**Table S1 Primers and protocols for qPCR detection of different viruses**

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| Virus type | Primer（5-3） | Probe（5-3） | Reaction system |
| PRV-gH | F: ACGCTCGGCTTCCTCTCCR: GGTAGTCGTCGCTCTCGTG | FAM-TCGCGCATCGTCTGGTGCAT-BHQ1 | PF 0.6μmol/L, PR 0.6μmol/LProbe 0.3μmol/L, Mix 10μLTemplate 2μL, Water add to 20μL |
| PRV-gE | F: GCTGTACGTGCTCGTGATR: TCAGCTCCTTGATGACCGTGA | FAM-CACAACGGCCACGTCGCCACCTG-BHQ1 | PF 0.6μmol/L, PR 0.6μmol/LProbe 0.3μmol/L, Mix 10μLTemplate 2μL, Water add to 20μL |
| ASFV | F: AACGCGTTCGCTTTTCGR: CATCGTGGTGGTTATTGTTGGT | FAM-ACGTGTCCATAAAACGCAGGTGACCC-BHQ1 | PF 0.4μmol/L, PR 0.4μmol/LProbe 0.3μmol/L, Mix 10μLTemplate 2μL,Water add to 20μL |
| PEDV | F：CGTACAGGTAAGTCAATTACR：GATGAAGCATTGACTGAA | FAM-TTCGTCACAGTCGCCAAGG-BHQ1 | PF 0.6μmol/L, PR 0.6μmol/LProbe 0. 4μmol/L, Mix 10μLTemplate 2μL, Water add to 20μL |

In order to facilitate synchronous detection, after debugging and optimization, the qPCR reaction procedures of the four viruses were adjusted to be consistent after optimization: started with a hot start polymerase activation step for 5 min at 95°C, followed by 40 cycles of 15s at 95°C and 1 min at 60°C.