Amino Acids Interpretation (AAI)

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Annual Report 2024 *[DOC5126]*

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Please Note:

- This annual report is intended for participants of the ERNDIM AAI EQA scheme. The contents should not be used for any publication without permission of the Scientific Advisor.
- The fact that your laboratory participates in ERNDIM schemes is not confidential, however, the raw data and performance scores are confidential and will only be shared within ERNDIM for the purpose of evaluating your laboratories performance, unless ERNDIM is required to disclose performance data by a relevant government agency. For details please see the ERNDIM Privacy Policy on www.erndim.org.

1. Scheme Design

The scheme has been designed and planned by the Scientific Advisor (SA) and Scheme Organisers (SO), listed at the top of this page, both appointed by and according to procedures laid down by the ERNDIM Board.

2. Samples

Cases were provided and selected by the Scientific Advisor and scheme assessors. The cases for this scheme are data only and no physical samples are circulated.

3. Shipment

The cases for the first and second rounds were sent to all 143 registered laboratories by email by the Administration Office on 7th May and 19th August 2024 respectively.

4. Receipt of results

Results were submitted to an online form set up by the Administration Office (AO) using the Formdesk website (https://en.formdesk.com/). The submission deadlines for the first round (cases AAI 2024.01, .02 and .03) and second round (samples AAI 2024.04, .05 and .06) were 28th May and 9th September 2024 respectively. Overall, 138/143 (96.5%) registered participants submitted results for both rounds of the 2024. Three labs (2.1%) only submitted results for one of the rounds (1 for the first round and 2 for the second round). While a separate two laboratories (1.4%) failed to make a return on either submission round.

Note: All results must be submitted in English.

5. Scoring scheme

Each of the three aspects, analytical findings, diagnosis, and further tests, were scored equally with a maximum of two points for each category. Plasma amino acid concentrations together with the laboratories reference ranges were provided.

Scoring schemes were agreed by the scheme assessors in advance of the cases being circulated. Scoring was done by two blinded evaluators each (the evaluators were blinded to both, the ERN number and to the scores of the second evaluator). If the scores were not concordant the scheme advisor scored in addition. Further close evaluation based on agreed/revised scoring criteria was used to determine on the final score.

The maximum score achievable with full submission for all samples is 36. The score required for satisfactory performance will be 20/36 points (56%).

[1] **If this Annual Report is not Version 1 for this scheme year, go to APPENDIX 2 (page 21) for details of the changes made since the last version of this document.**

The ERNDIM Scientific Advisory Board (SAB) agreed at their November 2022 meeting that the principle of critical error would apply to the AAI scheme for 2023 onwards. For information if any errors in the 2024 participant results would have been considered critical errors this would be noted under the relevant cases in section 6.

a. Appeals

If your laboratory has been assigned poor performance in the 2024 scheme and you wish to appeal against this classification, please use the link given in the Performance Support letter you received to submit your appeal request. The online form should be completed with full details of the reason for your appeal and submitted within one month of receiving your Performance Support Letter. Please note that only appeals submitted using the online response form will be considered.

6. Results of samples and evaluation of reporting

The diagnoses of the six samples are summarised in Table 1 below.

Table 1: Samples in the 2024 scheme

Sample	Clinical Information	Sex	Age at Diagnosis	Diagnoses
AAI 2024-01	Deterioration in general condition on the second day of life, suspected sepsis, antibiotic therapy, no improvement	F	3 days	Argininosuccinic aciduria (ASL deficiency)
AAI 2024-02	Speech delay, mental retardation, eating difficulties, foot edema with lameness	F	5 years	Lysinuric protein intolerance (LPI)
AAI 2024-03	Cutis laxa, axial hypotonia, IUGR (height and weight <-3SD), microcephaly, joint hyperlaxity, inguinal hernia	M	4 months	P5C synthase deficiency (de Barsy syndrome)
AAI 2024-04	Anaemia, liver failure with disturbed clotting in the age of eight months	M	8 months	Citrin deficiency
AAI 2024-05	Microcephaly, psychomotor retardation, failure to thrive	M	5 years	Branched-chain 2-ketoacid dehydrogenase kinase (BCKDK) deficiency
AAI 2024-06	Seizures (begin 6 days old), responsive to pyridoxine	F	7 days	Hypophosphatasia

Table 2: % proficiencies for the cases in the 2024 scheme

Sample	No of returns	A (%)	D (%)	R (%)	Total (%)
AAI 2024-01	139	97%	92%	87%	**92%**
AAI 2024-02	139	96%	87%	97%	**93%**
AAI 2024-03	139	100%	90%	93%	**94%**
AAI 2024-04	140	96%	84%	83%	**87%**
AAI 2024-05	140	100%	87%	86%	**91%**
AAI 2024-06	140	100%	98%	97%	**98%**

Key

A = Findings, abnormalities
D = Diagnosis
R = Recommendations for further testing

Table 3: Distribution of scores (for labs that submitted results for both rounds)

Score	Score (%)	No of labs	*(% of participating labs)*
0 - 3	0% – 9.9%	0	0.0%
4 – 7	10% – 19%	0	0.0%
8 - 10	20% – 29%	0	0.0%
11 - 14	30% – 39%	0	0.0%
15 - 17	40% – 49%	0	0.0%
18 - 21	50% – 59%	3	2.2%
22 - 24	60% – 69%	4	2.9%
25 - 28	70% – 79%	1	0.7%
29 - 32	80% – 89%	33	23.9%
32 - 36	90% – 99%	45	32.6%
36	100%	52	37.7%
	Total	**138**	**100%**

The full anonymised results for all labs that submitted results are given in APPENDIX 1 on page 10.

6.1. Case 2024-1: Argininosuccinic aciduria (ASL deficiency)

6.1.1. Sample Details

The results are from a 3-day-old girl whose clinical situation deteriorated on day 2. Sepsis was suspected as the cause. However, the clinical situation did not improve under antibiotic therapy.

After diagnosis and the start of specific therapy (protein-defined diet with substitution of essential amino acids) nitrogen elimination with sodium benzoate and L-arginine, the patient developed well.

6.1.2. Scoring details

Table 4: Scoring details for case 2024-1.

	Interpretation		**Score (points)**
Findings, abnormalities, [A, maximum 2 points] (*has to be mentioned for 2 points).	elevated	gln, cit, met	1
	elevated*	argininosuccinic acid	1
	low	arg	1
Diagnosis, maximum 2 points	argininosuccinic aciduria (ASL deficiency)		2
	citrullinemia type I (ASS deficiency)		0
	ASS and ASL deficiency		1
Further tests (if molecular genetic recommended specify the gene)**, [R, maximum 2 points]**	orotic acid in urine (organic acids in urine)		1
	molecular genetic analysis of *ASL* gene		1
	enzyme studies in erythrocytes/fibroblasts		1

Scores for participating laboratories are in APPENDIX 1 on page 10.

6.1.3. Comments on overall performance

Overall proficiency was 92%. The proficiency for further testing recommendations was lowest at 87%. The most common reason for points being deducted in this section of the assessment was that the only recommendation was molecular genetic testing. Other tests, in particular metabolite diagnostics, were not recommended.

Critical Errors: There were no critical errors for this case.

6.1.4. Best interpretation (scored with 2 points each)

- **Findings:** Grossly elevated citrulline, glutamine and glutamate. Elevated taurine, proline, alanine, methionine, tyrosine, histidine and lysine. Low isoleucine. Detectable argininosuccinic acid.
  Note: The reported superposition of the leucine peak can be caused by the ASA anhydrides.
- **Diagnosis**: Argininosuccinic aciduria (argininosuccinate lyase (ASL) deficiency).

- **Further tests:** Analyse amino acids in urine (argininosuccinic acid and its anhydrides). Determine orotic acid in urine. Mutational analysis of *ASL*-gene. ALS enzyme activity in fibroblasts or blood. If needed, exclude citrullinaemia type I and II.

6.2. Case 2024-2: Lysinuric protein intolerance (LPI)

6.2.1. Sample details

This sample is from a 5-year-old girl, admitted in general podiatry unit to explore a left ankle arthritis. She is the first child from a consanguineous family. At 10 months, her growth began to slow. She has a growth and psychomotor retardation, and autistic features were suspected. During hospitalisation, an anaemia was discovered due to a homozygous sickle cell disease. The biological work-up also revealed a hyperferritinemia and increased LDH.

After diagnosis of lysinuric protein intolerance she was treated with protein restricted diet, ammonia scavenger and citrulline. Due to persistent feeding difficulties, she also had a gastrostomy.

6.2.2. Scoring details

Table 5: Scoring details for case 2024-2.

	interpretation		**Score (points)**
Findings, abnormalities [A, maximum 2 points]	increased	gln	1
	increased	cit	1
	decreased	lys, arg, orn	1
Diagnosis [D, maximum 2 points]	lysinuric protein intolerance (LPI)		2
	malnutrition		1
Further tests (if molecular genetics recommended, specify the gene) **[R, maximum 2 points]**	orotic acid (organic acids) in urine		1
	amino acids in urine		1
	ammonia, ferritine, triglycerides		1
	molecular genetic analysis of *SLC7A7* gene		1

Scores for participating laboratories are in APPENDIX 1 on page 10.

6.2.3. Comments on overall performance

Overall proficiency was 93%. The proficiency for diagnosis was lowest at 87%. The main reason for a point deduction was that the low concentrations of lysine, arginine and ornithine were overlooked (when interpreting amino acid results, the eye is trained on the high concentrations).

Critical Errors: There was one critical error for this case. One laboratory described the increased glutamine, glycine and serine concentrations, but did not notice the constellation with the reduced levels of lysine, arginine and ornithine. It was therefore concluded that no aminoacidopathy was present. Overlooking the possibility of aminoacidopathy was classified as a critical error.

6.2.4. Best interpretation (scored with 2 points each)

- **Findings:** Decrease lysine, ornithine and arginine were noticed. Also, mild increased glutamine, serine, glycine, citrulline and threonine were found.
- **Diagnosis:** Main diagnosis: Lysinuric protein intolerance (LPI), low lysine, ornithine, and arginine with increased glutamine, glycine, and citrulline most probably indicate lysinuric protein intolerance.
- **Further tests:** For final diagnosis, please refer to urinary organic acid analysis result to confirm orotic acid level, urinary amino acid analysis to confirm lysine, ornithine and arginine level, genetic test result to confirm *SLC7A7* gene mutation.

6.3. Case 2024-3: P5C synthase deficiency (de Barsy syndrome)

6.3.1. Sample details

The results are from a 4-month-old boy from a non-consanguineous family. He presented an intrauterine growth retardation and joint hyperlaxity, inguinal hernia and cutis laxa at birth. At 2 months he presented a neurological deterioration with axial hypotonia, pyramidal syndrome and a cataract on the left eye was diagnosed. His growth was also severely impaired leading to naso-gastric feeding. He died at 7 months of age.

6.3.2. Scoring details

Table 6: Scoring details for case 2024-3.

	interpretation		**scores (points)**
Findings, abnormalities [A, maximum 2 points]	increased	glu, gln	1
	decreased	cit, arg, orn, pro	2
Diagnosis [D, maximum 2 points]	P5C synthase deficiency (de Barsy syndrome)		2
	proline metabolism abnormalities		1
	P5C reductase deficiency		0
Further tests (if molecular genetics recommended, specify the gene) **[R, maximum 2 points]**	organic acids		1
	isoelectric focussing of transferrine		1
	molecular genetic analysis of *ALDH18A1* gene		2
	ammonia		1

Scores for participating laboratories are in APPENDIX 1 on page 10.

6.3.3. Comments on overall performance

The amino acid results for this sample were very difficult to interpret. For this reason, the overall proficiency for this case was expected to be below 80%. This was not the case. After a description of the abnormalities and a literature search, the correct diagnosis was made. The overall performance was very good at 94%, although 17 participants made an incorrect diagnosis (proficiency of this section 90%).
Critical Errors: There were no critical errors for this case.

6.3.4. Best interpretation (scored with 2 points each)

- **Findings:** Decreased levels of amino acids, specifically ornithine, arginine, citrulline, cysteine, proline, mildly elevated glutamine
- **Diagnosis:** The clinical pattern with cutis laxa, joint hyperlaxity, microcephaly and hypotonia in combination with elevated glutamine as well hypoprolinemia and deficiency the urea cycle intermediates (ornithine, citrulline and arginine) is compatible with delta1-pyrroline-5-carboxylate synthase deficiency.
- **Further tests:** Diagnosis should be confirmed by molecular genetic analysis of the *ALDH18A1* gene. Ammonia should be checked especially with prolonged fasting/infections.

6.4. Case 2024-4: Citrin deficiency

6.4.1. Sample Details

The sample (plasma) was from an 8-month-old boy who was admitted for anaemia and acute liver failure. The cause of the liver failure was later identified by molecular genetics as citrin deficiency (homozygous mutation in *SLC25A13*).

The neonatal screening was normal, in particular no increased citrulline concentration was detectable. The parents are cousins I°. The family history was otherwise unremarkable, there are two healthy brothers.

6.4.2. Scoring details

Table 7: Scoring details for case 2024.04

	Interpretation		**Score (points)**
Findings, abnormalities [A, maximum 2 points]	elevated	met, tyr	1
	elevated	cit	1
	elevated	thr	1
Diagnosis [D, maximum 2 points]	liver failure or tyrosinaemia type I or galactosemia		1
	citrin deficiency		2
Further tests (if molecular genetics recommended, specify the gene) **[R, maximum 2 points]**	organic acids (urine) inclusive succinylacetone		1
	galactose-1-phosphate or galactose or GALT activity		1
	molecular genetic analyses of *SLC25A13* gene		2

Scores for participating laboratories are in APPENDIX 1 on page 10.

6.4.3. Comments on overall performance

The diagnosis of a citrin deficiency is very difficult under certain circumstances. On the one hand, the citrulline concentration can be almost unnoticeable and on the other hand, the other changes can also only be discrete or secondary to liver failure. However, as the therapy differs from that of other metabolic disorders such as tyrosinaemia type I, early diagnosis is essential.

Despite these diagnostic difficulties, 70% of participants reported citrin deficiency either as the main diagnosis or as a differential diagnosis. The most common differential diagnosis was tyrosinaemia type I, which was scored with one point (in 28% of the participants).

The overall proficiency was 87%, with the description of the abnormalities being the best with 96% correct answers.

Critical Errors: There were no critical errors for this case.

6.4.4. Best interpretation (scored with 2 points each)

- **Findings:** The patient exhibits highly elevated methionine and tyrosine levels, with elevated glutamine, threonine, lysine, cystine and citrulline levels. Rest of the amino acids are within the reference ranges. Ammonia is slightly increased.
- **Diagnosis**: Citrullinaemia type II (Neonatal intrahepatic cholestasis caused by citrin deficiency (NICCD)). Elevation of methionine and tyrosine due to liver dysfunction. DD: Tyrosinaemia type I.
- **Further tests:** Identification of pathogenic variants in the *SLC25A13* gene. For DD: test urine and DBS for succinylacetone, alpha-fetoprotein in serum, *FAH* gene analysis. Organic acids in urine, orotic acid in urine.

6.5. Case 2024-5: Branched-chain 2-ketoacid dehydrogenase kinase (BCKDK) deficiency

6.5.1. Sample details

The sample was taken from a 5-year-old boy who had microcephaly, mental retardation and a failure to thrive. In the extended work-up, cerebral MRI showed enlargement of the peri-cerebral spaces of the lateral ventricles and delayed myelinisation. The analysis of amino acids showed isolated reduced concentrations of branched-chain amino acids. A pubmed search with the search terms 'microcephaly leucine valine isoleucine' resulted in the correct diagnosis (branched-chain 2-ketoacid dehydrogenase kinase deficiency).

6.5.2. Scoring details

Table 8: Scoring details for case 2024-5.

	Interpretation		**Score (points)**
Findings, abnormalities [A, maximum 2 points]	decreased	BCAA (ile, val, leu)	2
Diagnosis [D, maximum 2 points]	BCKDK deficiency		2
	glucose infusion or anabolism (hyperinsulinism)		1
Further tests (if molecular genetics recommended, specify the gene) **[R, maximum 2 points]**	molecular analysis of *BCKDK* gene		2
	repetition of the determination of amino acids in plasma		1

Scores for participating laboratories are in APPENDIX 1 on page 10.

6.5.3. Comments on overall performance

All participants have correctly described the biochemical abnormalities. However, the interpretations differed, but 121 participants made the correct diagnosis. Some participants suspected malnutrition or an incorrect diet for MSUD as the cause, this was awarded zero points.

The overall proficiency was 91%.

Critical Errors: There were no critical errors for this case.

6.5.4. Best interpretation (scored with 2 points each)

- **Findings:** Substantially decreased concentrations of the branched-chain amino acids - leucine, isoleucine and valine. Rest of profile normal.
- **Diagnosis:** This profile, together with the clinical information provided, suggests branched-chain keto acid dehydrogenase kinase (BCKDK) deficiency. Decreased branched-chain amino acids can also be observed in a context of hyperinsulinism: however, the clinical information is not suggestive of this.
- **Further tests**: Repeat plasma amino acids and correlate with nutritional status. Check blood glucose and perform relevant endocrine testing to rule out hyperinsulinism. Perform molecular analysis of the *BCKDK* gene.

6.6. Case 2024-6: Hypophosphatasia

6.6.1. Sample details

The results are from a girl who developed cerebral seizures at the age of 6 days that partially responded to vitamin B6. In addition, low alkaline phosphatase activity was observed. The phosphoethanolamine concentration was significantly increased. Hypophosphatasia (with pyridoxine-responsive seizures) due to mutations in *ALPL* gene was confirmed.

6.6.2. Scoring details

Table 9: Scoring details for case 2024-6.

	Interpretation		**Score (points)**
Findings, abnormalities [A, maximum 2 points]	elevated	PEA	2
	decreased	AP	2
Diagnosis [D, maximum 2 points]	hypophosphatasia		2
	pyridoxine-responsive seizures		1
Further tests (if molecular genetics recommended, specify the gene) **[R, maximum 2 points]**	phosphoethanolamine (P, CSF, U)		1
	alkaline phosphatase (AP) in plasma		1
	determination of vitamin B6 metabolites		1
	molecular genetic analysis of *ALPL* gene		2
	molecular genetic analysis of *ALDH7A1* gene		1

Scores for participating laboratories are in APPENDIX 1 on page 10.

6.6.3. Comments on overall performance

All participants correctly described the biochemical abnormalities and thus recognised that it was a congenital metabolic disorder. 135 participants also made the correct diagnosis. The overall proficiency was 98%.

Critical Errors: There were no critical errors for this case.

6.6.4. Best interpretation (scored with 2 points each)

- **Findings**: A significantly elevated phosphoethanolamine concentration together with a reduction in alkaline phosphatase activity (normal transaminases) on the liver function test were observed.
- **Diagnosis:** Main diagnosis: Congenital hypophosphatasia. Diagnosis is supported by elevated phosphoethanolamine and lowered alkaline phosphatase. Clinical features match with known cases of hypophosphatasia.
- **Further tests:** Perform pyridoxal phosphate (PLP) level in plasma. Calcium and phosphate in serum. Confirmatory test: genetic analysis of *ALPL* gene.

6.7. Comments on the 2024 results

6.7.1. First circulation

The overall proficiency of 93% was above the expected range. This is pleasing, especially in cases that are actually difficult to diagnose (such as lysinuric protein intolerance) or are very rare.

6.7.2. Second circulation

The overall proficiency of 92% was above the expected range despite two very rare diagnoses (citrin deficiency and branched-chain 2-ketoacid dehydrogenase kinase deficiency).

7. Plans for 2025

7.1. Scheme Design:

- The number of participants is limited to 150 with a maximum of one registration per lab.
- 2 submission deadlines on **27th May 2025** and **8th September 2025**, 3 cases per deadline. The full 2025 calendar is published on the ERNDIM website (www.erndim.org) and will also be included in the scheme instructions.
- Online submission of all results will be mandatory, using the Formdesk website as it was for 2024. Only one set of submitted results will be allowed per registration. All reports must be submitted in English.
- Labs that do not submit any results will be classed as non-submitters.
- Labs that submit results for 3 or fewer cases will be classed as partial submitters. These labs will be shown as non-submitters on the certificates of participation.
- As the number of participants in this scheme is limited, due to the manual evaluation of the results, persistent non- and partial submitters may be excluded from participation in future years.

- Educational Participation will not be an option for this scheme.

7.2. Evaluation

- Scientific Advisor and the other scheme assessors to evaluate the results.
- Scoring for the cases will be agreed by the Scientific Advisor and assessors in advance of each circulation.
- As for the 2024 scheme, scoring will be done by two blinded assessors each (blinded to both, the ERN number and to the scores of the second assessor). If the scores are not concordant the Scientific Advisor will score the results as well.

7.3. Poor Performance

- The use of subcontracted (or 'cluster' labs) laboratories is not allowed in this scheme.
- **The Scientific Advisory Board (SAB) agreed at their November 2024 meeting that the principle of critical error will apply to this scheme and the score required for satisfactory performance will be 20/36 points (56%).** However, this score will be subject to annual review by the SAB.
- The ERNDIM poor performance policies will apply (i.e., performance support letters will be sent to labs that do not obtain satisfactory performance).

7.4. Reports

- Diagnoses will be circulated to scheme participants approximately 2 weeks after each deadline.
- Interim reports will be published 6-8 weeks after each submission deadline.
- Annual report to be published in Jan 2026.

7.5. Certificates of Participation

- Certificate of Participations will show the AAI scheme under the Qualitative schemes header and will include whether a lab registered for this scheme, if they submitted results, and if their performance was satisfactory.

We encourage participants to send us comments and suggestions regarding this scheme and do not hesitate to contact us if you have questions regarding any of our scoring.

Date: 20th Feb 2025

The Scientific Evaluators

Sabine Scholl-Bürgi, Scientific Advisor
Scheme Assessors: Apolline Imbard (Deputy Scientific Advisor), Olivier Braissant, Rachel Carling, Alistair Horman, Daniela Karall, and Anke Schumann

APPENDIX 1. Detailed scores for submitting laboratories

Key

A = Findings, abnormalities
D = Diagnosis
R = Recommendations for further testing
DNS = Did not submit results

Table 10: First round scores

Anon. lab number	2024.01				2024.02				2024.03				2024.01 - .03
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
1	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
2	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
3	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	0.0	1.0	**3.0**	**15.0**
4	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
5	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
6	1.0	0.0	1.0	**2.0**	2.0	0.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	**11.0**
7	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
8	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
9	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
10	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
11	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
12	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
13	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
14	2.0	2.0	1.0	**5.0**	2.0	0.0	2.0	**4.0**	2.0	0.0	0.0	**2.0**	**11.0**
15	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
16	1.0	0.0	1.0	**2.0**	1.0	0.0	2.0	**3.0**	2.0	0.0	1.0	**3.0**	**8.0**
17	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
18	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
19	1.0	0.0	1.0	**2.0**	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	**12.0**
20													**DNS**
21	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
22	2.0	2.0	2.0	**6.0**	1.0	1.0	2.0	**4.0**	2.0	2.0	2.0	**6.0**	**16.0**
23	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
24	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
25	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
26	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
27	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
28	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
29	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
30	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
31	1.0	1.0	2.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
32	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
33	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
34	1.0	2.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
35	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
36	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
37	2.0	0.0	1.0	**3.0**	2.0	0.0	1.0	**3.0**	2.0	2.0	1.0	**5.0**	**11.0**

Anon. lab number	2024.01				2024.02				2024.03				2024.01 - .03
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
38	2.0	2.0	1.0	**5.0**	1.0	2.0	1.0	**4.0**	2.0	2.0	1.0	**5.0**	**14.0**
39	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
40	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
41	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
42	1.0	0.0	1.0	**2.0**	2.0	2.0	2.0	**6.0**	2.0	0.0	1.0	**3.0**	**11.0**
43	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
44	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	**14.0**
45	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
46	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
47	2.0	2.0	2.0	**6.0**	1.0	0.0	1.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
48	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
49	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
50	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
51	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
52	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
53	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
54	2.0	2.0	2.0	**6.0**	2.0	0.0	2.0	**4.0**	2.0	2.0	2.0	**6.0**	**16.0**
55	2.0	2.0	2.0	**6.0**	2.0	0.0	1.0	**3.0**	2.0	0.0	0.0	**2.0**	**11.0**
56	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
57	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
58	2.0	1.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
59	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
60	2.0	2.0	1.0	**5.0**	1.0	2.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	**16.0**
61	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
62	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
63	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
64	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
65	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
66	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
67	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
68	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
69	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
70	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
71	2.0	0.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
72	2.0	1.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
73	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
74	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
75	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
76	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
77	2.0	2.0	2.0	**6.0**	1.0	1.0	2.0	**4.0**	2.0	2.0	2.0	**6.0**	**16.0**
78	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
79	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
80	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	0.0	1.0	**3.0**	**15.0**
81	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
82	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**

Anon. lab number	2024.01				2024.02				2024.03				2024.01 - .03
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
83	2.0	2.0	0.0	4.0	1.0	0.0	1.0	2.0	2.0	2.0	2.0	6.0	12.0
84	2.0	2.0	1.0	5.0	1.0	0.0	2.0	3.0	2.0	0.0	1.0	3.0	11.0
85	2.0	2.0	1.0	5.0	1.0	0.0	1.0	2.0	2.0	2.0	2.0	6.0	13.0
86	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
87	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
88	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
89													DNS
90	2.0	1.0	2.0	5.0	2.0	0.0	2.0	4.0	2.0	0.0	2.0	4.0	13.0
91	2.0	1.0	2.0	5.0	2.0	0.0	1.0	3.0	2.0	2.0	2.0	6.0	14.0
92	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
93	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
94	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
95	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	1.0	2.0	5.0	17.0
96	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
97	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
98	2.0	2.0	1.0	5.0	1.0	2.0	2.0	5.0	2.0	2.0	0.0	4.0	14.0
99	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
100	2.0	2.0	2.0	6.0	2.0	0.0	2.0	4.0	2.0	2.0	2.0	6.0	16.0
101	2.0	2.0	1.0	5.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	17.0
102	2.0	2.0	2.0	6.0	2.0	0.0	2.0	4.0	2.0	0.0	1.0	3.0	13.0
103	1.0	0.0	1.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	14.0
104	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
105	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
106	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
107	2.0	2.0	2.0	6.0	1.0	1.0	2.0	4.0	2.0	0.0	1.0	3.0	13.0
108	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
109	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
110	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
111	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
112	1.0	2.0	2.0	5.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	17.0
113	2.0	2.0	1.0	5.0	2.0	2.0	2.0	6.0	2.0	0.0	0.0	2.0	13.0
114	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
115	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
116	2.0	2.0	2.0	6.0	1.0	0.0	2.0	3.0	2.0	2.0	2.0	6.0	15.0
117	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
118	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
119	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
120	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
121	2.0	2.0	0.0	4.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	16.0
122	2.0	2.0	1.0	5.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	17.0
123	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
124	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
125	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0	2.0	6.0	18.0
126	2.0	2.0	2.0	6.0	2.0	0.0	2.0	4.0	2.0	0.0	1.0	3.0	13.0
127													DNS

Anon. lab number	2024.01				2024.02				2024.03				2024.01 - .03
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
128	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
129	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
130	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
131	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
132	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
133	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
134	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
135	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
136	2.0	0.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
137	2.0	1.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
138	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
139	1.0	2.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
140	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
141	2.0	2.0	0.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
142	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
143													**DNS**

Table 11: Second round scores

Anon. lab number	2024.04				2024.05				2024.06				2024.04 - .06
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
1	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
2	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
3	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
4	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
5	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
6	2.0	0.0	1.0	**3.0**	2.0	0.0	1.0	**3.0**	2.0	1.0	1.0	**4.0**	**10.0**
7	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
8	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
9	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
10	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
11	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
12	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
13	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
14	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
15	2.0	2.0	2.0	**6.0**	2.0	1.0	0.0	**3.0**	2.0	2.0	2.0	**6.0**	**15.0**
16	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
17	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
18	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
19	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
20	2.0	2.0	2.0	**6.0**	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	**17.0**
21	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	**14.0**
22	2.0	1.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
23	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
24	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**

Anon. lab number	2024.04				2024.05				2024.06				2024.04 - .06
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
25	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
26	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
27	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
28	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
29	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
30	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
31	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
32	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
33	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
34	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
35	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
36	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
37	1.0	0.0	0.0	**1.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**9.0**
38	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
39	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**14.0**
40	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
41	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
42	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
43	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
44	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
45	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
46	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
47	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
48	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
49	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
50	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
51	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
52	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	1.0	1.0	**4.0**	**14.0**
53	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
54	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
55	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
56	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
57	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
58	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
59	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
60	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
61	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
62	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
63	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
64	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
65	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
66	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
67	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	1.0	**5.0**	**17.0**
68	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
69	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**

Anon. lab number	2024.04				2024.05				2024.06				2024.04 - .06
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
70	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
71	2.0	2.0	2.0	**6.0**	2.0	1.0	0.0	**3.0**	2.0	2.0	2.0	**6.0**	**15.0**
72	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
73	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
74	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
75	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
76	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
77	2.0	2.0	1.0	**5.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**13.0**
78	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
79	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
80	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
81	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
82	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
83	2.0	1.0	0.0	**3.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**11.0**
84	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
85	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
86	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
87	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
88	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
89	1.0	1.0	1.0	**3.0**	2.0	0.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	**12.0**
90	2.0	1.0	1.0	**4.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**12.0**
91	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
92	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
93	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
94	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
95	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
96	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
97	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
98	1.0	1.0	1.0	**3.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**11.0**
99	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
100	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
101	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
102													**DNS**
103	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
104	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
105	2.0	2.0	1.0	**5.0**	2.0	2.0	0.0	**4.0**	2.0	2.0	1.0	**5.0**	**14.0**
106	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
107	1.0	1.0	1.0	**3.0**	2.0	0.0	0.0	**2.0**	2.0	0.0	1.0	**3.0**	**8.0**
108	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
109	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
110	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	1.0	**5.0**	**15.0**
111	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
112	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
113	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
114	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**

Anon. lab number	2024.04				2024.05				2024.06				2024.04 - .06
	A	D	R	Sum	A	D	R	Sum	A	D	R	Sum	Total Score
115	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
116	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
117	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
118	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
119	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
120	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
121	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
122	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
123	2.0	2.0	1.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
124	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	1.0	1.0	**4.0**	**14.0**
125	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
126	2.0	1.0	2.0	**5.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**17.0**
127													**DNS**
128	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
129	1.0	1.0	1.0	**3.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**11.0**
130	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
131	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
132	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
133	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
134	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
135	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
136	2.0	1.0	1.0	**4.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**16.0**
137	2.0	2.0	2.0	**6.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**14.0**
138	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
139	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
140	2.0	1.0	1.0	**4.0**	2.0	0.0	0.0	**2.0**	2.0	2.0	2.0	**6.0**	**12.0**
141	1.0	1.0	1.0	**3.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**15.0**
142	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	2.0	2.0	2.0	**6.0**	**18.0**
143													**DNS**

Table 12: Total scores for 2024 scheme

Anon. lab number	First round (2024-01 to -03	Second round (2024-04 to -06)	Total Score	% Max score*	
1	17	18	35	97.2%	
2	18	16	34	94.4%	
3	15	18	33	91.7%	
4	18	15	33	91.7%	
5	18	16	34	94.4%	
6	11	10	21	58.3%	
7	18	18	36	100.0%	
8	18	18	36	100.0%	
9	18	15	33	91.7%	
10	18	16	34	94.4%	
11	18	15	33	91.7%	
12	18	18	36	100.0%	

Anon. lab number	First round (2024-01 to -03	Second round (2024-04 to -06)	Total Score	% Max score*	
13	18	18	36	100.0%	
14	11	18	29	80.6%	
15	17	15	32	88.9%	
16	8	17	25	69.4%	
17	18	18	36	100.0%	
18	18	16	34	94.4%	
19	12	16	28	77.8%	
20		17	17	47.2%	Partial submitter
21	18	14	32	88.9%	
22	16	17	33	91.7%	
23	18	18	36	100.0%	
24	18	16	34	94.4%	
25	18	18	36	100.0%	
26	18	14	32	88.9%	
27	18	18	36	100.0%	
28	18	18	36	100.0%	
29	18	18	36	100.0%	
30	18	18	36	100.0%	
31	16	18	34	94.4%	
32	18	18	36	100.0%	
33	18	18	36	100.0%	
34	17	18	35	97.2%	
35	17	16	33	91.7%	
36	16	15	31	86.1%	
37	11	9	20	55.6%	
38	14	18	32	88.9%	
39	18	14	32	88.9%	
40	18	17	35	97.2%	
41	17	18	35	97.2%	
42	11	18	29	80.6%	
43	18	18	36	100.0%	
44	14	18	32	88.9%	
45	18	18	36	100.0%	
46	18	18	36	100.0%	
47	14	18	32	88.9%	CE (sample 2)
48	18	18	36	100.0%	
49	18	18	36	100.0%	
50	17	18	35	97.2%	
51	18	16	34	94.4%	
52	17	14	31	86.1%	
53	18	18	36	100.0%	
54	16	18	34	94.4%	
55	11	18	29	80.6%	
56	17	18	35	97.2%	
57	18	17	35	97.2%	
58	17	18	35	97.2%	

Anon. lab number	First round (2024-01 to -03	Second round (2024-04 to -06)	Total Score	% Max score*	
59	17	16	33	91.7%	
60	16	18	34	94.4%	
61	18	18	36	100.0%	
62	18	18	36	100.0%	
63	18	18	36	100.0%	
64	18	18	36	100.0%	
65	18	16	34	94.4%	
66	18	18	36	100.0%	
67	18	17	35	97.2%	
68	18	18	36	100.0%	
69	18	18	36	100.0%	
70	18	18	36	100.0%	
71	15	15	30	83.3%	
72	17	14	31	86.1%	
73	18	18	36	100.0%	
74	18	18	36	100.0%	
75	18	18	36	100.0%	
76	18	16	34	94.4%	
77	16	13	29	80.6%	
78	18	18	36	100.0%	
79	18	16	34	94.4%	
80	15	14	29	80.6%	
81	18	14	32	88.9%	
82	18	18	36	100.0%	
83	12	11	23	63.9%	
84	11	18	29	80.6%	
85	13	18	31	86.1%	
86	18	18	36	100.0%	
87	18	16	34	94.4%	
88	18	18	36	100.0%	
89		12	12	33.3%	Partial submitter
90	13	12	25	69.4%	
91	14	18	32	88.9%	
92	18	18	36	100.0%	
93	18	18	36	100.0%	
94	18	16	34	94.4%	
95	17	14	31	86.1%	
96	18	18	36	100.0%	
97	18	18	36	100.0%	
98	14	11	25	69.4%	
99	18	15	33	91.7%	
100	16	18	34	94.4%	
101	17	18	35	97.2%	
102	13		13	36.1%	Partial submitter
103	14	16	30	83.3%	
104	18	18	36	100.0%	

Anon. lab number	First round (2024-01 to -03	Second round (2024-04 to -06)	Total Score	% Max score*	
105	18	14	32	88.9%	
106	18	18	36	100.0%	
107	13	8	21	58.3%	
108	18	16	34	94.4%	
109	18	18	36	100.0%	
110	18	15	33	91.7%	
111	18	18	36	100.0%	
112	17	18	35	97.2%	
113	13	18	31	86.1%	
114	18	16	34	94.4%	
115	18	18	36	100.0%	
116	15	16	31	86.1%	
117	18	18	36	100.0%	
118	18	18	36	100.0%	
119	18	16	34	94.4%	
120	18	15	33	91.7%	
121	16	18	34	94.4%	
122	17	18	35	97.2%	
123	18	17	35	97.2%	
124	18	14	32	88.9%	
125	18	14	32	88.9%	
126	13	17	30	83.3%	
127			0	0.0%	Non-submitter
128	17	18	35	97.2%	
129	18	11	29	80.6%	
130	18	18	36	100.0%	
131	18	18	36	100.0%	
132	18	18	36	100.0%	
133	17	18	35	97.2%	
134	18	18	36	100.0%	
135	18	18	36	100.0%	
136	15	16	31	86.1%	
137	17	14	31	86.1%	
138	18	18	36	100.0%	
139	17	18	35	97.2%	
140	17	12	29	80.6%	
141	16	15	31	86.1%	
142	18	18	36	100.0%	
143			0	0.0%	Non-submitter

***** = % Max Score (36 points) is shown only for labs that submitted results for both submission rounds

APPENDIX 2. Change log (changes since the last version)

Version Number	Published	Amendments
1	20th Feb 2025	• 2024 annual report published

END OF REPORT