



Fapas® – Food Chemistry Proficiency Test Report 03208

Additives and Ingredients in Energy Drink

September-October 2025

PARTICIPANT LABORATORY NUMBER

Participants can log in to Fapas® SecureWeb at any time to obtain their laboratory number for this proficiency test.

Laboratory numbers are displayed in SecureWeb next to the download link for this report and are therefore fully confidential to each laboratory.

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SUMMARY

1. The test material for Fapas[®] – Food Chemistry proficiency test 03208 was dispatched in September 2025. Each participant received an energy drink test material to be analysed for caffeine, taurine, total sugars and citric acid.
2. An assigned value (x_a) was determined for each analyte and in conjunction with the standard deviation for proficiency (σ_p) was used to calculate a z-score for each result.
3. Results for this proficiency test are summarised as follows:

analyte	assigned value, x_a	units	number of scores, $ z \leq 2$	total number of scores	% $ z \leq 2$
Caffeine	314	mg/l	47	49	96
Taurine	3930	mg/l	17	22	77
Total Sugars	39.7	g/l	18	21	86
Citric Acid	7290	mg/l	11	13	85

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1. INTRODUCTION

1.1. Proficiency Testing

Proficiency testing aims to provide an independent assessment of the competence of participating laboratories. Together with the use of validated methods, proficiency testing is an essential element of laboratory quality assurance.

Further details of the Fapas[®] – Food Chemistry proficiency testing scheme are available in our protocols [7, 8].

2. TEST MATERIAL

2.1. Preparation

The test material was prepared from energy drink procured from a retail source.

All analytes were present at natural levels.

Samples were stored frozen until dispatch.

2.2. Homogeneity Testing and Stability

To test for homogeneity, randomly selected test materials were analysed in duplicate. Testing was sub-contracted to a laboratory meeting the quality requirements of the scheme's accreditation [3].

These data showed sufficient homogeneity and were not included in the subsequent calculation of the assigned values.

Fapas[®] proficiency test materials are prepared such that they are known to be sufficiently stable for the duration of the test, inclusive of transportation [7]. No further specific stability testing was required for this proficiency test.

2.3. Dispatch

The start date was 19 September 2025. Test materials were sent to 60 participants.

3. RESULTS

The instructions for reporting results were as follows:

analyte	units	comment
caffeine	mg/l	as received
taurine	mg/l	as received
total sugars	g/l	sum of fructose, glucose and sucrose
citric acid	mg/l	report citric acid as anhydrous and state the factor used to convert the result from the monohydrate to the anhydrous form

Results were submitted by 56 participants (93%) before the closing date for this test, 30 October 2025.

Each participant was given a laboratory number, assigned in order of receipt of results. The reported analyte concentrations are given in Table 1.

Participants' comments are given in Table 2.

The analytical methods used by each participant are summarised in APPENDIX I.

4. STATISTICAL EVALUATION OF RESULTS

The results submitted by participants were statistically analysed in order to provide an assigned value for each analyte. The assigned values were then used in combination with the standard deviation for proficiency, σ_p , to calculate a z-score [9] for each result. The procedure is detailed in the relevant protocols [7, 8].

Further background on the procedure followed can be found in the IUPAC International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories [10].

4.1. Calculation of the Assigned Value, x_a

The assigned value, x_a , for each analyte was derived from the consensus of the results submitted by participants.

The procedure used to derive this consensus involved:

- i) exclusion, if present, of any non numerical results i.e. qualitative or semi-quantitative results,
- ii) exclusion, if present, of any results that were approximately 10, 100 or 1000 × greater or smaller than the majority of submitted results (as these were considered to be reporting errors).

For caffeine, taurine and total sugars, this procedure was straightforward, and the robust mean was chosen as the assigned value.

For citric acid, the median was chosen as the assigned value due to the low number of datapoints

The assigned values for all analytes are shown in Table 3.

4.2. Standard Deviation for Proficiency, σ_p

The standard deviation for proficiency, σ_p , was set at a value that reflects best practice for the analyses in question.

For all analytes, σ_p was derived from the appropriate form of the Horwitz equation [11].

The values for σ_p used to calculate z-scores from the reported results of this test are given in Table 3.

4.3. Individual z-Scores

Participants' z-scores were calculated as:

$$z = \frac{(x - x_a)}{\sigma_p}$$

where x = the participant's reported result,

x_a = the assigned value, see Table 3,

and σ_p = the standard deviation for proficiency, see Table 3.

Participants' z-scores for all analytes are given in Table 1 and shown as histograms in Figures 1–4. It is possible for the z-scores published in this report to differ slightly from the z-score that can be calculated using the formula given above. These differences arise from the necessary rounding of the actual assigned values and standard deviations for proficiency prior to their publication in Table 3.

The number and percentage of z-scores in the range $-2 \leq z \leq 2$ for all analytes are given in Table 4.

5. INTERPRETATION OF SCORES

In normal circumstances, over time, about 95% of z-scores will lie in the range $-2 \leq z \leq 2$. Occasional scores in the range $2 < |z| < 3$ are to be expected, at a rate of 1 in 20. Whether or not such scores are of importance can only be decided by considering them in the context of the other scores obtained by that laboratory.

Scores where $|z| > 3$ are to be expected at a rate of about 1 in 300. Given this rarity, such z-scores very strongly indicate that the result is not fit-for-purpose and almost certainly requires investigation.

The consideration of a set or sequence of z-scores over time provides more useful information than a single z-score. Examples of suitable methods of comparison are provided in the IUPAC International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories [10].

6. REFERENCES

- 1 Adobe Approved Trust List,
<https://helpx.adobe.com/acrobat/kb/approved-trust-list2.html#Whatisit>
accessed 28/01/2025.
- 2 GlobalSign AATL Document Signing FAQs,
<https://support.globalsign.com/aatl-document/aatl-document-signing-faqs>
accessed 28/01/2025.
- 3 ISO/IEC 17043:2023, Conformity assessment – General requirements for the competence of proficiency testing providers.
- 4 The ILAC Mutual Recognition Arrangement,
<https://ilac.org/ilac-mra-and-signatories/>
accessed 28/01/2025.
- 5 Fera Science Ltd, Standards & Accreditations,
<https://www.fera.co.uk/about-us/standards-and-accreditation>
accessed 28/01/2025.
- 6 Lloyd's Register, Learn about ISO 9001 Quality Management Systems (QMS),
<https://www.lrqa.com/en-gb/iso-9001/?epslanguage=en-GB#accordion-whatarethebenefitsofiso9001certification>
accessed 28/01/2025.
- 7 Fapas[®], 2025, Protocol for Proficiency Testing Schemes, Version 10, January 2025, Part 1 – Common Principles.
- 8 Fapas[®], 2023, Protocol for Proficiency Testing Schemes, Version 6, January 2023, Part 2 – Fapas[®] Food Chemistry scheme (FAPAS).
- 9 AMC Tech Brief No. 74, z-Scores and other scores in chemical proficiency testing – their meanings, and some common misconceptions, *Anal. Methods*, 2016, **8**, 5553.
- 10 Thompson, M., Ellison, S.L.R. and Wood, R., 2006, The International Harmonised Protocol for the Proficiency Testing of Analytical Chemistry Laboratories, *Pure Appl. Chem.*, **78**, No. 1, 145–196.
- 11 Thompson, M., 2000, Recent trends in inter-laboratory precision at ppb and sub-ppb concentrations in relation to fitness for purpose criteria in proficiency testing, *Analyst*, **125**, 385-386.

Table 1: Results and z-Scores

laboratory number	analyte								
	Caffeine assigned value: 314 mg/l		Taurine assigned value: 3930 mg/l		Total Sugars assigned value: 39.7 g/l			Citric Acid assigned value: 7290 mg/l	
	result	z-score	result	z-score	result	Sum of fructose, glucose and sucrose? Y/N	z-score	result	Please state conversion factor
001	329.8	0.7							
002	364.6	2.4			45	Y	4.1		
003	313	-0.1							
004	316	0.1							
005	339.39	1.2			39.96	N	0.2		
006	287	-1.3	3792	-0.8				7000	NA
007	312.93	-0.1			39.80	Y	0.1		
008	330	0.7							
009					38.03	Y	-1.3		
010	320	0.3			39.1	Y	-0.4	8511	-
011	320	0.3			37.4	Y	-1.8	7290	1
012	323.0	0.4			3.50	Yes	-28.1	6956.5	N/A
013	314	0.0	3860	-0.4	38.9	yes	-0.6		
014	317.07	0.1							

z-scores outside $|z| > 2$ are shown in **bold**, see Section 5

Table 1 (continued): Results and z-Scores

laboratory number	analyte								
	Caffeine assigned value: 314 mg/l		Taurine assigned value: 3930 mg/l		Total Sugars assigned value: 39.7 g/l			Citric Acid assigned value: 7290 mg/l	
	result	z-score	result	z-score	result	Sum of fructose, glucose and sucrose? Y/N	z-score	result	Please state conversion factor
015	301.4	-0.6	4103.4	1.0	41.79	Y	1.6		
016	318.33	0.2							
017	319.8	0.3			39.8	Y	0.1		
018	320	0.3							
019	303.6	-0.5			34.5	Y	-4.0	7344	NA
020	315	0.0			41.0	Y	1.0		0.2
021	297mg/kg								
022	316	0.1							
023	326.1	0.6							
024					39.8	Y	0.1	7520	0.914
025			4061.41	0.7	40.9	Y	0.9		0.8
026	310	-0.2	4063	0.7					
027	320.19	0.3							
028	303.81	-0.5							

z-scores outside $|z| > 2$ are shown in **bold**, see Section 5

Table 1 (continued): Results and z-Scores

laboratory number	analyte								
	Caffeine assigned value: 314 mg/l		Taurine assigned value: 3930 mg/l		Total Sugars assigned value: 39.7 g/l			Citric Acid assigned value: 7290 mg/l	
	result	z-score	result	z-score	result	Sum of fructose, glucose and sucrose? Y/N	z-score	result	Please state conversion factor
029	318	0.2							
030	295.00	-0.9							
031	321.78	0.3	4261.318	1.8					
032			3930	0.0					
033	330	0.7	4336	2.3	39.4	N	-0.2	4610	0.64
034			3942	0.1					
035	303	-0.5	3540	-2.2					
036			3942	0.1					
037	319.01	0.2			38.77	Y	-0.7		
038	300	-0.7							
039	300	-0.7	3549	-2.1					
040	318	0.2						7625	1
041	312	-0.1							1.1
042	317	0.1							

z-scores outside $|z| > 2$ are shown in **bold**, see Section 5

Table 1 (continued): Results and z-Scores

laboratory number	analyte									
	Caffeine assigned value: 314 mg/l		Taurine assigned value: 3930 mg/l		Total Sugars assigned value: 39.7 g/l			Citric Acid assigned value: 7290 mg/l		
	result	z-score	result	z-score	result	Sum of fructose, glucose and sucrose? Y/N	z-score	result	Please state conversion factor	z-score
043	313.78	0.0	3841.49	-0.5						
044	309.50	-0.2	3795.95	-0.7	41.48	y	1.4	7521.38	-	0.8
045	339	1.2								
046	305	-0.4								
047	321	0.3	4026	0.5						
048	291	-1.1	3965	0.2						
049	302	-0.6	2610	-7.3	39	Y	-0.5	6800	N/A	-1.6
050	310	-0.2	3956	0.1						
051	284.67	-1.4	4768.63	4.6	40.49	Y	0.6	7069.1	1	-0.7
052	1180	40.9								
053	306	-0.4	3995	0.4	38.7	N	-0.8	7250	no conversion needed	-0.1
054	321	0.3	3860	-0.4						
055	297.35	-0.8	3748.57	-1.0						
056	316.3	0.1			39.8	Y	0.1	7354	1	0.2

z-scores outside $|z| > 2$ are shown in **bold**, see Section 5

Table 2: Participants' Comments

laboratory number	comments
023	The entire content of the bottle, labeled as 150 mL, were volumetric diluted in 250 mL of water. The resulting solution was filtered and analysed using LC-DAD. Five replicate injections were performed, followed by the analysis of a fortified sample, which served as an internal quality control. The bottle was weighed before and after dilution: 191.7513 g (pre-dilution) and 34.39208 g (post-dilution). For the final calculation, a volume of 150 mL was considered.
033	Note : the sample delivered has been opened during the shipment .
040	"Citric acid reported as anhydrous. (no conversion applied as analysis performed on anhydrous basis)."
045	Resultado de analista 54. Resultado analista 45 342 mg/L

comments are as submitted by participants but some may have been edited to maintain participant anonymity

Table 3: Assigned Values and Standard Deviations for Proficiency

analyte	data points, n	assigned value, x_a	units	uncertainty, u	standard deviation for proficiency, σ_p
Caffeine	49	314	mg/l	2	Horwitz [11] 21.2
Taurine	22	3930	mg/l	50	Horwitz [11] 181
Total Sugars	20	39.7	g/l	0.3	Horwitz [11] 1.29
Citric Acid	13	7290	mg/l	95	Horwitz [11] 306

Table 4: Number and Percentage of z-Scores where $|z| \leq 2$

analyte	number of scores where $ z \leq 2$	total number of scores	% $ z \leq 2$
Caffeine	47	49	96
Taurine	17	22	77
Total Sugars	18	21	86
Citric Acid	11	13	85

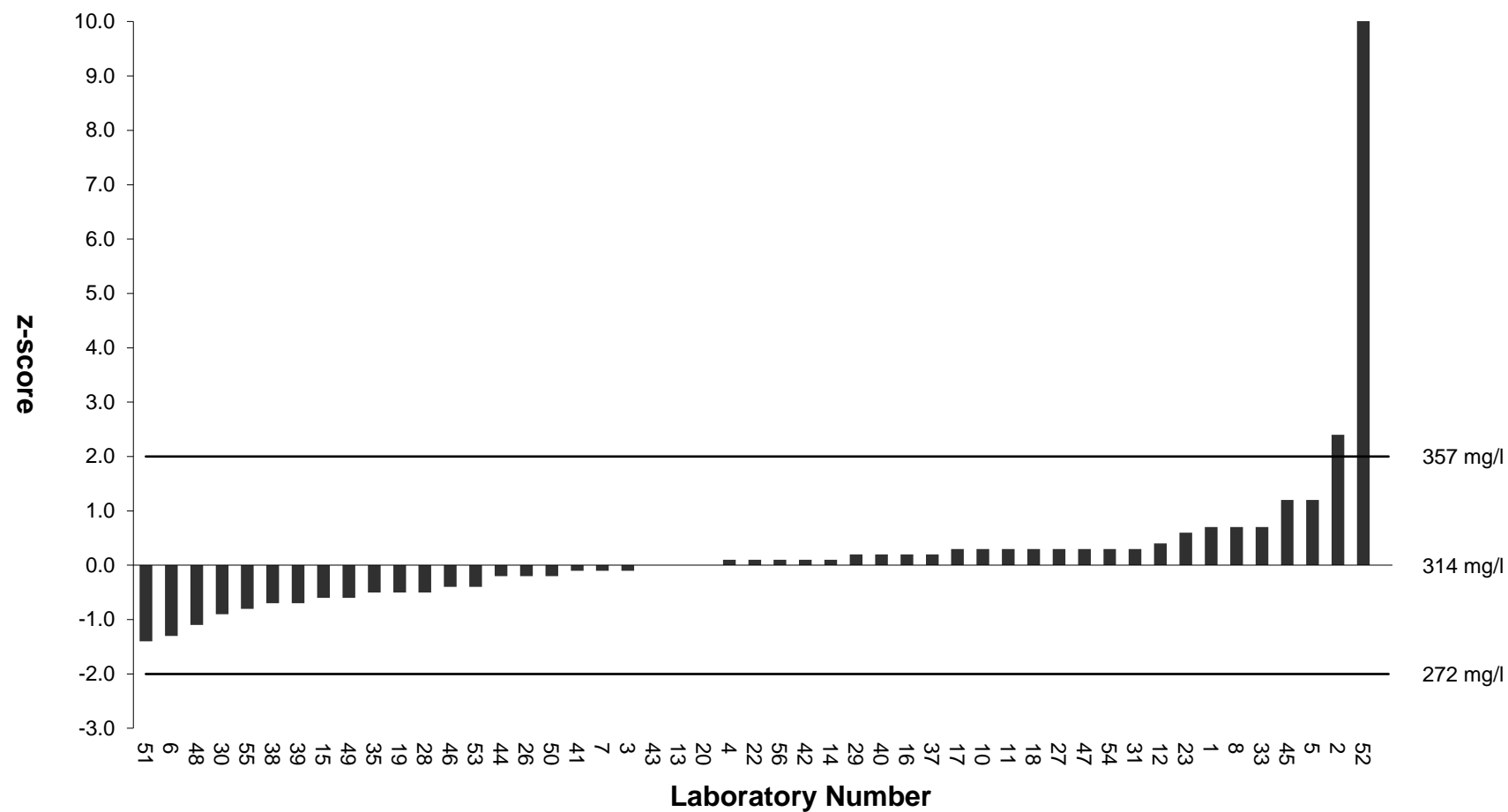


Figure 1: z-Scores for Caffeine

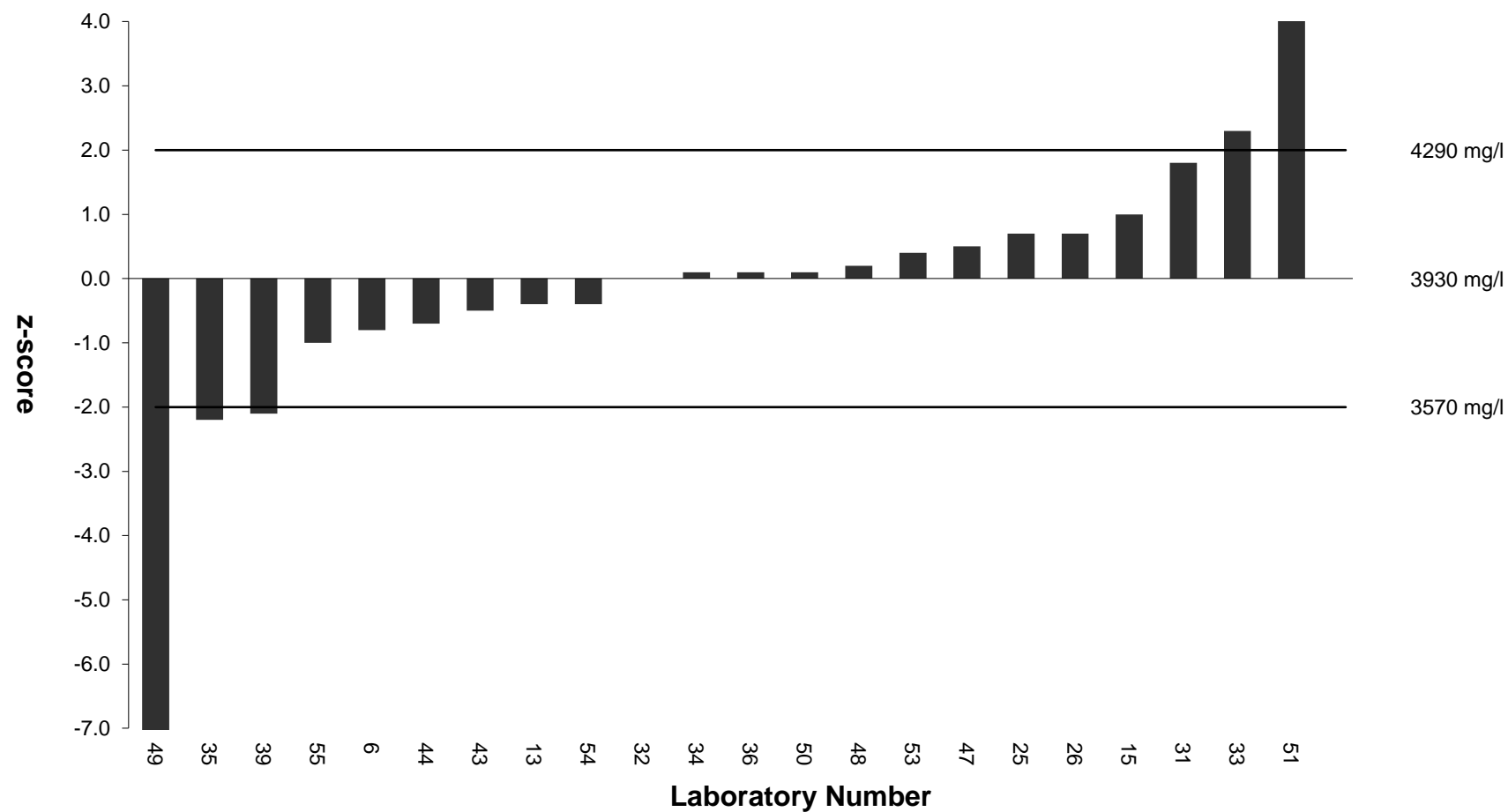


Figure 2: z-Scores for Taurine

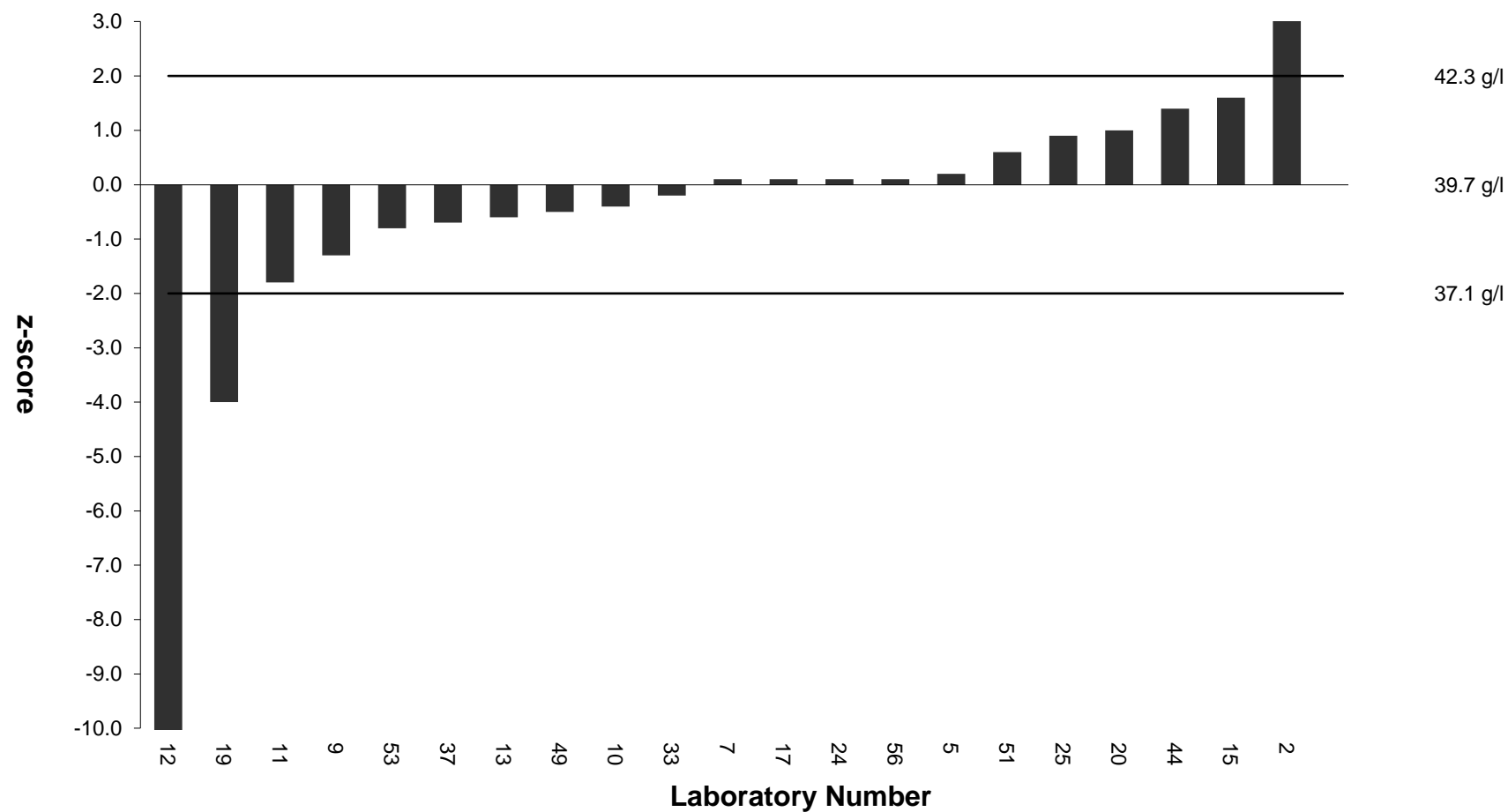


Figure 3: z-Scores for Total Sugars

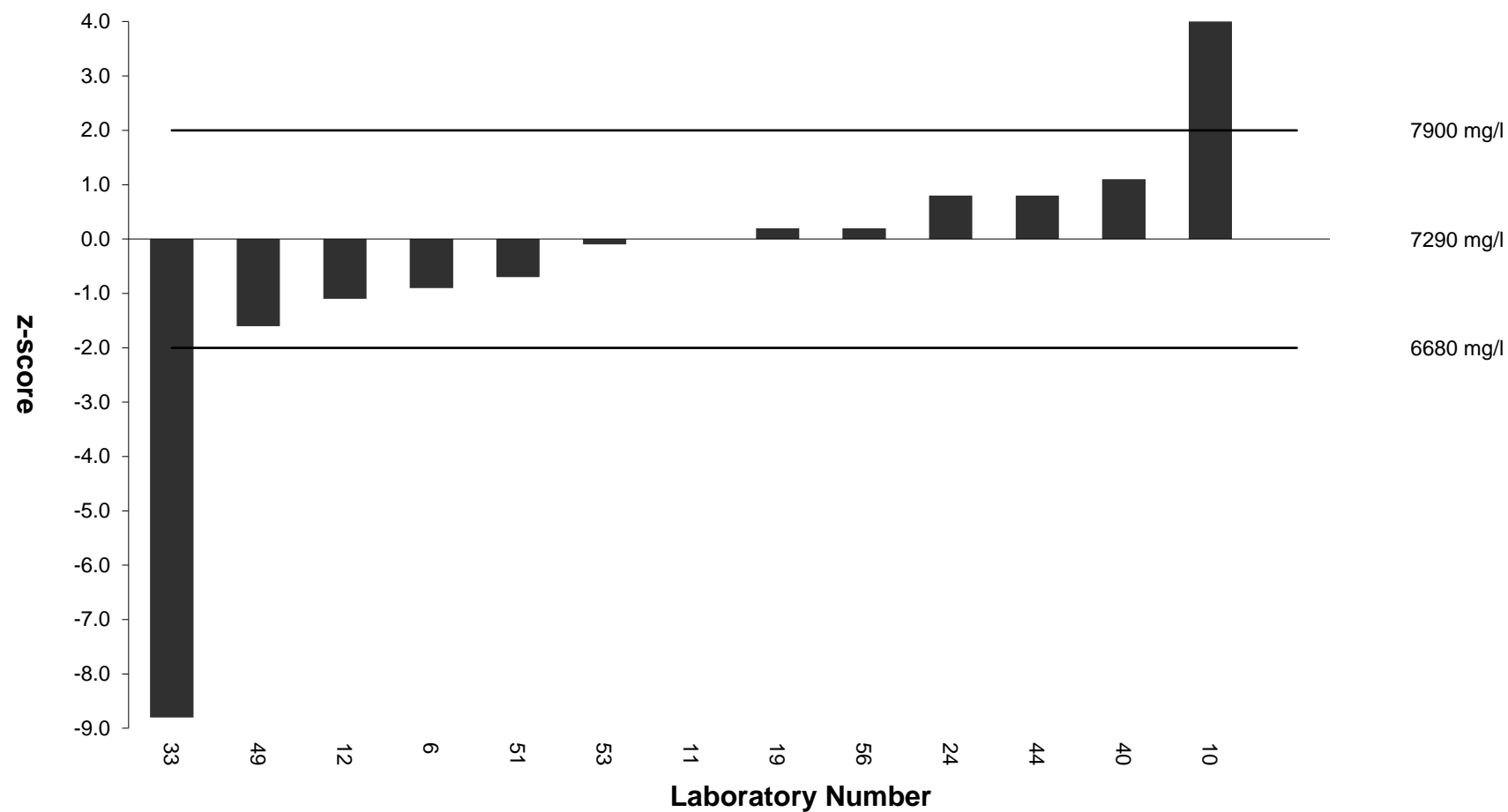


Figure 4: z-Scores for Citric Acid

APPENDIX I: Analytical Methods Used by Participants

Methods are tabulated according to the information supplied by participants, but some responses may have been combined or edited for clarity. Text that appears as unreadable symbols are derived from entries made using non-Western characters.

Caffeine

Is the Method Used Accredited?	laboratory number
no	003 007 008 016 026 031 052 054
yes	002 004 010 011 012 013 014 015 018 019 020 021 022 023 028 029 030 033 038 041 042 045 046 047 053 055 056

Reference	laboratory number
2009	014
Analytical Chemistry	041
AOAC Official Methods	028
AOAC Official Methods 979.11	054
AOAC Official Methods 2008	002
AOAC Official Methods 2015	033
CNS 9432	042
EN 1999 12856	046
Food Analytical Methods 2015 8 139-146	031
GB 5009.139-2014 2014	022
GB 5009.139-2014 2014 GB 5009.139-2014 GB 5009.139-2014	021
GB 5009.139-2014 2014 None none	029
In house method	011
in-house	007
Internal Method	008
ISO	038
ISO	056
ISO iso 20481	045
ISO 2008	010
ISO 2008	023
J. Assoc. Off. Anal. Chem. 2015 2016	016
J. Food Science 1983 48 745-747	020
SLMB 2015	018

Sample Amount Used for Analysis (g)	laboratory number
<1	018 019 033
≥1 - <2	002 008 010 020 029 031 041 045 056
≥2 - <5	003 026
≥5 - <10	007 014 016 021 022 028 038 042
≥10 - <15	030 054
≥20 - <30	046
≥50 - <100	023

Sample Treatment Prior to HPLC	laboratory number
acidify	008
blend / homogenise with solvent	002 041
centrifuge	021
degas	020 030 033 038 045 047 054
dilute	014 020 026 031 033
dissolve in water	003 007 016 018 023 028 029 045 046 056
filter	007 018 020 022 023
hot water extraction	010 012 019
liquid/liquid extraction	042
solvent extraction	030

HPLC Injection Volume (µl)	laboratory number
<5	002 033 041
≥5 - <10	010 012 018 020 023 047
≥10 - <25	003 007 008 014 016 019 021 022 026 029 030 031 038 042 045 046 054 056

HPLC Column Packing	laboratory number
C18	002 007 008 010 012 014 016 018 019 021 022 026 029 030 031 033 038 041 042 045 046 047 056
C18 X-Terra type	003
endcapped	020
Agilent Zorbax SB-Aq column (3.0×150mm, 3.5 µm)	023

HPLC Column Temperature (°C)	laboratory number
ambient	002 010 026 031 041 047 054
>ambient - <50	003 007 008 012 014 016 018 019 020 021 022 023 029 030 033 038 042 045 046 056
≥50	028
Mobile Phase Components	laboratory number
acetate	010 047
ethanoic acid (acetic acid)	019 028
acetonitrile	007 008 012 019 020 023 033 046 047 054
formic acid (methanoic acid)	033
ion pair agent	008
methanol	002 008 010 014 018 019 021 038 041 042 045 056
phosphate	020 031 046
water	007 008 018 019 020 023 026 041 042 045 046 054
30% methanol	030
ACN 15% : Buffer 85% (Triethylamine 10 mM / Acetic acid 20 mM pH 4.3)	003
Methanol + water ?24+76?	022
Methanol+water	029
Isocratic Mobile Phase?	laboratory number
no (gradient)	007 008 012 016 018 020 023 031 033 041 054
yes	002 003 010 014 019 021 022 026 028 029 030 038 042 045 046 047 056

Source of Standards	laboratory number
Dr Ehrenstorfer	019 026 038
Fisher	033
Merck	010 041
Romer Labs	003
Sigma/Aldrich	002 018 020 031 042 045 046 047 056
Supelco	016 023 030 054
BW	029
National Standards of the People's Republic of China	022
Thermo Scientific	028
VWR	007

HPLC Detector Type	laboratory number
Diode Array Detector	002 003 007 010 014 016 018 022 023 029 030 031 038 041 042 046 047 054
MS-MS	033
UV	008 019 020 021 026 056
UV/Vis	012 028 045

Wavelength (absorbance)(nm)	laboratory number
214	020
215	003 047
220	046
230	016
244	008
254	026 028 031 056
260 nm	023
270	054
272	002 018 019 021 022 029 030 038 041 042 045
273	007
280	014
Extraction with chloroform and measurement of absorption at Wavelength 272 nm.	052

Taurine

Is the Method Used Accredited?

no	026 031 033 034 054
yes	032 036 047 053

Reference

Reference	laboratory number
AOAC Official Methods 2015	033
Concordia College Journal of Analytical Chemistry 031 2012 3 47-52	
GB 5009.169-2016 / /	034
Università degli Studi di Udine-Industrie delle Bevarnde 2005	054

Sample Amount Used for Analysis (g)

Sample Amount Used for Analysis (g)	laboratory number
<1	026 031 033
≥1 - <2	032 034
≥10 - <15	036 054

Sample Treatment Prior to HPLC

Sample Treatment Prior to HPLC	laboratory number
centrifuge	036
degas	033 047
de-proteinise	036
derivatisation	034 036 054
dilute	026 031 033 054
dissolve in water	032 036

HPLC Injection Volume (µl)

HPLC Injection Volume (µl)	laboratory number
<5	033
≥10 - <25	031 032 034 036 047 054
≥25 - <50	026

HPLC Column Packing**laboratory number**

C18	031 032 033 034 036
Ion Exchange	047

HPLC Column Temperature (°C)**laboratory number**

ambient	054
>ambient - <50	026 031 032 033 034 036
≥50	047

Mobile Phase Components**laboratory number**

acetate	036
acetonitrile	032 033 036 054
formic acid (methanoic acid)	033
phosphate	031 054
acetonitrile;sodium acetate	034
Sulfuric acid 0.001N	047

Isocratic Mobile Phase?**laboratory number**

no (gradient)	033
yes	026 031 032 034 036 047 054

Source of Standards**laboratory number**

Dr Ehrenstorfer	054
Fisher	033
Sigma/Aldrich	031 047
BePure	034
First Standard	032

HPLC Detector Type	laboratory number
--------------------	-------------------

Diode Array Detector	031 036
fluorescence	032 054
MS-MS	033
RI	047
UV	034

Wavelength (absorbance)(nm)	laboratory number
-----------------------------	-------------------

254	034 036
360	031
EX330nm;Em530nm	032

Total Sugars

Is the Method Used Accredited?	laboratory number
--------------------------------	-------------------

no	024
yes	007 009 010 011 012 019 020 033 053 056

What is Your Method Based On?	laboratory number
-------------------------------	-------------------

International Standard	009 020 056
National Standard	010 024 033 053
In house method	007 011 019

Sample Weight (g)	laboratory number
-------------------	-------------------

<1	010 019 033
≥2 - <5	024 056
≥5 - <10	007 009
≥10 - <25	020

Extraction Solvent Components	laboratory number
acetonitrile	010 019
formic acid (methanoic acid)	019
water	007 010 019 020 024 056
ethanol	020
sodium hydroxide & sodium acetate	033

Extraction Procedure	laboratory number
cold water extraction	007 033
hot water extraction	019 020
shaking	007 024
Ultra Turrax	020
vortex mix	056

Total Sugar Sample Treatment	laboratory number
acidify	009
Carrez I & II	007 019
dilute	024 056
filter	007 020 033

Sugar Determination	laboratory number
HPLC	007 010 019 020 024 033 056
titration	009 053

Sample Hydrolysed?	laboratory number
no	007 010 019 020 024 033 056
yes	009

Internal Standard Added	laboratory number
none	007 019 024 033 056

HPLC Injection Volume (?!)	laboratory number
<5	019
≥5 - <10	010 024
≥10 - <25	007 011 020 033 056

HPLC Column Packing	laboratory number
C18	033
NH2	007 010 019 024 056
carbohydrate	020

HPLC Column Temperature (°C)	laboratory number
ambient	010
>ambient - <50	007 011 020 024 033 056
≥50	019

Mobile Phase Programme	laboratory number
isocratic	007 010 019 020 024 056

Mobile Phase Components	laboratory number
acetonitrile	007 020 024 056
sodium hydroxide	033
water	007 020

HPLC Detector Type	laboratory number
MS-MS	019
RI	007 010 020 024 056
UV	011

Source of Standards	laboratory number
Dr Ehrenstorfer	019 033
Merck	010
Sigma/Aldrich	007 011 020 024 056

Titration Method (Sugars)**laboratory number**

Luff-Schoorl

053

Citric Acid**Is the Method Used Accredited?****laboratory number**

no

011 056

yes

010 012 019 024 033 053

Reference**laboratory number**

IFU Standard

010

In house method

011

ISO

033

OIV -MA-A5313-04

056

Sample Amount Used for Analysis (g)**laboratory number** ≥ 1 - < 2

010 024 033

 ≥ 5 - < 10

056

Sample Treatment Prior to HPLC**laboratory number**

blend / homogenise with solvent

024

HPLC Injection Volume (μ l)**laboratory number** ≥ 5 - < 10

024

 ≥ 10 - < 25

056

HPLC Column Packing**laboratory number**

C18

056

Ion Exclusion

024

HPLC Column Temperature (°C)	laboratory number
>ambient - <50	024 056
Mobile Phase Components	laboratory number
water	056
p-Toluenesulfonic acid	024
Isocratic Mobile Phase?	laboratory number
yes	024 056
Source of Standards	laboratory number
Sigma/Aldrich	056
KANTO CHEMICAL	024
HPLC Detector Type	laboratory number
conductivity	024
UV	056
Wavelength (absorbance)(nm)	laboratory number
210	056
Non HPLC Method Used	laboratory number
Enzymatic method	010 019
titration	033

APPENDIX II: Fapas[®] SecureWeb, Protocol and Contact Details

1. Fapas[®] SECUREWEB

Access to the secure area of our website is only available to participants in our proficiency tests. Please contact us if you require a UserID and Password. Fapas[®] SecureWeb allows participants to:

- Obtain their laboratory numbers for the proficiency tests in which they have participated.
- View the results they submitted in past and current proficiency tests.
- Submit their results and methods for current tests.
- Review future tests they have ordered.
- Order proficiency tests, reference materials and quality control materials.
- Freely download copies of reports (PDF file), of proficiency tests in which they have participated.
- Use the Enhanced Reporting facility to interactively scrutinise essential elements of this report, including viewing charts of their z-scores obtained in previous Fapas[®] – Food Chemistry proficiency tests.

2. PROTOCOL

The Protocols [7, 8] set out how Fapas[®] – Food Chemistry is organised. Copies can be downloaded from our website.

3. CONTACT DETAILS

This report was prepared and authorised on behalf of Fapas[®] by Kyra Kyanite (Round Coordinator). Participants with any comments or concerns about this proficiency test should contact:

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