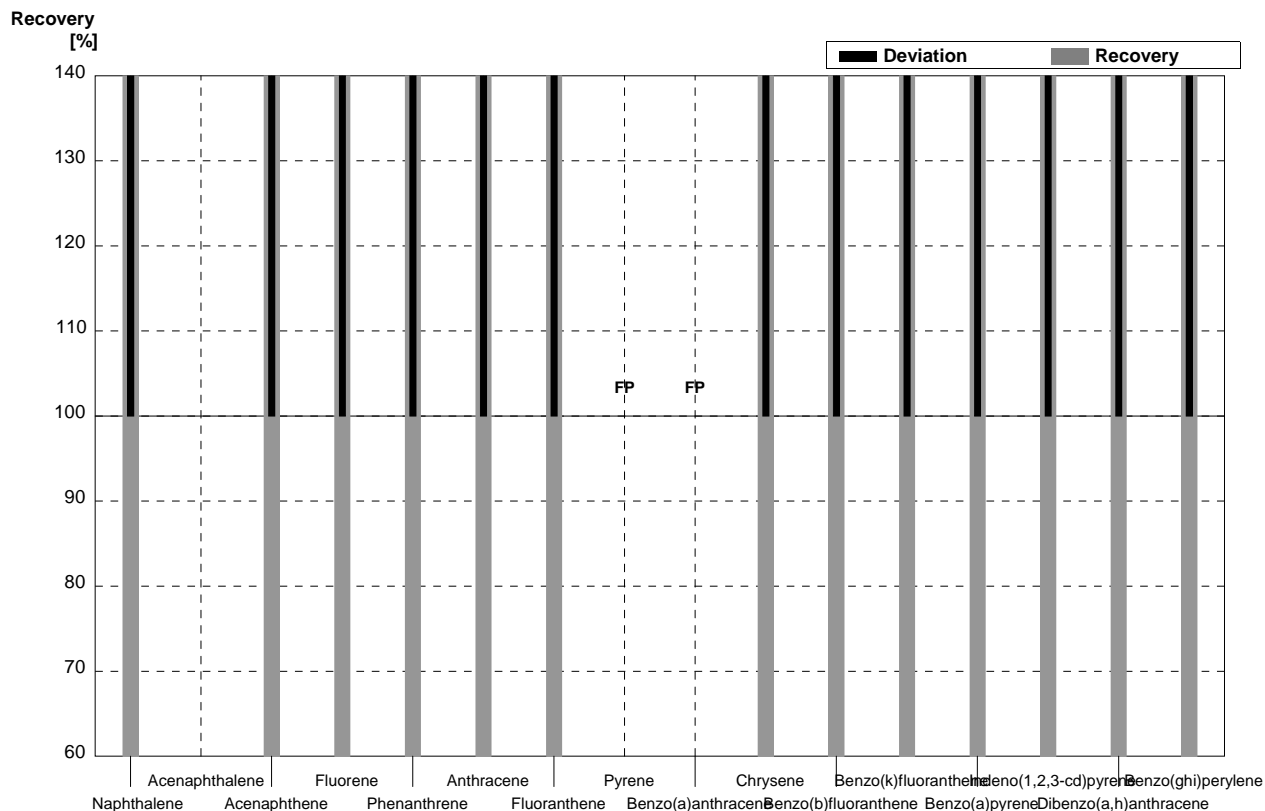
Sample P14B
Laboratory P

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,378	0,004	µg/l	94%
Acenaphthalene	0,327	0,016	0,342	0,007	µg/l	105%
Acenaphthene	0,306	0,015	0,277	0,009	µg/l	91%
Fluorene	<0,006		<0,02		µg/l	•
Phenanthrene	0,160	0,008	0,141	0,002	µg/l	88%
Anthracene	0,325	0,016	0,254	0,004	µg/l	78%
Fluoranthene	0,199	0,010	0,245	0,006	µg/l	123%
Pyrene	0,255	0,013	0,289	0,010	µg/l	113%
Benzo(a)anthracene	0,081	0,004	0,087	0,009	µg/l	107%
Chrysene	0,150	0,008	0,123	0,002	µg/l	82%
Benzo(b)fluoranthene	0,090	0,005	0,106	0,019	µg/l	118%
Benzo(k)fluoranthene	0,071	0,004	0,079	0,010	µg/l	111%
Benzo(a)pyrene	0,196	0,010	0,187	0,005	µg/l	95%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,058	0,002	µg/l	74%
Dibenzo(a,h)anthracene	0,178	0,009	0,159	0,007	µg/l	89%
Benzo(ghi)perylene	0,231	0,012	0,169	0,003	µg/l	73%



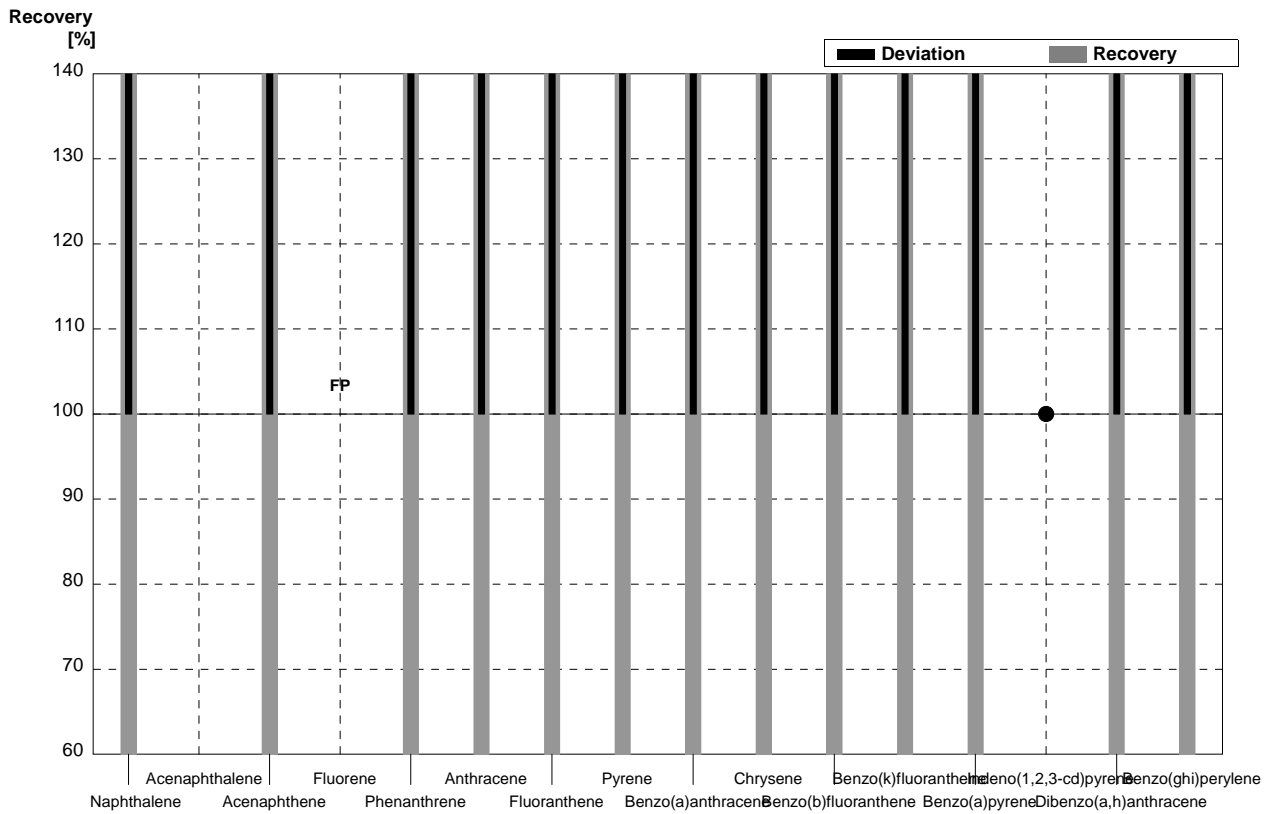
Sample P14A
Laboratory Q

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	3,34	0,20	µg/l	6680%
Acenaphthalene	0,073	0,004			µg/l	
Acenaphthene	0,191	0,010	1,98	0,12	µg/l	1037%
Fluorene	0,404	0,020	4,87	0,29	µg/l	1205%
Phenanthrene	0,235	0,012	17,8	1,07	µg/l	7574%
Anthracene	0,245	0,012	8,67	0,57	µg/l	3539%
Fluoranthene	0,352	0,018	17,90	1,07	µg/l	5085%
Pyrene	<0,021		8,75	0,53	µg/l	FP
Benzo(a)anthracene	<0,023		5,45	0,33	µg/l	FP
Chrysene	0,309	0,015	5,12	0,31	µg/l	1657%
Benzo(b)fluoranthene	0,169	0,008	4,66	0,28	µg/l	2757%
Benzo(k)fluoranthene	0,186	0,009	2,43	0,15	µg/l	1306%
Benzo(a)pyrene	0,157	0,008	5,50	0,33	µg/l	3503%
Indeno(1,2,3-cd)pyrene	0,139	0,007	4,58	0,27	µg/l	3295%
Dibenzo(a,h)anthracene	0,114	0,006	0,42	0,05	µg/l	368%
Benzo(ghi)perylene	0,134	0,007	3,01	0,18	µg/l	2246%



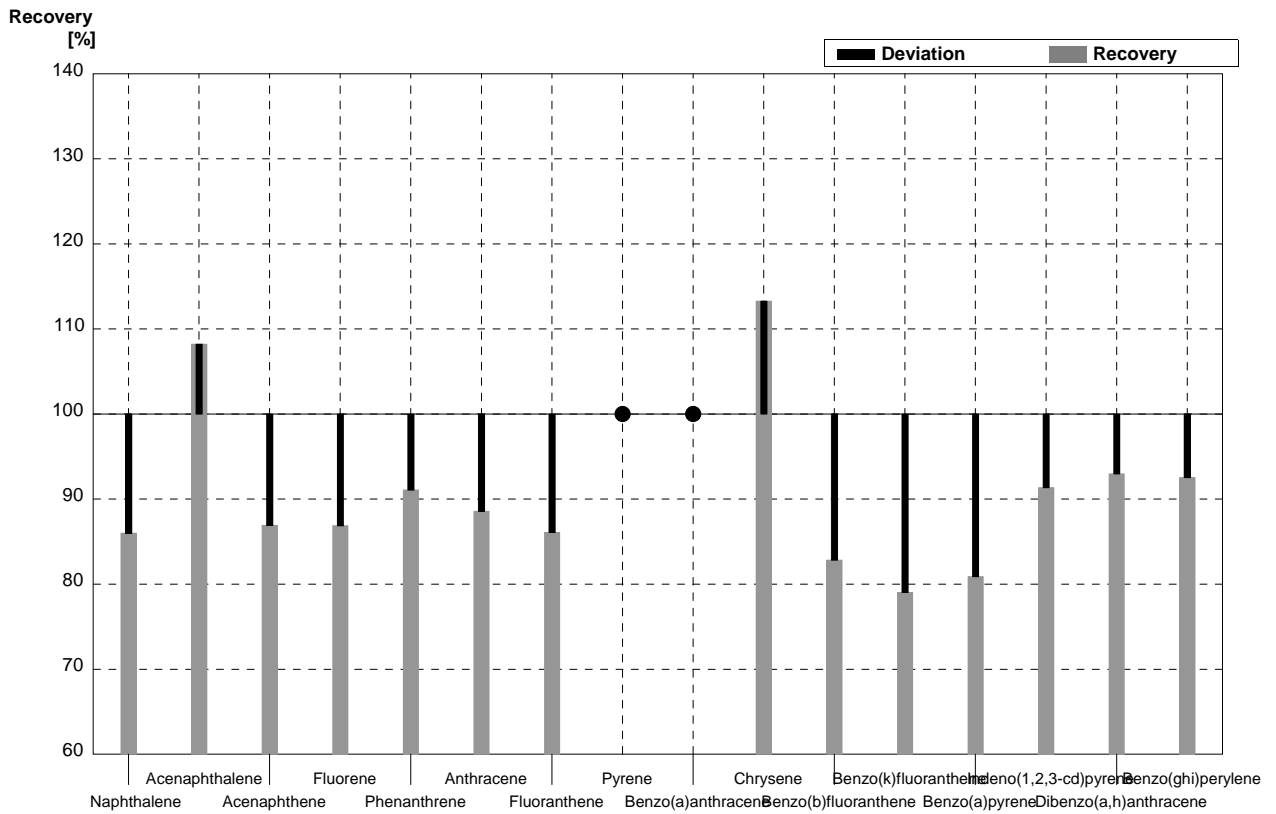
Sample P14B
Laboratory Q

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	4,80	0,29	µg/l	1194%
Acenaphthalene	0,327	0,016			µg/l	
Acenaphthene	0,306	0,015	0,98	0,06	µg/l	320%
Fluorene	<0,006		1,92	0,12	µg/l	FP
Phenanthrene	0,160	0,008	3,24	0,19	µg/l	2025%
Anthracene	0,325	0,016	4,79	0,29	µg/l	1474%
Fluoranthene	0,199	0,010	3,01	0,18	µg/l	1513%
Pyrene	0,255	0,013	4,02	0,24	µg/l	1576%
Benzo(a)anthracene	0,081	0,004	1,22	0,07	µg/l	1506%
Chrysene	0,150	0,008	2,04	0,12	µg/l	1360%
Benzo(b)fluoranthene	0,090	0,005	1,28	0,08	µg/l	1422%
Benzo(k)fluoranthene	0,071	0,004	0,97	0,06	µg/l	1366%
Benzo(a)pyrene	0,196	0,010	2,80	0,17	µg/l	1429%
Indeno(1,2,3-cd)pyrene	0,078	0,004	<1		µg/l	•
Dibenzo(a,h)anthracene	0,178	0,009	2,08	0,12	µg/l	1169%
Benzo(ghi)perylene	0,231	0,012	2,99	0,18	µg/l	1294%



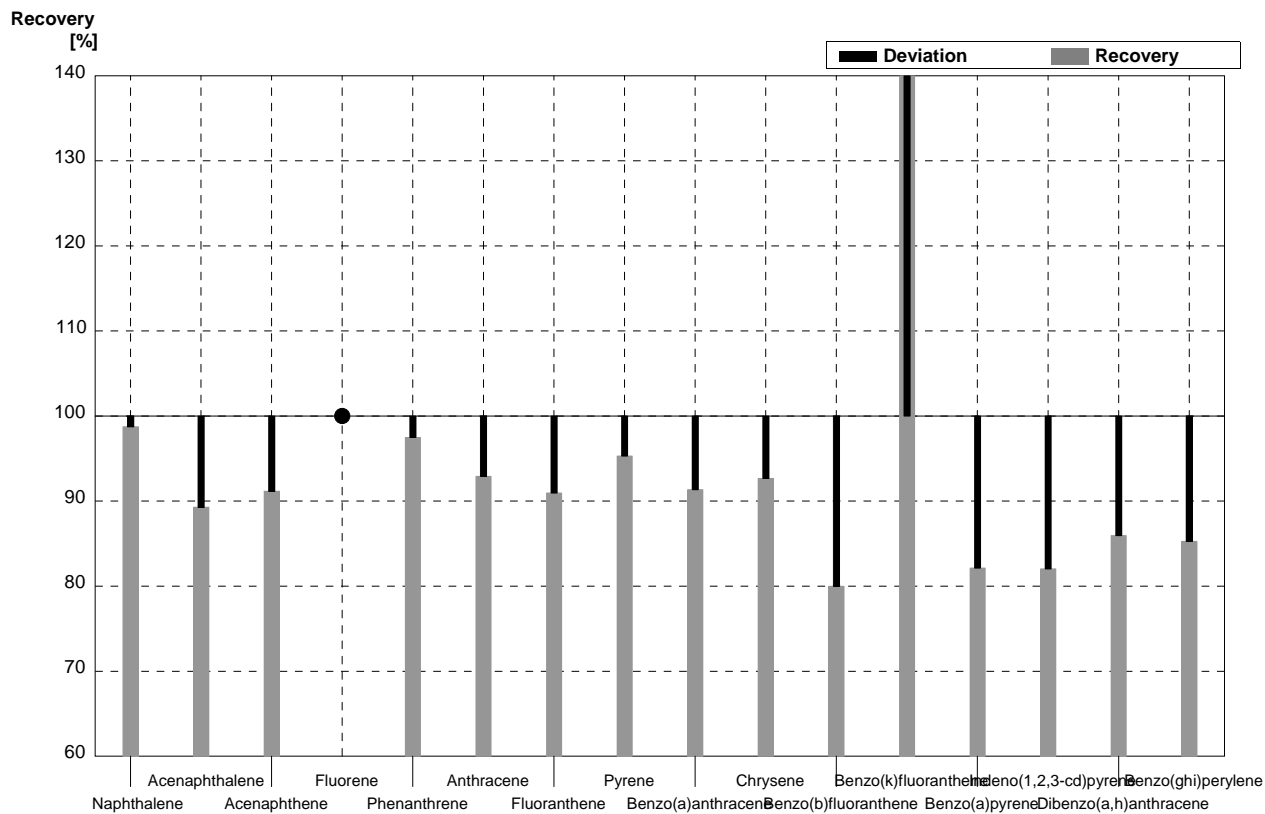
Sample P14A
Laboratory R

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,043	0,012	µg/l	86%
Acenaphthalene	0,073	0,004	0,079	0,008	µg/l	108%
Acenaphthene	0,191	0,010	0,166	0,010	µg/l	87%
Fluorene	0,404	0,020	0,351	0,020	µg/l	87%
Phenanthrene	0,235	0,012	0,214	0,010	µg/l	91%
Anthracene	0,245	0,012	0,217	0,010	µg/l	89%
Fluoranthene	0,352	0,018	0,303	0,020	µg/l	86%
Pyrene	<0,021		<0,010		µg/l	•
Benzo(a)anthracene	<0,023		<0,010		µg/l	•
Chrysene	0,309	0,015	0,350	0,020	µg/l	113%
Benzo(b)fluoranthene	0,169	0,008	0,140	0,015	µg/l	83%
Benzo(k)fluoranthene	0,186	0,009	0,147	0,020	µg/l	79%
Benzo(a)pyrene	0,157	0,008	0,127	0,010	µg/l	81%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,127	0,010	µg/l	91%
Dibenzo(a,h)anthracene	0,114	0,006	0,106	0,010	µg/l	93%
Benzo(ghi)perylene	0,134	0,007	0,124	0,010	µg/l	93%



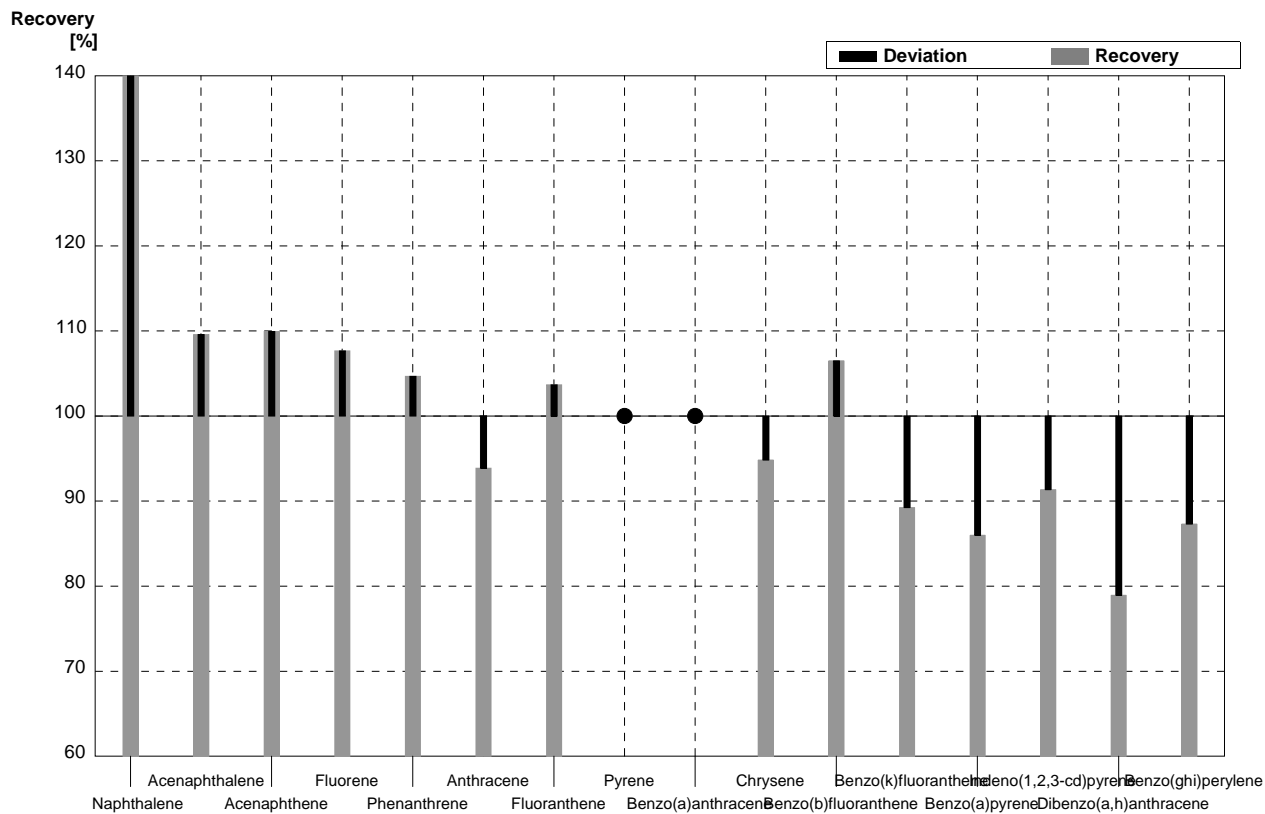
Sample P14B
Laboratory R

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,397	0,025	µg/l	99%
Acenaphthalene	0,327	0,016	0,292	0,015	µg/l	89%
Acenaphthene	0,306	0,015	0,279	0,015	µg/l	91%
Fluorene	<0,006		<0,010		µg/l	•
Phenanthrene	0,160	0,008	0,156	0,010	µg/l	98%
Anthracene	0,325	0,016	0,302	0,010	µg/l	93%
Fluoranthene	0,199	0,010	0,181	0,010	µg/l	91%
Pyrene	0,255	0,013	0,243	0,015	µg/l	95%
Benzo(a)anthracene	0,081	0,004	0,074	0,010	µg/l	91%
Chrysene	0,150	0,008	0,139	0,010	µg/l	93%
Benzo(b)fluoranthene	0,090	0,005	0,072	0,010	µg/l	80%
Benzo(k)fluoranthene	0,071	0,004	0,109	0,010	µg/l	154%
Benzo(a)pyrene	0,196	0,010	0,161	0,010	µg/l	82%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,064	0,012	µg/l	82%
Dibenzo(a,h)anthracene	0,178	0,009	0,153	0,010	µg/l	86%
Benzo(ghi)perylene	0,231	0,012	0,197	0,015	µg/l	85%



Sample P14A
Laboratory S

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,050	0,003	0,071	0,007	µg/l	142%
Acenaphthalene	0,073	0,004	0,08	0,008	µg/l	110%
Acenaphthene	0,191	0,010	0,21	0,021	µg/l	110%
Fluorene	0,404	0,020	0,435	0,044	µg/l	108%
Phenanthrene	0,235	0,012	0,246	0,025	µg/l	105%
Anthracene	0,245	0,012	0,23	0,023	µg/l	94%
Fluoranthene	0,352	0,018	0,365	0,036	µg/l	104%
Pyrene	<0,021		<0,003		µg/l	•
Benzo(a)anthracene	<0,023		<0,003		µg/l	•
Chrysene	0,309	0,015	0,293	0,029	µg/l	95%
Benzo(b)fluoranthene	0,169	0,008	0,18	0,018	µg/l	107%
Benzo(k)fluoranthene	0,186	0,009	0,166	0,017	µg/l	89%
Benzo(a)pyrene	0,157	0,008	0,135	0,014	µg/l	86%
Indeno(1,2,3-cd)pyrene	0,139	0,007	0,127	0,013	µg/l	91%
Dibenzo(a,h)anthracene	0,114	0,006	0,09	0,009	µg/l	79%
Benzo(ghi)perylene	0,134	0,007	0,117	0,012	µg/l	87%



Sample P14B
Laboratory S

Parameter	Target value	± U (k=2)	Result	±	Unit	Recovery
Naphthalene	0,402	0,020	0,43	0,043	µg/l	107%
Acenaphthalene	0,327	0,016	0,351	0,035	µg/l	107%
Acenaphthene	0,306	0,015	0,345	0,035	µg/l	113%
Fluorene	<0,006		<0,003		µg/l	•
Phenanthrene	0,160	0,008	0,165	0,016	µg/l	103%
Anthracene	0,325	0,016	0,307	0,031	µg/l	94%
Fluoranthene	0,199	0,010	0,204	0,02	µg/l	103%
Pyrene	0,255	0,013	0,256	0,025	µg/l	100%
Benzo(a)anthracene	0,081	0,004	0,075	0,007	µg/l	93%
Chrysene	0,150	0,008	0,131	0,013	µg/l	87%
Benzo(b)fluoranthene	0,090	0,005	0,084	0,008	µg/l	93%
Benzo(k)fluoranthene	0,071	0,004	0,069	0,007	µg/l	97%
Benzo(a)pyrene	0,196	0,010	0,165	0,016	µg/l	84%
Indeno(1,2,3-cd)pyrene	0,078	0,004	0,069	0,007	µg/l	88%
Dibenzo(a,h)anthracene	0,178	0,009	0,144	0,014	µg/l	81%
Benzo(ghi)perylene	0,231	0,012	0,194	0,019	µg/l	84%

