**Supplementary Table 3**

**Detailed information of relative synonymous codon usage analysis (RSCU) of FeChPV and CaChPV with hosts.**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Codons** | | **Virus** | | | |  | **Host** | |
| **FeChPV** | | **CaChPV** | |  | **Canis** | **Felis catus** |
|  | | **NS** | **VP** | **NS** | **VP** |  |  |  |
| TTT | F | 1.527 | 0.911 | **1.740** | **1.953** |  | 0.961 | 0.921 |
| TTC | F | 0.473 | 1.089 | 0.260 | 0.047 | 1.039 | 1.079 |
| TTA | L | **2.655** | **2.758** | **2.583** | **3.076** | 0.519 | 0.479 |
| TTG | L | 1.556 | 0.249 | 1.075 | 0.245 | 0.804 | 0.787 |
| CTT | L | 0.529 | 0.748 | 1.558 | 0.971 | 0.827 | 0.784 |
| CTC | L | 0.397 | 0.249 | 0.160 | 0.474 | 1.131 | 1.172 |
| CTA | L | 0.712 | 1.247 | 0.552 | 1.217 | 0.457 | 0.418 |
| CTG | L | 0.153 | 0.748 | 0.072 | 0.017 | **2.263** | **2.359** |
| ATT | I | 1.597 | 0.874 | 1.565 | **1.729** | 1.100 | 1.055 |
| ATC | I | 0.309 | 0.426 | 0.522 | 0.206 | 1.349 | 1.422 |
| ATA | I | 1.094 | **1.699** | 0.913 | 1.065 | 0.551 | 0.523 |
| GTT | V | **2.021** | 0.547 | **1.614** | **1.865** | 0.751 | 0.719 |
| GTC | V | 0.598 | 1.096 | 0.192 | 0.113 | 0.936 | 0.972 |
| GTA | V | 0.801 | **2.291** | **1.644** | **1.838** | 0.514 | 0.471 |
| GTG | V | 0.579 | 0.067 | 0.550 | 0.184 | **1.799** | **1.838** |
| TCT | S | 1.479 | 0.875 | **2.007** | **1.969** | 1.146 | 1.088 |
| TCC | S | 0.664 | 0.013 | 0.825 | 0.415 | 1.249 | 1.312 |
| TCA | S | 1.397 | **2.676** | 1.216 | **1.862** | 0.916 | 0.854 |
| TCG | S | 0.082 | 0.232 | 0.096 | 0.216 | 0.333 | 0.385 |
| AGT | S | 0.594 | 1.249 | 0.645 | 0.574 | 0.953 | 0.906 |
| AGC | S | **1.783** | 0.954 | 1.211 | 0.963 | 1.403 | 1.455 |
| CCT | P | 1.365 | 0.908 | **2.224** | 1.510 | 1.147 | 1.091 |
| CCC | P | 0.463 | 0.007 | 0.672 | 0.562 | 1.276 | 1.337 |
| CCA | P | **1.971** | **2.991** | 1.103 | **1.727** | 1.108 | 1.027 |
| CCG | P | 0.201 | 0.093 | 0.000 | 0.201 | 0.468 | 0.546 |
| ACT | T | **1.758** | 1.260 | 1.493 | 1.301 | 1.010 | 0.940 |
| ACC | T | 0.736 | 0.440 | 0.796 | 0.367 | 1.352 | 1.420 |
| ACA | T | 1.236 | **2.107** | 1.499 | **1.958** | 1.164 | 1.072 |
| ACG | T | 0.269 | 0.193 | 0.212 | 0.374 | 0.474 | 0.569 |
| GCT | A | **2.286** | 1.334 | **1.608** | **1.547** | 1.066 | 0.993 |
| GCC | A | 0.582 | 0.000 | 0.471 | 0.143 | 1.581 | **1.655** |
| GCA | A | 1.132 | **2.515** | **1.626** | **2.276** | 0.933 | 0.859 |
| GCG | A | 0.000 | 0.151 | 0.295 | 0.035 | 0.421 | 0.493 |
| TAT | Y | **1.720** | 1.451 | **1.874** | 1.281 | 0.920 | 0.865 |
| TAC | Y | 0.280 | 0.549 | 0.126 | 0.719 | 1.080 | 1.135 |
| CAT | H | 1.270 | 1.595 | 1.540 | **1.679** | 0.861 | 0.792 |
| CAC | H | 0.730 | 0.405 | 0.460 | 0.321 | 1.139 | 1.208 |
| CAA | Q | 1.483 | **1.680** | 1.562 | **1.723** | 0.542 | 0.510 |
| CAG | Q | 0.517 | 0.320 | 0.438 | 0.277 | 1.458 | 1.490 |
| AAT | N | 1.345 | 1.585 | 1.134 | 1.542 | 0.978 | 0.912 |
| AAC | N | 0.655 | 0.415 | 0.866 | 0.458 | 1.022 | 1.088 |
| AAA | K | **1.600** | **1.986** | **1.917** | **1.871** | 0.898 | 0.872 |
| AAG | K | 0.400 | 0.014 | 0.083 | 0.129 | 1.102 | 1.128 |
| GAT | D | 1.573 | 1.281 | **1.637** | 1.490 | 0.966 | 0.899 |
| GAC | D | 0.427 | 0.719 | 0.363 | 0.510 | 1.034 | 1.101 |
| GAA | E | **1.749** | **1.895** | **1.639** | **1.994** | 0.886 | 0.850 |
| GAG | E | 0.251 | 0.105 | 0.361 | 0.006 | 1.114 | 1.150 |
| TGT | C | 1.000 | 0.875 | 1.084 | **1.721** | 0.957 | 0.933 |
| TGC | C | 1.000 | 1.125 | 0.916 | 0.279 | 1.043 | 1.067 |
| CGT | R | 0.435 | 0.364 | 0.927 | 0.938 | 0.466 | 0.463 |
| CGC | R | 0.435 | 0.000 | 0.595 | 0.560 | 1.003 | 1.056 |
| CGA | R | 0.590 | 0.000 | 1.288 | 1.420 | 0.673 | 0.659 |
| CGG | R | 0.156 | 0.000 | 0.156 | 0.059 | 1.217 | 1.285 |
| AGA | R | **3.948** | **5.553** | **2.255** | **2.605** | 1.351 | 1.260 |
| AGG | R | 0.435 | 0.083 | 0.780 | 0.419 | 1.291 | 1.277 |
| GGT | G | 0.738 | 0.582 | 0.657 | 1.038 | 0.653 | 0.631 |
| GGC | G | 0.485 | 0.143 | 0.746 | 0.443 | 1.319 | 1.358 |
| GGA | G | **2.008** | **2.980** | **2.117** | **2.485** | 1.026 | 0.992 |
| GGG | G | 0.768 | 0.295 | 0.480 | 0.033 | 1.002 | 1.019 |

Note:RSCU > 1.6 are underlined and **bolde**d; 1<rscu<1.6 are underlined.