



Institute for  
Interlaboratory Studies

## Results of Proficiency Test AZO Dyes in Textile May 2023

**Organized by:** Institute for Interlaboratory Studies  
Spijkenisse, the Netherlands

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## 1 INTRODUCTION

Since 1997 the Institute for Interlaboratory Studies (iis) organizes a proficiency scheme for the determination of banned aromatic amines from AZO Dyes in Textile. During the annual proficiency testing program 2022/2023 it was decided to continue the proficiency test for the determination of banned aromatic amines derived from AZO Dyes in Textile.

In this interlaboratory study 139 laboratories in 31 countries registered for participation, see appendix 4 for the number of participants per country. In this report the results of the AZO Dyes in Textile proficiency test are presented and discussed. This report is also electronically available through the iis website [www.iisnl.com](http://www.iisnl.com).

## 2 SET UP

The Institute for Interlaboratory Studies (iis) in Spijkenisse, the Netherlands, was the organizer of this proficiency test (PT). Sample analyzes for fit-for-use and homogeneity testing were subcontracted to an ISO/IEC17025 accredited laboratory.

It was decided to send two different textile samples of approximately 3 grams each labelled #23595 and #23596 respectively.

The participants were requested to report rounded and unrounded test results. The unrounded test results were preferably used for statistical evaluation.

### 2.1 ACCREDITATION

The Institute for Interlaboratory Studies in Spijkenisse, the Netherlands, is accredited in agreement with ISO/IEC17043:2010 (R007), since January 2000, by the Dutch Accreditation Council (Raad voor Accreditatie). This PT falls under the accredited scope. This ensures strict adherence to protocols for sample preparation and statistical evaluation and 100% confidentiality of participant's data. Feedback from the participants on the reported data is encouraged and customer's satisfaction is measured on regular basis by sending out questionnaires.

### 2.2 PROTOCOL

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organisation, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5). This protocol is electronically available through the iis website [www.iisnl.com](http://www.iisnl.com), from the FAQ page.

### 2.3 CONFIDENTIALITY STATEMENT

All data presented in this report must be regarded as confidential and for use by the participating companies only. Disclosure of the information in this report is only allowed by means of the entire report. Use of the contents of this report for third parties is only allowed by written permission of the Institute for Interlaboratory Studies. Disclosure of the identity of one or more of the participating companies will be done only after receipt of a written agreement of the companies involved.

## 2.4 SAMPLES

For the first sample a batch of purple polyamide textile made positive on some AZO Dyes was selected. The batch was cut into small pieces and after homogenization 185 small plastic bags were filled with approximately 3 grams each and labelled #23595.

The homogeneity of the subsamples was checked by the determination of o-Toluidine and o-Anisidine using an in house test method on 8 stratified randomly selected subsamples.

	o-Toluidine in mg/kg	o-Anisidine in mg/kg
sample #23595-1	197	129
sample #23595-2	206	143
sample #23595-3	205	135
sample #23595-4	210	139
sample #23595-5	208	135
sample #23595-6	215	141
sample #23595-7	205	140
sample #23595-8	198	130

Table 1: homogeneity test results of subsamples #23595

From the above test results the repeatabilities were calculated and compared with 0.3 times the reproducibility of the reference method in agreement with the procedure of ISO13528, Annex B2, in the next table.

	o-Toluidine in mg/kg	o-Anisidine in mg/kg
r (observed)	16.6	14.4
reference method	iis memo 2202	iis memo 2202
0.3 x R (reference method)	36.3	24.1

Table 2: evaluation of the repeatabilities of subsamples #23595

The calculated repeatabilities are in agreement with 0.3 times the reproducibility of the reference method. Therefore, homogeneity of the subsamples was assumed.

For the second sample a batch of blue grinded cotton textile made positive on some AZO Dyes was selected. The batch was cut into small pieces and after homogenization 185 small plastic bags were filled with approximately 3 grams each and labelled #23596.

The batch for sample #23596 was used in a previous proficiency test on AZO Dyes in Textile as sample #14020 in PT iis14A01T. Therefore, homogeneity of the subsamples was assumed.

To each of the participating laboratories one textile sample labelled #23595 and one textile sample labelled #23596 were sent on May 3, 2023.

## 2.5 ANALYZES

The participants were requested to determine on both samples #23595 and #23596:

4-Aminodiphenyl (CAS No. 92-67-1)  
Benzidine (CAS No. 92-87-5)  
4-Chloro-o-toluidine (CAS No. 95-69-2)  
2-Naphtylamine (CAS No. 91-59-8)  
2-Amino-4-nitrotoluene (CAS No. 99-55-8)  
4-Chloraniline (CAS No. 106-47-8)  
2,4-Diaminoanisol (CAS No. 615-05-4)  
4,4'-Diaminodiphenylmethane (CAS No. 101-77-9)  
3,3'-Dichlorobenzidine (CAS No. 91-94-1)  
3,3'-Dimethoxybenzidine (CAS No. 119-90-4)  
3,3'-Dimethylbenzidine (CAS No. 119-93-7)  
3,3'-Dimethyl-4,4'-Diaminodiphenylmethane (CAS No. 838-88-0)  
p-Cresidine (CAS No. 120-71-8)  
4,4'-Diamino-3,3'-dichlorodiphenylmethane (CAS No. 101-14-4)  
4,4'-Diaminodiphenylether (CAS No. 101-80-4)  
4,4'-Diaminodiphenylsulfide (CAS No. 139-65-1)  
2,4-Diaminotoluene (CAS No. 95-80-7)  
2,4,5-Trimethylaniline (CAS No. 137-17-7)  
o-Anisidine (CAS No. 90-04-0)  
2,4-Xylidine (CAS No. 95-68-1)  
2,5-Xylidine (CAS No. 95-78-3)  
2,6-Xylidine (CAS No. 87-62-7)  
Total Xylidines  
o-Aminoazotoluene (CAS No. 97-56-3)  
o-Toluidine (CAS No. 95-53-4)  
Sum of o-Aminoazotoluene and o-Toluidine

It was decided not to request 4-Aminoazobenzene, CAS no. 60-09-3 on both samples because the samples were not positive for this component.

To ensure homogeneity it was requested not to use less than 0.5 grams of the sample per determination. It was also requested to report if the laboratory was accredited to determine the reported components and to report some analytical details.

It was explicitly requested to treat the samples as if they were routine samples and to report the test results using the indicated units on the report form and not to round the test results but report as much significant figures as possible. It was also requested not to report 'less than' test results, which are above the detection limit, because such test results cannot be used for meaningful statistical evaluations.

To get comparable test results a detailed report form and a letter of instructions are prepared. On the report form the reporting units are given as well as the reference test methods (when applicable) that will be used during the evaluation. The detailed report form and the letter of instructions are both made available on the data entry portal [www.kpmd.co.uk/sgs-iis-cts/](http://www.kpmd.co.uk/sgs-iis-cts/).

The participating laboratories are also requested to confirm the sample receipt on this data

entry portal. The letter of instructions can also be downloaded from the iis website [www.iisnl.com](http://www.iisnl.com).

### 3 RESULTS

During five weeks after sample dispatch, the test results of the individual laboratories were gathered via the data entry portal [www.kpmd.co.uk/sgs-iis-cts/](http://www.kpmd.co.uk/sgs-iis-cts/). The reported test results are tabulated per determination in appendices 1 and 2 of this report. The laboratories are presented by their code numbers.

Directly after the deadline, a reminder was sent to those laboratories that had not reported test results at that moment. Shortly after the deadline, the available test results were screened for suspect data. A test result was called suspect in case the Huber Elimination Rule (a robust outlier test) found it to be an outlier. The laboratories that produced these suspect data were asked to check the reported test results (no reanalyzes). Additional or corrected test results are used for data analysis and the original test results are placed under 'Remarks' in the result tables in appendices 1 and 2. Test results that came in after the deadline were not taken into account in this screening for suspect data and thus these participants were not requested for checks.

#### 3.1 STATISTICS

The protocol followed in the organization of this proficiency test was the one as described for proficiency testing in the report 'iis Interlaboratory Studies: Protocol for the Organization, Statistics and Evaluation' of June 2018 (iis-protocol, version 3.5). For the statistical evaluation the *unrounded* (when available) figures were used instead of the rounded test results. Test results reported as '<...' or '>...' were not used in the statistical evaluation.

First, the normality of the distribution of the various data sets per determination was checked by means of the Lilliefors-test, a variant of the Kolmogorov-Smirnov test and by the calculation of skewness and kurtosis. Evaluation of the three normality indicators in combination with the visual evaluation of the graphic Kernel density plot, lead to judgement of the normality being either 'unknown', 'OK', 'suspect' or 'not OK'. After removal of outliers, this check was repeated. If a dataset does not have a normal distribution, the (results of the) statistical evaluation should be used with due care.

The assigned value is determined by consensus based on the test results of the group of participants after rejection of the statistical outliers and/or suspect data.

According to ISO13528 all (original received or corrected) results per determination were submitted to outlier tests. In the iis procedure for proficiency tests, outliers are detected prior to calculation of the mean, standard deviation and reproducibility. For small data sets, Dixon (up to 20 test results) or Grubbs (up to 40 test results) outlier tests can be used. For larger data sets (above 20 test results) Rosner's outlier test can be used. Outliers are marked by D(0.01) for the Dixon's test, by G(0.01) or DG(0.01) for the Grubbs' test and by R(0.01) for the Rosner's test. Stragglers are marked by D(0.05) for the Dixon's test, by G(0.05) or

DG(0.05) for the Grubbs' test and by R(0.05) for the Rosner's test. Both outliers and stragglers were not included in the calculations of averages and standard deviations.

For each assigned value, the uncertainty was determined in accordance with ISO13528. Subsequently the calculated uncertainty was evaluated against the respective requirement based on the target reproducibility in accordance with ISO13528. In this PT, the criterion of ISO13528, paragraph 9.2.1 was met for all evaluated tests, therefore, the uncertainty of all assigned values may be negligible and need not be included in the PT report.

Finally, the reproducibilities were calculated from the standard deviations by multiplying these with a factor of 2.8.

### 3.2 GRAPHICS

In order to visualise the data against the reproducibilities from literature, Gauss plots were made, using the sorted data for one determination (see appendix 1). On the Y-axis the reported test results are plotted. The corresponding laboratory numbers are on the X-axis. The straight horizontal line presents the consensus value (a trimmed mean). The four striped lines, parallel to the consensus value line, are the +3s, +2s, -2s and -3s target reproducibility limits of the selected reference test method. Outliers and other data, which were excluded from the calculations, are represented as a cross. Accepted data are represented as a triangle.

Furthermore, Kernel Density Graphs were made. This is a method for producing a smooth density approximation to a set of data that avoids some problems associated with histograms. Also, a normal Gauss curve (dotted line) was projected over the Kernel Density Graph (smooth line) for reference. The Gauss curve is calculated from the consensus value and the corresponding standard deviation.

### 3.3 Z-SCORES

To evaluate the performance of the participating laboratories the z-scores were calculated. As it was decided to evaluate the performance of the participants in this proficiency test (PT) against the literature requirements (derived from e.g. ISO test methods), the z-scores were calculated using a target standard deviation. This results in an evaluation independent of the variation in this interlaboratory study.

The target standard deviation was calculated from the literature reproducibility by division with 2.8. In case no literature reproducibility was available, other target values were used, like Horwitz or an estimated reproducibility based on former iis proficiency tests.

When a laboratory did use a test method with a reproducibility that is significantly different from the reproducibility of the reference test method used in this report, it is strongly advised to recalculate the z-score, while using the reproducibility of the actual test method used, this in order to evaluate whether the reported test result is fit-for-use.

The z-scores were calculated according to:

$$Z_{(\text{target})} = (\text{test result} - \text{average of PT}) / \text{target standard deviation}$$

The  $Z_{(\text{target})}$  scores are listed in the test result tables in appendix 1.

Absolute values for  $z < 2$  are very common and absolute values for  $z > 3$  are very rare.

Therefore, the usual interpretation of z-scores is as follows:

$ z  < 1$	good
$1 <  z  < 2$	satisfactory
$2 <  z  < 3$	questionable
$3 <  z $	unsatisfactory

## 4 EVALUATION

In this proficiency test no problems were encountered with the dispatch of the samples. Nine participants reported test results after the final reporting date and three other participants did not report any test results. Not all participants were able to report all tests requested.

In total 136 participants reported 536 numerical test results. Observed were 9 outlying test results, which is 1.7%. In proficiency tests outlier percentages of 3% - 7.5% are quite normal.

Not all data sets proved to have a normal Gaussian distribution. These are referred to as "not OK" or "suspect". The statistical evaluation of these data sets should be used with due care, see also paragraph 3.1.

### 4.1 EVALUATION PER SAMPLE AND PER COMPONENT

In this section the reported test results are discussed per sample and per component. The test methods which were used by the various laboratories were taken into account for explaining the observed differences when possible and applicable. These test methods are also in the tables together with the original data in appendix 1. The abbreviations used in these tables are explained in appendix 5.

For the determination of Aromatic Amines derived from AZO colorants the ISO14362 method is considered to be the official test method. Two versions of ISO14362 were published in 2017. Part 1 of ISO14362 describes a method to detect certain aromatic amines that are banned. Part 3 of ISO14362 describes a method to detect 4-Aminoazobenzene.

Unfortunately, only for a few aromatic amines precision data are mentioned in this test method and when mentioned the precision data is often not for a large concentration range and sometimes not conclusive. As alternative for the aromatic amines not mentioned in the test method iis had used an estimated target reproducibility calculated with the Horwitz equation. Unfortunately, this could give a quite strict target value for the reproducibility. Therefore, iis decided to use the iis PT data gathered from 2010 to 2021 to estimate a more realistic target reproducibility for the evaluation of the quality of the test results. Furthermore, it was decided to use the same target reproducibility for all aromatic amines. The average



relative standard deviation over all iis PTs and components for Textile is 21%. This investigation is summarized in iis memo 2202.

#### **sample #23595**

o-Anisidine (CAS No. 90-04-0): This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the reproducibility derived from the iis memo 2202.

o-Toluidine (CAS No. 95-53-4): This determination was not problematic. Five statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the reproducibility derived from the iis memo 2202.

The participants agreed on a concentration near or below the limit of detection for all other components mentioned in paragraph 2.5. Therefore, no z-scores are calculated for these components. The reported test results are given in appendix 2.

#### **sample #23596**

Benzidine (CAS No. 92-87-5): This determination was not problematic. One statistical outlier was observed. The calculated reproducibility after rejection of the statistical outlier is in agreement with the reproducibility derived from the iis memo 2202.

3,3'-Dimethoxybenzidine (CAS No. 119-90-4): This determination was not problematic. Two statistical outliers were observed. The calculated reproducibility after rejection of the statistical outliers is in agreement with the reproducibility derived from the iis memo 2202.

The participants agreed on a concentration near or below the limit of detection for all other components mentioned in paragraph 2.5. Therefore, no z-scores are calculated for these components. The reported test results are given in appendix 2.

## **4.2 PERFORMANCE EVALUATION FOR THE GROUP OF LABORATORIES**

A comparison has been made between the reproducibility as declared by the reference test method and the reproducibility as found for the group of participating laboratories. The number of significant test results, the average, the calculated reproducibility ( $2.8 \cdot$  standard deviation) and the target reproducibility derived from reference methods are presented in the next tables.

Component	unit	n	average	$2.8 \cdot$ sd	R(target)
o-Anisidine	mg/kg	132	88.1	33.0	51.8
o-Toluidine	mg/kg	131	123.3	53.0	72.5

Table 3: reproducibilities of components on sample #23595

Component	unit	n	average	2.8 * sd	R(target)
Benzidine	mg/kg	133	69.2	33.5	40.7
3,3'-Dimethoxybenzidine	mg/kg	131	192.1	94.9	113.0

Table 4: reproducibilities of components on sample #23596

Without further statistical calculations it can be concluded that for all components there is a good compliance of the group of participants with the target reproducibility.

#### 4.3 COMPARISON OF THE PROFICIENCY TEST OF MAY 2023 WITH PREVIOUS PTS

	May 2023	May 2022	March 2021	March 2020	March 2019
Number of reporting laboratories	136	146	150	126	165
Number of test results	536	431	291	380	299
Number of statistical outliers	9	9	30	2	11
Percentage of statistical outliers	1.7%	2.1%	10.3%	0.5%	3.7%

Table 5: comparison with previous proficiency tests

In proficiency tests, outlier percentages of 3% - 7.5% are quite normal.

The performance of the determinations of the proficiency test was compared to uncertainties observed in PTs over the years, expressed as relative standard deviation (RSD) of the PTs, see next table.

Component	May 2023	May 2022	March 2021	March 2020	2004 - 2019	iis memo 2202
4-Aminodiphenyl	n.e.	n.e.	n.e.	n.e.	18-36%	21%
Benzidine	17%	13%	n.e.	n.e.	12-35%	21%
4-Chloro-o-toluidine	n.e.	n.e.	n.e.	n.e.	24%	21%
2-Naphtylamine	n.e.	n.e.	n.e.	n.e.	27-41%	21%
4-Chloroaniline	n.e.	n.e.	n.e.	n.e.	27%	21%
2,4-Diaminoanisol	n.e.	n.e.	n.e.	n.e.	24-52%	21%
4,4'-Diaminodiphenylmethane	n.e.	n.e.	n.e.	n.e.	21%	21%
3,3'-Dimethoxybenzidine	18%	n.e.	n.e.	11%	11-31%	21%
3,3'-Dimethylbenzidine	n.e.	13%	n.e.	n.e.	15-36%	21%
4,4'-Diamino-3,3'-Dichlorodiphenylmethane	n.e.	n.e.	n.e.	n.e.	20-35%	21%
4,4'-Diaminodiphenylether	n.e.	n.e.	n.e.	n.e.	15%	21%
4,4'-Diaminodiphenylsulfide	n.e.	n.e.	n.e.	n.e.	18-26%	21%
2,4-Diaminotoluene	n.e.	n.e.	25%	n.e.	n.e.	21%
o-Anisidine	13%	n.e.	14%	n.e.	n.e.	21%
2,4-Xylidine	n.e.	n.e.	n.e.	n.e.	19-26%	21%
o-Aminoazotoluene	n.e.	n.e.	n.e.	n.e.	n.e.	21%
o-Toluidine	15%	n.e.	n.e.	n.e.	19-38%	21%

Component	May 2023	May 2022	March 2021	March 2020	2004 - 2019	iis memo 2202
Sum of o-aminoazotoluene and o-Toluidine	n.e.	n.e.	n.e.	35%	34%	21%
4-Aminoazobenzene	n.e.	26%	n.e.	n.e.	30%	21%

Table 6: development of the uncertainties over the years

Aromatic amines not mentioned in table 6 are not determined in an iis PT yet. The uncertainty (RSD) of the determined AZO dyes in Textile in this PT is in line with previous PTs.

Sample #23596 was used in a previous PT as sample #14020 in iis14A01T. The averages and the calculated reproducibilities for Benzidine and 3,3'-Dimethoxybenzidine in the 2023 PT are in line with the 2014 PT.

Component	unit	sample #23596			sample #14020		
		n	average	R(calc)	n	average	R(calc)
Benzidine	mg/kg	133	69.2	33.5	140	76.7	32.0
3,3'-Dimethoxybenzidine	mg/kg	131	192	95	147	220	128

Table 7: comparison of sample #23596 with #14020

#### 4.4 EVALUATION OF THE ANALYTICAL DETAILS

The reported analytical details from the participants are listed in appendix 3. Based on the answers given by the participants the following can be summarized:

- 95% mentioned that they are accredited for determination of banned AZO Dyes in Textile.
- The samples were used as received by 50% of the participants, further cut or grinded by the other 50% of the participants.
- Almost all (98%) participants used 0.5 grams or more for sample intake.
- To release/extract the components from the sample 29% used Mechanical Shaking, 16% Soxhlet, 9% Thermal Desorption, 8% Ultrasonic, 3% ASE, 2% Stirrer and 33% used another technique.
- t-Butyl methyl ether and citrate buffer were the most reported solvents used to release the components.
- 90% reported an extraction time between 30 and 60 minutes.
- 80% reported an extraction temperature of 70 °C.
- 65% reported to have used the diatomaceous earth column.

For the detected components the calculated reproducibility is in agreement with the requirements of the target reproducibility, therefore no separate statistical analysis has been performed.

## 5 DISCUSSION

Almost all of the reporting participants were able to detect o-Anisidine and o-Toluidine in sample #23595, and Benzidine and 3,3'-Dimethoxybenzidine in sample #23596.

When the results of this interlaboratory study were compared to the Ecolabelling Standards and Requirements for Textiles in EU, it was noticed that not all participants would make identical decisions about the acceptability of the textiles for the determined components.

Ecolabel	baby clothes in mg/kg	in direct skin contact in mg/kg	no direct skin contact in mg/kg
Bluesign® RSL	<20	<20	<20
OEKO-TEX® 100	<20	<20	<20

Table 8: Bluesign® BSSL and OEKO-TEX® Ecolabelling Standards and Requirements for Textiles in EU

Almost all reporting laboratories, except three, would have rejected sample #23595 for all categories. Almost all reporting laboratories, except two, would have rejected sample #23596 for all categories.

## 6 CONCLUSION

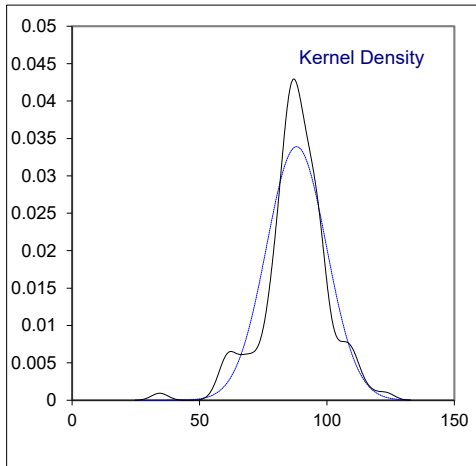
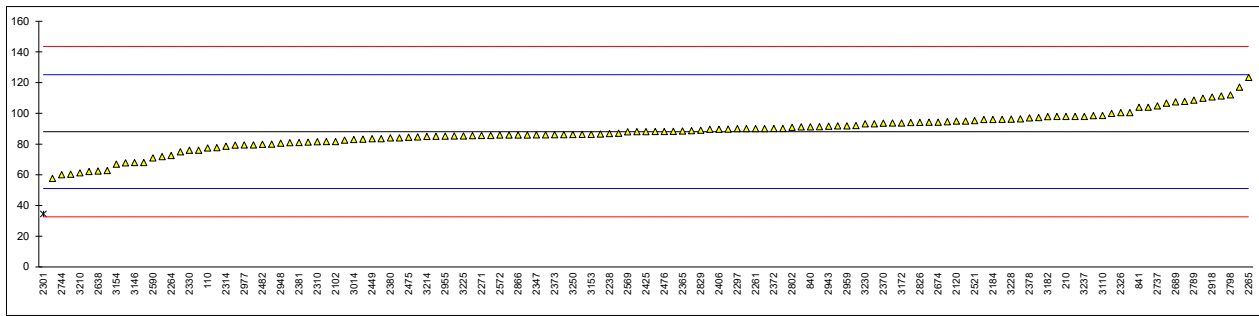
Although it can be concluded that the majority of the participants have no problem with the determination of o-Anisidine, o-Toluidine, Benzidine and 3,3'-Dimethoxybenzidine in the samples of this PT, each participating laboratory will have to evaluate its performance in this study and decide about any corrective actions if necessary.

Therefore, participation on a regular basis in this scheme could be helpful to improve the performance and thus increase of the quality of the analytical results.

**APPENDIX 1****Determination of o-Anisidine (CAS No. 90-04-0) in sample #23595; results in mg/kg**

lab	method	value	mark	z(targ)	remarks
110	EN14362-1	77.46		-0.58	
210	ISO14362-1	97.99		0.53	
339	In house	not detected		-----	possibly a false negative test result?
362		-----		-----	
551		-----		-----	
623	ISO14362-1	94.173		0.33	
840	ISO14362-1	91.2		0.17	
841	ISO14362-1	104		0.86	
2102	In house	81.655		-0.35	
2115	ISO14362-1	67.7		-1.10	
2120	EN14362-1	95		0.37	
2132	EN14362-1	88.66		0.03	
2165	EN14362-1	89.6		0.08	
2170		-----		-----	
2184	EN14362-1	96		0.43	
2201	EN14362-1	91.73		0.20	
2238	EN14362-1	86.8		-0.07	
2255	EN14362-1	87.0		-0.06	
2256	EN14362-1	86		-0.11	
2261	GB/T17592	90		0.10	
2264	EN14362-1	72.48		-0.84	
2265	ISO14362-1	123.4	C	1.91	first reported <5
2271	ISO14362-1	85.6		-0.14	
2289	ISO14362-1	85.6		-0.14	
2290	ISO14362-1	86.1		-0.11	
2291	ISO14362-1	94		0.32	
2293	EN14362-1	98.4		0.56	
2297	ISO14362-1	90		0.10	
2301	ISO14362-1	34.38	R(0.01)	-2.90	
2310	EN14362-1	81.5		-0.36	
2311	ISO14362-1	92.02		0.21	
2313	EN14362-1	79.43		-0.47	
2314	ISO14362-1	78.5		-0.52	
2320	ISO14362-1	85.48		-0.14	
2326	EN14362-1	100.44		0.67	
2330	EN14362-1	76.01		-0.65	
2347	ISO14362-1	85.95		-0.12	
2350	ISO14362-1	93.11		0.27	
2352	ISO14362-1	98		0.53	
2357	ISO14362-1	90.0		0.10	
2358	ISO14362-1	81.5836		-0.35	
2364	ISO14362-1	79.85		-0.45	
2365	ISO14362-1	88.5		0.02	
2366	EN14362-1	85		-0.17	
2367	ISO14362-1	80.81		-0.39	
2370	ISO14362-1	93.64		0.30	
2372	ISO14362-1	90.0972		0.11	
2373	ISO14362-1	86.1		-0.11	
2375	EN14362-1	96.38		0.45	
2378	ISO14362-1	97		0.48	
2379	ISO14362-1	86.4464		-0.09	
2380	EN14362-1	84.0		-0.22	
2381	ISO14362-1	80.93		-0.39	
2386	EN14362-1	62.1		-1.41	
2406	ISO14362-1	89.66		0.08	
2425	In house	88.12		0.00	
2426	ISO14362-1	97.923		0.53	
2429	ISO14362-1	88.11		0.00	
2442	ISO14362-1	83.15		-0.27	
2449	EN14362-1	83.41		-0.25	
2453		106.58		1.00	
2459	EN14362-1	77.65		-0.56	
2475	EN14362-1	84.4		-0.20	
2476	ISO14362-1	88.21		0.01	
2482		79.77		-0.45	
2492	EN14362-1	96		0.43	
2495	ISO14362-1	111.3		1.25	
2500	EN14362-1	88.2		0.01	
2504	EN14362-1	79.29		-0.48	
2511	ISO14362-1	86.253		-0.10	
2514	EN14362-1	84.59		-0.19	
2521	In house	95.23		0.39	
2528	EN14362-1	97.22		0.49	
2534	EN14362-1	99.98		0.64	

lab	method	value	mark	z(targ)	remarks
2540		109.9		1.18	
2549	EN14362-1	96.13		0.43	
2561	ISO14362-1	60.38		-1.50	
2565		100.47		0.67	
2567	EN14362-1	81.25		-0.37	
2569	EN14362-1	88		-0.01	
2572		85.88		-0.12	
2582	ISO14362-1	82.5		-0.30	
2590	EN14362-1	70.97		-0.93	
2591	ISO14362-1	85.9		-0.12	
2605	EN14362-1	89.75		0.09	
2622	EN14362-1	107.7	C	1.06	first reported 43.6
2638	EN14362-1	62.38		-1.39	
2643	EN14362-1	91.16		0.17	
2644	ISO14362-1	62.76		-1.37	
2674	EN14362-1	94.2		0.33	
2678	ISO14362-1	104		0.86	
2689	ISO14362-1	107.43		1.04	
2703	EN14362-1	74.97		-0.71	
2737	ISO14362-1	104.83		0.90	
2743	ISO14362-1	71.70		-0.89	
2744	ISO14362-1	60	C	-1.52	first reported not detected
2789		108.6		1.11	
2798	ISO14362-1	112		1.29	
2802	ISO14362-1	90.94		0.15	
2809	ISO14362-1	95		0.37	
2826	ISO14362-1	94.1		0.32	
2829	ISO14362-1	88.95		0.05	
2866	EN14362-1	85.9		-0.12	
2867	ISO14362-1	85.9		-0.12	
2908	EN14362-1	76.01		-0.65	
2912	ISO14362-1	116.965		1.56	
2918	EN14362.1	110.6		1.22	
2926	EN14362-1	57.6		-1.65	
2943	In house	91.6	C	0.19	first reported 128.1568
2948	EN14362-1	80.58		-0.41	
2953		----		----	
2955	EN14362-1	85.1		-0.16	
2959	ISO14362-1	91.77		0.20	
2960	ISO14362-1	85.2		-0.16	
2977	ISO14362-1	79.38		-0.47	
2984	ISO14362-1	not detected	C	----	possibly a false negative test result? first reported 40.52
3014	EN14362-1	83	C	-0.28	first reported 25
3015	ISO14362-1	91.3		0.17	
3110	EN14362-1	98.54		0.56	
3116	ISO14362-1	83.44		-0.25	
3118	ISO14362-1	67.97		-1.09	
3146	EN14362-1	67.90		-1.09	
3153	ISO14362-1	86.3		-0.10	
3154	EN14362-1	66.9		-1.15	
3172	ISO14362-1	93.729		0.30	
3182	EN14362-1	97.89		0.53	
3185	ISO14362-1	88.32		0.01	
3190	ISO14362-1	93.72		0.30	
3197	ISO14362-1	94.5		0.35	
3210	In house	61.23		-1.45	
3214	ISO14362-1	84.93		-0.17	
3218	ISO14362-1	90.16		0.11	
3225	EN14362-1	85.2		-0.16	
3228	EN14362-1	96.2		0.44	
3230	In house	93.0742		0.27	
3237	ISO14362-1	98		0.53	
3248	EN14362-1	90		0.10	
3250	ISO14362-1	86.20		-0.10	
8030	JISL1940-1	84.0321		-0.22	
	normality	OK			
	n	132			
	outliers	1			
	mean (n)	88.102			
	st.dev. (n)	11.7759	RSD=13%		
	R(calc.)	32.972			
	st.dev.(iis memo 2202)	18.5014			
	R(iis memo 2202)	51.804			

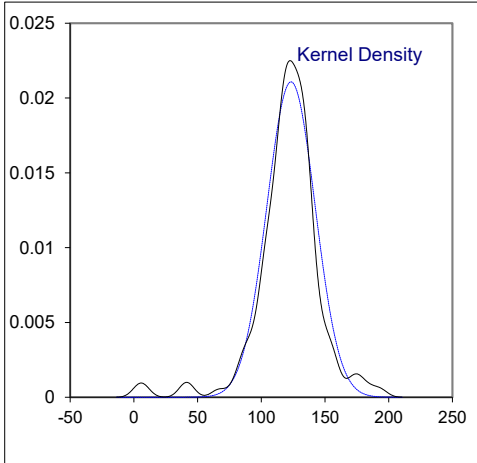
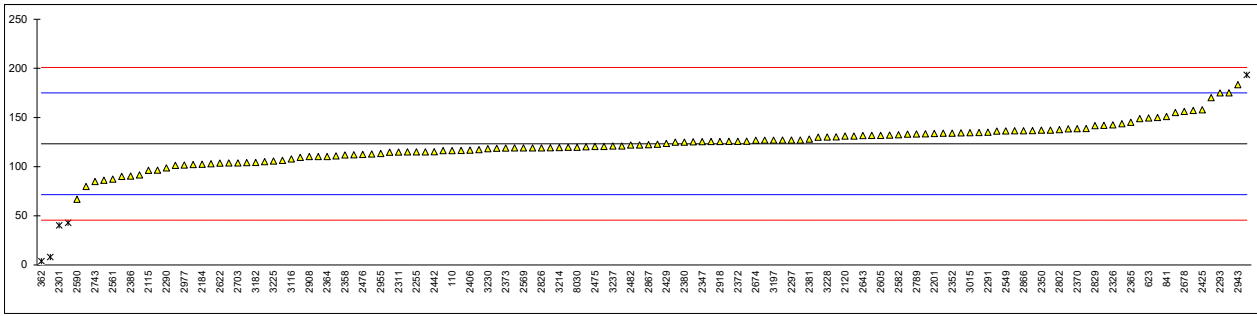


## Determination of o-Toluidine (CAS No. 95-53-4) in sample #23595; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN14362-1	116.19		-0.28	
210	ISO14362-1	155.08		1.23	
339	In house	not detected		-----	possibly a false negative test result?
362	ISO14362-1	3.67	C,R(0.01)	-4.62	first reported 36.7
551		-----		-----	
623	ISO14362-1	149.413		1.01	
840	ISO14362-1	142.0		0.72	
841	ISO14362-1	151		1.07	
2102	In house	193.21	R(0.05)	2.70	
2115	ISO14362-1	96.2		-1.05	
2120	EN14362-1	131		0.30	
2132	EN14362-1	117.23		-0.24	
2165	EN14362-1	130.2		0.27	
2170		-----		-----	
2184	EN14362-1	102.5		-0.80	
2201	EN14362-1	133.66		0.40	
2238	EN14362-1	136.6		0.51	
2255	EN14362-1	115.0		-0.32	
2256	EN14362-1	119		-0.17	
2261	GB/T17592	125		0.06	
2264	EN14362-1	91.5		-1.23	
2265	ISO14362-1	170.1		1.81	
2271	ISO14362-1	125.8		0.10	
2289	ISO14362-1	127		0.14	
2290	ISO14362-1	98.6		-0.95	
2291	ISO14362-1	135		0.45	
2293	EN14362-1	174.98		1.99	
2297	ISO14362-1	127		0.14	
2301	ISO14362-1	40.24	R(0.05)	-3.21	
2310	EN14362-1	110.2		-0.51	
2311	ISO14362-1	114.79		-0.33	
2313	EN14362-1	116.16		-0.28	
2314	ISO14362-1	102.1		-0.82	
2320	ISO14362-1	127.11		0.15	
2326	EN14362-1	142.47		0.74	
2330	EN14362-1	114.65		-0.33	
2347	ISO14362-1	125.35		0.08	
2350	ISO14362-1	136.99		0.53	
2352	ISO14362-1	134		0.41	
2357	ISO14362-1	157.2		1.31	
2358	ISO14362-1	111.7970		-0.44	
2364	ISO14362-1	110.22		-0.51	
2365	ISO14362-1	145.1		0.84	
2366	EN14362-1	134		0.41	
2367	ISO14362-1	109.45		-0.54	
2370	ISO14362-1	138.51		0.59	
2372	ISO14362-1	125.7009		0.09	
2373	ISO14362-1	118.9		-0.17	
2375	EN14362-1	125.6		0.09	
2378	ISO14362-1	132		0.34	
2379	ISO14362-1	121.9537		-0.05	
2380	EN14362-1	125.0		0.06	
2381	ISO14362-1	128.00		0.18	
2386	EN14362-1	90.4		-1.27	
2406	ISO14362-1	116.84		-0.25	
2425	In house	157.8		1.33	
2426	ISO14362-1	119.267		-0.16	
2429	ISO14362-1	123.60		0.01	
2442	ISO14362-1	115.11		-0.32	
2449	EN14362-1	112.93		-0.40	
2453		148.79		0.98	
2459	EN14362-1	120.40		-0.11	
2475	EN14362-1	120.4		-0.11	
2476	ISO14362-1	112.34		-0.42	
2482		121.9		-0.05	
2492	EN14362-1	115		-0.32	
2495	ISO14362-1	138.7		0.59	
2500	EN14362-1	136.1		0.49	
2504	EN14362-1	119.62		-0.14	
2511	ISO14362-1	126.9		0.14	
2514	EN14362-1	118.58		-0.18	
2521	In house	121.06		-0.09	
2528	EN14362-1	133.34		0.39	
2534	EN14362-1	131		0.30	
2540		175.1		2.00	



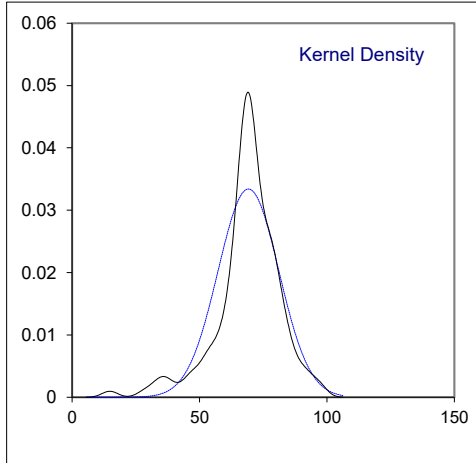
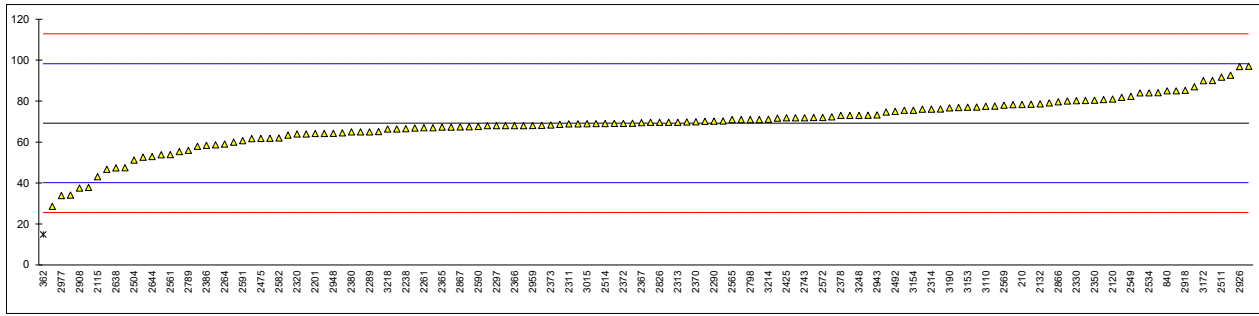
lab	method	value	mark	z(targ)	remarks
2549	EN14362-1	136.24		0.50	
2561	ISO14362-1	87.16		-1.40	
2565		134.32		0.42	
2567	EN14362-1	103.6		-0.76	
2569	EN14362-1	119		-0.17	
2572		102.90		-0.79	
2582	ISO14362-1	132.4		0.35	
2590	EN14362-1	66.72		-2.19	
2591	ISO14362-1	119.0		-0.17	
2605	EN14362-1	131.72		0.32	
2622	EN14362-1	103.5	C	-0.77	first reported 52.3
2638	EN14362-1	96.46		-1.04	
2643	EN14362-1	131.62		0.32	
2644	ISO14362-1	120.15		-0.12	
2674	EN14362-1	126.8		0.13	
2678	ISO14362-1	156.1		1.27	
2689	ISO14362-1	134.68		0.44	
2703	EN14362-1	103.70		-0.76	
2737	ISO14362-1	138.34		0.58	
2743	ISO14362-1	84.80		-1.49	
2744	ISO14362-1	90	C	-1.29	first reported 29
2789		133.1		0.38	
2798	ISO14362-1	150		1.03	
2802	ISO14362-1	137.64		0.55	
2809	ISO14362-1	133		0.37	
2826	ISO14362-1	119		-0.17	
2829	ISO14362-1	141.67		0.71	
2866	EN14362-1	136.5		0.51	
2867	ISO14362-1	122.3		-0.04	
2908	EN14362-1	110.126		-0.51	
2912	ISO14362-1	143.554		0.78	
2918	EN14362-1	125.6		0.09	
2926	EN14362-1	42.7	C,R(0.05)	-3.11	first reported 25.7
2943	In house	183.5044		2.32	
2948	EN14362-1	110.93		-0.48	
2953	ISO14362-1	7.92	R(0.01)	-4.46	
2955	EN14362-1	113.3		-0.39	
2959	ISO14362-1	137.0		0.53	
2960	ISO14362-1	125.3		0.08	
2977	ISO14362-1	101.49		-0.84	
2984	ISO14362-1	79.82		-1.68	
3014	EN14362-1	105	C	-0.71	first reported 36
3015	ISO14362-1	134.4		0.43	
3110	EN14362-1	114.97		-0.32	
3116	ISO14362-1	107.7		-0.60	
3118	ISO14362-1	129.88		0.25	
3146	EN14362-1	101.25		-0.85	
3153	ISO14362-1	106.4		-0.65	
3154	EN14362-1	104.1		-0.74	
3172	ISO14362-1	125.70		0.09	
3182	EN14362-1	104.32		-0.73	
3185	ISO14362-1	122.67		-0.03	
3190	ISO14362-1	136.45		0.51	
3197	ISO14362-1	126.9		0.14	
3210	In house	86.06		-1.44	
3214	ISO14362-1	119.31		-0.15	
3218	ISO14362-1	131.71		0.32	
3225	EN14362-1	105.6		-0.68	
3228	EN14362-1	130.1		0.26	
3230	In house	118.0867		-0.20	
3237	ISO14362-1	121		-0.09	
3248	EN14362-1	112		-0.44	
3250	ISO14362-1	116.32		-0.27	
8030	JISL1940-1	119.6372		-0.14	
	normality	suspect			
	n	131			
	outliers	5			
	mean (n)	123.321			
	st.dev. (n)	18.9316	RSD=15%		
	R(calc.)	53.009			
	st.dev.(iis memo 2202)	25.8975			
	R(iis memo 2202)	72.513			



## Determination of Benzidine (CAS No. 92-87-5) in sample #23596; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN14362-1	<5		<-4.42	possibly a false negative test result?
210	ISO14362-1	78.32		0.63	
339	In house	not detected		-----	possibly a false negative test result?
362	EN14362-1	14.77	C,R(0.01)	-3.75	first reported 147.7
551		-----		-----	
623	ISO14362-1	69.218		0.00	
840	ISO14362-1	85.0		1.08	
841	ISO14362-1	84		1.02	
2102		55.316		-0.96	
2115	ISO14362-1	43.1		-1.80	
2120	EN14362-1	81		0.81	
2132	EN14362-1	78.602		0.64	
2165	EN14362-1	70.3		0.07	
2170		-----		-----	
2184		67		-0.15	
2201	EN14362-1	64.16		-0.35	
2238	EN14362-1	66.5		-0.19	
2255	EN14362-1	65.0		-0.29	
2256	EN14362-1	71		0.12	
2261	GB/T17592	67		-0.15	
2264	EN14362-1	59.05		-0.70	
2265	ISO14362-1	80.3		0.76	
2271	ISO14362-1	72.0		0.19	
2289	ISO14362-1	65		-0.29	
2290	ISO14362-1	70.2		0.07	
2291	ISO14362-1	68		-0.08	
2293	EN14362-1	75.5		0.43	
2297	ISO14362-1	68		-0.08	
2301	ISO14362-1	37.80		-2.16	
2310	EN14362-1	69.6		0.03	
2311	ISO14362-1	68.81		-0.03	
2313	ISO14362-1	69.61		0.03	
2314	EN14362-1	76.1		0.47	
2320	ISO14362-1	64		-0.36	
2326	EN14362-1	76.12		0.47	
2330	GB/T17592	80.20		0.75	
2347	ISO14362-1	67.42		-0.12	
2350	ISO14362-1	80.45		0.77	
2352	ISO14362-1	73		0.26	
2357	ISO14362-1	69.1		-0.01	
2358	ISO14362-1	61.6265		-0.52	
2364	ISO14362-1	58.63		-0.73	
2365	ISO14362-1	67.3		-0.13	
2366	EN14362-1	68		-0.08	
2367	ISO14362-1	69.49		0.02	
2370	ISO14362-1	69.81		0.04	
2372	ISO14362-1	69.1452		-0.01	
2373	ISO14362-1	68.3		-0.06	
2375	EN14362-1	81.8		0.86	
2378	ISO14362-1	73		0.26	
2379	ISO14362-1	61.8041		-0.51	
2380	EN14362-1	65.0		-0.29	
2381	ISO14362-1	66.38		-0.20	
2386	EN14362-1	58.4		-0.74	
2406	ISO14362-1	77.51		0.57	
2425	In house	71.79		0.18	
2426	ISO14362-1	76.067		0.47	
2429	ISO14362-1	67.98		-0.09	
2442	ISO14362-1	68.85		-0.03	
2449	EN14362-1	66.82		-0.17	
2453		46.66		-1.55	
2459	EN14362-1	68.00		-0.08	
2475	EN14362-1	61.7		-0.52	
2476	ISO14362-1	72.33		0.21	
2482	ISO14362-1	74.62		0.37	
2492		75		0.40	
2495	ISO14362-1	64.5		-0.33	
2500	EN14362-1	70.1		0.06	
2504	EN14362-1	51.18		-1.24	
2511	GB/T17592	91.7		1.55	
2514	EN14362-1	69.07		-0.01	
2521	In house	71.03		0.12	
2528	EN14362-1	97.00		1.91	
2534	GB/T17592	84		1.02	
2540		63.4		-0.40	

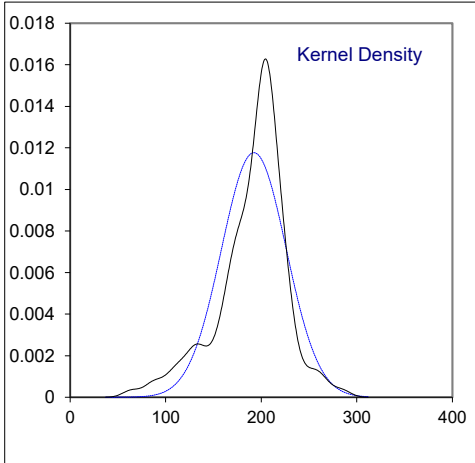
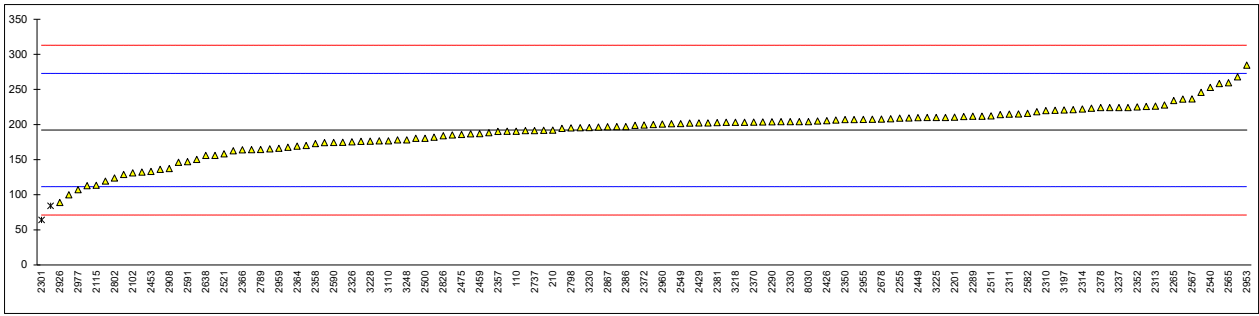
lab	method	value	mark	z(targ)	remarks
2549	EN14362-1	82.31		0.90	
2561	ISO14362-1	53.84		-1.06	
2565		70.92		0.12	
2567	EN14362-1	67.33		-0.13	
2569	ISO14362-1	78		0.60	
2572		72.01		0.19	
2582	ISO14362-1	61.91		-0.50	
2590	EN14362-1	67.60		-0.11	
2591	ISO14362-1	60.6		-0.59	
2605	EN14362-1	68.15		-0.07	
2622	EN14362-1	78.5		0.64	
2638	EN14362-1	47.38		-1.50	
2643		-----		-----	
2644	ISO14362-1	52.97		-1.12	
2674	EN14362-1	68.6		-0.04	
2678	ISO14362-1	71.8		0.18	
2689	ISO14362-1	78.22		0.62	
2703	EN14362-1	52.57		-1.15	
2737	ISO14362-1	79.12		0.68	
2743	EN14362-1	71.80		0.18	
2744	ISO14362-1	60		-0.63	
2789		55.9		-0.92	
2798	ISO14362-1	71		0.12	
2802	ISO14362-1	53.73		-1.07	
2809	ISO14362-1	87		1.22	
2826	ISO14362-1	69.6		0.03	
2829	ISO14362-1	77.07		0.54	
2866		79.6		0.71	
2867	ISO14362-1	67.4		-0.13	
2908	ISO14362-1	37.51		-2.18	
2912	ISO14362-1	80.717		0.79	
2918	EN14362-1	85.3		1.11	
2926	EN14362-1	96.8		1.90	
2943	In house	73.2348		0.28	
2948	EN14362-1	64.25		-0.34	
2953	ISO14362-1	92.61		1.61	
2955	EN14362-1	64.2		-0.35	
2959	ISO14362-1	68.11		-0.08	
2960	ISO14362-1	65.1		-0.28	
2977	ISO14362-1	33.78		-2.44	
2984	ISO14362-1	34.06		-2.42	
3014	EN14362-1	64	C	-0.36	first reported 18.4
3015	ISO14362-1	68.9		-0.02	
3110	EN14362-1	77.49		0.57	
3116	ISO14362-1	71.65		0.17	
3118	ISO14362-1	73.11		0.27	
3146	EN14362-1	28.60		-2.79	
3153	ISO14362-1	77.0		0.53	
3154	EN14362-1	75.5		0.43	
3172	ISO14362-1	89.914		1.42	
3182	EN14362-1	68.97		-0.02	
3185	ISO14362-1	69.77		0.04	
3190	ISO14362-1	76.69		0.51	
3197	GB/T17592	76.8		0.52	
3210	In house	47.4		-1.50	
3214	ISO14362-1	71.14		0.13	
3218	ISO14362-1	66.34		-0.20	
3225	EN14362-1	84.1		1.02	
3228	EN14362-1	69.6		0.03	
3230	In house	90.0079		1.43	
3237		85		1.08	
3248	EN14362-1	73		0.26	
3250	ISO14362-1	80.1		0.75	
8030	EN14362-1	57.8938		-0.78	
	normality	suspect			
	n	133			
	outliers	1			
	mean (n)	69.228			
	st.dev. (n)	11.9490	RSD=17%		
	R(calc.)	33.457			
	st.dev.(iis memo 2202)	14.5379			
	R(iis memo 2202)	40.706			



## Determination of 3,3'-Dimethoxybenzidine (CAS No. 119-90-4) in sample #23596; results in mg/kg

lab	method	value	mark	z(targ)	remarks
110	EN14362-1	190.46		-0.04	
210	ISO14362-1	191.87		-0.01	
339	In house	not detected		----	possibly a false negative test result?
362		----		----	
551		----		----	
623	ISO14362-1	150.279		-1.04	
840	ISO14362-1	218.0		0.64	
841	ISO14362-1	215		0.57	
2102		131.16		-1.51	
2115	ISO14362-1	113.4		-1.95	
2120	EN14362-1	203		0.27	
2132	EN14362-1	185.038		-0.18	
2165	EN14362-1	180.2		-0.30	
2170		----		----	
2184		162.5		-0.73	
2201	EN14362-1	210.52		0.46	
2238	EN14362-1	204.1		0.30	
2255	EN14362-1	209.0		0.42	
2256	EN14362-1	174		-0.45	
2261	GB/T17592	176		-0.40	
2264	EN14362-1	236.11		1.09	
2265	ISO14362-1	234.2		1.04	
2271	ISO14362-1	188.3		-0.10	
2289	ISO14362-1	211.7		0.48	
2290	ISO14362-1	203.6		0.28	
2291	ISO14362-1	221		0.72	
2293	EN14362-1	220.3	C	0.70	first reported 359.0
2297	ISO14362-1	178		-0.35	
2301	ISO14362-1	64.04	DG(0.05)	-3.17	
2310	EN14362-1	219.8		0.69	
2311	ISO14362-1	214.61		0.56	
2313	ISO14362-1	226.14		0.84	
2314	EN14362-1	222.1		0.74	
2320	ISO14362-1	200		0.19	
2326	EN14362-1	175.30		-0.42	
2330	GB/T17592	204.08		0.30	
2347	ISO14362-1	196.36		0.10	
2350	ISO14362-1	206.96		0.37	
2352	ISO14362-1	225		0.81	
2357	ISO14362-1	190.2		-0.05	
2358	ISO14362-1	172.8316		-0.48	
2364	ISO14362-1	169.29		-0.57	
2365	ISO14362-1	191.7		-0.01	
2366	EN14362-1	164		-0.70	
2367	ISO14362-1	174.50		-0.44	
2370	ISO14362-1	203.36		0.28	
2372	ISO14362-1	199.3012		0.18	
2373	ISO14362-1	190.3		-0.05	
2375	EN14362-1	223.2		0.77	
2378	ISO14362-1	224		0.79	
2379	ISO14362-1	211.3838		0.48	
2380	EN14362-1	201.0		0.22	
2381	ISO14362-1	202.62		0.26	
2386	EN14362-1	197		0.12	
2406	ISO14362-1	191.26		-0.02	
2425	In house	208.16		0.40	
2426	ISO14362-1	205.372		0.33	
2429	ISO14362-1	202.15		0.25	
2442	ISO14362-1	209.24		0.42	
2449	EN14362-1	209.56		0.43	
2453		132.94		-1.47	
2459	EN14362-1	187.00		-0.13	
2475	EN14362-1	185.8		-0.16	
2476	ISO14362-1	224.12		0.79	
2482	ISO14362-1	196.9		0.12	
2492		170		-0.55	
2495	ISO14362-1	202.15		0.25	
2500	EN14362-1	180.2		-0.30	
2504	EN14362-1	165.22		-0.67	
2511	GB/T17592	212.2		0.50	
2514	EN14362-1	211.73		0.49	
2521	In house	158.25		-0.84	
2528	EN14362-1	267.88		1.88	
2534	GB/T17592	203.5		0.28	
2540		252.7		1.50	

lab	method	value	mark	z(targ)	remarks
2549	EN14362-1	201.13		0.22	
2561	ISO14362-1	132.21		-1.49	
2565		259.27		1.66	
2567	EN14362-1	236.6		1.10	
2569	ISO14362-1	210		0.44	
2572		198.90		0.17	
2582	ISO14362-1	215.90		0.59	
2590	EN14362-1	174.35		-0.44	
2591	ISO14362-1	146.9		-1.12	
2605	EN14362-1	203.14		0.27	
2622	EN14362-1	128.8	C	-1.57	first reported 38.1
2638	EN14362-1	155.79		-0.90	
2643		-----		-----	
2644	ISO14362-1	164.16		-0.69	
2674	EN14362-1	186.7		-0.13	
2678	ISO14362-1	207.7		0.39	
2689	ISO14362-1	167.58		-0.61	
2703	EN14362-1	99.93		-2.29	
2737	ISO14362-1	191.31		-0.02	
2743	EN14362-1	155.80		-0.90	
2744	ISO14362-1	182		-0.25	
2789		164.3		-0.69	
2798	ISO14362-1	195		0.07	
2802	ISO14362-1	123.67		-1.70	
2809	ISO14362-1	224		0.79	
2826	ISO14362-1	184		-0.20	
2829	ISO14362-1	136.06		-1.39	
2866		194.5		0.06	
2867	ISO14362-1	196.8		0.12	
2908	ISO14362-1	137.24		-1.36	
2912	ISO14362-1	204.028		0.29	
2918	EN14362-1	245.8		1.33	
2926	EN14362-1	88.9		-2.56	
2943	In house	112.6348		-1.97	
2948	EN14362-1	207.16		0.37	
2953	ISO14362-1	284.42		2.29	
2955	EN14362-1	207.3	C	0.38	first reported not detected
2959	ISO14362-1	166.1		-0.65	
2960	ISO14362-1	200.5		0.21	
2977	ISO14362-1	107.00		-2.11	
2984	ISO14362-1	119.3		-1.81	
3014	EN14362-1	not detected		-----	possibly a false negative test result?
3015	ISO14362-1	214.0		0.54	
3110	EN14362-1	176.73		-0.38	
3116	ISO14362-1	176.6		-0.39	
3118	ISO14362-1	225.79		0.83	
3146	EN14362-1	84.00	DG(0.05)	-2.68	
3153	ISO14362-1	206.2		0.35	
3154	EN14362-1	258.3		1.64	
3172	ISO14362-1	227.79		0.88	
3182	EN14362-1	204.94		0.32	
3185	ISO14362-1	202.11		0.25	
3190	ISO14362-1	207.52		0.38	
3197	GB/T17592	220.7		0.71	
3210	In house	146.23		-1.14	
3214	ISO14362-1	195.49		0.08	
3218	ISO14362-1	203.09		0.27	
3225	EN14362-1	210.1		0.45	
3228	EN14362-1	176.3		-0.39	
3230	In house	195.6349		0.09	
3237		224		0.79	
3248	EN14362-1	178		-0.35	
3250	ISO14362-1	210.1		0.45	
8030	EN14362-1	204.1913		0.30	
	normality	OK			
	n	131			
	outliers	2			
	mean (n)	192.136			
	st.dev. (n)	33.8852	RSD=18%		
	R(calc.)	94.879			
	st.dev.(iis memo 2202)	40.3485			
	R(iis memo 2202)	112.976			





**APPENDIX 2****Summary of other reported aromatic amines****Abbreviations of amine names**

4AD	= 4-Aminodiphenyl (CAS No. 92-67-1)
BD	= Benzidine (CAS No. 92-87-5)
4CoT	= 4-Chloro-o-toluidine (CAS No. 95-69-2)
2NA	= 2-Naphtylamine (CAS No. 91-59-8)
ANT	= 2-Amino-4-nitrotoluene (CAS No. 99-55-8)
4CA	= 4-Chloraniline (CAS No. 106-47-8)
DAA	= 2,4-Diaminoanisol (CAS No. 615-05-4)
DADM	= 4,4'-Diaminodiphenylmethane (CAS No. 101-77-9)
DCB	= 3,3'-Dichlorobenzidine (CAS No. 91-94-1)
DMoxB	= 3,3'-Dimethoxybenzidine (CAS No. 119-90-4)
DMB	= 3,3'-Dimethylbenzidine (CAS No. 119-93-7)
DDDM	= 3,3'-Dimethyl-4,4'-Diaminodiphenylmethane (CAS No. 838-88-0)
pC	= p-Cresidine (CAS No. 120-71-8)
DDM	= 4,4'-Diamino-3,3'-dichlorodiphenylmethane (CAS No. 101-14-4)
DDE	= 4,4'-Diaminodiphenylether (CAS No. 101-80-4)
DDS	= 4,4'-Diaminodiphenylsulfide (CAS No. 139-65-1)
24DAT	= 2,4-Diaminotoluene (CAS No. 95-80-7)
TMA	= 2,4,5-Trimethylaniline (CAS No. 137-17-7)
oA	= o-Anisidine (CAS No. 90-04-0)
24X	= 2,4-Xylidine (CAS No. 95-68-1)
25X	= 2,5-Xylidine (CAS No. 95-78-3)
26X	= 2,6-Xylidine (CAS No. 87-62-7)
TX	= Total of Xylidine
oAAT	= o-Aminoazotoluene (CAS No. 97-56-3)
oTol	= o-Toluidine (CAS No. 95-53-4)
oAAT&oTol	= Sum of o-Aminoazotoluene and o-Toluidine

Summary of other reported aromatic amines in sample #23595, see abbreviations above

lab	4AD	BD	4CoT	2NA	ANT	4CA	DAA	DADM
110	<5	<5	<5	<5	<5	<5	<5	<5
210	----	----	----	----	----	----	----	----
339	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
362	----	----	----	----	----	----	----	----
551	----	----	----	----	----	----	----	----
623	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
840	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
841	<5	<5	<5	<5	<5	<5	<5	<5
2102	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2115	----	----	----	----	----	----	----	----
2120	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0
2132	<5	<5	<5	<5	<5	<5	<5	<5
2165	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2170	----	----	----	----	----	----	----	----
2184	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2201	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2238	<5	<5	<5	<5	<5	<5	<5	<5
2255	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2256	----	----	----	----	----	----	----	----
2261	----	----	----	----	----	----	----	----
2264	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2265	< 5	< 5	< 5	< 5	< 5	<5 C	< 5	< 5
2271	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2289	----	----	----	----	----	----	----	----
2290	<5	<5	<5	<5	<5	<5	<5	<5
2291	ND	ND	ND	ND	ND	ND	ND	ND
2293	0	0	0	0	0	0	0	0
2297	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2301	----	----	----	----	----	----	----	----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2313	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	----	----	----	----	----	----	----	----
2320	<5	<5	<5	<5	<5	<5	<5	<5
2326	ND	ND	ND	ND	ND	ND	ND	ND
2330	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2347	<5	<5	<5	<5	<5	<5	<5	<5
2350	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2352	----	----	----	----	----	----	----	----
2357	----	----	----	----	----	----	----	----
2358	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2364	----	----	----	----	----	----	----	----
2365	<5	<5	<5	<5	<5	<5	<5	<5
2366	----	----	----	----	----	----	----	----
2367	ND	ND	ND	ND	ND	ND	ND	ND
2370	<5	<5	<5	<5	<5	<5	<5	<5
2372	<5	<5	<5	<5	<5	<5	<5	<5
2373	<5	<5	<5	<5	<5	<5	<5	<5
2375	----	----	----	----	----	----	----	----
2378	<5	<5	<5	<5	<5	<5	<5	<5
2379	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2380	<5	<5	<5	<5	<5	<5	<5	<5
2381	----	----	----	----	----	----	----	----
2386	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2406	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2425	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2426	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2429	----	----	----	----	----	----	----	----
2442	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2449	----	----	----	----	----	----	----	----
2453	----	----	----	----	----	----	----	----
2459	ND	ND	ND	ND	ND	ND	ND	ND
2475	----	----	----	----	----	----	----	----
2476	----	----	----	----	----	----	----	----
2482	<5	<5	<5	<5	<5	<5	<5	<5
2492	----	----	----	----	----	----	----	----
2495	<5	<5	<5	<5	<5	<5	<5	<5
2500	ND	ND	ND	ND	ND	ND	ND	ND
2504	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2511	----	----	----	----	----	----	----	----
2514	----	----	----	----	----	----	----	----
2521	----	----	----	----	----	----	----	----
2528	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2534	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected

lab	4AD	BD	4CoT	2NA	ANT	4CA	DAA	DADM
2540	----	----	----	----	----	----	----	----
2549	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2561	----	----	----	----	----	----	----	----
2565	<5	<5	<5	<5	<5	<5	<5	<5
2567	<5	<5	<5	<5	<5	<5	<5	<5
2569	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2572	<5	<5	<5	<5	<5	<5	<5	<5
2582	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2590	----	----	----	----	----	----	----	----
2591	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2605	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
2622	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2638	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2643	----	----	----	----	----	----	----	----
2644	----	----	----	----	----	----	----	----
2674	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2678	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2689	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2703	Not Detected	Not Detected	Not Detected	Not Detected	----	Not Detected	Not Detected	0.30
2737	----	----	----	----	----	----	----	----
2743	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2744	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2789	----	----	----	----	----	----	----	----
2798	----	----	----	----	----	----	----	----
2802	----	----	----	----	----	----	----	----
2809	----	----	----	----	----	----	----	----
2826	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2829	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2866	0	0	0	0	0	0	----	0
2867	----	----	----	----	----	----	----	----
2908	----	----	----	----	----	----	----	----
2912	----	----	----	----	----	----	----	----
2918	<8	<8	<8	<8	<8	<8	<8	<8
2926	----	----	----	----	----	----	----	----
2943	0	0	0	0	0	0	0	0
2948	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2953	----	----	----	----	----	----	----	----
2955	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2959	----	----	----	----	----	----	----	----
2960	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2977	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2984	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3014	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3015	<5	<5	<5	<5	<5	<5	<5	<5
3110	----	----	----	----	----	----	----	----
3116	----	----	----	----	----	----	----	----
3118	<5	<5	<5	<5	<5	<5	<5	<5
3146	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3153	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3154	----	----	----	----	----	----	----	----
3172	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3182	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
3185	<5	<5	<5	<5	<5	<5	<5	<5
3190	<5	<5	<5	<5	<5	<5	<5	<5
3197	<5	<5	<5	<5	<5	<5	<5	<5
3210	----	----	----	----	----	----	----	----
3214	<5	<5	<5	<5	<5	<5	<5	<5
3218	<5	<5	<5	<5	<5	<5	<5	<5
3225	<5	<5	<5	<5	<5	<5	<5	<5
3228	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3230	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3237	----	----	----	----	----	----	----	----
3248	----	----	----	----	----	----	----	----
3250	----	----	----	----	----	----	----	----
8030	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected

Lab 2265 first reported 123.4 for 4-Chloraniline

## Summary of aromatic amines in sample #23595 continued

lab	DCB	DMoxB	DMB	DDDM	pC	DDM	DDE	DDS
110	<5	<5	<5	<5	<5	<5	<5	<5
210	----	----	----	----	----	----	----	----
339	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
362	----	----	----	----	----	----	----	----
551	----	----	----	----	----	----	----	----
623	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
840	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
841	<5	<5	<5	<5	<5	<5	<5	<5
2102	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2115	----	----	----	----	----	----	----	----
2120	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0
2132	<5	<5	<5	<5	<5	<5	<5	<5
2165	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2170	----	----	----	----	----	----	----	----
2184	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2201	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2238	<5	<5	<5	<5	<5	<5	<5	<5
2255	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2256	----	----	----	----	----	----	----	----
2261	----	----	----	----	----	----	----	----
2264	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2265	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2271	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2289	----	----	----	----	----	----	----	----
2290	<5	<5	<5	<5	<5	<5	<5	<5
2291	ND	ND	ND	ND	ND	ND	ND	ND
2293	0	0	0	0	0	0	0	0
2297	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2301	----	----	----	----	----	----	----	----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2313	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	----	----	----	----	----	----	----	----
2320	<5	<5	<5	<5	<5	<5	<5	<5
2326	ND	ND	ND	ND	ND	ND	ND	ND
2330	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2347	<5	<5	<5	<5	<5	<5	<5	<5
2350	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2352	----	----	----	----	----	----	----	----
2357	----	----	----	----	----	----	----	----
2358	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2364	----	----	----	----	----	----	----	----
2365	<5	<5	<5	<5	<5	<5	<5	<5
2366	----	----	----	----	----	----	----	----
2367	ND	ND	ND	ND	ND	ND	ND	ND
2370	<5	<5	<5	<5	<5	<5	<5	<5
2372	<5	<5	<5	<5	<5	<5	<5	<5
2373	<5	<5	<5	<5	<5	<5	<5	<5
2375	----	----	----	----	----	----	----	----
2378	<5	<5	<5	<5	<5	<5	<5	<5
2379	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2380	<5	<5	<5	<5	<5	<5	<5	<5
2381	----	----	----	----	----	----	----	----
2386	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2406	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2425	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2426	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2429	----	----	----	----	----	----	----	----
2442	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2449	----	----	----	----	----	----	----	----
2453	----	----	----	----	----	----	----	----
2459	ND	ND	ND	ND	ND	ND	ND	ND
2475	----	----	----	----	----	----	----	----
2476	----	----	----	----	----	----	----	----
2482	<5	<5	<5	<5	<5	<5	<5	<5
2492	----	----	----	----	----	----	----	----
2495	<5	<5	<5	<5	<5	<5	<5	<5
2500	ND	ND	ND	ND	ND	ND	ND	ND
2504	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2511	----	----	----	----	----	----	----	----
2514	----	----	----	----	----	----	----	----
2521	----	----	----	----	----	----	----	----
2528	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2534	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2540	----	----	----	----	----	----	----	----

lab	DCB	DMoxB	DMB	DDDM	pC	DDM	DDE	DDS
2549	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2561	----	----	----	----	----	----	----	----
2565	<5	<5	<5	<5	<5	<5	<5	<5
2567	<5	<5	<5	<5	<5	<5	<5	<5
2569	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2572	<5	<5	<5	<5	<5	<5	<5	<5
2582	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2590	----	----	----	----	----	----	----	----
2591	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2605	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
2622	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2638	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2643	----	----	----	----	----	----	----	----
2644	----	----	----	----	----	----	----	----
2674	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2678	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2689	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2703	0.14	0.35	0.30	0.27	Not detected	0.13	0.42	0.57
2737	----	----	----	----	----	----	----	----
2743	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2744	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2789	----	----	----	----	----	----	----	----
2798	----	----	----	----	----	----	----	----
2802	----	----	----	----	----	----	----	----
2809	----	----	----	----	----	----	----	----
2826	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2829	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2866	0	0	0	0	0	0	0	0
2867	----	----	----	----	----	----	----	----
2908	----	----	----	----	----	----	----	----
2912	----	----	----	----	----	----	----	----
2918	<8	<8	<8	<8	<8	<8	<8	<8
2926	----	----	----	----	----	----	----	----
2943	0	0	0	0	0	0	0	0
2948	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2953	----	----	----	----	----	----	----	----
2955	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2959	----	----	----	----	----	----	----	----
2960	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2977	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2984	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3014	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3015	<5	<5	<5	<5	<5	<5	<5	<5
3110	----	----	----	----	----	----	----	----
3116	----	----	----	----	----	----	----	----
3118	<5	<5	<5	<5	<5	<5	<5	<5
3146	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3153	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3154	----	----	----	----	----	----	----	----
3172	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3182	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
3185	<5	<5	<5	<5	<5	<5	<5	<5
3190	<5	<5	<5	<5	<5	<5	<5	<5
3197	<5	<5	<5	<5	<5	<5	<5	<5
3210	----	----	----	----	----	----	----	----
3214	<5	<5	<5	<5	<5	<5	<5	<5
3218	<5	<5	<5	<5	<5	<5	<5	<5
3225	<5	<5	<5	<5	<5	<5	<5	<5
3228	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3230	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3237	----	----	----	----	----	----	----	----
3248	----	----	----	----	----	----	----	----
3250	----	----	----	----	----	----	----	----
8030	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected

Summary of aromatic amines in sample #23595 continued

lab	24DAT	TMA	24X	25X	26X	TX	oAAT	oAAT&oTol
110	<5	<5	<5	<5	<5	<5	<5	116.19
210	----	----	----	----	----	----	----	----
339	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
362	----	----	----	----	----	----	----	----
551	----	----	----	----	----	----	----	----
623	not detected	not detected	not detected	not detected	not detected	not detected	not detected	149.413
840	not detected	not detected	not detected	not detected	not detected	not detected	not detected	142.0
841	<5	<5	<5	<5	<5	<5	<5	151
2102	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2115	----	----	----	----	----	----	----	----
2120	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	131
2132	<5	<5	<5	not applicable	<5	N.A.	<5	not applicable
2165	Not Detected	Not Detected	Not Detected	----	Not Detected	----	Not Detected	----
2170	----	----	----	----	----	----	----	----
2184	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2201	not detected	not detected	not detected	not detected	not detected	not detected	not detected	133.66
2238	<5	<5	<5	<5	<5	<5	<5	136.6
2255	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	115.0
2256	----	----	----	----	----	----	----	----
2261	----	----	----	----	----	----	----	----
2264	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2265	< 5	< 5	< 5	< 5	< 5	< 5	< 5	170.1
2271	not detected	not detected	not detected	not detected	not detected	not detected	not detected	125.8
2289	----	----	----	----	----	----	----	127
2290	<5	<5	<5	<5	<5	<5	<5	98.6
2291	ND	ND	ND	ND	ND	ND	ND	135
2293	0	0	0	0	0	0	0	174.98
2297	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	127
2301	----	----	----	----	----	----	----	----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	110.2
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	114.79
2313	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	----	----	----	----	----	----	----	102.1
2320	<5	<5	<5	<5	<5	<5	<5	127.11
2326	ND	ND	ND	ND	ND	ND	ND	ND
2330	Not detected	Not detected	Not detected	Not applicable	Not detected	Not analyzed	Not detected	114.65
2347	<5	<5	<5	out capability	<5	out capability	<5	125.35
2350	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2352	----	----	----	----	----	----	----	134
2357	----	----	----	----	----	----	----	----
2358	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2364	----	----	----	----	----	----	----	----
2365	<5	<5	<5	----	<5	<5	<5	<5
2366	----	----	----	----	----	----	----	134
2367	ND	ND	ND	----	ND	----	ND	----
2370	<5	<5	<5	<5	<5	<5	<5	138.51
2372	<5	<5	<5	<5	<5	<5	<5	125.7009
2373	<5	<5	<5	not applicable	<5	not applicable	<5	118.9
2375	----	----	----	----	----	----	----	125.6
2378	<5	<5	<5	<5	<5	<5	<5	132
2379	Not detected	Not detected	Not detected	Not detected	Not detected	Not analyzed	Not detected	121.9537
2380	<5	<5	<5	<5	<5	<5	<5	<5
2381	----	----	----	----	----	----	----	----
2386	< 5	< 5	< 5	< 5	< 5	< 5	< 5	90.4
2406	Not detected	Not detected	----	----	----	----	Not detected	----
2425	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2426	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	119.267
2429	----	----	----	----	----	----	----	123.60
2442	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2449	----	----	----	----	----	----	----	----
2453	----	----	----	----	----	----	----	----
2459	ND	ND	ND	ND	ND	ND	ND	120.40
2475	----	----	----	----	----	----	----	----
2476	----	----	----	----	----	----	----	----
2482	<5	<5	<5	----	<5	----	<5	----
2492	----	----	----	----	----	----	----	----
2495	<5	<5	<5	----	<5	----	<5	----
2500	ND	ND	ND	ND	ND	ND	ND	136.1
2504	not detected	not detected	not detected	not analyzed	not detected	not detected	not detected	119.62
2511	----	----	----	----	----	----	----	----
2514	----	----	----	----	----	----	----	----
2521	----	----	----	----	----	----	----	121.06
2528	not detected	not detected	not detected	not detected	not detected	not detected	not detected	133.34
2534	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2540	----	----	----	----	----	----	----	----

lab	24DAT	TMA	24X	25X	26X	TX	oAAT	oAAT&oTol
2549	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	136.24
2561	----	----	----	----	----	----	----	----
2565	<5	<5	<5	----	<5	----	<5	134.32
2567	<5	<5	<5	<5	<5	<5	<5	103.6
2569	Not Detected	Not Detected	Not Detected	----	Not Detected	----	Not Detected	----
2572	<5	<5	<5	<5	<5	<5	<5	102.90
2582	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	132.4
2590	----	----	----	----	----	----	----	----
2591	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2605	<5.00	<5.00	----	----	----	----	----	----
2622	not detected	not detected	not detected	not detected	not detected	not detected	not detected	----
2638	not detected	not detected	not detected	not detected	not detected	not detected	not detected	96.46
2643	----	----	----	----	----	----	----	----
2644	----	----	----	----	----	----	----	----
2674	not detected	not detected	not detected	not applicable	not detected	----	not detected	----
2678	Not Detected	Not Detected	Not Detected	----	Not Detected	Not Detected	Not Detected	156.1
2689	not detected	not detected	not detected	not detected	not detected	not detected	not detected	134.68
2703	Not detected	Not detected	----	----	----	----	----	103.70
2737	----	----	----	----	----	----	----	----
2743	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2744	not detected	not detected	not detected	not detected	not detected	not detected	not detected	29
2789	----	----	----	----	----	----	----	----
2798	----	----	----	----	----	----	----	----
2802	----	----	----	----	----	----	----	----
2809	----	----	----	----	----	----	----	133
2826	Not detected	Not detected	Not detected	Not analyzed	Not detected	Not analyzed	Not detected	119
2829	not detected	not detected	not detected	not detected	not detected	not detected	not detected	141.67
2866	0	----	----	----	----	----	0	----
2867	----	----	----	----	----	----	----	----
2908	----	----	----	----	----	----	----	----
2912	----	----	----	----	----	----	----	143.554
2918	<8	<8	<8	<8	<8	<8	<8	125.6
2926	----	----	----	----	----	----	----	----
2943	0	0	0	0	0	0	0	183.5044
2948	not detected	not detected	not detected	not detected	not detected	not detected	not detected	110.93
2953	----	----	----	----	----	----	----	----
2955	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	113.3
2959	----	----	----	----	----	----	----	----
2960	not detected	not detected	not detected	not detected	not detected	not detected	not detected	125.3
2977	not detected	not detected	not detected	not determined	not detected	not determined	not detected	101.49
2984	not detected	not detected	----	----	----	----	not detected	----
3014	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3015	<5	<5	<5	<5	<5	<5	<5	134.4
3110	----	----	----	----	----	----	----	----
3116	----	----	----	----	----	----	----	----
3118	<5	<5	<5	<5	<5	<5	<5	<5
3146	not detected	not detected	not detected	not detected	not detected	not detected	not detected	101.25
3153	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3154	----	----	----	----	----	----	----	----
3172	< 1	< 1	< 1	< 1	< 1	----	< 1	----
3182	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	104.32
3185	<5	<5	<5	----	<5	----	<5	122.67
3190	<5	<5	<5	----	<5	----	<5	136.45
3197	<5	<5	<5	<5	<5	<5	<5	126.9
3210	----	----	----	----	----	----	----	----
3214	<5	<5	<5	<5	<5	<5	<5	119.31
3218	<5	<5	<5	<5	<5	<5	<5	131.71
3225	<5	<5	<5	----	<5	<5	<5	105.6
3228	not detected	not detected	not detected	Not applicable	not detected	Not applicable	not detected	Not applicable
3230	not detected	not detected	not detected	not detected	not detected	not detected	not detected	118.0867
3237	----	----	----	----	----	----	----	----
3248	----	----	----	----	----	----	----	----
3250	----	----	----	----	----	----	----	----
8030	Not detected	Not detected	Not detected	Not Analyzed	Not detected	Not analyzed	Not detected	119.6372

Summary of other reported aromatic amines in sample #23596, see abbreviations above

lab	4AD	4CoT	2NA	ANT	4CA	DAA	DADM	DCB
110	5.26	<5	<5	<5	<5	<5	<5	<5
210	5.87	----	----	----	----	----	----	----
339	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
362	4.99 C	----	----	----	----	----	----	----
551	----	----	----	----	----	----	----	----
623	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
840	5.8	not detected	not detected	not detected	not detected	not detected	not detected	not detected
841	5.45	<5	<5	<5	<5	<5	<5	<5
2102	2.974	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2115	2.18	----	----	----	----	----	----	----
2120	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0
2132	<5	<5	<5	<5	<5	<5	<5	<5
2165	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2170	----	----	----	----	----	----	----	----
2184	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2201	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2238	<5	<5	<5	<5	<5	<5	<5	<5
2255	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2256	----	----	----	----	----	----	----	----
2261	----	----	----	----	----	----	----	----
2264	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2265	4.3	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2271	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2289	----	----	----	----	----	----	----	----
2290	<5	<5	<5	<5	<5	<5	<5	<5
2291	ND	ND	ND	ND	ND	ND	ND	ND
2293	0	0	0	0	0	0	0	0
2297	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2301	----	----	----	----	----	----	----	----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2313	5.31	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	----	----	----	----	----	----	----	----
2320	<5	<5	<5	<5	<5	<5	<5	<5
2326	ND	ND	ND	ND	ND	ND	ND	N.D
2330	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2347	<5	<5	<5	<5	<5	<5	<5	<5
2350	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2352	5.8	----	----	----	----	----	----	----
2357	----	----	----	----	----	----	----	----
2358	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2364	----	----	----	----	----	----	----	----
2365	<5	<5	<5	<5	<5	<5	<5	<5
2366	----	----	----	----	----	----	----	----
2367	ND	ND	ND	ND	ND	ND	ND	ND
2370	5.78	<5	<5	<5	<5	<5	<5	<5
2372	<5	<5	<5	<5	<5	<5	<5	<5
2373	<5	<5	<5	<5	<5	<5	<5	<5
2375	3.98	----	----	----	----	----	----	----
2378	5.9	<5	<5	<5	<5	<5	<5	<5
2379	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2380	<5	<5	<5	<5	<5	<5	<5	<5
2381	----	----	----	----	----	----	----	----
2386	5.5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2406	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2425	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2426	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2429	----	----	----	----	----	----	----	----
2442	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2449	----	----	----	----	----	----	----	----
2453	2.81	----	----	----	----	----	----	----
2459	ND	ND	ND	ND	ND	ND	ND	ND
2475	----	----	----	----	----	----	----	----
2476	----	----	----	----	----	----	----	----
2482	<5	<5	<5	<5	<5	<5	<5	<5
2492	----	----	----	----	----	----	----	----
2495	<5	<5	<5	<5	<5	<5	<5	<5
2500	ND	ND	ND	ND	ND	ND	ND	ND
2504	not applicable	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2511	----	----	----	----	----	----	----	----
2514	----	----	----	----	----	----	----	----
2521	3.57	----	----	----	----	----	----	----
2528	5.12	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2534	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected



lab	4AD	4CoT	2NA	ANT	4CA	DAA	DADM	DCB
2540	----	----	----	----	----	----	----	----
2549	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2561	----	----	----	----	----	----	----	----
2565	6.08	<5	<5	<5	<5	<5	<5	<5
2567	<5	<5	<5	<5	<5	<5	<5	<5
2569	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2572	<5	<5	<5	<5	<5	<5	<5	<5
2582	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2590	----	----	----	----	----	----	----	----
2591	4.2	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2605	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
2622	8.2	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2638	6.08	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2643	----	----	----	----	----	----	----	----
2644	----	----	----	----	----	----	----	----
2674	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2678	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2689	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2703	2.76	Not Detected	Not Detected	----	Not Detected	Not Detected	Not Detected	Not Detected
2737	----	----	----	----	----	----	----	----
2743	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2744	3.96	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2789	4.7	----	----	----	----	----	----	----
2798	----	----	----	----	----	----	----	----
2802	----	----	----	----	----	----	----	----
2809	----	----	----	----	----	----	----	----
2826	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2829	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2866	0	0	0	0	0	----	0	0
2867	----	----	----	----	----	----	----	----
2908	----	----	----	----	----	----	----	----
2912	< 5	----	----	----	----	----	----	----
2918	8.0	<8	<8	<8	<8	<8	<8	<8
2926	----	----	----	----	----	----	----	----
2943	8.2284	0	0	0	0	0	0	0
2948	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2953	----	----	----	----	----	----	----	----
2955	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2959	----	----	----	----	----	----	----	----
2960	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2977	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2984	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3014	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3015	<5	<5	<5	<5	<5	<5	<5	<5
3110	----	----	----	----	----	----	----	----
3116	----	----	----	----	----	----	----	----
3118	<5	<5	<5	<5	<5	<5	<5	<5
3146	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3153	5.6	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3154	4.7	----	----	----	----	----	----	----
3172	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3182	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
3185	<5	<5	<5	<5	<5	<5	<5	<5
3190	----	<5	<5	<5	<5	<5	<5	<5
3197	<5	<5	<5	<5	<5	<5	<5	<5
3210	----	----	----	----	----	----	----	----
3214	<5	<5	<5	<5	<5	<5	<5	<5
3218	<5	<5	<5	<5	<5	<5	<5	<5
3225	<5	<5	<5	<5	<5	<5	<5	<5
3228	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3230	7.5579	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3237	4	----	----	----	----	----	----	----
3248	----	----	----	----	----	----	----	----
3250	----	----	----	----	----	----	----	----
8030	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected

Lab 362 first reported 49.9 for 4-Aminodiphenyl

Lab 2984 first reported 86.88 for 4-Aminodiphenyl

Summary of aromatic amines in sample #23596 continued

lab	DMB	DDDM	pC	DDM	DDE	DDS	24DAT	TMA
110	<5	<5	<5	<5	<5	<5	<5	<5
210	----	----	----	----	----	----	----	----
339	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
362	----	----	----	----	----	----	----	----
551	----	----	----	----	----	----	----	----
623	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
840	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
841	<5	<5	<5	<5	<5	<5	<5	<5
2102	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2115	----	----	----	----	----	----	----	----
2120	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0
2132	<5	<5	<5	<5	<5	<5	<5	<5
2165	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2170	----	----	----	----	----	----	----	----
2184	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2201	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2238	<5	<5	<5	<5	<5	<5	<5	<5
2255	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2256	----	----	----	----	----	----	----	----
2261	----	----	----	----	----	----	----	----
2264	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2265	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2271	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2289	----	----	----	----	----	----	----	----
2290	<5	<5	<5	<5	<5	<5	<5	<5
2291	ND	ND	ND	ND	ND	ND	ND	ND
2293	0	0	0	0	0	0	0	0
2297	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2301	----	----	----	----	----	----	----	----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2313	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	----	----	----	----	----	----	----	----
2320	<5	<5	<5	<5	<5	<5	<5	<5
2326	ND	ND	ND	ND	ND	ND	ND	ND
2330	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2347	<5	<5	<5	<5	<5	<5	<5	<5
2350	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2352	----	----	----	----	----	----	----	----
2357	----	----	----	----	----	----	----	----
2358	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2364	----	----	----	----	----	----	----	----
2365	<5	<5	<5	<5	<5	<5	<5	<5
2366	----	----	----	----	----	----	----	----
2367	ND	ND	ND	ND	ND	ND	ND	ND
2370	<5	<5	<5	<5	<5	<5	<5	<5
2372	<5	<5	<5	<5	<5	<5	<5	<5
2373	<5	<5	<5	<5	<5	<5	<5	<5
2375	----	----	----	----	----	----	----	----
2378	<5	<5	<5	<5	<5	<5	<5	<5
2379	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2380	<5	<5	<5	<5	<5	<5	<5	<5
2381	----	----	----	----	----	----	----	----
2386	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2406	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2425	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2426	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2429	----	----	----	----	----	----	----	----
2442	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2449	----	----	----	----	----	----	----	----
2453	----	----	----	----	----	----	----	----
2459	ND	ND	ND	ND	ND	ND	ND	ND
2475	----	----	----	----	----	----	----	----
2476	----	----	----	----	----	----	----	----
2482	<5	<5	<5	<5	<5	<5	<5	<5
2492	----	----	----	----	----	----	----	----
2495	<5	<5	<5	<5	<5	<5	<5	<5
2500	ND	ND	ND	ND	ND	ND	ND	ND
2504	not detected	not detected	< 10	not detected	not detected	not detected	not detected	not detected
2511	----	----	----	----	----	----	----	----
2514	----	----	----	----	----	----	----	----
2521	----	----	----	----	----	----	----	----
2528	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2534	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2540	----	----	----	----	----	----	----	----

lab	DMB	DDDM	pC	DDM	DDE	DDS	24DAT	TMA
2549	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2561	----	----	----	----	----	----	----	----
2565	<5	<5	<5	<5	<5	<5	<5	<5
2567	<5	<5	<5	<5	<5	<5	<5	<5
2569	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2572	<5	<5	<5	<5	<5	<5	<5	<5
2582	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2590	----	----	----	----	----	----	----	----
2591	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2605	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00	<5.00
2622	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2638	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2643	----	----	----	----	----	----	----	----
2644	----	----	----	----	----	----	----	----
2674	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2678	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2689	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2703	Not detected	Not detected	0.10	Not detected	Not detected	Not detected	Not detected	Not detected
2737	----	----	----	----	----	----	----	----
2743	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2744	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2789	----	----	----	----	----	----	----	----
2798	----	----	----	----	----	----	----	----
2802	----	----	----	----	----	----	----	----
2809	----	----	----	----	----	----	----	----
2826	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2829	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2866	0	0	0	0	0	0	0	----
2867	----	----	----	----	----	----	----	----
2908	----	----	----	----	----	----	----	----
2912	----	----	----	----	----	----	----	----
2918	<8	<8	<8	<8	<8	<8	<8	<8
2926	----	----	----	----	----	----	----	----
2943	28.9713	0	0	0	0	0	0	0
2948	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2953	----	----	----	----	----	----	----	----
2955	Not detect. C	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2959	----	----	----	----	----	----	----	----
2960	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2977	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2984	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3014	208 C	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3015	<5	<5	<5	<5	<5	<5	<5	<5
3110	----	----	----	----	----	----	----	----
3116	----	----	----	----	----	----	----	----
3118	<5	<5	<5	<5	<5	<5	<5	<5
3146	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3153	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3154	----	----	----	----	----	----	----	----
3172	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
3182	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
3185	<5	<5	<5	<5	<5	<5	<5	<5
3190	<5	<5	<5	<5	<5	<5	<5	<5
3197	<5	<5	<5	<5	<5	<5	<5	<5
3210	----	----	----	----	----	----	----	----
3214	<5	<5	<5	<5	<5	<5	<5	<5
3218	<5	<5	<5	<5	<5	<5	<5	<5
3225	<5	<5	<5	<5	<5	<5	<5	<5
3228	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3230	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3237	----	----	----	----	----	----	----	----
3248	----	----	----	----	----	----	----	----
3250	----	----	----	----	----	----	----	----
8030	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected

Lab 2955 first reported 207.3 for 3,3'-Dimethylbenzidine

Lab 3014 first reported 56.5 for 3,3'-Dimethylbenzidine

Summary of aromatic amines in sample #23596 continued

lab	oA	24X	25X	26X	TX	oAAT	oTol	oAAT&oTol
110	<5	<5	<5	<5	<5	<5	<5	<5
210	----	----	----	----	----	----	----	----
339	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
362	----	----	----	----	----	----	----	----
551	----	----	----	----	----	----	----	----
623	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
840	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
841	<5	<5	<5	<5	<5	<5	<5	<5
2102	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2115	0.74	----	----	----	----	----	----	----
2120	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0	< 5,0
2132	<5	<5	N.A.	<5	N.A.	<5	<5	N.A.
2165	Not Detected	Not Detected	----	Not Detected	----	Not Detected	Not Detected	----
2170	----	----	----	----	----	----	----	----
2184	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2201	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2238	<5	<5	<5	<5	<5	<5	<5	<5
2255	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2256	----	----	----	----	----	----	----	----
2261	----	----	----	----	----	----	----	----
2264	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2265	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2271	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2289	----	----	----	----	----	----	----	----
2290	<5	<5	<5	<5	<5	<5	<5	<5
2291	ND	ND	ND	ND	ND	ND	ND	ND
2293	0	0	0	0	0	0	0	0
2297	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2301	----	----	----	----	----	----	----	----
2310	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2311	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2313	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2314	----	----	----	----	----	----	----	----
2320	<5	<5	<5	<5	<5	<5	<5	<5
2326	ND	ND	ND	ND	ND	ND	ND	ND
2330	Not detected	Not detected	Not applicable	Not detected	Not analyzed	Not detected	Not detected	Not detected
2347	<5	<5	out capability	<5	out capability	<5	<5	<5
2350	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2352	----	----	----	----	----	----	----	----
2357	----	----	----	----	----	----	----	----
2358	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2364	----	----	----	----	----	----	----	----
2365	<5	<5	----	<5	<5	<5	<5	<5
2366	----	----	----	----	----	----	----	----
2367	ND	ND	----	ND	----	ND	ND	----
2370	<5	<5	<5	<5	<5	<5	<5	<5
2372	<5	<5	<5	<5	<5	<5	<5	<5
2373	<5	<5	not applicable	<5	not applicable	<5	<5	<5
2375	----	----	----	----	----	----	----	----
2378	<5	<5	<5	<5	<5	<5	<5	<5
2379	Not detected	Not detected	Not Analyzed	Not detected	Not detected	Not detected	Not detected	Not detected
2380	<5	<5	<5	<5	<5	<5	<5	<5
2381	----	----	----	----	----	----	----	----
2386	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
2406	Not detected	----	----	----	----	Not detected	Not detected	----
2425	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2426	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2429	----	----	----	----	----	----	----	----
2442	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2449	----	----	----	----	----	----	----	----
2453	----	----	----	----	----	----	----	----
2459	ND	ND	ND	ND	ND	ND	ND	ND
2475	----	----	----	----	----	----	----	----
2476	----	----	----	----	----	----	----	----
2482	<5	<5	----	<5	----	<5	<5	----
2492	----	----	----	----	----	----	----	----
2495	<5	<5	----	<5	----	<5	<5	----
2500	ND	ND	ND	ND	ND	ND	ND	ND
2504	not detected	not detected	not analyzed	not detected	not detected	not detected	not detected	not detected
2511	----	----	----	----	----	----	----	----
2514	----	----	----	----	----	----	----	----
2521	----	----	----	----	----	----	----	----
2528	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2534	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2540	----	----	----	----	----	----	----	----

lab	oA	24X	25X	26X	TX	oAAT	oTol	oAAT&oTol
2549	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2561	----	----	----	----	----	----	----	----
2565	<5	<5	----	<5	----	<5	<5	<5
2567	<5	<5	<5	<5	<5	<5	<5	<5
2569	Not Detected	Not Detected	----	Not Detected	----	Not Detected	Not Detected	----
2572	<5	<5	<5	<5	<5	<5	<5	<5
2582	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2590	----	----	----	----	----	----	----	----
2591	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2605	<5.00	----	----	----	----	----	<5.00	----
2622	not detected	not detected	not detected	not detected	not detected	not detected	not detected	----
2638	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2643	----	----	----	----	----	----	----	----
2644	----	----	----	----	----	----	----	----
2674	not detected	not detected	not applicable	not detected	----	not detected	not detected	----
2678	Not Detected	Not Detected	----	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
2689	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2703	0.76	----	----	----	----	----	Not detected	----
2737	----	----	----	----	----	----	----	----
2743	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2744	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2789	----	----	----	----	----	----	----	----
2798	----	----	----	----	----	----	----	----
2802	----	----	----	----	----	----	----	----
2809	----	----	----	----	----	----	----	----
2826	Not detected	Not detected	Not analyzed	Not detected	Not analyzed	Not detected	Not detected	Not detected
2829	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2866	0	----	----	----	----	0	0	----
2867	----	----	----	----	----	----	----	----
2908	----	----	----	----	----	----	----	----
2912	----	----	----	----	----	----	----	----
2918	<8	<8	<8	<8	<8	<8	<8	<8
2926	----	----	----	----	----	----	----	----
2943	0	0	0	0	0	0	0	0
2948	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2953	----	----	----	----	----	----	----	----
2955	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
2959	----	----	----	----	----	----	----	----
2960	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
2977	not detected	not detected	not determined	not detected	not determined	not detected	not detected	not detected
2984	not detected	----	----	----	----	not detected	not detected	----
3014	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3015	<5	<5	<5	<5	<5	<5	<5	<5
3110	----	----	----	----	----	----	----	----
3116	----	----	----	----	----	----	----	----
3118	<5	<5	<5	<5	<5	<5	<5	<5
3146	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3153	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
3154	0.83	----	----	----	----	----	----	----
3172	< 1	< 1	< 1	< 1	----	< 1	< 1	----
3182	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected	Not detected
3185	<5	<5	----	<5	----	<5	<5	<5
3190	<5	<5	----	<5	<5	<5	<5	----
3197	<5	<5	<5	<5	<5	<5	<5	<5
3210	----	----	----	----	----	----	----	----
3214	<5	<5	<5	<5	<5	<5	<5	<5
3218	<5	<5	<5	<5	<5	<5	<5	<5
3225	<5	<5	----	<5	<5	<5	<5	<5
3228	not detected	not detected	not applicable	not detected	not applicable	not detected	not detected	not applicable
3230	not detected	not detected	not detected	not detected	not detected	not detected	not detected	not detected
3237	----	----	----	----	----	----	----	----
3248	----	----	----	----	----	----	----	----
3250	----	----	----	----	----	----	----	----
8030	Not detected	Not detected	Not Analyzed	Not detected	Not detected	Not detected	Not detected	Not detected

### APPENDIX 3

#### Analytical details

lab	Laboratory accredited	Sample used as received or further grinded or cut	Sample intake in grams	Technique used to release/extract the analyte(s)
110	Yes	Further cut	1 g	Soxhlet
210	Yes	Further cut	1g	---
339	No	Used as received	0.33	Reflux extraction without sample contact
362	Yes	Used as received	1.0027g	Other
551	---	---	---	---
623	Yes	Further cut	1 gr	Other
840	Yes	Further cut	0.5	Thermal Desorption
841	Yes	Further cut	1g	Thermal Desorption
2102	No	Used as received	1 gram	Other
2115	Yes	Used as received	0.5 g	Other
2120	Yes	Used as received		Other
2132	Yes	Used as received	1g	Water Bath with temperature control
2165	Yes	Used as received	2g	Stirrer
2170	Yes	Used as received	0.6 grams	Mechanical Shaking
2184	Yes	Used as received	0.5 grams	refer to ISO14362-1 § 10.2 and 10.3
2201	Yes	Used as received	0.6g	Soxhlet
2238	Yes	Used as received	0.5g	ASE
2255	Yes	Used as received	0.5	Sample thermostat water bath
2256	Yes	Further cut	1.0023g	Soxhlet
2261	Yes	Used as received	1g	Mechanical Shaking
2264	Yes	Further cut	0.50 g	Mechanical Shaking
2265	Yes	Used as received	0,5	Ultrasonic
2271	Yes	Further cut	0.5g	Thermal Desorption
2289	Yes	Further cut	1.0g	Other
2290	Yes	---	---	---
2291	Yes	Used as received	0.500g	Stirrer
2293	Yes	Used as received	1 gram	Soxhlet
2297	Yes	Used as received	1 gram	Soxhlet
2301	Yes	Used as received	1.0034	Soxhlet
2310	Yes	Used as received	1	ASE
2311	Yes	Further cut	1	Mechanical Shaking
2313	Yes	Further cut	1.0 g	Solid Phase Extraction
2314	Yes	Further cut	0.5 grams	Mechanical Shaking
2320	Yes	Further cut	1.0g	Mechanical Shaking
2326	Yes	---	#23595: 0.5 g & #23596: 1 g	Mechanical Shaking
2330	Yes	Further cut	0.50 g	Mechanical Shaking
2347	Yes	Further cut	0.5g	Mechanical Shaking
2350	Yes	Further cut	1.0047g #23595/1.0102g #23596	Mechanical Shaking
2352	Yes	Further cut	0.5g	Other
2357	---	---	---	---
2358	Yes	Further cut	1g	Reductive sodium dithionite in citric acid /Sodium hydroxide buffer solution at pH=6.0
2364	Yes	Used as received	#23595:0.5012g #23596:0.5035g	Other
2365	Yes	Further grinded	0.5g	Mechanical Shaking
2366	Yes	Further cut	1g	---
2367	Yes	Further cut	0.5076g	Other
2370	Yes	Further cut	0.5g	Mechanical Shaking
2372	Yes	Further cut	1g	Other
2373	Yes	Further cut	0.5g	Water bath
2375	Yes	Further cut	1 gram	Other
2378	Yes	Used as received	0.5g	Other
2379	Yes	#23595 Further cut	1 g	---
		#23596 used as received		
2380	Yes	Further cut	1.0 g	Mechanical Shaking
2381	Yes	Further cut	0.5 gram per trial.	Mechanical Shaking
2386	Yes	Further cut	0.5 g	Thermal Desorption
2406	Yes	Used as received	0.6 to 1 gram	Heating Water Bath
2425	Yes	Further cut	0.5g	Mechanical Shaking
2426	Yes	Further cut	0.5 gram	Water Bath extraxtion
2429	Yes	Further cut	0.5g	Mechanical Shaking
2442	Yes	Further cut	0.5g	Direct buffer reduction & liquid liquid
2449	Yes	Further cut	1.0	Mechanical Shaking
2453	Yes	Further cut	±1g	Thermal Desorption
2459	Yes	Further cut	1.00 gram	Mechanical Shaking
2475	Yes	Used as received	0.5	Other
2476	Yes	Further cut	1 gm	---
2482	Yes	Used as received	0.5	according to DIN EN ISO14362-1:2017-05
2492	Yes	Used as received	1g	Other
2495	Yes	Used as received	0.5	Mechanical Shaking
2500	Yes	Used as received	1 grams	Other
2504	Yes	Further cut	0.5 grams	use heating block
2511	---	---	---	---
2514	Yes	Further cut	23595=0.2530 23596=0.3750	Thermal Desorption

lab	Laboratory accredited	Sample used as received or further grinded or cut	Sample intake in grams	Technique used to release/extract the analyte(s)
2521	Yes	Used as received	1.0144	Soxhlet
2528	Yes	Used as received	0.5 grams	Soxhlet
2534	Yes	Used as received	1.001	Ultrasonic
2540	Yes	Used as received	1 g	Thermal Desorption
2549	Yes	Used as received	1 gram	Mechanical Shaking
2561	Yes	Used as received	1g	Soxhlet
2565	Yes	Further cut	1g	Soxhlet
2567	Yes	Further cut	0.5 gm	Soxhlet
2569	Yes	Further cut	1 gm	Other
2572	---	---	---	---
2582	Yes	#23595: Further cut #23596: used as received	23595-0.6039 g 23596-0.6014 g	---
2590	Yes	Further grinded	1g	---
2591	Yes	Further cut	1.0 gram	Soxhlet
2605	Yes	Used as received	1.000	follow EN14362-1
2622	Yes	Used as received	0.5	Mechanical Shaking
2638	No	Used as received	1 gm	Other
2643	Yes	Used as received	0.5 g	---
2644	Yes	Used as received	0.5	Ultrasonic
2674	Yes	Used as received	2.0g	Mechanical Shaking
2678	Yes	Used as received	0.5g	Mechanical Shaking
2689	Yes	Used as received	0.5g	Mechanical Shaking
2703	Yes	Used as received	0.6 +/- 0.01g	Mechanical Shaking
2737	Yes	Further cut	0.5	ISO 14362-1:2017
2743	Yes	Used as received	1g	Other
2744	Yes	Used as received	0,5	Thermal Desorption
2789	---	---	---	---
2798	Yes	Used as received	0.5g	ASE
2802	Yes	Further cut	1.0 gram	Mechanical Shaking
2809	Yes	Further cut	0.5 gam	Soxhlet
2826	Yes	Used as received	0.5 g	Thermal Desorption
2829	No	Further cut	1.0	Other
2866	Yes	Used as received	0.5	Mechanical Shaking
2867	Yes	Used as received	0.5g	Soxhlet
2908	Yes	Used as received	2g	---
2912	Yes	Used as received	0.5 g	water bath
2918	Yes	Further cutting purple sample	0.5g	Mechanical Shaking
2926	No	Further cut	2*1g	Mechanical Shaking
2943	Yes	---	---	---
2948	Yes	Used as received	1 gram	Soxhlet
2953	Yes	Further cut	1	Soxhlet
2955	Yes	Further cut	0.6	Mechanical Shaking
2959	Yes	Used as received	1.0g	Ultrasonic
2960	Yes	Further cut	0.5g	Soxhlet
2977	No	Used as received	1g	---
2984	Yes	Used as received	#23595:1.0003g #23596:1.0002g	Mechanical Shaking
3014	Yes	Further cut	01 gm	Mechanical Shaking
3015	Yes	Used as received	1.0	ASE
3110	---	---	---	---
3116	Yes	Used as received	1	Water bath
3118	Yes	Further cut	0.5 grams	Reflux
3146	Yes	Used as received	1	Soxhlet
3153	Yes	Further cut	0.5 gram	Other
3154	Yes	Used as received	0,5	Soxhlet
3172	Yes	---	---	---
3182	Yes	Used as received	0.5 grams	Ultrasonic
3185	Yes	#23595:Further cut #23596:Used as received	1g	---
3190	Yes	Used as received	1g	Reductive cleavage
3197	Yes	Further cut	0,5	Thermal Desorption
3210	Yes	Further cut	0.5 g	Thermal Desorption
3214	Yes	Further cut	1 gram	Ultrasonic
3218	Yes	Used as received	0.5g	---
3225	Yes	Further cut	1 gram	Ultrasonic
3228	Yes	Used as received	0.5	Ultrasonic
3230	Yes	Further cut	1.0 gram	Mechanical Shaking
3237	Yes	Further cut	0,5	Other
3248	Yes	Used as received	1g	Ultrasonic
3250	Yes	Used as received	1g	Mechanical Shaking
8030	Yes	Used as received	1 g	---

## Analytical details - continued

lab	Solvent used for release	Extraction time in minutes	Extraction temperature in °C
110	chlorobenzene	30 min	70
210			
339	Xylène	40	200
362	pH 6 buffer	60 min	70°C
551			
623	Ethyl Acetate	60 min	70
840	buffer	60	70
841	citrate buffer	30 min	70°C
2102	buffer pH 6/dithionite solution	1 hour	70 °C
2115			
2120			
2132	Citric Buffer	30 minutes	70°C
2165	citrate buffer solution	30min	70°C
2170	Xylene	40 mins	100C
2184	pH 6 buffer	30 min	70°C
2201	Xylene	40 min	180 degree
2238	citrate buffer solution	30min	70
2255	t-BME	60	70
2256	Xylene	40 mins	70°C
2261	Ether	30min	70°C
2264	TERC BUTIL METIL ÉTER	30 MINUTES	70°C
2265	TBME	60	70
2271	Citrate buffer solution	30min	70
2289	Aqueous sodium dithionite solution/tert-butyl methyl ether	30mins	70°C
2290			
2291	citrate/sodium hydroxide buffer solution	30min	70 °C
2293	23595Xylene 23596Buffer citrate pH 6	23595:30 min. 23596:60 min.	23595 xylene extraction to boiling 23596 70°C +/- 2°C
2297	xylene	40	70
2301	citrate buffer	60min	70c
2310	TBME	30	50
2311	TBME	30	70
2313	Tertbutyl methyl ether	60 min	70°C
2314	TBME	30	70
2320	Ethyl Acetate	15min	70°C
2326	ETHYL ACETATE	15 MIN	N/A
2330	BS EN 14362-1 used TBME GB/T 17592 used Ethylacetate	BS EN 14362-1 50 min. GB/T 17592 15 min.	70 degree C
2347		30mins	70°C
2350	6.00 pH Citrate buffer solution	30 minutes	70 °C
2352	NA	NA	NA
2357			
2358	Citric acid / Sodium hydroxide buffer solution at pH=6.0	30 minutes	70°C
2364	tert-butyl methyl ether	/	/
2365	Ethyl Acetate	15min	room temperature
2366			
2367	MTBE	50 minutes	45°C
2370	Acetonitrile, MTBE	60 minutes	70 °C
2372	Sodium citrate dihydrate buffer solution	30 min	70
2373	TBME	30min	70°C
2375	-	-	-
2378	NA	NA	NA
2379	-	-	-
2380	Citrate Buffer	60 Minute	70 °C
2381	5 ml Ethyl acetate IS.	Around 2 hours.	70.
2386	Citrate buffer	2 times 30 min	70 °C
2406	Citrate sodium hydroxide buffer sol.	30 minutes	70°C
2425	Methanol, Citrate Buffer, Sodium dithionite & TBME	1 hour	70 C
2426	Buffer extraction / TBME after reductive cleavage	30min for buffer extraction	70°C
2429	MTBE	30min	70°C
2442	1) Citrate buffer 2) Sodium dithionite 3) Tert-Butyl methyl ether	1 hour	70° C
2449	Tertiary butylmethyl ether	30 min	70 C
2453			
2459	Tertiary Butyl Methyl Ether (TBME)	30 minutes	70°C
2475	Citrate buffer 0.06M pH=6 MTBE (SPE extract)	2 x 30 minutes	70
2476			



lab	Solvent used for release	Extraction time in minutes	Extraction temperature in °C
2482	according to DIN EN ISO14362-1:2017-05	30	70
2492	citrate buffer water bath extraction	30 min citrate buffer extraction / 30 min citrate buffer with sodium dithionate extraction	70oC for amines / 40oC for PAAB
2495	citrate buffer pH 6	30	70
2500	Citrate buffer solution	30 min	70 °C
2504	t-butyl methyl ether	60 min	70 C
2511			
2514	TBME	60	70
2521	Xylene	40 min	Boiling temperature
2528			
2534	tert-Butyl methyl ether	30 min.	70°C
2540	MTBE	30 min	70 °C
2549	TBME	15 minutes	Room Temperature
2561	hexane	40	40
2565	Xylene	40minutes	140°C
2567	Xylene	30 min	70°C
2569	TBME	90 MINUTES	70 °C
2572			
2582	Acetate buffer pH: 6	30min + 30 min	70
2590	mtbe	60 min	80°C
2591	tBME	30 min	70 <sup>a</sup> C
2605	follow EN14362-1	follow EN14362-1	follow EN14362-1
2622	MTBE	15	25
2638	TBME	15-20 mints	< 50 C
2643			
2644	MTBE	30	70
2674	xylene	30	70
2678	Ethyl acetate / Citrate buffer, Sodium dithionite, 0,5ml NaOH 40%+7g NaCl+ Ethyl acetate	60 min	70°C
2689	tert-butyl methyl ether	30min	room temperature
2703	Xylene	40 minutes	70
2737	t-butyl methyl ether	no	no
2743	MTBE	60	70
2744	ETHER	1 hour	70
2789			
2798	MTBE	30	RT
2802	tert-butyl methyl ether	30 min	70 °C
2809	Xylene	30 min	Reaction 70
2826	Citrate buffer solution	30 minutes	70 °C
2829	Citrate buffer pH 6	30	70
2866	citrate buffer	60	70
2867	xylene/MTBE	30minutes	70 °C
2908	ether t buthyméthlique	60	70°C
2912	Tert-Butyl methyl ether	30 min	70 °C
2918	After adding of Methanol, extraction with citric acid buffer solution	30 min	70°C
2926	Xylene extraction but no discoloration occurred for sample sample 23595, so we used direct reduction with Buffer pH=6 and sodium dithionite.	30 minutes	70°C
2943			
2948		30	70
2953	Xylene	50 min	reflux
2955	Xylene & t-BME	60	70
2959	Sodium citrate buffer solution	60	70
2960	Sodium hyposulfite	30min	70
2977	TBME	30 MIN	70°C
2984	citric buffer	30 min (+citric buffer) + 30 min (+ ditionite solution)	70
3014	Citrate Buffer, Sodium Dithionite, Sodium Chloride & Ethyle Acetate	30 minutes	70C
3015	t-butyl methyl ether	30	70
3110			
3116	Citrate buffer solution	60	70
3118	Xylene	30 to 40 minutes, counted from boiling until solvent drops are colourless.	70°C
3146	Hexan and or Xylol Citrat Buffer pH6	60 or 40 min	40 °C or 60 °C
3153	Citrate/Sodium hydroxide buffer sol.	30 minutes+30 minutes	70°C
3154	Xylol	30	reflux
3172			
3182	Xylene	40 minutes	70 degree celsius.
3185	/	/	/
3190	citrate buffer solution	/	/

lab	Solvent used for release	Extraction time in minutes	Extraction temperature in °C
3197	t-BME	60 min.	70 C
3210	buffer pH 6	30 min	70°C
3214	Citric acid buffer, 2%NaOH sol., MtBE	30 min	70 °C
3218	t-butyl methyl ether	30min +30min	70°C
3225	Xylene, citrate buffer	60 minutes	70°C
3228	citrate/sodium hydroxide buffer sol.	30	70
3230	Ethyl Acetate	15 minutes	Ambient
3237	Buffer Sitrat	60	70
3248	MTBE	15	40
3250	Tert-butyl methyl ether and Acetonitrile	30 ± 1 minute	70 ± 2oC
8030	-	-	-

**Analytical details - continued**

lab	ISO14362-1 chapter 10.4 or Annex E followed and used or not used the diatomaceous earth column
110	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
210	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
339	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
362	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
551	---
623	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
840	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
841	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2102	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2115	---
2120	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2132	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2165	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2170	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2184	refer to ISO14362-1 chapter 10.2 and 10.3
2201	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2238	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2255	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2256	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2261	I followed GB/T 17592-2011 and used the diatomaceous earth column
2264	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2265	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2271	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2289	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2290	---
2291	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2293	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2297	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2301	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2310	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2311	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2313	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2314	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2320	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2326	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2330	I followed BS EN 14362-1, GB/T 17592 and used the diatomaceous earth column.
2347	I followed a different test method
2350	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2352	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2357	---
2358	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2364	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2365	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2366	---
2367	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2370	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2372	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2373	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2375	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2378	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2379	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2380	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2381	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2386	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2406	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2425	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2426	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2429	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2442	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2449	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2453	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2459	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2475	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2476	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2482	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2492	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2495	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2500	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2504	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2511	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2514	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2521	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2528	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2534	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column

lab	ISO14362-1 chapter 10.4 or Annex E followed and used or not used the diatomaceous earth column
2540	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2549	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2561	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2565	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2567	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2569	---
2572	---
2582	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2590	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2591	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2605	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2622	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2638	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2643	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2644	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2674	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2678	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2689	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2703	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2737	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2743	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2744	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2789	---
2798	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2802	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2809	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2826	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2829	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2866	Direct measured in buffer solution with HPLC/DAD and SPME/GC/MS/MS
2867	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2908	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2912	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2918	We conduct 9.1.1 by using Xylene instead of Chlorbenzol. As we could'nt observe any decolorisation of the sample
2926	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2943	---
2948	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2953	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2955	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2959	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
2960	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2977	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
2984	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3014	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
3015	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3110	---
3116	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3118	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3146	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3153	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3154	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3172	---
3182	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3185	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3190	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3197	GB/T 17592
3210	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3214	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3218	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3225	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
3228	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
3230	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
3237	I followed ISO14362-1 Annex E and did NOT use the diatomaceous earth column
3248	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
3250	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column
8030	I followed ISO14362-1 chapter 10.4 and used the diatomaceous earth column

## APPENDIX 4

### Number of participants per country

7 labs in BANGLADESH  
1 lab in BRAZIL  
1 lab in BULGARIA  
3 labs in CAMBODIA  
1 lab in EGYPT  
4 labs in FRANCE  
7 labs in GERMANY  
1 lab in GUATEMALA  
11 labs in HONG KONG  
6 labs in INDIA  
4 labs in INDONESIA  
13 labs in ITALY  
1 lab in JAPAN  
4 labs in KOREA, Republic of  
1 lab in MAURITIUS  
2 labs in MOROCCO  
34 labs in P.R. of CHINA  
7 labs in PAKISTAN  
1 lab in PERU  
2 labs in PORTUGAL  
1 lab in SINGAPORE  
2 labs in SPAIN  
2 labs in SRI LANKA  
3 labs in TAIWAN  
4 labs in THAILAND  
1 lab in THE NETHERLANDS  
2 labs in TUNISIA  
5 labs in TURKEY  
1 lab in U.S.A.  
2 labs in UNITED KINGDOM  
5 labs in VIETNAM

## APPENDIX 5

### Abbreviations

C	= final test result after checking of first reported suspect test result
D(0.01)	= outlier in Dixon's outlier test
D(0.05)	= straggler in Dixon's outlier test
G(0.01)	= outlier in Grubbs' outlier test
G(0.05)	= straggler in Grubbs' outlier test
DG(0.01)	= outlier in Double Grubbs' outlier test
DG(0.05)	= straggler in Double Grubbs' outlier test
R(0.01)	= outlier in Rosner's outlier test
R(0.05)	= straggler in Rosner's outlier test
E	= calculation difference between reported test result and result calculated by iis
W	= test result withdrawn on request of participant
ex	= test result excluded from statistical evaluation
n.a.	= not applicable
n.e.	= not evaluated
n.d.	= not detected
fr.	= first reported
f+?	= possibly a false positive test result?
f-?	= possibly a false negative test result?

### Literature

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