

Benchmark 70% – 30%

Parameters:

- 70% – 30% pairwise patterns
- 20 samples for each combination
- 5% uniform noise

Each row corresponds to a particular signature (27 in total)

For each signature, there are 4 boxplots showing the contribution of that signature:

1. when it forms 70% of the simulated pattern, w.r.t. the signature that forms 30% of the pattern
2. when it forms 30% of the simulated pattern, w.r.t. the signature that forms 70% of the pattern
3. when it is not in the simulated pattern, w.r.t. the signature that forms 70% of the pattern
4. when it is not in the simulated pattern, w.r.t. the signature that forms 30% of the pattern

Combinations of high sig.1B and low sig.13 or low sig.R2, or combinations of high sig.5 and low sig.2 or low sig.13 are more challenging to decompose. Nearly all other cases behave as expected.

Sample	% Signature 1A (approx.)
1A	100
1B	70
2	68
3	68
4	68
5	68
6	68
7	68
8	68
9	68
10	68
11	68
12	68
13	68
14	68
15	68
16	68
17	68
18	68
19	68
20	68
21	68
R1	68
R2	68
R3	68
U1	68
U2	68

+ 30% of this signature

Question	Percentage of Correct Answers (approx.)
A1	100
A2	30
A3	30
A4	30
A5	30
A6	30
A7	30
A8	30
A9	30
A10	30
A11	30
A12	30
A13	30
A14	30
A15	30
A16	30
A17	30
A18	30
A19	30
A20	30
A21	30
A22	30
A23	30
A24	30

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Year	Number of Publications
1991	0
1992	0
1993	0
1994	0
1995	0
1996	0
1997	0
1998	0
1999	0
2000	0
2001	0
2002	0
2003	0
2004	0
2005	0
2006	0
2007	0
2008	0
2009	0
2010	0
2011	0
2012	0
2013	0
2014	0
2015	0
2016	0
2017	0
2018	0
2019	0
2020	0
2021	0
2022	100

70% of this signature

30% of this signature

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Figure 10: Number of iterations for the proposed algorithm. The plot shows the number of iterations for 25 different test cases (A to J2). The y-axis ranges from 0 to 100. Most test cases result in approximately 25-30 iterations, with a few outliers near 100 for cases A and B.

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Question	Correct Answers
A	0
B	0
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
J1	0
J2	0

70% of this signature

n	Number of non-zero entries in A
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	0
15	0
16	0
17	0
18	0
19	0
20	0
21	0
22	0
23	0
24	0
25	0
26	0
27	0
28	0
29	0
30	0
31	0
32	0
33	0
34	100

30% of this signature

Box plot showing the percentage of Signature.2 across 24 samples. The y-axis is labeled '% Signature.2' with ticks at 0, 30, 70, and 100. The x-axis lists samples: A, B, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12. Sample 2 shows a high percentage of Signature.2 (median ~95%), while all other samples show a median percentage around 65-70%.

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Figure 1 is a box plot showing the distribution of the number of iterations required for the proposed algorithm to converge. The x-axis represents the number of iterations, ranging from 4 to 22. The y-axis represents the frequency, ranging from 0 to 100. The plot shows that the majority of iterations are between 4 and 10, with a peak at 4 iterations.

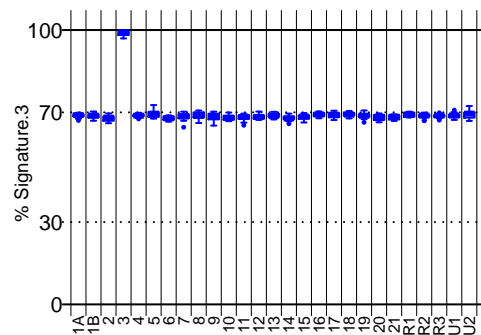
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n	Number of non-zero entries
1	0
2	0
3	0
4	0
5	0
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	5
14	10
15	15
16	0
17	0
18	0
19	0
20	0
21	0
22	0

70% of this signature

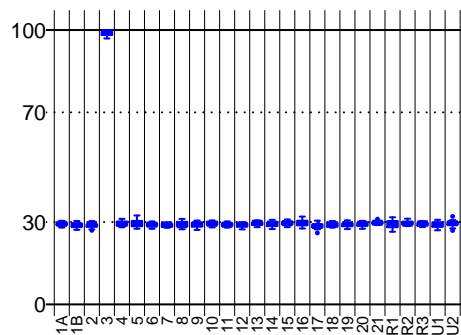
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70% of Signature.3



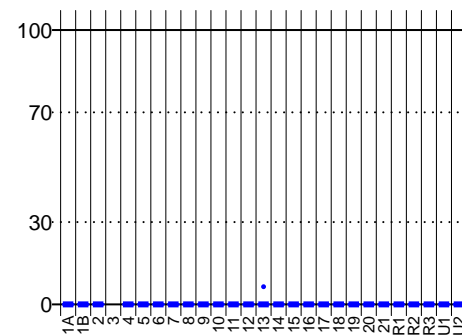
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30% of Signature.3



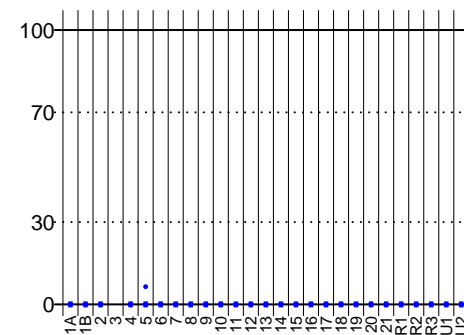
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No Signature.3



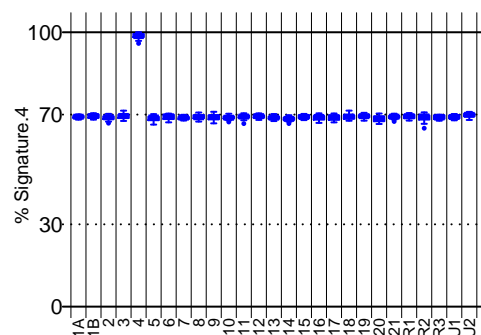
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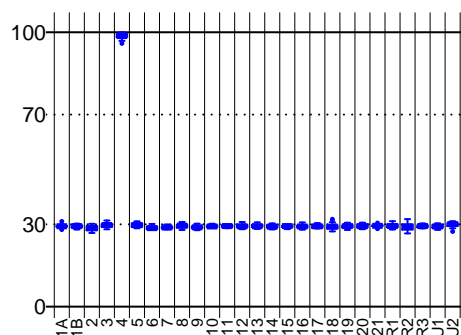
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70% of Signature.4



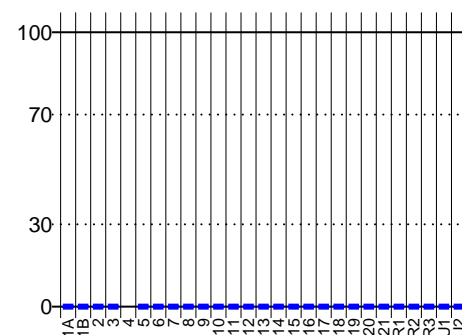
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30% of Signature.4



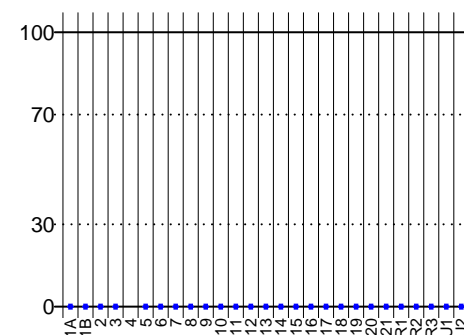
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No Signature.4



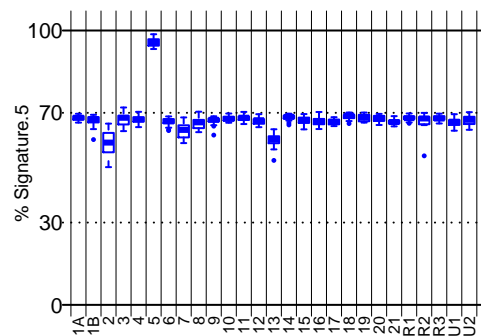
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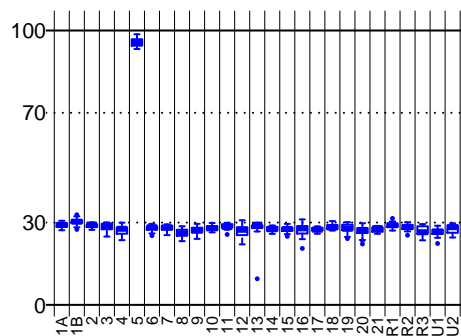
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70% of Signature.5



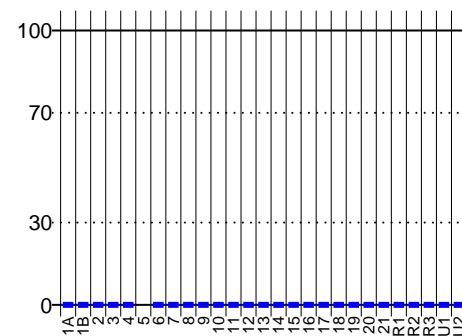
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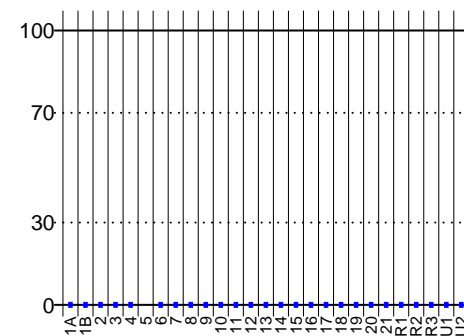
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No Signature.5



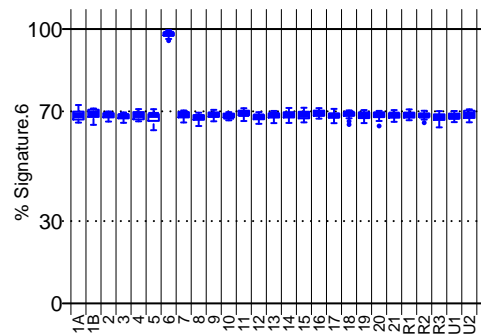
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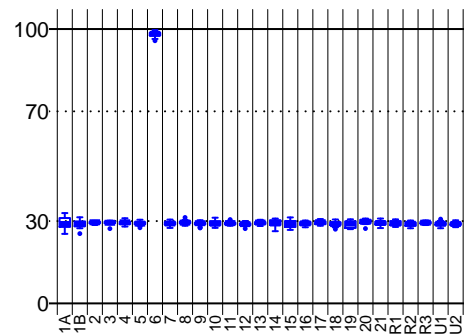
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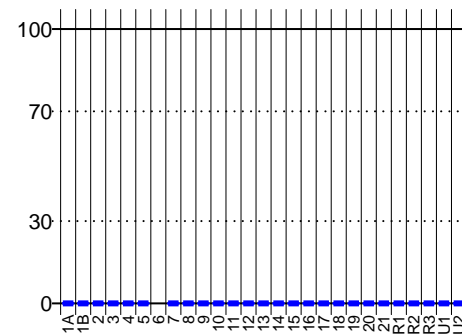
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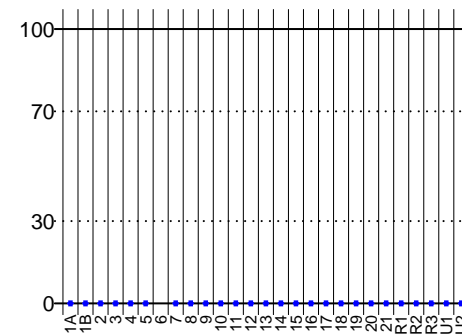
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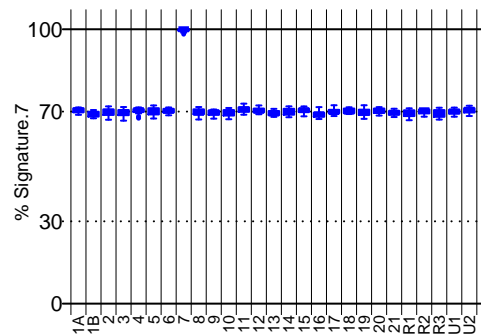
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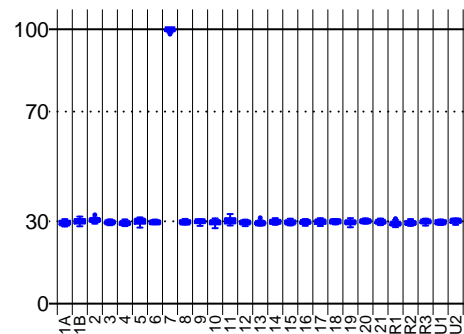
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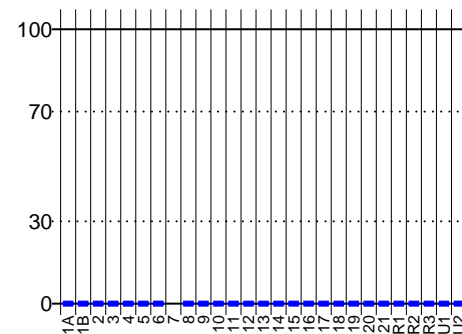
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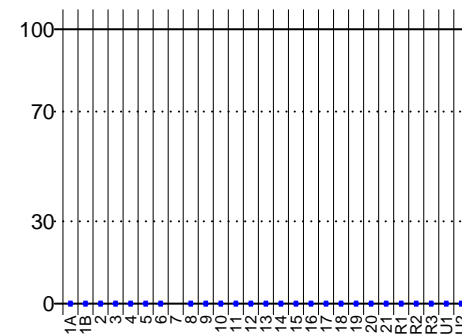
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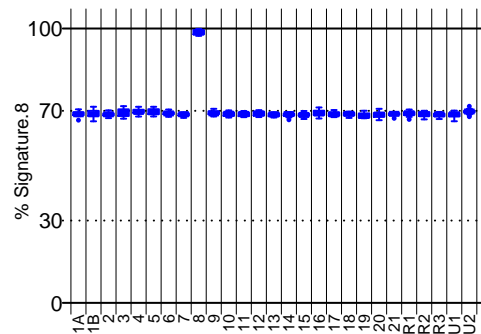
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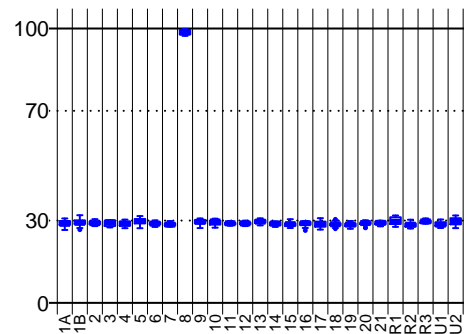
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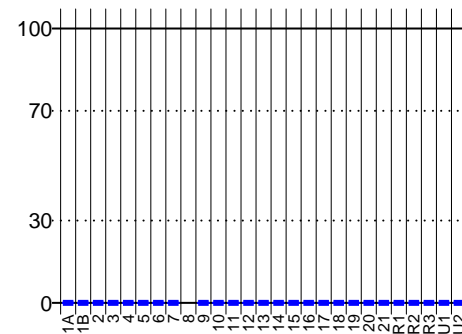
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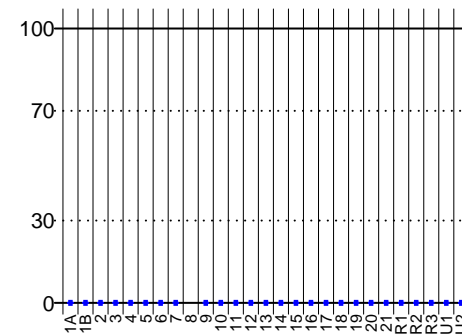
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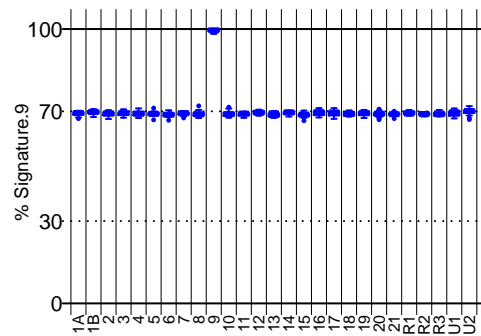
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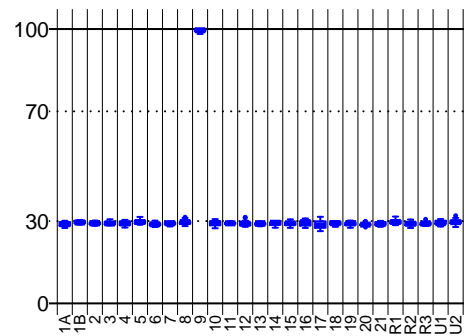
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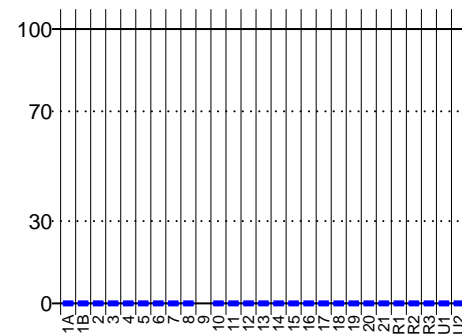
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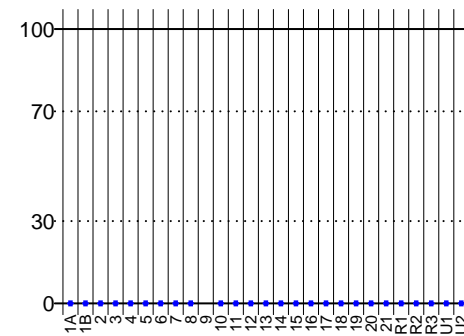
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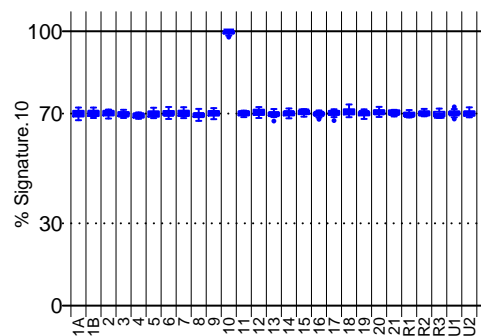
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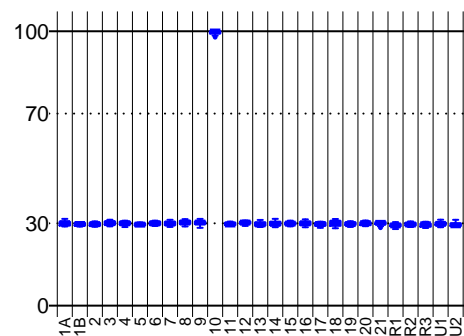
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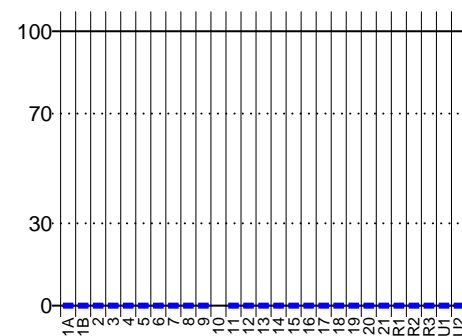
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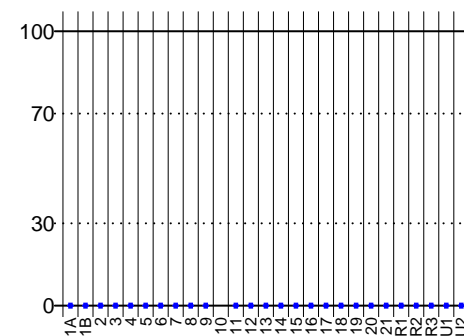
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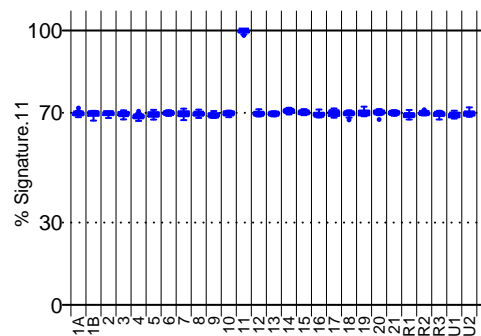
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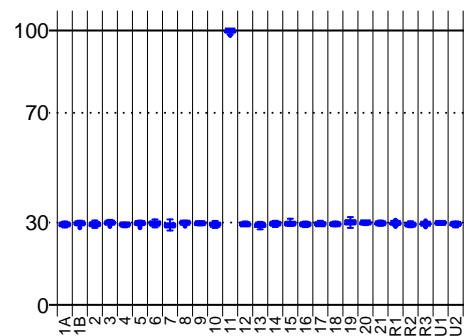
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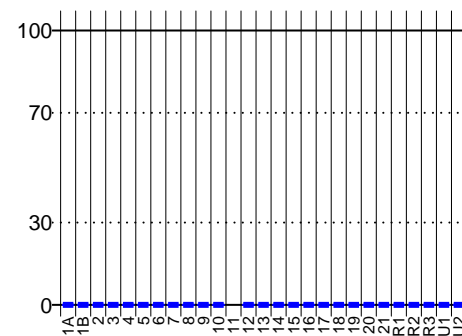
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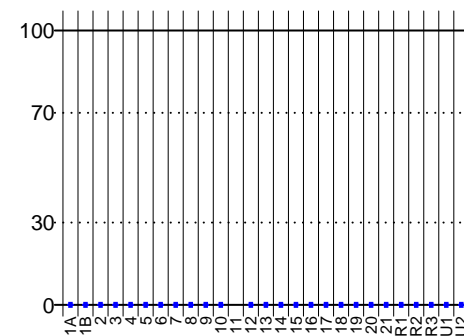
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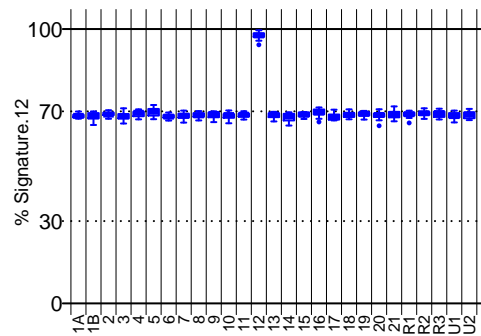
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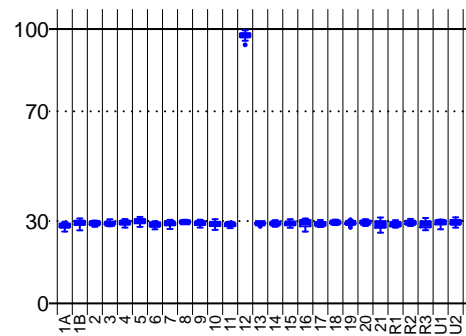
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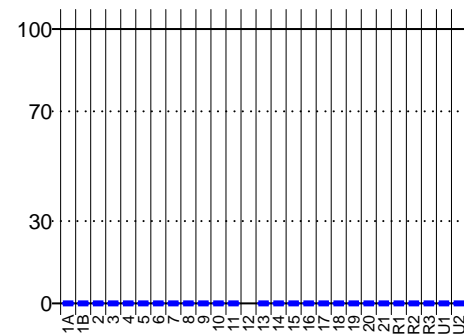
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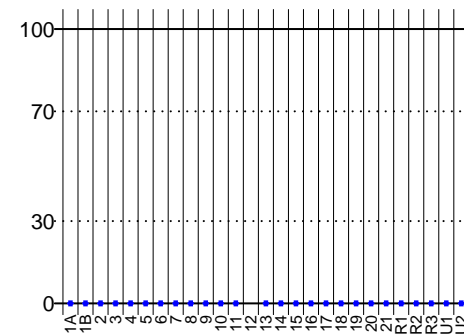
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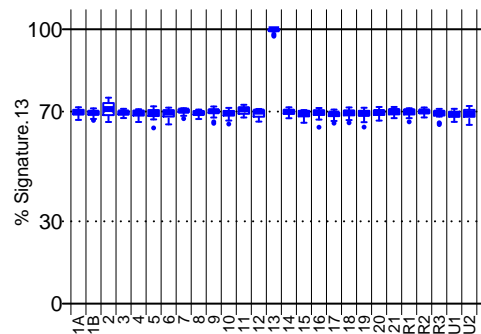
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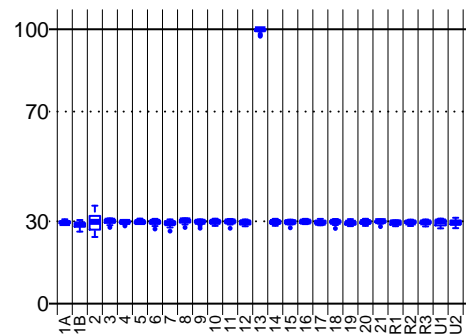
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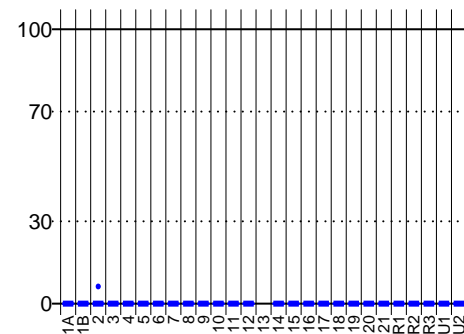
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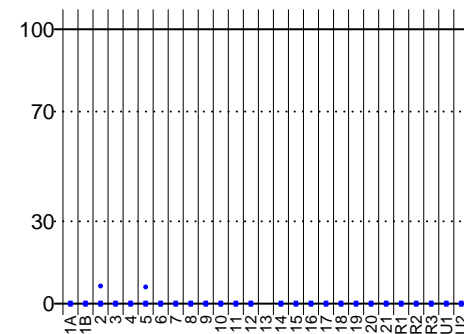
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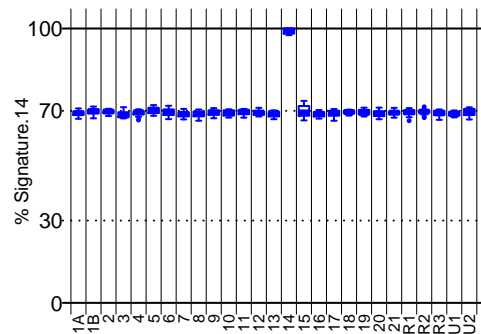
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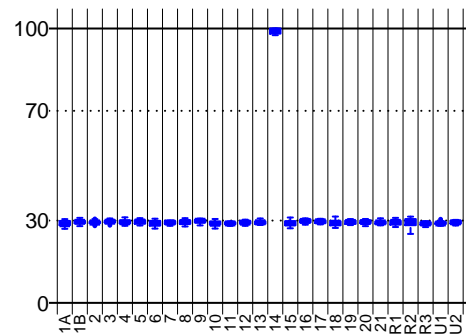
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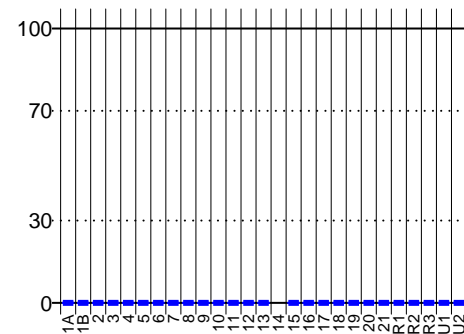
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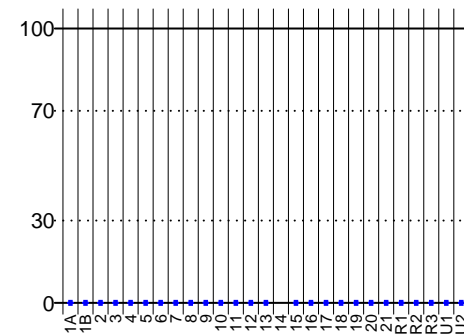
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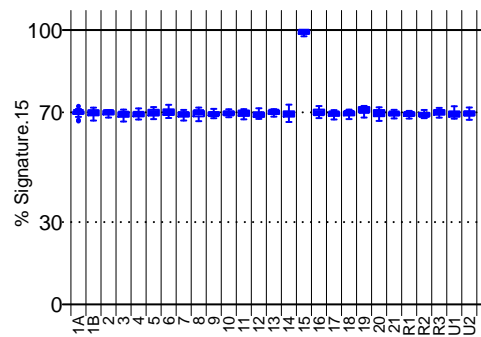
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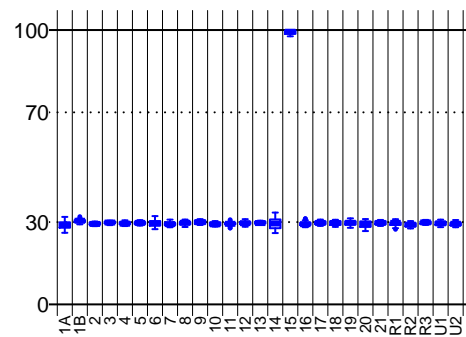
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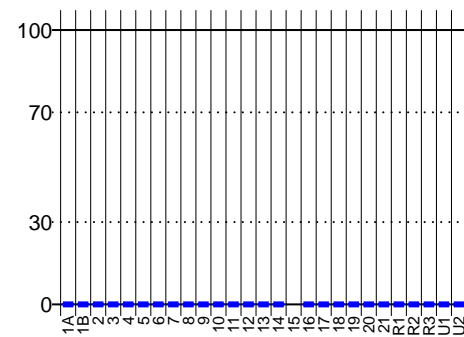
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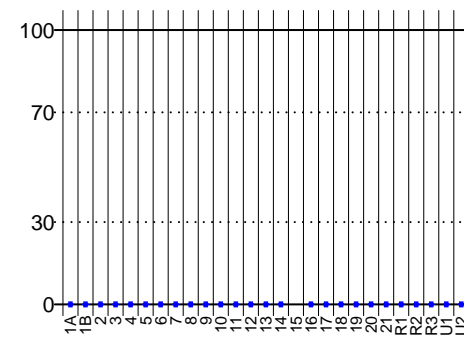
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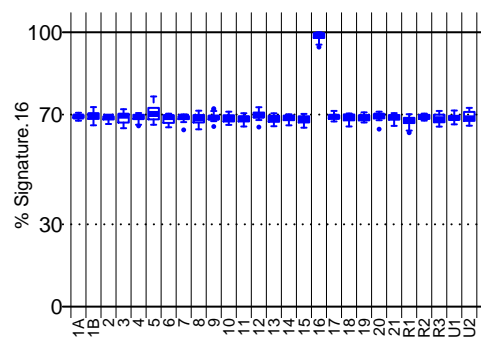
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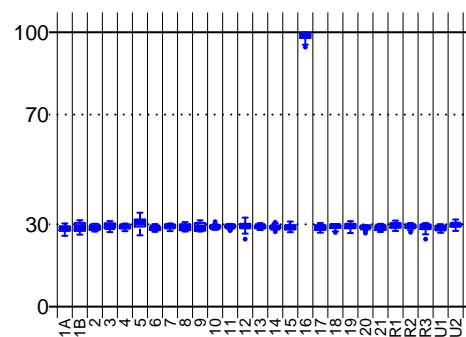
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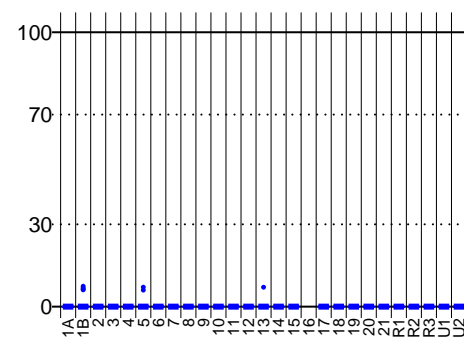
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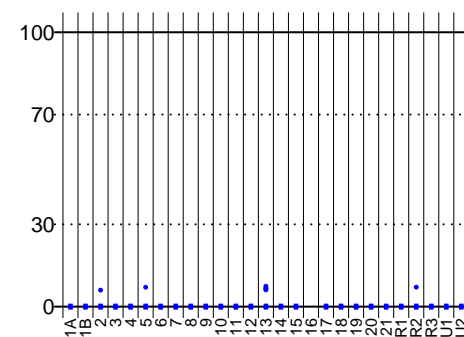
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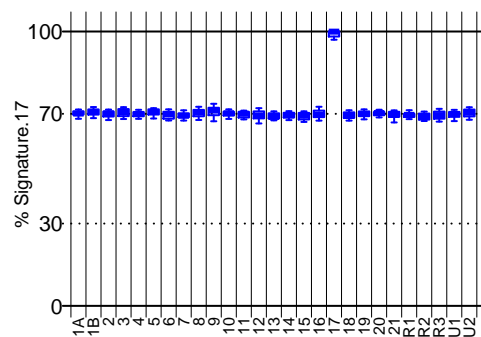
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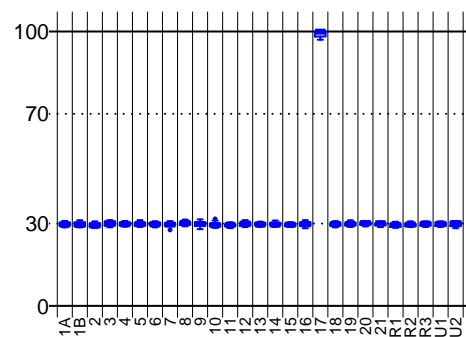
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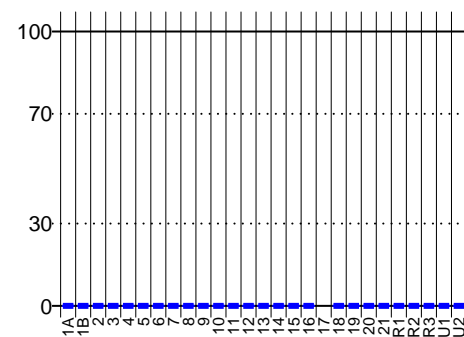
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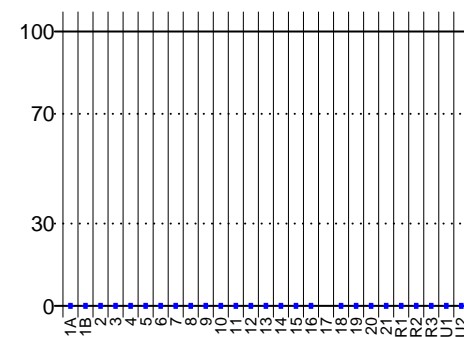
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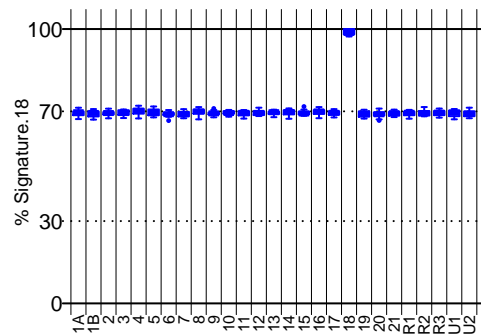
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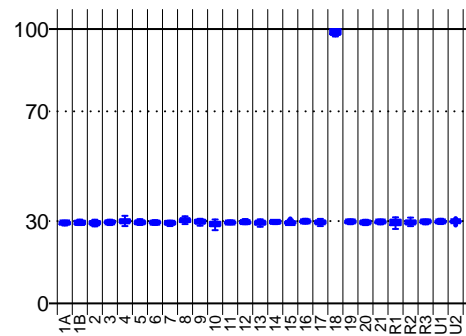
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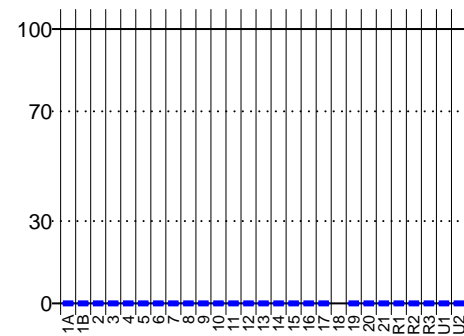
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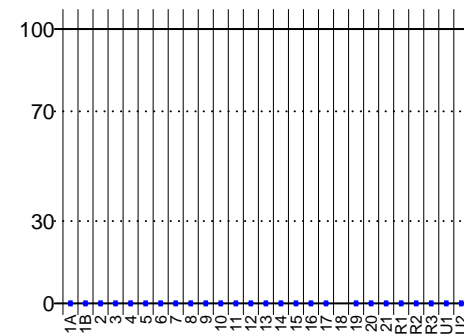
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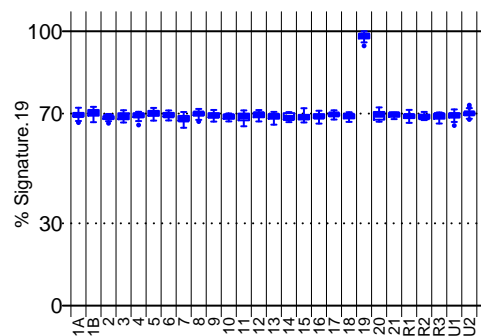
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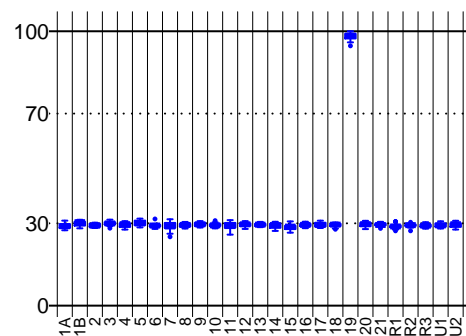
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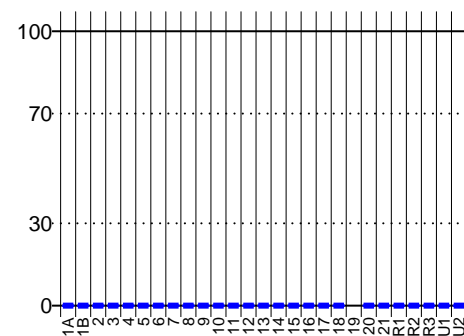
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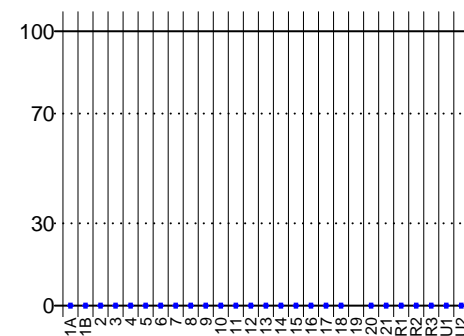
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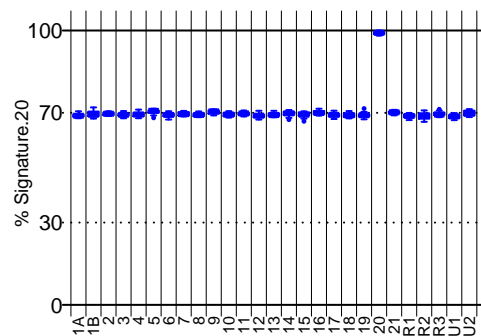
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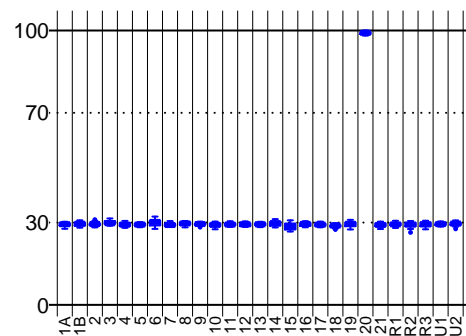
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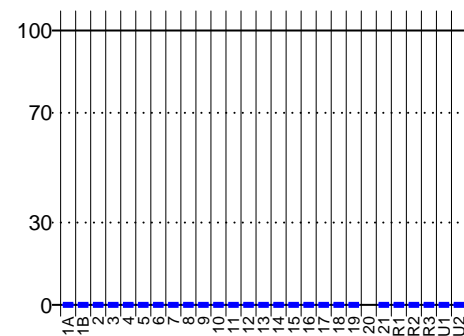
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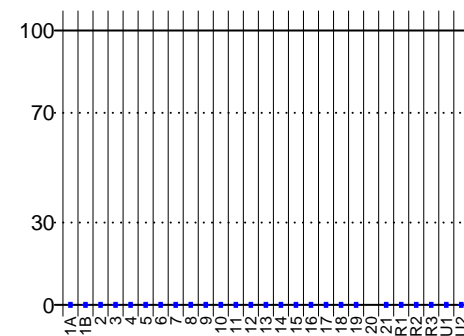
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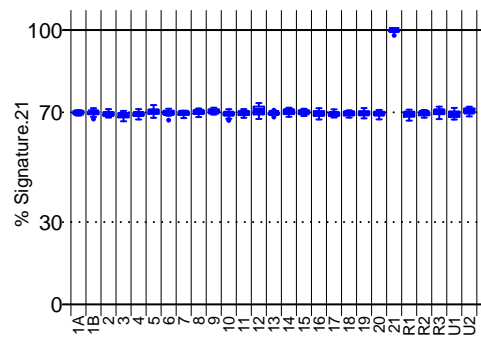
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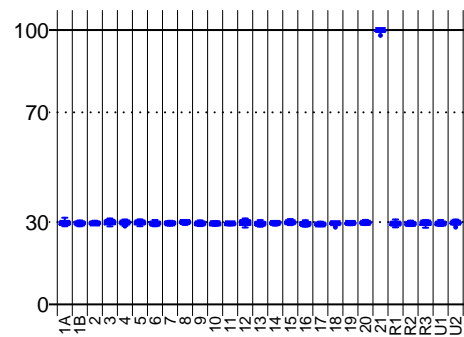
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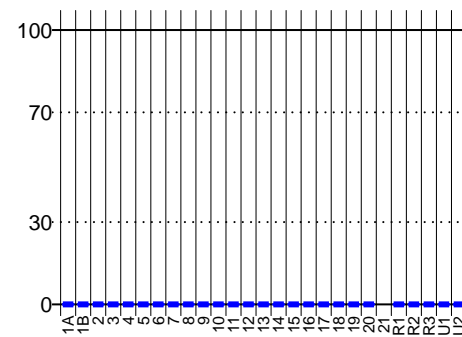
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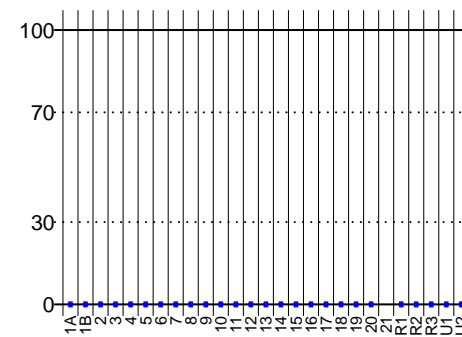
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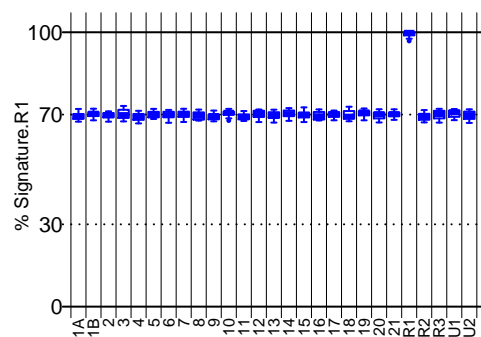
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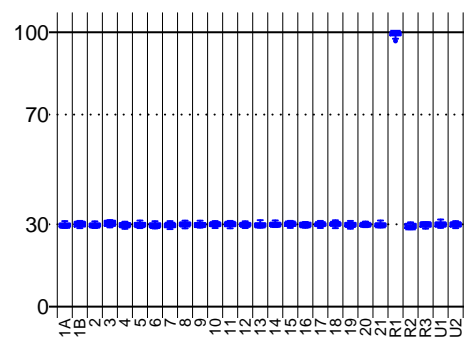
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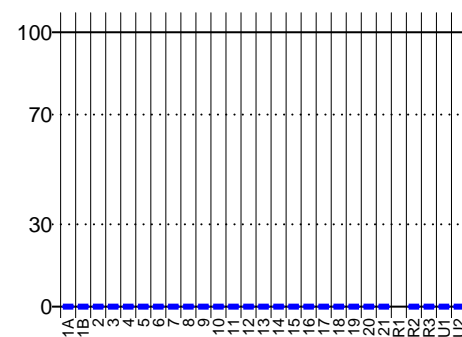
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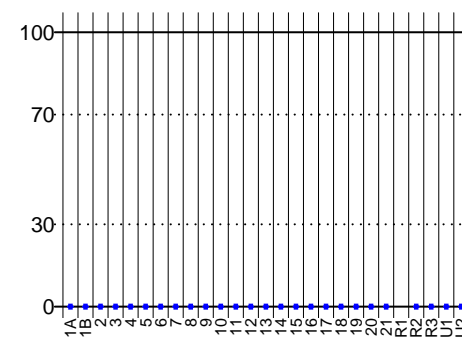
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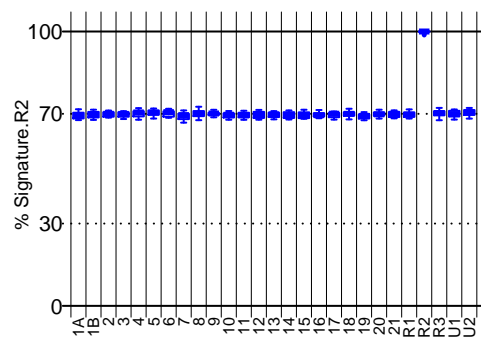
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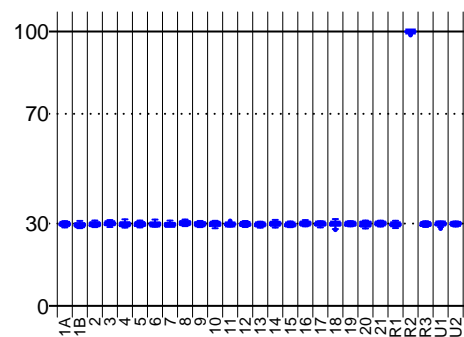
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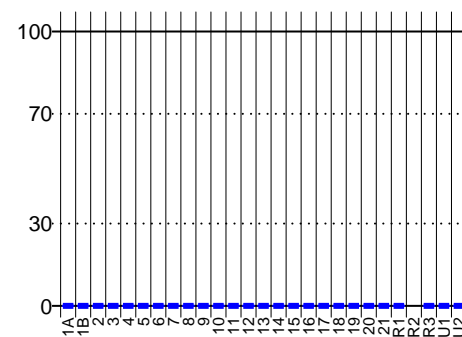
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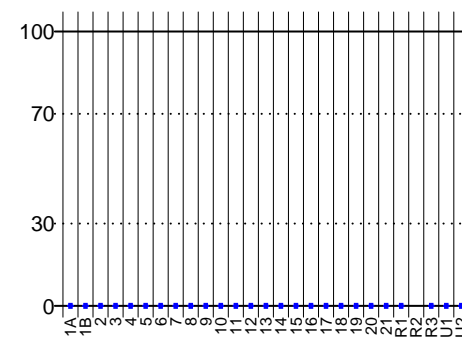
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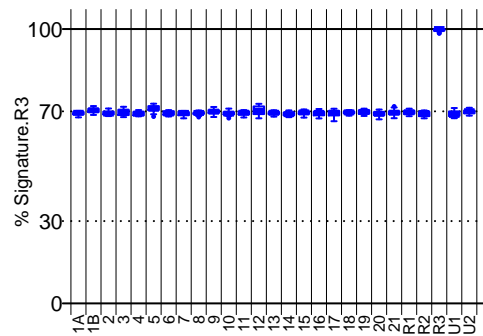
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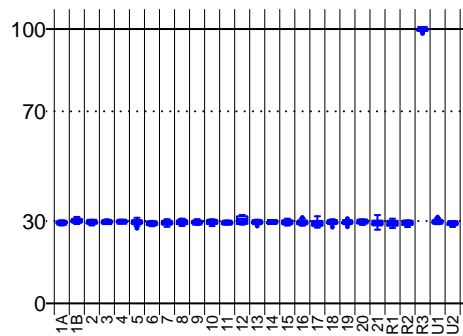
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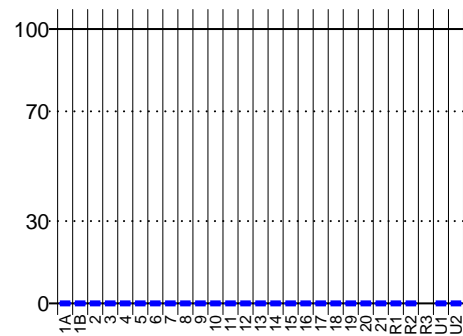
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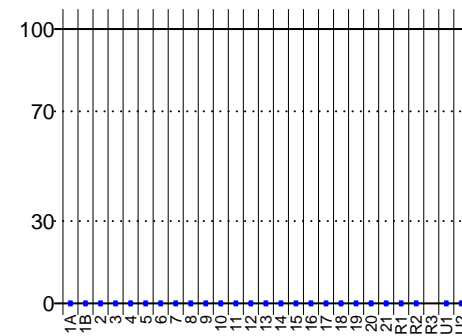
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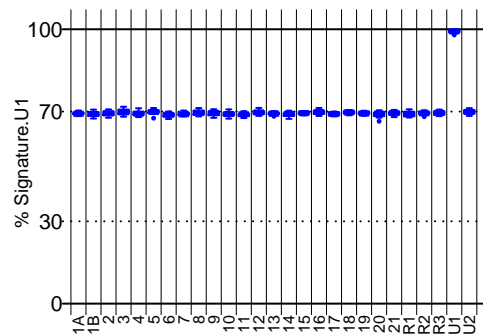
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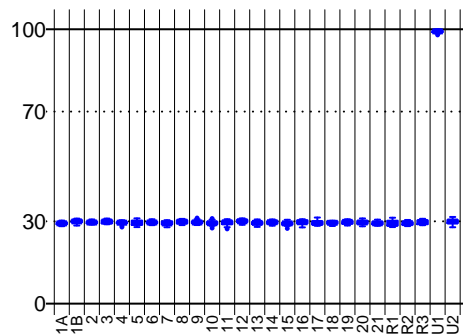
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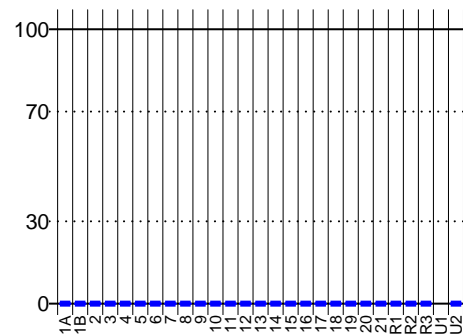
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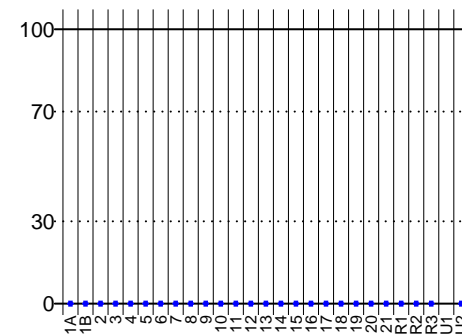
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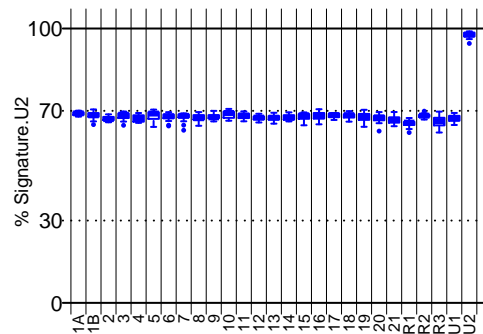
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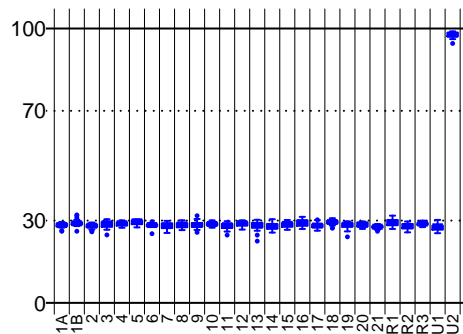
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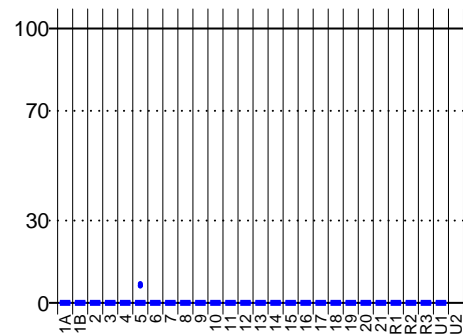
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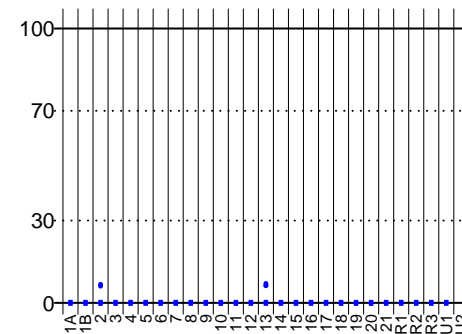
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