

## RELAX Combined Report

SRV vs SRV+Double vs SRV+Double+Triple

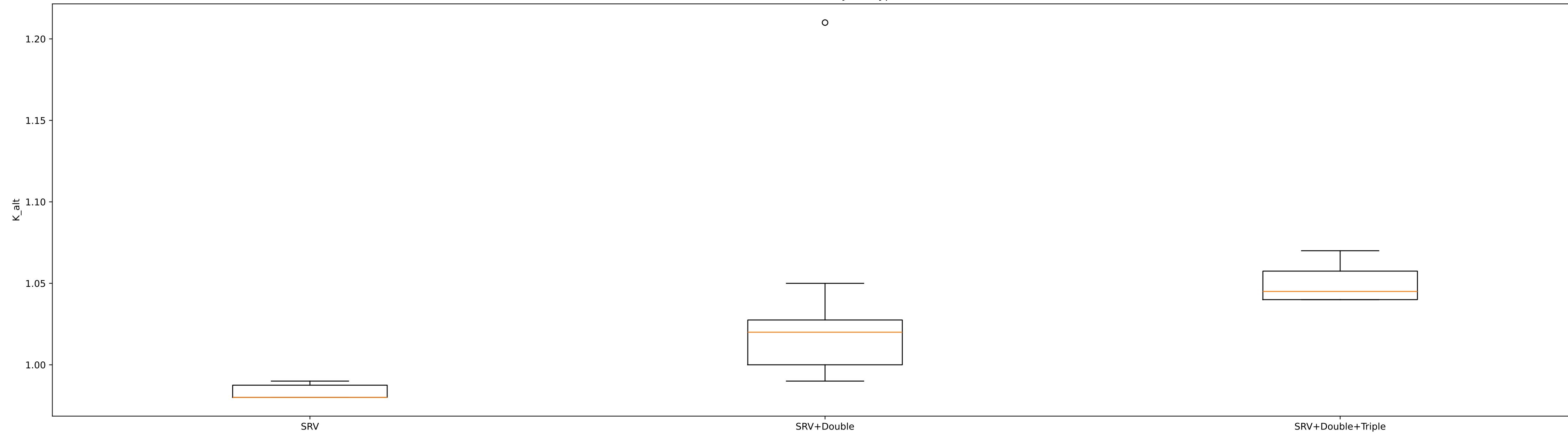
Includes:

- Run-type summary
- Boxplots: K, p-values, 2H/3H
- Full omega/SRV/multihit tables (column-paged)

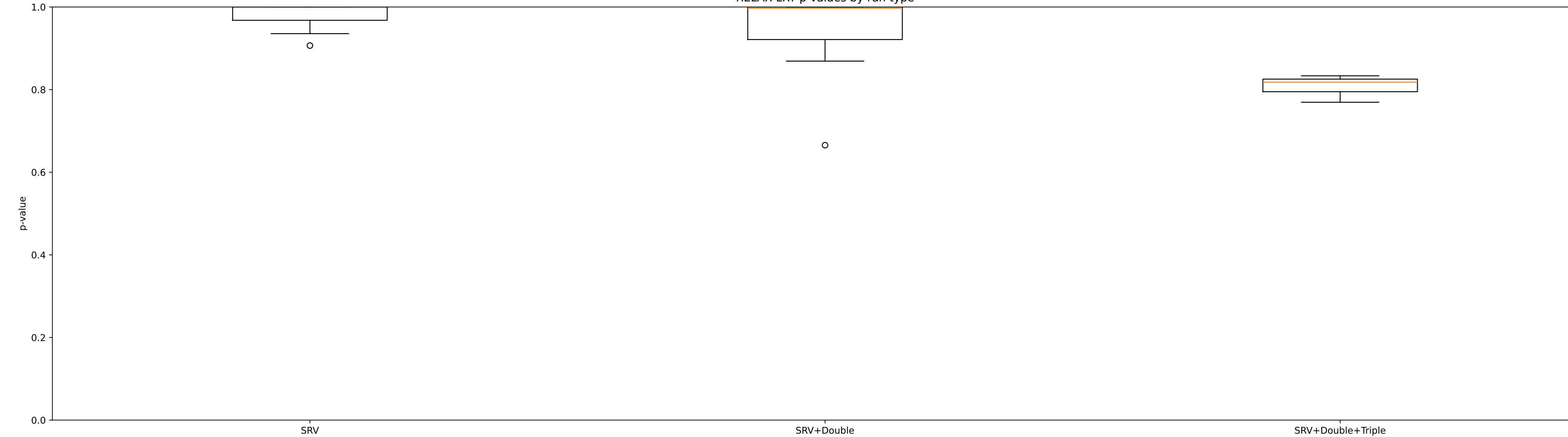
## Run-type summary statistics

| <b>p_median</b> | <b>p_min</b> | <b>p_max</b> | <b>K_median</b> | <b>K_min</b> | <b>K_max</b> | <b>omega_ref_medi<br/>an</b> | <b>omega_test_medi<br/>an</b> | <b>warnings_count</b> | <b>2H_reference_m<br/>edian</b> | <b>2H_test_median</b> |
|-----------------|--------------|--------------|-----------------|--------------|--------------|------------------------------|-------------------------------|-----------------------|---------------------------------|-----------------------|
| 1.0             | 0.9066       | 1.0          | 0.98            | 0.98         | 0.99         | 0.2347                       | 0.2107                        | 10                    | nan                             | nan                   |
| 0.9968          | 0.6655       | 1.0          | 1.02            | 0.99         | 1.21         | 0.2347                       | 0.2107                        | 10                    | 0.0353                          | 0.0                   |
| 0.818           | 0.7694       | 0.8334       | 1.045           | 1.04         | 1.07         | 0.2347                       | 0.2107                        | 10                    | 0.0                             | 0.0                   |

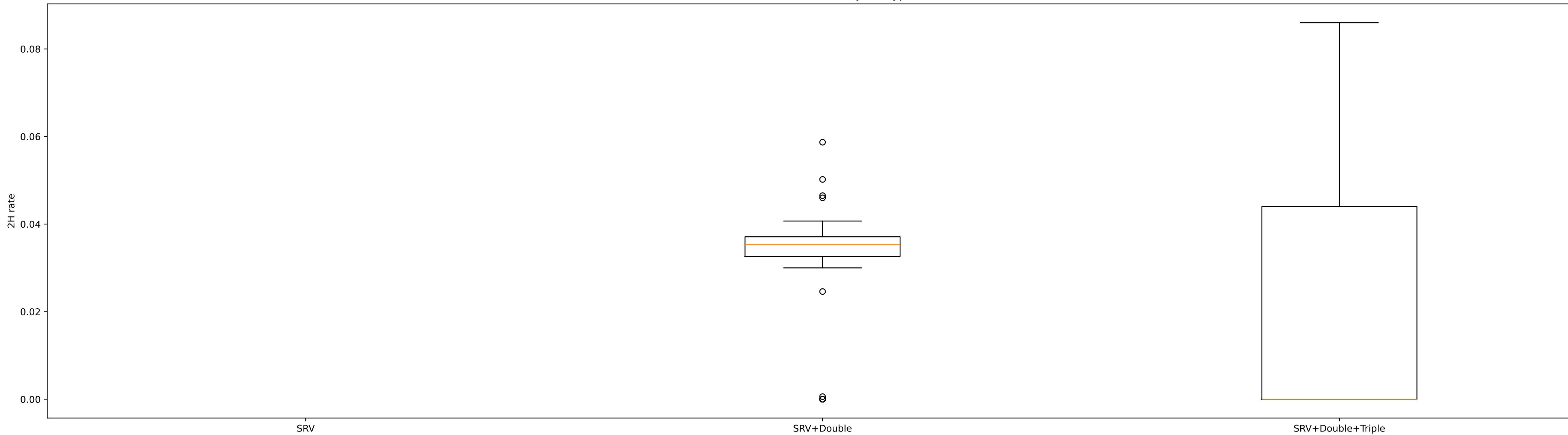
K (alternative) by run type



RELAX LRT p-values by run type



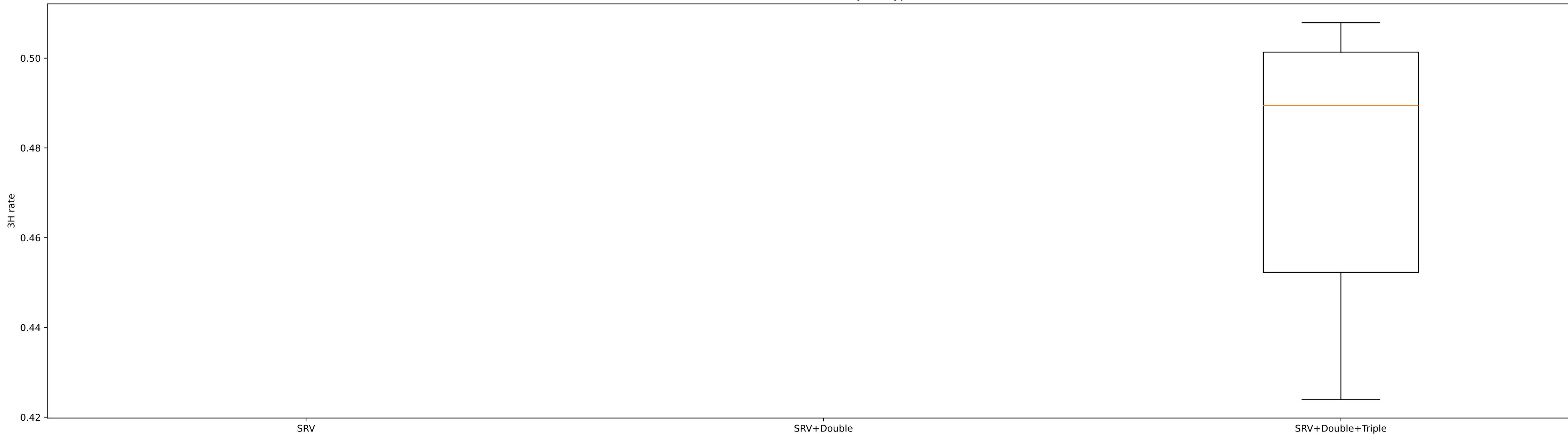
2H rates (reference) by run type



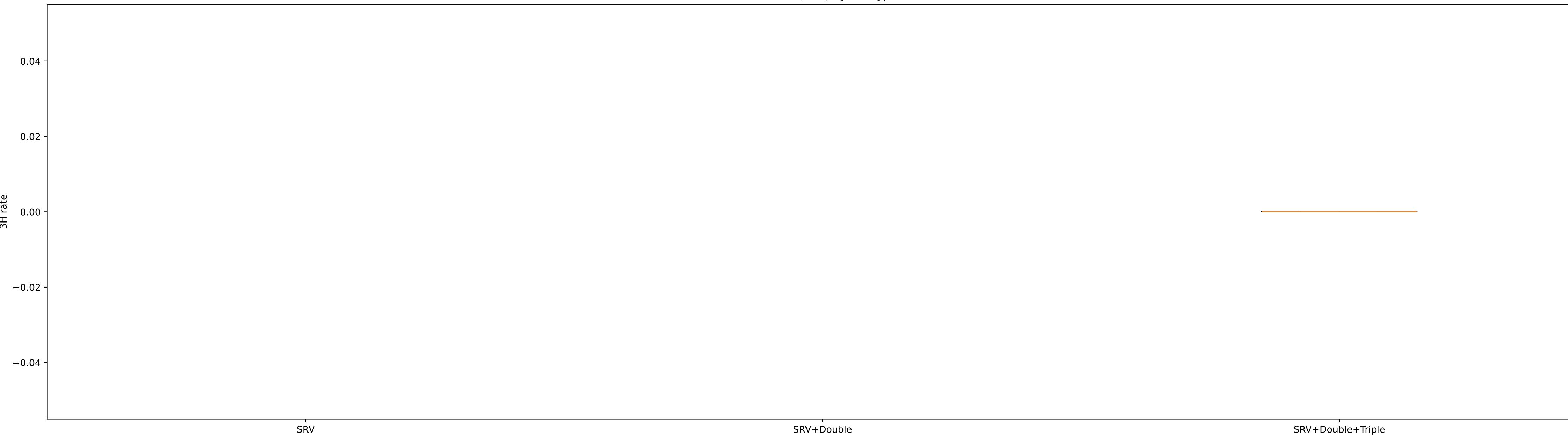
2H rates (test) by run type



3H rates (reference) by run type



3H rates (test) by run type



## Replicate-level summary — SRV (page 1/1)

|  | <b>replicate</b> | <b>p_value</b> | <b>K_alt</b> | <b>global_dNdS_re<br/>ference</b> | <b>global_dNdS_te<br/>st</b> |
|--|------------------|----------------|--------------|-----------------------------------|------------------------------|
|  | 1                | 1.0            | 0.98         | 0.2347                            | 0.2107                       |
|  | 2                | 0.9672         | 0.98         | 0.2347                            | 0.2107                       |
|  | 3                | 1.0            | 0.98         | 0.2347                            | 0.2107                       |
|  | 4                | 1.0            | 0.99         | 0.2347                            | 0.2107                       |
|  | 5                | 0.9066         | 0.98         | 0.2347                            | 0.2107                       |
|  | 6                | 0.9699         | 0.99         | 0.2347                            | 0.2107                       |
|  | 7                | 1.0            | 0.99         | 0.2347                            | 0.2107                       |
|  | 8                | 1.0            | 0.98         | 0.2347                            | 0.2107                       |
|  | 9                | 0.9355         | 0.98         | 0.2347                            | 0.2107                       |
|  | 10               | 1.0            | 0.98         | 0.2347                            | 0.2107                       |

## Replicate-level summary — SRV+Double (page 1/1)

|  | <b>replicate</b> | <b>p_value</b> | <b>K_alt</b> | <b>global_dNdS_reference</b> | <b>global_dNdS_test</b> |
|--|------------------|----------------|--------------|------------------------------|-------------------------|
|  | 1                | 1.0            | 1.0          | 0.2347                       | 0.2107                  |
|  | 2                | 0.9246         | 1.02         | 0.2347                       | 0.2107                  |
|  | 3                | 0.9936         | 0.99         | 0.2347                       | 0.2107                  |
|  | 4                | 1.0            | 1.0          | 0.2347                       | 0.2107                  |
|  | 5                | 1.0            | 1.02         | 0.2347                       | 0.2107                  |
|  | 6                | 1.0            | 1.02         | 0.2347                       | 0.2107                  |
|  | 7                | 0.9201         | 1.03         | 0.2347                       | 0.2107                  |
|  | 8                | 1.0            | 1.0          | 0.2347                       | 0.2107                  |
|  | 9                | 0.6655         | 1.21         | 0.2347                       | 0.2107                  |
|  | 10               | 0.869          | 1.05         | 0.2347                       | 0.2107                  |

## Replicate-level summary — SRV+Double+Triple (page 1/1)

|  | <b>replicate</b> | <b>p_value</b> | <b>K_alt</b> | <b>global_dNdS_re<br/>ference</b> | <b>global_dNdS_te<br/>st</b> |
|--|------------------|----------------|--------------|-----------------------------------|------------------------------|
|  | 1                | 0.8274         | 1.04         | 0.2347                            | 0.2107                       |
|  | 2                | 0.7761         | 1.07         | 0.2347                            | 0.2107                       |
|  | 3                | 0.8071         | 1.05         | 0.2347                            | 0.2107                       |
|  | 4                | 0.8334         | 1.04         | 0.2347                            | 0.2107                       |
|  | 5                | 0.7909         | 1.06         | 0.2347                            | 0.2107                       |
|  | 6                | 0.7694         | 1.07         | 0.2347                            | 0.2107                       |
|  | 7                | 0.8213         | 1.04         | 0.2347                            | 0.2107                       |
|  | 8                | 0.8186         | 1.05         | 0.2347                            | 0.2107                       |
|  | 9                | 0.8268         | 1.04         | 0.2347                            | 0.2107                       |
|  | 10               | 0.8174         | 1.04         | 0.2347                            | 0.2107                       |

|  |           |                        |       |            |            |
|--|-----------|------------------------|-------|------------|------------|
|  | test      | Negative selection     | 0.095 | 82.92      | SRV+Double |
|  | test      | Negative selection     | 0.931 | 17.08      | SRV+Double |
|  | test      | Neutral evolution      | 1.0   | 0.0        | SRV+Double |
|  | test      | Neutral evolution      | 1.0   | 0.0        | SRV+Double |
|  | reference | Diversifying selection | 0.0   | SRV+Double |            |
|  | reference | Negative selection     | 0.095 | 82.925     | SRV+Double |
|  | reference | Negative selection     | 0.931 | 17.075     | SRV+Double |
|  | test      | Diversifying selection | 6.468 | 0.0        | SRV+Double |
|  | test      | Negative selection     | 0.095 | 82.925     | SRV+Double |
|  | test      | Negative selection     | 0.931 | 17.075     | SRV+Double |
|  | reference | Diversifying selection | 3.086 | 0.0        | SRV+Double |
|  | reference | Negative selection     | 0.074 | 77.363     | SRV+Double |
|  | reference | Negative selection     | 0.799 | 22.637     | SRV+Double |
|  | test      | Diversifying selection | 3.146 | 0.0        | SRV+Double |
|  | test      | Diversifying selection | 3.086 | 0.0        | SRV+Double |
|  | test      | Negative selection     | 0.07  | 77.363     | SRV+Double |
|  | test      | Negative selection     | 0.796 | 22.637     | SRV+Double |
|  | test      | Negative selection     | 0.074 | 77.363     | SRV+Double |
|  | test      | Negative selection     | 0.799 | 22.637     | SRV+Double |
|  | reference | Diversifying selection | 2.125 | 0.0        | SRV+Double |
|  | reference | Negative selection     | 0.067 | 76.512     | SRV+Double |
|  | reference | Negative selection     | 0.79  | 23.488     | SRV+Double |
|  | test      | Diversifying selection | 2.125 | 0.0        | SRV+Double |
|  | test      | Negative selection     | 0.067 | 76.512     | SRV+Double |
|  | test      | Negative selection     | 0.79  | 23.488     | SRV+Double |
|  | reference | Diversifying selection | 3.973 | 0.0        | SRV+Double |
|  | reference | Negative selection     | 0.077 | 77.968     | SRV+Double |
|  | reference | Negative selection     | 0.81  | 22.032     | SRV+Double |
|  | test      | Diversifying selection | 4.075 | 0.0        | SRV+Double |
|  | test      | Diversifying selection | 3.973 | 0.0        | SRV+Double |
|  | test      | Negative selection     | 0.073 | 77.968     | SRV+Double |
|  | test      | Negative selection     | 0.807 | 22.032     | SRV+Double |
|  | test      | Negative selection     | 0.077 | 77.968     | SRV+Double |
|  | test      | Negative selection     | 0.81  | 22.032     | SRV+Double |
|  | reference | Diversifying selection | 2.64  | 0.0        | SRV+Double |
|  | reference | Negative selection     | 0.069 | 76.954     | SRV+Double |
|  | reference | Negative selection     | 0.797 | 23.046     | SRV+Double |
|  | test      | Diversifying selection | 2.64  | 0.0        | SRV+Double |
|  | test      | Negative selection     | 0.069 | 76.954     | SRV+Double |
|  | test      | Negative selection     | 0.797 | 23.046     | SRV+Double |
|  | reference | Negative selection     | 0.0   | 45.06      | SRV+Double |
|  | reference | Negative selection     | 0.27  | 42.462     | SRV+Double |
|  | reference | Neutral evolution      | 1.0   | 12.477     | SRV+Double |
|  | test      | Negative selection     | 0.0   | 45.06      | SRV+Double |
|  | test      | Negative selection     | 0.26  | 42.462     | SRV+Double |
|  | test      | Negative selection     | 0.0   | 45.06      | SRV+Double |
|  | test      | Negative selection     | 0.27  | 42.462     | SRV+Double |
|  | test      | Neutral evolution      | 1.0   | 12.477     | SRV+Double |
|  | test      | Neutral evolution      | 1.2   | 12.477     | SRV+Double |
|  | test      | Negative selection     | 1.0   | 12.477     | SRV+Double |
|  | reference | Negative selection     | 0.0   | 45.235     | SRV+Double |

## SRV rate classes (all) (cols 1-6/6)

|     | <b>class_id</b> | <b>syn_rate</b> | <b>proportion_per cent</b> | <b>run_type</b> |  |
|-----|-----------------|-----------------|----------------------------|-----------------|--|
| SRV | 1               | 0.0             | 7.444                      | SRV             |  |
|     | 2               | 1.08            | 89.583                     | SRV             |  |
|     | 3               | 1.08            | 2.973                      | SRV             |  |
|     | 1               | 0.0             | 7.377                      | SRV             |  |
|     | 2               | 1.08            | 1.522                      | SRV             |  |
|     | 3               | 1.08            | 91.102                     | SRV             |  |
|     | 1               | 0.0             | 7.434                      | SRV             |  |
|     | 2               | 1.08            | 4.327                      | SRV             |  |
|     | 3               | 1.08            | 88.239                     | SRV             |  |
| SRV | 1               | 0.0             | 0.084                      | SRV             |  |
|     | 2               | 0.0             | 7.28                       | SRV             |  |
|     | 3               | 1.079           | 92.636                     | SRV             |  |
|     | 1               | 0.0             | 7.435                      | SRV             |  |
|     | 2               | 1.08            | 5.757                      | SRV             |  |
|     | 3               | 1.08            | 86.808                     | SRV             |  |
|     | 1               | 0.0             | 7.369                      | SRV             |  |
|     | 2               | 1.08            | 16.474                     | SRV             |  |
|     | 3               | 1.08            | 76.157                     | SRV             |  |
| SRV | 1               | 0.0             | 7.407                      | SRV             |  |
|     | 2               | 1.08            | 88.202                     | SRV             |  |
|     | 3               | 1.08            | 4.391                      | SRV             |  |
|     | 1               | 0.0             | 7.064                      | SRV             |  |
|     | 2               | 0.0             | 0.401                      | SRV             |  |
|     | 3               | 1.081           | 92.536                     | SRV             |  |
|     | 1               | 0.0             | 7.442                      | SRV             |  |
|     | 2               | 0.0             | 0.0                        | SRV             |  |
|     | 3               | 1.08            | 92.558                     | SRV             |  |
| SRV | 1               | 0.0             | 7.437                      | SRV             |  |
|     | 2               | 1.08            | 79.111                     | SRV             |  |
|     | 3               | 1.08            | 13.452                     | SRV             |  |

|  |           |  |    |        |                   |  |
|--|-----------|--|----|--------|-------------------|--|
|  | test      |  | 2H | 0.0    | SRV+Double        |  |
|  | reference |  | 2H | 0.0465 | SRV+Double        |  |
|  | reference |  | 2H | 0.0373 | SRV+Double        |  |
|  | test      |  | 2H | 0.0    | SRV+Double        |  |
|  | reference |  | 2H | 0.0376 | SRV+Double        |  |
|  | reference |  | 2H | 0.0    | SRV+Double        |  |
|  | test      |  | 2H | 0.0    | SRV+Double        |  |
|  | reference |  | 2H | 0.0715 | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4671 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.5049 | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4994 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4529 | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0438 | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4354 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4971 | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4965 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.452  | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.0574 | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4524 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.5067 | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.5018 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4525 | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0505 | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4434 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.503  | SRV+Double+Triple |  |
|  | test      |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | test      |  | 3H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 2H | 0.0    | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4967 | SRV+Double+Triple |  |
|  | reference |  | 3H | 0.4522 | SRV+Double+Triple |  |