

**Table S1. Pan-CoV PCR protocol** with primers and thermocycling conditions.

Pan-CoV PCR 1: Pan\_CoV\_F1 + Pan\_CoV\_R1 + Pan\_CoV\_R2

Pan-CoV PCR 2: Pan\_CoV\_R1 + Pan\_CoV\_R2 + Pan-CoV\_F2 + Pan\_CoV\_F3

Primers diluted: 190 µl water + 10 µl primer (200 µM)

|            |                         |
|------------|-------------------------|
| Pan_CoV_F1 | GGTTGGGAYTAYCCHAARTGYGA |
| Pan_CoV_R1 | CCRTCATCAGAHARWATCAT    |
| Pan_CoV_R2 | CCRTCATCACTHARWATCAT    |
| Pan_CoV_F2 | GAYTAYCCHAARTGTGAYAGA   |
| Pan_CoV_F3 | GAYTAYCCHAARTGTGAYMGH   |

**1st PCR: Pan-CoV PCR 1**

| Total                    | 25 µl   | Thermocycling conditions:                                                             |
|--------------------------|---------|---------------------------------------------------------------------------------------|
| Pan_CoV_F1 (10 pmol/ µl) | 1 µl    | Incubate 3 min 94°C<br>25 cycles (30 sec 94°C, 30 sec 48°C, 1 min 72°C)<br>5 min 72°C |
| Pan_CoV_R1 (10 pmol/ µl) | 1 µl    |                                                                                       |
| Pan_CoV_R2 (10 pmol/ µl) | 1 µl    |                                                                                       |
| TopTaq Master Mix        | 12.5 µl |                                                                                       |
| Water                    | 5 µl    |                                                                                       |
| CoraLoad                 | 2.5 µl  |                                                                                       |
| cDNA                     | 2 µl    |                                                                                       |

**2nd PCR: Pan-CoV PCR 2**

| Total                    | 25 µl   | Thermocycling conditions:                                                             |
|--------------------------|---------|---------------------------------------------------------------------------------------|
| Pan_CoV_R1 (10 pmol/ µl) | 1 µl    | Incubate 3 min 94°C<br>40 cycles (30 sec 94°C, 30 sec 58°C, 1 min 72°C)<br>5 min 72°C |
| Pan_CoV_R2 (10 pmol/ µl) | 1 µl    |                                                                                       |
| Pan_CoV_F2 (10 pmol/ µl) | 1 µl    |                                                                                       |
| Pan_CoV_F3 (10 pmol/ µl) | 1 µl    |                                                                                       |
| TopTaq Master Mix        | 12.5 µl |                                                                                       |
| Water                    | 5 µl    |                                                                                       |
| CoraLoad                 | 2.5 µl  |                                                                                       |
| Product first PCR        | 1 µl    |                                                                                       |

\*Run results on 2% gel

**Table S2.** Scatter plots and linear equations for in-house CoV cDNA (A) Raw reads from spectrometer on serially diluted cDNA for all in-house CoVs (B) Scatter plots graphed for each CoV with linear equation

A.

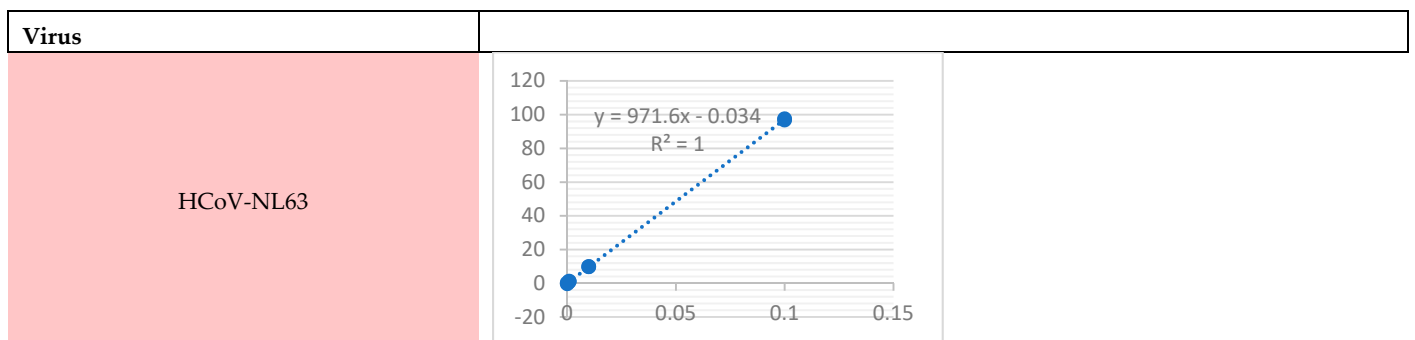
| Sample ID                                     | Conc.   | Unit<br>s | A260  | A280  | 260/280 | 260/230 | Conc. Factor<br>(ng/ul) | Cursor<br>Pos. | Cursor<br>abs. | 340<br>raw | NA Type  |
|-----------------------------------------------|---------|-----------|-------|-------|---------|---------|-------------------------|----------------|----------------|------------|----------|
| HCoV-NL63<br>1:10                             | 97.49   | ng/ul     | 2.954 | 1.66  | 1.78    | 1.64    | 33                      | 260            | 2.954          | 0.073      | ssDNA-33 |
|                                               | 100     | ng/ul     | 3.03  | 1.691 | 1.79    | 1.65    | 33                      | 260            | 3.03           | 0.068      | ssDNA-33 |
| HCoV-NL63<br>1:100                            | 9.878   | ng/ul     | 0.299 | 0.162 | 1.85    | 1.8     | 33                      | 260            | 0.299          | 0.056      | ssDNA-33 |
|                                               | 9.687   | ng/ul     | 0.294 | 0.143 | 2.06    | 1.87    | 33                      | 260            | 0.294          | 0.048      | ssDNA-33 |
| HCoV-NL63<br>1:1,000                          | 0.8648  | ng/ul     | 0.026 | 0.014 | 1.81    | 1.15    | 33                      | 260            | 0.026          | 0.052      | ssDNA-33 |
|                                               | 1.189   | ng/ul     | 0.036 | 0.034 | 1.06    | 1.11    | 33                      | 260            | 0.036          | 0.046      | ssDNA-33 |
| HCoV-NL63<br>1:10,000                         | 0.1466  | ng/ul     | 0.004 | -     | -2.31   | -1.08   | 33                      | 260            | 0.004          | 0.062      | ssDNA-33 |
|                                               | -0.3785 | ng/ul     | -     | 0     | 132     | 1.25    | 33                      | 260            | -0.011         | 0.059      | ssDNA-33 |
| Canine CoV<br>1:10                            | 91.85   | ng/ul     | 2.783 | 1.58  | 1.76    | 1.61    | 33                      | 260            | 2.783          | 0.028      | ssDNA-33 |
|                                               | 91.12   | ng/ul     | 2.761 | 1.567 | 1.76    | 1.59    | 33                      | 260            | 2.761          | 0.016      | ssDNA-33 |
| Canine CoV<br>1:100                           | 10.49   | ng/ul     | 0.318 | 0.171 | 1.86    | 1.63    | 33                      | 260            | 0.318          | 0.006      | ssDNA-33 |
|                                               | 10.13   | ng/ul     | 0.307 | 0.172 | 1.79    | 1.77    | 33                      | 260            | 0.307          | 0.024      | ssDNA-33 |
| Canine CoV<br>1:1,000                         | 0.5521  | ng/ul     | 0.017 | -     | -9.56   | 1.34    | 33                      | 260            | 0.017          | 0.016      | ssDNA-33 |
|                                               | 0.7519  | ng/ul     | 0.023 | 0.002 | 10.85   | -3.43   | 33                      | 260            | 0.023          | 0.013      | ssDNA-33 |
| Canine CoV<br>1:10,000                        | -0.8313 | ng/ul     | -     | -     | 0.91    | 1.51    | 33                      | 260            | -0.025         | 0.023      | ssDNA-33 |
|                                               | -0.2181 | ng/ul     | -     | -     | 0.42    | 1.26    | 33                      | 260            | -0.007         | 0.008      | ssDNA-33 |
| Porcine<br>respiratory<br>CoV ISU 1:10        | 85.46   | ng/ul     | 2.59  | 1.454 | 1.78    | 1.41    | 33                      | 260            | 2.591          | 0.016      | ssDNA-33 |
|                                               | 85.72   | ng/ul     | 2.598 | 1.436 | 1.81    | 1.42    | 33                      | 260            | 2.598          | 0.008      | ssDNA-33 |
| Porcine<br>respiratory<br>CoV ISU 1:100       | 12.43   | ng/ul     | 0.377 | 0.225 | 1.68    | 1.52    | 33                      | 260            | 0.377          | -0.006     | ssDNA-33 |
|                                               | 12.06   | ng/ul     | 0.365 | 0.228 | 1.6     | 1.54    | 33                      | 260            | 0.366          | 0.012      | ssDNA-33 |
| Porcine<br>respiratory<br>CoV ISU<br>1:1,000  | 0.9296  | ng/ul     | 0.028 | 0.026 | 1.1     | 1.39    | 33                      | 260            | 0.029          | -0.003     | ssDNA-33 |
|                                               | 1.479   | ng/ul     | 0.045 | 0.029 | 1.56    | 3.04    | 33                      | 260            | 0.045          | 0          | ssDNA-33 |
| Porcine<br>respiratory<br>CoV ISU<br>1:10,000 | 0.3263  | ng/ul     | 0.01  | 0.021 | 0.48    | -1.44   | 33                      | 260            | 0.011          | 0.001      | ssDNA-33 |
|                                               | 0.1193  | ng/ul     | 0.004 | 0.01  | 0.37    | -0.33   | 33                      | 260            | 0.004          | -0.006     | ssDNA-33 |
| TGEV Purdue<br>P115 1:10                      | 59.46   | ng/ul     | 1.802 | 1.026 | 1.76    | 1.55    | 33                      | 260            | 1.802          | 0.024      | ssDNA-33 |
|                                               | 59.66   | ng/ul     | 1.808 | 1.029 | 1.76    | 1.53    | 33                      | 260            | 1.808          | 0.021      | ssDNA-33 |
| TGEV Purdue<br>P115 1:100                     | 6.681   | ng/ul     | 0.202 | 0.113 | 1.79    | 1.7     | 33                      | 260            | 0.202          | 0.022      | ssDNA-33 |
|                                               | 6.166   | ng/ul     | 0.187 | 0.1   | 1.87    | 1.56    | 33                      | 260            | 0.187          | 0.016      | ssDNA-33 |
| TGEV Purdue<br>P115 1:1,000                   | 0.7659  | ng/ul     | 0.023 | 0.003 | 8.09    | 1.38    | 33                      | 260            | 0.023          | 0.003      | ssDNA-33 |

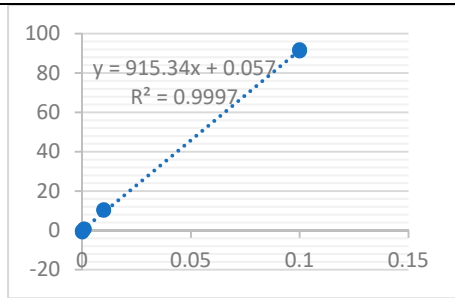
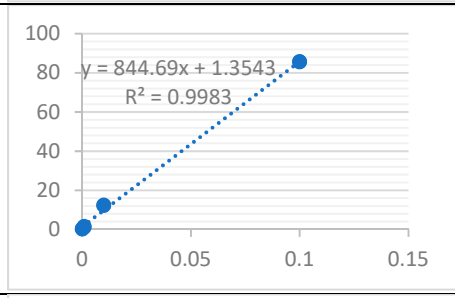
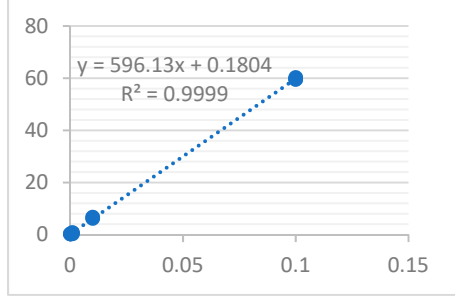
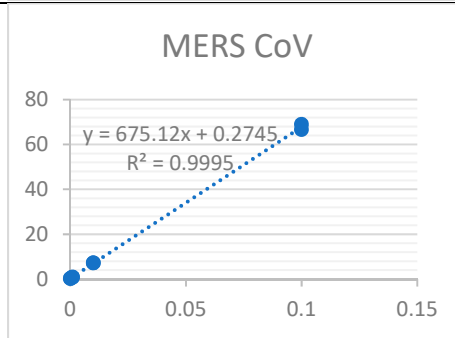
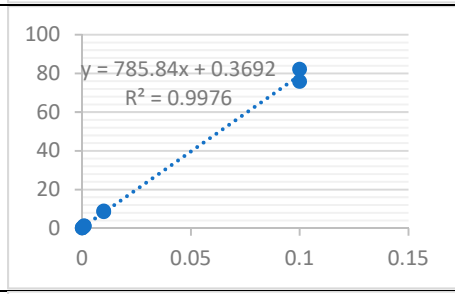
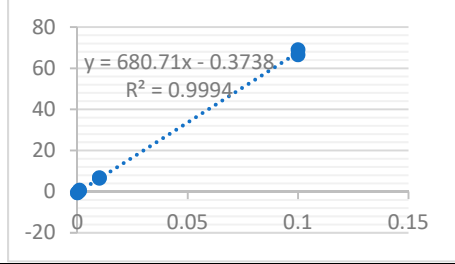


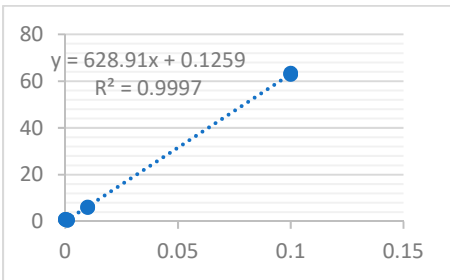
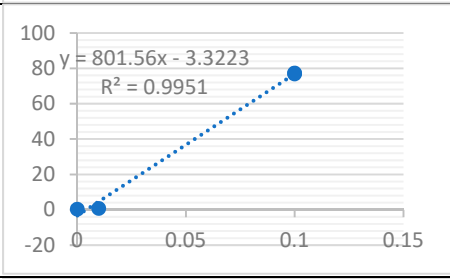
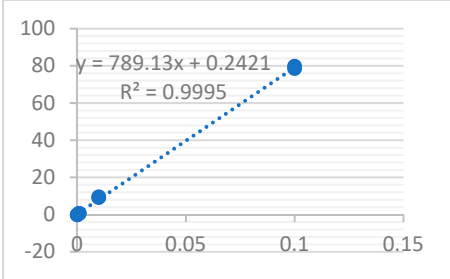
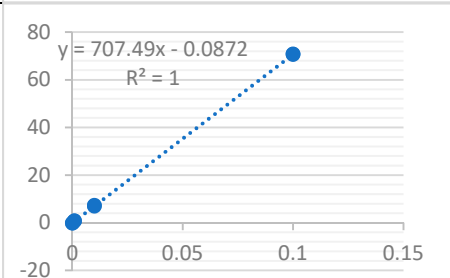
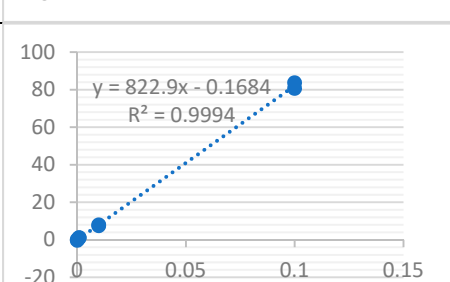
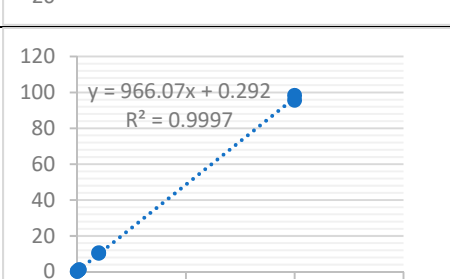
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|------------------------|-------------|-------|--------|--------|-------|-------|----|-----|--------|--------|----------|
| WIV1<br>1:10,000       | 0.7635      | ng/ul | 0.023  | 0.017  | 1.39  | 0.87  | 33 | 260 | 0.023  | -0.005 | ssDNA-33 |
|                        | 0.856       | ng/ul | 0.026  | 0.025  | 1.05  | 0.52  | 33 | 260 | 0.026  | 0.005  | ssDNA-33 |
| SHC014<br>1:10         | 76.75       | ng/ul | 2.326  | 1.346  | 1.73  | 1.88  | 33 | 260 | 2.326  | 0.015  | ssDNA-33 |
|                        | 77.31       | ng/ul | 2.343  | 1.364  | 1.72  | 1.88  | 33 | 260 | 2.343  | 0.008  | ssDNA-33 |
| SHC014<br>1:1,000      | 0.7298      | ng/ul | 0.022  | 0.013  | 1.73  | 1.56  | 33 | 260 | 0.022  | -0.001 | ssDNA-33 |
|                        | 0.345       | ng/ul | 0.01   | 0.007  | 1.51  | -1.22 | 33 | 260 | 0.01   | 0.007  | ssDNA-33 |
| SHC014<br>1:10,000     | -0.4287     | ng/ul | -0.013 | -0.008 | 1.6   | 4.68  | 33 | 260 | -0.013 | 0.008  | ssDNA-33 |
|                        | 0.3286      | ng/ul | 0.01   | 0.016  | 0.63  | 3.37  | 33 | 260 | 0.01   | -0.012 | ssDNA-33 |
| Murine CoV<br>1:10     | 78.43       | ng/ul | 2.377  | 1.367  | 1.74  | 1.29  | 33 | 260 | 2.377  | 0.033  | ssDNA-33 |
|                        | 79.67       | ng/ul | 2.414  | 1.365  | 1.77  | 1.32  | 33 | 260 | 2.414  | 0.032  | ssDNA-33 |
| Murine CoV<br>1:100    | 9.44        | ng/ul | 0.286  | 0.162  | 1.77  | 1.83  | 33 | 260 | 0.286  | 0.041  | ssDNA-33 |
|                        | 9.026       | ng/ul | 0.274  | 0.152  | 1.8   | 1.62  | 33 | 260 | 0.274  | 0.045  | ssDNA-33 |
| Murine CoV<br>1:1,000  | 0.6179      | ng/ul | 0.019  | 0.009  | 1.99  | -0.52 | 33 | 260 | 0.019  | 0.041  | ssDNA-33 |
|                        | 0.4813      | ng/ul | 0.015  | 0.002  | 7.02  | -0.98 | 33 | 260 | 0.015  | 0.042  | ssDNA-33 |
| Murine CoV<br>1:10,000 | -0.1369     | ng/ul | -0.004 | -0.01  | 0.4   | 0.11  | 33 | 260 | -0.004 | 0.038  | ssDNA-33 |
|                        | -0.248      | ng/ul | -0.008 | -0.005 | 1.58  | 0.21  | 33 | 260 | -0.008 | 0.04   | ssDNA-33 |
| HCoV-OC43<br>1:10      | 70.75       | ng/ul | 2.144  | 1.211  | 1.77  | 1.73  | 33 | 260 | 2.144  | 0.006  | ssDNA-33 |
|                        | 70.55       | ng/ul | 2.138  | 1.213  | 1.76  | 1.69  | 33 | 260 | 2.138  | -0.011 | ssDNA-33 |
| HCoV-OC43<br>1:100     | 7.267       | ng/ul | 0.22   | 0.134  | 1.64  | 1.98  | 33 | 260 | 0.22   | 0.006  | ssDNA-33 |
|                        | 6.919       | ng/ul | 0.21   | 0.129  | 1.62  | 1.69  | 33 | 260 | 0.21   | 0.008  | ssDNA-33 |
| HCoV-OC43<br>1:1,000   | 0.656       | ng/ul | 0.02   | 0.01   | 2.07  | 1.37  | 33 | 260 | 0.02   | -0.007 | ssDNA-33 |
|                        | 0.7791      | ng/ul | 0.024  | 0.03   | 0.79  | 0.73  | 33 | 260 | 0.024  | 0.008  | ssDNA-33 |
| HCoV-OC43<br>1:10,000  | -0.1723     | ng/ul | -0.005 | 0.013  | -0.4  | -2.95 | 33 | 260 | -0.005 | 0.006  | ssDNA-33 |
|                        | -0.2433     | ng/ul | -0.007 | -0.001 | 6.61  | 1.79  | 33 | 260 | -0.007 | -0.001 | ssDNA-33 |
| Bovine CoV<br>1:10     | 80.64       | ng/ul | 2.444  | 1.387  | 1.76  | 1.65  | 33 | 260 | 2.442  | 0.069  | ssDNA-33 |
|                        | 83.67       | ng/ul | 2.535  | 1.432  | 1.77  | 1.69  | 33 | 260 | 2.534  | 0.006  | ssDNA-33 |
| Bovine CoV<br>1:1,000  | 7.944       | ng/ul | 0.241  | 0.138  | 1.74  | 1.83  | 33 | 260 | 0.242  | -0.002 | ssDNA-33 |
|                        | 7.436       | ng/ul | 0.225  | 0.143  | 1.58  | 1.89  | 33 | 260 | 0.225  | 0.006  | ssDNA-33 |
| Bovine CoV<br>1:10,000 | 0.0536<br>3 | ng/ul | 0.002  | 0.015  | 0.11  | 0.24  | 33 | 260 | 0.002  | -0.011 | ssDNA-33 |
|                        | -0.3351     | ng/ul | -0.01  | 0.011  | -0.97 | 1.47  | 33 | 260 | -0.01  | -0.004 | ssDNA-33 |
| Bat SRBD 1:10          | 95.46       | ng/ul | 2.893  | 1.653  | 1.75  | 1.55  | 33 | 260 | 2.892  | 0.032  | ssDNA-33 |
|                        | 98.25       | ng/ul | 2.977  | 1.692  | 1.76  | 1.54  | 33 | 260 | 2.977  | 0.056  | ssDNA-33 |
| Bat SRBD<br>1:100      | 10.26       | ng/ul | 0.311  | 0.185  | 1.68  | 1.78  | 33 | 260 | 0.31   | -0.003 | ssDNA-33 |

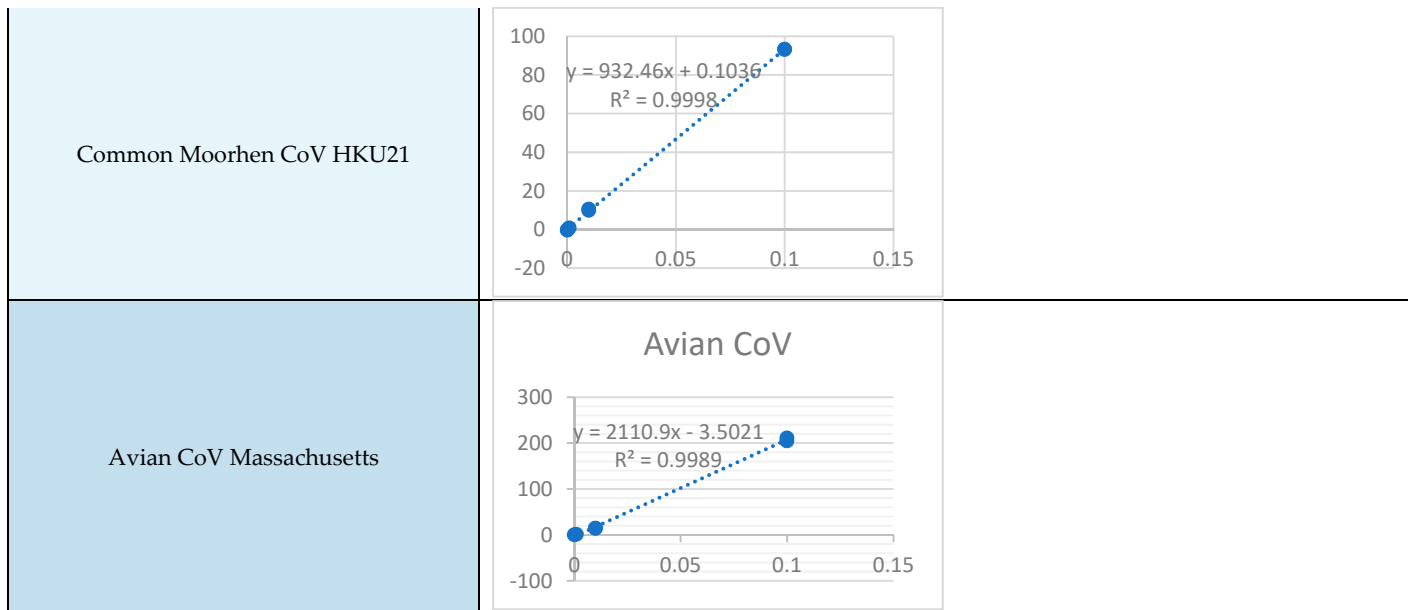
|                                                                                                                                                                  |                                                                                                                                                                      |        |        |        |          |       |       |     |        |        |          |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|--------|--------|----------|-------|-------|-----|--------|--------|----------|----------|
| Bat SRBD<br>1:1,000                                                                                                                                              | 10.57                                                                                                                                                                | ng/ul  | 0.32   | 0.197  | 1.63     | 1.69  | 33    | 260 | 0.322  | -0.004 | ssDNA-33 |          |
|                                                                                                                                                                  | 0.9923                                                                                                                                                               | ng/ul  | 0.03   | 0.029  | 1.03     | 3.75  | 33    | 260 | 0.029  | -0.012 | ssDNA-33 |          |
|                                                                                                                                                                  | 1.133                                                                                                                                                                | ng/ul  | 0.034  | 0.031  | 1.1      | 2.16  | 33    | 260 | 0.035  | 0.002  | ssDNA-33 |          |
|                                                                                                                                                                  | Bat SRBD<br>1:10,000                                                                                                                                                 | 0.2041 | ng/ul  | 0.006  | 0.016    | 0.38  | -0.77 | 33  | 260    | 0.005  | 0.007    | ssDNA-33 |
|                                                                                                                                                                  |                                                                                                                                                                      | 0.1272 | ng/ul  | 0.004  | 0.008    | 0.48  | -0.3  | 33  | 260    | 0.002  | -0.008   | ssDNA-33 |
| Common Moorhen<br>CoV HKU21<br>1:10<br>Common Moorhen<br>CoV HKU21<br>1:100<br>Common Moorhen<br>CoV HKU21<br>1:1,000<br>Common Moorhen<br>CoV HKU21<br>1:10,000 | 93.33                                                                                                                                                                | ng/ul  | 2.828  | 1.59   | 1.78     | 1.91  | 33    | 260 | 2.828  | 0.022  | ssDNA-33 |          |
|                                                                                                                                                                  | 93.22                                                                                                                                                                | ng/ul  | 2.825  | 1.588  | 1.78     | 1.94  | 33    | 260 | 2.825  | 0.015  | ssDNA-33 |          |
|                                                                                                                                                                  | 10.51                                                                                                                                                                | ng/ul  | 0.319  | 0.186  | 1.71     | 1.91  | 33    | 260 | 0.319  | -0.009 | ssDNA-33 |          |
|                                                                                                                                                                  | 9.874                                                                                                                                                                | ng/ul  | 0.299  | 0.181  | 1.65     | 2.07  | 33    | 260 | 0.299  | 0.002  | ssDNA-33 |          |
|                                                                                                                                                                  | 0.7384                                                                                                                                                               | ng/ul  | 0.022  | 0.011  | 1.99     | -5.18 | 33    | 260 | 0.022  | -0.011 | ssDNA-33 |          |
|                                                                                                                                                                  | 0.3899                                                                                                                                                               | ng/ul  | 0.012  | 0.004  | 3.2      | 2.87  | 33    | 260 | 0.012  | 0.003  | ssDNA-33 |          |
|                                                                                                                                                                  | -0.2889                                                                                                                                                              | ng/ul  | -0.009 | 0.002  | -4.82    | 0.63  | 33    | 260 | -0.009 | 0.001  | ssDNA-33 |          |
|                                                                                                                                                                  | -0.3985                                                                                                                                                              | ng/ul  | -0.012 | 0.001  | -10.17   | 2.56  | 33    | 260 | -0.012 | -0.012 | ssDNA-33 |          |
|                                                                                                                                                                  | Avian CoV<br>Massachusetts<br>s 1:10<br>Avian CoV<br>Massachusetts<br>s 1:100<br>Avian CoV<br>Massachusetts<br>s 1:1,000<br>Avian CoV<br>Massachusetts<br>s 1:10,000 | 211    | ng/ul  | 6.393  | 3.574    | 1.79  | 1.66  | 33  | 260    | 6.393  | 0.093    | ssDNA-33 |
| 204.8                                                                                                                                                            |                                                                                                                                                                      | ng/ul  | 6.208  | 3.457  | 1.8      | 1.68  | 33    | 260 | 6.208  | 0.072  | ssDNA-33 |          |
| 14.25                                                                                                                                                            |                                                                                                                                                                      | ng/ul  | 0.432  | 0.243  | 1.78     | 1.92  | 33    | 260 | 0.432  | 0.036  | ssDNA-33 |          |
| 14.35                                                                                                                                                            |                                                                                                                                                                      | ng/ul  | 0.435  | 0.242  | 1.8      | 2.06  | 33    | 260 | 0.435  | 0.046  | ssDNA-33 |          |
| 1.071                                                                                                                                                            |                                                                                                                                                                      | ng/ul  | 0.032  | 0.01   | 3.39     | -0.85 | 33    | 260 | 0.032  | 0.057  | ssDNA-33 |          |
| 0.8279                                                                                                                                                           |                                                                                                                                                                      | ng/ul  | 0.025  | 0.013  | 1.88     | -0.8  | 33    | 260 | 0.025  | 0.048  | ssDNA-33 |          |
| 0.2264                                                                                                                                                           |                                                                                                                                                                      | ng/ul  | 0.007  | 0      | -7046.97 | -0.28 | 33    | 260 | 0.007  | 0.05   | ssDNA-33 |          |
| -0.2182                                                                                                                                                          |                                                                                                                                                                      | ng/ul  | -0.007 | -0.007 | 0.94     | 0.18  | 33    | 260 | -0.007 | 0.03   | ssDNA-33 |          |

B.



| Canine CoV                   |  <p>Scatter plot showing a strong positive linear correlation. The regression line is <math>y = 915.34x + 0.057</math> with <math>R^2 = 0.9997</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.057</td></tr><tr><td>0.01</td><td>9.1534</td></tr><tr><td>0.10</td><td>91.534</td></tr></table>                      | x | y | 0.00 | 0.057   | 0.01 | 9.1534 | 0.10 | 91.534  |  |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|------|---------|------|--------|------|---------|--|
| x                            | y                                                                                                                                                                                                                                                                                                                                                                                                                            |   |   |      |         |      |        |      |         |  |
| 0.00                         | 0.057                                                                                                                                                                                                                                                                                                                                                                                                                        |   |   |      |         |      |        |      |         |  |
| 0.01                         | 9.1534                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.10                         | 91.534                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| Porcine respiratory CoV ISU1 |  <p>Scatter plot showing a strong positive linear correlation. The regression line is <math>y = 844.69x + 1.3543</math> with <math>R^2 = 0.9983</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>1.3543</td></tr><tr><td>0.01</td><td>8.4469</td></tr><tr><td>0.10</td><td>84.6143</td></tr></table>                   | x | y | 0.00 | 1.3543  | 0.01 | 8.4469 | 0.10 | 84.6143 |  |
| x                            | y                                                                                                                                                                                                                                                                                                                                                                                                                            |   |   |      |         |      |        |      |         |  |
| 0.00                         | 1.3543                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.01                         | 8.4469                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.10                         | 84.6143                                                                                                                                                                                                                                                                                                                                                                                                                      |   |   |      |         |      |        |      |         |  |
| TGEV Purdue                  |  <p>Scatter plot showing a strong positive linear correlation. The regression line is <math>y = 596.13x + 0.1804</math> with <math>R^2 = 0.9999</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.1804</td></tr><tr><td>0.01</td><td>5.9613</td></tr><tr><td>0.10</td><td>59.6134</td></tr></table>                  | x | y | 0.00 | 0.1804  | 0.01 | 5.9613 | 0.10 | 59.6134 |  |
| x                            | y                                                                                                                                                                                                                                                                                                                                                                                                                            |   |   |      |         |      |        |      |         |  |
| 0.00                         | 0.1804                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.01                         | 5.9613                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.10                         | 59.6134                                                                                                                                                                                                                                                                                                                                                                                                                      |   |   |      |         |      |        |      |         |  |
| MERS-CoV                     | <p>MERS CoV</p>  <p>Scatter plot showing a strong positive linear correlation. The regression line is <math>y = 675.12x + 0.2745</math> with <math>R^2 = 0.9995</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.2745</td></tr><tr><td>0.01</td><td>6.7512</td></tr><tr><td>0.10</td><td>67.5325</td></tr></table> | x | y | 0.00 | 0.2745  | 0.01 | 6.7512 | 0.10 | 67.5325 |  |
| x                            | y                                                                                                                                                                                                                                                                                                                                                                                                                            |   |   |      |         |      |        |      |         |  |
| 0.00                         | 0.2745                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.01                         | 6.7512                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.10                         | 67.5325                                                                                                                                                                                                                                                                                                                                                                                                                      |   |   |      |         |      |        |      |         |  |
| HKU5                         |  <p>Scatter plot showing a strong positive linear correlation. The regression line is <math>y = 785.84x + 0.3692</math> with <math>R^2 = 0.9976</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.3692</td></tr><tr><td>0.01</td><td>7.8584</td></tr><tr><td>0.10</td><td>78.9532</td></tr></table>                 | x | y | 0.00 | 0.3692  | 0.01 | 7.8584 | 0.10 | 78.9532 |  |
| x                            | y                                                                                                                                                                                                                                                                                                                                                                                                                            |   |   |      |         |      |        |      |         |  |
| 0.00                         | 0.3692                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.01                         | 7.8584                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.10                         | 78.9532                                                                                                                                                                                                                                                                                                                                                                                                                      |   |   |      |         |      |        |      |         |  |
| SARS-CoV-2                   |  <p>Scatter plot showing a strong positive linear correlation. The regression line is <math>y = 680.71x - 0.3738</math> with <math>R^2 = 0.9994</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>-0.3738</td></tr><tr><td>0.01</td><td>6.8071</td></tr><tr><td>0.10</td><td>67.6972</td></tr></table>                | x | y | 0.00 | -0.3738 | 0.01 | 6.8071 | 0.10 | 67.6972 |  |
| x                            | y                                                                                                                                                                                                                                                                                                                                                                                                                            |   |   |      |         |      |        |      |         |  |
| 0.00                         | -0.3738                                                                                                                                                                                                                                                                                                                                                                                                                      |   |   |      |         |      |        |      |         |  |
| 0.01                         | 6.8071                                                                                                                                                                                                                                                                                                                                                                                                                       |   |   |      |         |      |        |      |         |  |
| 0.10                         | 67.6972                                                                                                                                                                                                                                                                                                                                                                                                                      |   |   |      |         |      |        |      |         |  |

| WIV1       |  <p>Scatter plot for WIV1 showing a linear relationship. The equation is <math>y = 628.91x + 0.1259</math> and the coefficient of determination is <math>R^2 = 0.9997</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.1259</td></tr><tr><td>0.01</td><td>6.4089</td></tr><tr><td>0.10</td><td>63.0169</td></tr></table>          | x | y | 0.00 | 0.1259  | 0.01 | 6.4089  | 0.10 | 63.0169  |  |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|------|---------|------|---------|------|----------|--|
| x          | y                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |   |      |         |      |         |      |          |  |
| 0.00       | 0.1259                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.01       | 6.4089                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.10       | 63.0169                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |   |      |         |      |         |      |          |  |
| SHC014     |  <p>Scatter plot for SHC014 showing a linear relationship. The equation is <math>y = 801.56x - 3.3223</math> and the coefficient of determination is <math>R^2 = 0.9951</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>-3.3223</td></tr><tr><td>0.01</td><td>76.8377</td></tr><tr><td>0.10</td><td>768.2577</td></tr></table>     | x | y | 0.00 | -3.3223 | 0.01 | 76.8377 | 0.10 | 768.2577 |  |
| x          | y                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |   |      |         |      |         |      |          |  |
| 0.00       | -3.3223                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |   |      |         |      |         |      |          |  |
| 0.01       | 76.8377                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |   |      |         |      |         |      |          |  |
| 0.10       | 768.2577                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |   |      |         |      |         |      |          |  |
| Murine CoV |  <p>Scatter plot for Murine CoV showing a linear relationship. The equation is <math>y = 789.13x + 0.2421</math> and the coefficient of determination is <math>R^2 = 0.9995</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.2421</td></tr><tr><td>0.01</td><td>7.8933</td></tr><tr><td>0.10</td><td>789.3721</td></tr></table>  | x | y | 0.00 | 0.2421  | 0.01 | 7.8933  | 0.10 | 789.3721 |  |
| x          | y                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |   |      |         |      |         |      |          |  |
| 0.00       | 0.2421                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.01       | 7.8933                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.10       | 789.3721                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |   |      |         |      |         |      |          |  |
| HCoV-OC43  |  <p>Scatter plot for HCoV-OC43 showing a linear relationship. The equation is <math>y = 707.49x - 0.0872</math> and the coefficient of determination is <math>R^2 = 1</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>-0.0872</td></tr><tr><td>0.01</td><td>7.0677</td></tr><tr><td>0.10</td><td>707.4028</td></tr></table>      | x | y | 0.00 | -0.0872 | 0.01 | 7.0677  | 0.10 | 707.4028 |  |
| x          | y                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |   |      |         |      |         |      |          |  |
| 0.00       | -0.0872                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |   |      |         |      |         |      |          |  |
| 0.01       | 7.0677                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.10       | 707.4028                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |   |      |         |      |         |      |          |  |
| Bovine CoV |  <p>Scatter plot for Bovine CoV showing a linear relationship. The equation is <math>y = 822.9x - 0.1684</math> and the coefficient of determination is <math>R^2 = 0.9994</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>-0.1684</td></tr><tr><td>0.01</td><td>8.0606</td></tr><tr><td>0.10</td><td>822.7316</td></tr></table> | x | y | 0.00 | -0.1684 | 0.01 | 8.0606  | 0.10 | 822.7316 |  |
| x          | y                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |   |      |         |      |         |      |          |  |
| 0.00       | -0.1684                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |   |      |         |      |         |      |          |  |
| 0.01       | 8.0606                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.10       | 822.7316                                                                                                                                                                                                                                                                                                                                                                                                                                  |   |   |      |         |      |         |      |          |  |
| Bat SRBD   |  <p>Scatter plot for Bat SRBD showing a linear relationship. The equation is <math>y = 966.07x + 0.292</math> and the coefficient of determination is <math>R^2 = 0.9997</math>.</p> <table><tr><th>x</th><th>y</th></tr><tr><td>0.00</td><td>0.292</td></tr><tr><td>0.01</td><td>9.6627</td></tr><tr><td>0.10</td><td>966.362</td></tr></table>      | x | y | 0.00 | 0.292   | 0.01 | 9.6627  | 0.10 | 966.362  |  |
| x          | y                                                                                                                                                                                                                                                                                                                                                                                                                                         |   |   |      |         |      |         |      |          |  |
| 0.00       | 0.292                                                                                                                                                                                                                                                                                                                                                                                                                                     |   |   |      |         |      |         |      |          |  |
| 0.01       | 9.6627                                                                                                                                                                                                                                                                                                                                                                                                                                    |   |   |      |         |      |         |      |          |  |
| 0.10       | 966.362                                                                                                                                                                                                                                                                                                                                                                                                                                   |   |   |      |         |      |         |      |          |  |



**Table S3: Gels showing the seven tested CoVs detected by the Pan-CoV primers but not by the Watanabe primers.**  
 These are demonstrating a 10-fold dilution in duplicate. \* = expected PCR size

| Clade         | Virus                    | Watanabe PCR | Pan-CoV PCR | Pan-CoV PCR (1 <sup>st</sup> round PCR) |
|---------------|--------------------------|--------------|-------------|-----------------------------------------|
| $\alpha$ -CoV | HCoV-NL63                |              |             |                                         |
| $\beta$ -CoV  | MERS-CoV                 |              |             |                                         |
|               | SARS-CoV-2               |              |             |                                         |
|               | WIV1                     |              |             |                                         |
|               | SHC014                   |              |             |                                         |
| $\gamma$ -CoV | Common moorhen CoV HKU21 |              |             |                                         |
| $\delta$ -CoV | Avian CoV Massachusetts  |              |             |                                         |

**Table S4. Placing primers in MERS-CoV reference sequence.** A reference MERS-CoV genome was used to map the Watanabe and Pan-CoV primers, genome location is denoted by nucleotide numbers.

| MERS-CoV genome: MF598663.1 |               |
|-----------------------------|---------------|
| Primer name                 | Nucleotide #  |
| Watanabe PCR - F            | 15257-15,279  |
| Watanabe PCR - R            | 15,673-15,696 |
| Pan-CoV F-1                 | 15,257-15,279 |
| Pan-CoV F-2&3               | 15,263-15,283 |
| Pan-CoV R-1&2               | 16,677-15,696 |

**Table S5: Acknowledgements for the sequences used.**

| Virus name                      | Accession No. | Collected | Authors                                                                                                                                                                                                                                                                                        |
|---------------------------------|---------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Porcine epidemic diarrhea virus | NC_003436.1   | 13-Aug-18 | Kocherhans,R, Bridgen,A, Ackermann,M and Tobler,K.                                                                                                                                                                                                                                             |
| Scotophilus bat CoV             | NC_009657.1   | 13-Aug-18 | Tang,X.C., Zhang,J.X., Zhang,S.Y., Wang,P., Fan,X.H., Li,L.F.,Li,G., Dong,B.Q., Liu,W., Cheung,C.L., Xu,K.M., Song,W.J.,Vijaykrishna,D., Poon,L.L., Peiris,J.S., Smith,G.J., Chen,H. and Guan,Y.                                                                                               |
| Bat CoV HKU6                    | DQ249224.1    | 26-Jul-16 | Woo,P.C., Lau,S.K., Li,K.S., Poon,R.W., Wong,B.H., Tsoi,H.W.,Yip,B.C., Huang,Y., Chan,K.H. and Yuen,K.Y.                                                                                                                                                                                       |
| Miniopterus bat CoV             | EU420138.1    | 21-Feb-18 | Chu,D.K., Peiris,J.S., Chen,H., Guan,Y. and Poon,L.L.                                                                                                                                                                                                                                          |
| Bat CoV HKU8                    | NC_010438.1   | 13-Aug-18 | Chu,D.K., Peiris,J.S., Chen,H., Guan,Y. and Poon,L.L.                                                                                                                                                                                                                                          |
| Bat CoV HKU7                    | DQ249226.1    | 26-Jul-16 | Woo,P.C., Lau,S.K., Li,K.S., Poon,R.W., Wong,B.H., Tsoi,H.W.,Yip,B.C., Huang,Y., Chan,K.H. and Yuen,K.Y.                                                                                                                                                                                       |
| HCoV-229E                       | KU291448.1    | 4-Sep-16  | Corman,V.M., Eckerle,I., Memish,Z.A., Liljander,A.M., Dijkman,R., Jonsdottir,H., Juma Ngeiywa,K.J., Kamau,E., Younan,M., Al Masri,M., Assiri,A., Gluecks,I., Musa,B.E., Meyer,B., Muller,M.A., Hilali,M., Bornstein,S., Wernery,U., Thiel,V., Jores,J., Drexler,J.F. and Drosten,C.            |
| HCoV-NL63                       | AY567487.2    | 22-Jun-04 | van der Hoek,L., Pyrc,K., Jebbink,M.F., Vermeulen-Oost,W.,Berkhout,R.J.M., Wolthers,K.C., Wertheim-van Dillen,P.M.E., Kaandorp,J., Spaargaren,J. and Berkhout,B.                                                                                                                               |
| Rousettus bat CoV HKU10         | NC_018871.1   | 13-Aug-18 | Lau,S.K., Li,K.S., Tsang,A.K., Shek,C.T., Wang,M., Choi,G.K.,Guo,R., Wong,B.H., Poon,R.W., Lam,C.S., Wang,S.Y., Fan,R.Y., Chan,K.H., Zheng,B.J., Woo,P.C. and Yuen,K.Y.                                                                                                                        |
| Bat CoV HKU2                    | NC_009988.1   | 13-Aug-18 | Lau,S.K., Li,K.S., Tsang,A.K., Shek,C.T., Wang,M., Choi,G.K.,Guo,R., Wong,B.H., Poon,R.W., Lam,C.S., Wang,S.Y., Fan,R.Y., Chan,K.H., Zheng,B.J., Woo,P.C. and Yuen,K.Y.                                                                                                                        |
| SADS-CoV                        | MG605091.1    | 16-Sep-18 | Zhou,L., Sun,Y., Lan,T., Wu,R.T., Chen,J.W., Wu,Z.X., Xie,Q.M.,Zhang,X.B. and Ma,J.Y.                                                                                                                                                                                                          |
| Feline CoV                      | KX722529.1    | 31-Dec-17 | Ryt-Hansen,P., Krog,J.S. and Larsen,L.E.                                                                                                                                                                                                                                                       |
| Canine CoV                      | KP981644.1    | 28-May-15 | Decaro,N., Mari,V., Dowgier,G., Elia,G., Lanave,G., Colaianni,M.L. and Buonavoglia,C.                                                                                                                                                                                                          |
| Porcine respiratory CoV ISU1    | DQ811787.1    | 14-Jul-16 | Zhang,X., Hasoksuz,M., Spiro,D., Halpin,R., Wang,S., Stollar,S.,Janies,D., Hadya,N., Tang,Y., Ghedin,E. and Saif,L.                                                                                                                                                                            |
| TGEV purdue                     | DQ811788.1    | 14-Jul-16 | Zhang,X., Hasoksuz,M., Spiro,D., Halpin,R., Wang,S., Stollar,S.,Janies,D., Hadya,N., Tang,Y., Ghedin,E. and Saif,L.                                                                                                                                                                            |
| Bat CoV isolate PREDICT/PDF 21  | NC_034440.1   | 20-Nov-20 | Anthony,S.J., Gilardi,K., Menachery,V.D., Goldstein,T., Ssebidde,B., Mbabazi,R., Navarrete-Macias,I., Liang,E., Wells,H., Hicks,A.,Petrosov,A., Byarugaba,D.K., Debbink,K., Dinnon,K.H., Scobey,T.,Randell,S.H., Yount,B.L., Cranfield,M., Johnson,C.K., Baric,R.S.,Lipkin,W.I. and Mazet,J.A. |
| MERS-CoV                        | MF598663.1    | 15-Nov-17 | Yusof,M.F., Queen,K., Eltahir,Y.M., Paden,C.R., Al Hammadi,Z.M.A.H., Tao,Y., Li,Y., Khalafalla,A.I., Shi,M., Zhang,J.,Mohamed,M.S.A.E., Abd Elaal Ahmed,M.H., Azeez,I.A., Bensalah,O.K.,Eldahab,Z.S., Al Hosani,F.I., Gerber,S.I., Hall,A.J., Tong,S. and Al Muhairi,S.S.                      |
| HKU5                            | EF065512.1    | 7-Feb-07  | Woo,P.C., Wang,M., Lau,S.K., Xu,H., Poon,R.W., Guo,R., Wong,B.H., Gao,K., Tsoi,H.W., Huang,Y., Li,K.S., Lam,C.S., Chan,K.H.,Zheng,B.J. and Yuen,K.Y.                                                                                                                                           |
| Bat CoV HKU4                    | NC_009019.1   | 20-Nov-20 | Luo,C.M., Wang,N., Yang,X.L., Liu,H.Z., Zhang,W., Li,B., Hu,B.,Peng,C., Geng,Q.B., Zhu,G.J., Li,F. and Shi,Z.L.                                                                                                                                                                                |
| SARS-CoV-2                      | NC_045512.2   | 18-Jul-20 | Wu,F., Zhao,S., Yu,B., Chen,Y.M., Wang,W., Song,Z.G., Hu,Y.,Tao,Z.W., Tian,J.H., Pei,Y.Y., Yuan,M.L., Zhang,Y.L., Dai,F.H.,Liu,Y., Wang,Q.M., Zheng,J.J., Xu,L., Holmes,E.C. and Zhang,Y.Z.                                                                                                    |
| Bat-SRBD                        | FJ211859.1    | 26-Jul-16 | Becker,M.M., Graham,R.L., Donaldson,E.F., Rockx,B.R., Sims,A.C.,Sheahan,T., Pickles,R.J., Corte,D., Johnston,R.E., Baric,R.S. and Denison,M.R.                                                                                                                                                 |
| Bat SARS CoV HKU3               | DQ022305.2    | 25-Oct-05 | Lau,S.K., Woo,P.C., Li,K.S., Huang,Y., Tsoi,H.W., Wong,B.H.,Wong,S.S., Leung,S.Y., Chan,K.H. and Yuen,K.Y.                                                                                                                                                                                     |
| Rhinolophus affinis CoV LYRa11  | KF569996.1    | 29-May-14 | He,B., Zhang,Y., Xu,L., Yang,W., Yang,F., Feng,Y., Xia,L., Zhou,J.,Zhen,W., Feng,Y., Guo,H., Zhang,H. and Tu,C.                                                                                                                                                                                |
| SARS-CoV                        | NC_004718     | 20-Nov-20 | He,R., Dobie,F., Ballantine,M., Leeson,A., Li,Y., Bastien,N., Cutts,T., Andonov,A., Cao,J., Booth,T.F., Plummer,F.A., Tyler,S., Baker,L. and Li,X.                                                                                                                                             |
| WIV1                            | KF367457.1    | 6-Nov-13  | Ge,X.Y., Li,J.L., Yang,X.L., Chmura,A.A., Zhu,G., Epstein,J.H., Mazet,J.K., Hu,B., Zhang,W., Peng,C., Zhang,Y.J., Luo,C.M., Tan,B., Wang,N., Zhu,Y., Crameri,G., Zhang,S.Y., Wang,L.F., Daszak,P. and Shi,Z.L.                                                                                 |
| SHC014                          | KC881005.1    | 22-Nov-13 | Ge,X.Y., Li,J.L., Yang,X.L., Chmura,A.A., Zhu,G., Epstein,J.H., Mazet,J.K., Hu,B., Zhang,W., Peng,C., Zhang,Y.J., Luo,C.M., Tan,B., Wang,N., Zhu,Y., Crameri,G., Zhang,S.Y., Wang,L.F., Daszak,P. and Shi,Z.L.                                                                                 |
| Rousettus bat CoV GCCDC1        | NC_030886.1   | 3-Sep-20  | Obameso,J.O., Li,H., Jia,H., Han,M., Zhu,S., Huang,C., Zhao,Y.,Zhao,M., Bai,Y., Yuan,F., Zhao,H., Peng,X., Xu,W., Tan,W., Zhao,Y.,Yuen,K.Y., Liu,W.J., Lu,L. and Gao,G.F.                                                                                                                      |
| Rousettus bat CoV HKU9          | MG762674.1    | 24-Mar-18 | Luo,Y., Li,B., Jiang,R.D., Hu,B.J., Luo,D.S., Zhu,G.J., Hu,B.,Liu,H.Z., Zhang,Y.Z., Yang,X.L. and Shi,Z.L.                                                                                                                                                                                     |
| Rabbit CoV HKU14                | NC_017083.1   | 14-Nov-20 | Lau,S.K., Woo,P.C., Yip,C.C., Fan,R.Y., Huang,Y., Wang,M., Guo,R.,Lam,C.S., Tsang,A.K., Lai,K.K., Chan,K.H., Che,X.Y., Zheng,B.J. and Yuen,K.Y.                                                                                                                                                |
| HCoV-HKU1                       | KF686346.1    | 26-Sep-14 | Dominguez,S.R., Shrivastava,S., Berglund,A., Qian,Z., Goes,L.G., Halpin,R.A., Fedorova,N., Ransier,A., Weston,P.A., Durigon,E.L., Jerez,J.A., Robinson,C.C., Town,C.D. and Holmes,K.V.                                                                                                         |

|                              |                 |           |                                                                                                                                                                                                                                                                           |
|------------------------------|-----------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Murine CoV                   | KF26833<br>8.1  | 26-Sep-14 | Town,C.D., Halpin,R.A., Ransier,A., Fedorova,N., Tsitrin,T., Mclellan,M., Stockwell,T., Amedeo,P., Bishop,B., Edworthy,P., Gupta,N., Katzel,D., Li,K., Schobel,S., Shrivastava,S., Thovarai,V., Wang,S., Siddell,S.G., Zhao,L., Elliott,R., Wentworth,D.E. and Weiss,S.R. |
| HCoV-OC43                    | KJ95821<br>9.1  | 19-Nov-14 | Hu,Q., Lu,R. and Tan,W.                                                                                                                                                                                                                                                   |
| Bovine CoV                   | U00735.2        | 23-Apr-03 | Hofmann,M.A., Chang,R.Y., Ku,S. and Brian,D.A.                                                                                                                                                                                                                            |
| Human enteric CoV 4408       | FJ415324<br>.1  | 18-Nov-08 | Zhu,H., Cai,Y., Liu,Y., Yu,D., Pu,Y., Halcom,K. and Zhang,X.                                                                                                                                                                                                              |
| Sable antelope CoV           | EF42462<br>1.1  | 23-Jul-16 | Zhang,X., Hasoksuz,M., Spiro,D., Halpin,R., Wang,S., Vlasova,A., Janies,D., Jones,L., Ghedin,E. and Saif,L.                                                                                                                                                               |
| Night heron CoV HKU19        | NC_0169<br>94.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Wigeon CoV HKU20             | NC_0169<br>95.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Bulbul CoV HKU11             | NC_0115<br>47.1 | 24-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lai,K.K., Huang,Y., Lee,P., Luk,G.S., Dyrting,K.C., Chan,K.H. and Yuen,K.Y.                                                                                                                                                                 |
| Thrush CoV HKU12             | NC_0115<br>49.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lai,K.K., Huang,Y., Lee,P., Luk,G.S., Dyrting,K.C., Chan,K.H. and Yuen,K.Y.                                                                                                                                                                 |
| Magpie robin CoV HKU18       | NC_0169<br>93.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Munia CoV HKU13              | NC_0115<br>50.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lai,K.K., Huang,Y., Lee,P., Luk,G.S., Dyrting,K.C., Chan,K.H. and Yuen,K.Y.                                                                                                                                                                 |
| White eye CoV HKU16          | NC_0169<br>91.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Common moorhen CoV HKU21     | NC_0169<br>96.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Porcine CoV HKU15            | NC_0392<br>08.1 | 24-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Sparrow CoV HKU17            | NC_0169<br>92.1 | 13-Aug-18 | Woo,P.C., Lau,S.K., Lam,C.S., Lau,C.C., Tsang,A.K., Lau,J.H., Bai,R., Teng,J.L., Tsang,C.C., Wang,M., Zheng,B.J., Chan,K.H. and Yuen,K.Y.                                                                                                                                 |
| Bottlenose dolphin CoV HKU22 | KF79382<br>6.1  | 11-Mar-14 | Woo,P.C.Y., Lau,S.K.P., Lam,C.S.F., Tsang,A.K.L., Hui,S.-W., Fan,R.Y.Y., Martelli,P. and Yuen,K.-Y.                                                                                                                                                                       |
| TCoV-540                     | EU02252<br>5.1  | 18-Jul-08 | Cao,J., Wu,C.C. and Lin,T.L.                                                                                                                                                                                                                                              |
| Avian CoV Massachusetts      | AY64628<br>3.1  | 17-Jul-04 | Fu,J.D., Liao,M., Ren,T., Zhang,G.H., Xin,C.A. and Chen,J.D.                                                                                                                                                                                                              |

