Supplementary Tables

Table 1: **Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA.**

Group	ASO	Sequence
1	1	GGCAGCACAAGACATCTGTCGTAGTGCAACAGGACTAAGC-TCATTATT
	2	TGTAGTAAGCTAACGCATTGTCATCAGTGCAAGCAGTTTGT-GTAGTACC
	3	TGTAAATCGGATAACAGTGCAAGTACAAACCTACCTCCCTT-TGTTGTGT
	4	GATAGTACCAGTTCCATCACTCTTAGGGAATCTAGCCCATT-TCAAATCC
	5	CTTTAGGTGTGTCTGTAACAAACCTACAAGGTGGTTCCAGT-TCTGTATA
2	1	ATACCTCTATTTAGGTTGTTTAATCCTTTAATAAAGTATAAA-TACTTCACTTTAGGAC
	2	CACTTCTGTTGCATTACCAGCTTGTAGACGTACTGTGGCAG-CTAAACTACCAAGTACC
	3	AAGCTTTAGCAGCATCTACAGCAAAAGCACAGAAAGATAA-TACAGTTGAATTGGCAGG
	4	CACAACATCTTAACACAATTAGTGATTGGTTGTCCCCCACT-AGCTAGATAATCTTTGT
3	1	GATCCATATTGGCTTCCGGTGTAACTGTTATTGCCTGACCA-GTACCAGTGTGTGTA
	2	ATGATCTATGTGGCAACGGCAGTACAGACAACACGATGCA-CCACCAAAGGATTCTT

	3	GTTGTAGGTATTTGTACATACTTACCTTTTAAGTCACAAAAT-CCTTTAGGATTTGG
	4	CCGCAGACGGTACAGACTGTGTTTTTAAGTGTAAAACCCAC-AGGGTCATTAGCACAA
4	1	CTGAAGCATGGGTTCGCGGAGTTGATCACAACTACAGCCA-TAACCTTTCCACATA
	2	AAGACGGGCTGCACTTACACCGCAAACCCGTTTAAAAACG-ATTGTGCATCAGCTGA
	3	TAGATGTCAAAAGCCCTGTATACGACATCAGTACTAGTGCC-TGTGCCGCACGGTGT
	4	GGAAGCGACAACAATTAGTTTTTAGGAATTTAGCAAAACCA-GCTACTTTATCATTG
5	1	TGTCTCTTAACTACAAAGTAAGAATCAATTAAATTGTCATCT-TCGTCCTTTTCTT
	2	GACAATCCTTAAGTAAATTATAAATTGTTTCTTCATGTTGGT-AGTTAGAGAAAGTG
	3	GGTACCATGTCACCGTCTATTCTAAACTTAAAGAAGTCATG-TTTAGCAACAGCTG
	4	AAGCATAGACGAGGTCTGCCATTGTGTATTTAGTAAGACGT-TGACGTGATATATGT
6	1	TGTATGTGACAAGTATTTCTTTTAATGTGTCACAATTACCTT-CATCAAAATGCCTTA
	2	GGTTTTCTACAAATCATACCAGTCCTTTTTATTGAAATAAT-CATCATCACAACAAT

	3	TTAACAAAGCTTGGCGTACACGTTCACCTAAGTTGGCGTAT-ACGCGTAATATATCTG
	4	ATGTCAGTACACCAACAATACCAGCATTTCGCATGGCATCA-CAGAATTGTACTGTTT
7	1	GTTTGTATGAAATCACCGAAATCATACCAGTTACCATTGAG-ATCTTGATTATCTA
	2	TAGGCATTAACAATGAATAATAAGAATCTACAACAGGAACT-CCACTACCTGGCGTG
	3	GTTAAGTCAGTGTCAACATGTGACTCTGCAGTTAAAGCCCT-GGTCAAGGTTAATA
	4	TTAACCTCTCTTCCGTGAAGTCATATTTTAACAAATCCCACT-TAATGTAAGGCTTT
8	1	AACACAATTTGGGTGGTATGTCTGATCCCAATATTTAAAAT-AACGGTCAAAGAGTT
	2	GAGAATAAAACATTAAAGTTTGCACAATGCAGAATGCATCT-GTCATCCAAACAGTT
	3	CATCAACAAATATTTTTCTCACTAGTGGTCCAAAACTTGTA-GGTGGGAACACTGTA
	4	ATGTACAACACCTAGCTCTCTGAAGTGGTATCCAGTTGAAA-CTACAAATGGAACAC
9	1	TACACAAGTAATTCCTTAAAACTAAGTCTAGAGCTATGTAA-GTTTACATCCTGATT
	2	TGCGTTTATCTAGTAATAGATTACCAGAAGCAGCGTGCATA-GCAGGGTCAGCAGCA

Table 1: **Sequences of the antisense oligonucleotides (ASOs) targeting the 2,924 nt segment of SARS-CoV-2 RNA.** (Continued)

	3	TTTGACAGTTTGAAAAGCAACATTGTTAGTAAGTGCAGCTA-CTGAAAAGCACGTAG
	4	CTTAAAGAAACCCTTAGACACAGCAAAGTCATAGAAGTCTT-TGTTAAAATTACCGGG
10	1	CAGCATTACCATCCTGAGCAAAGAAGAAGTGTTTTAATTCA-ACAGAACTTCCTTC
	2	CTGATATCACACATTGTTGGTAGATTATAACGATAGTAGTC-ATAATCGCTGATAG
	3	ACCATCGTAACAATCAAAGTACTTATCAACAACTTCAACTA-CAAATAGTAGTTGT
	4	AACCAGCTGATTTGTCTAGGTTGTTGACGATGACTTGGTTA-GCATTAATACAGCC
11	1	CCTCATAACTCATTGAATCATAATAAAGTCTAGCCTTACCC-CATTTATTAAATGGAA
	2	ATTTGAGTTATAGTAGGGATGACATTACGTTTTGTATATGC-GAAAAGTGCATCTTGAT
	3	GAGACACCAGCTACGGTGCGAGCTCTATTCTTTGCACTAAT-GGCATACTTAAGATTC
	4	GGCTATTGATTTCAATAATTTTTGATGAACTGTCTATTGGT-CATAGTACTACAGATA
12	1	CAACCACCATAGAATTTGCTTGTTCCAATTACTACAGTAGC-TCCTCTAGTGGC
	2	CCATAAGGTGAGGGTTTTCTACATCACTATAAACAGTTTTT-AACATGTTGTGC

	3	CATAATTCTAAGCATGTTAGGCATGGCTCTATCACATTTAG-GATAATCCCAAC
	4	ACGGTGTGACAAGCTACAACACGTTGTATGTTTGCGAGCA-AGAACAAGTGAGGC
13	1	ACACATGACCATTTCACTCAATACTTGAGCACACTCATTAG-CTAATCTATAGAA
	2	AGTTGTGGCATCTCCTGATGAGGTTCCACCTGGTTTAACAT-ATAGTGAACCGCC
	3	ATTAACATTGGCCGTGACAGCTTGACAAATGTTAAAAACAC-TATTAGCATAAGC
	4	TAAATTGCGGACATACTTATCGGCAATTTTGTTACCATCAG-TAGATAAAAGTGC

Table 2: **Sequences of the forward (F) and reverse (R) primers for amplifying the target site of each ASO group in the 2,924 nt segment of SARS-CoV-2 RNA.**

Group	Primer	Sequence
1	F	AATAATGAGCTTAGTCCTGTTGCACTACG
	R	AGGTTGTTTAATCCTTTAATAAAGTATAAATACTTCACTTT-AGG
2	F	ACCTTGTAGGTTTGTTACAGACACACCTAA
	R	TTGCCTGACCAGTACCAGTGTGTG
3	F	GGACAACCAATCACTAATTGTGTTAAGATGTTG
	R	TCACAACTACAGCCATAACCTTTCCACA
4	F	CTTAAAAACACAGTCTGTACCGTCTGC
	R	GTAAGAATCAATTAAATTGTCATCTTCGTCCTTTTC
5	F	TGCTAAATTCCTAAAAACTAATTGTTGTCGCTT
	R	ATGTGTCACAATTACCTTCATCAAAATGCCT
6	F	CAATGGCAGACCTCGTCTATGC
	R	GAAATCATACCAGTTACCATTGAGATCTTGATTATC
7	F	CGAAATGCTGGTATTGTTGGTGTACTGAC
	R	GTCTGATCCCAATATTTAAAATAACGGTCAAAGAG
8	F	TGTTAAAATATGACTTCACGGAAGAGAGGTT
	R	AAGTCTAGAGCTATGTAAGTTTACATCCTGA
9	F	CCACTTCAGAGAGCTAGGTGTTGTAC
	R	CAAAGAAGAAGTGTTTTAATTCAACAGAACTTCCT
10	F	TGACTTTGCTGTGTCTAAGGGTTTCTTTA
	R	CATAATAAAGTCTAGCCTTACCCCATTTATTAAATGG
11	F	CGTCAACAACCTAGACAAATCAGCTGG

Table 2: **Sequences of the forward (F) and reverse (R) primers for amplifying the target site of each ASO group in the 2,924 nt segment of SARS-CoV-2 RNA.** (Continued)

	R	TTCCAATTACTACAGTAGCTCCTCTAGTG
12	F	GACCAATAGACAGTTTCATCAAAAATTATTGAAATCAATA-G
	R	ATACTTGAGCACACTCATTAGCTAATCTATAG
13	F	ACAACGTGTTGTAGCTTGTCACACC
	R	TAAATTGCGGACATACTTATCGGCAATTTTG

Table 3: **Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segment of SARS-CoV-2 genomic RNA.** A plus sign (+) indicates that the following nucleotide is locked nucleic acid (LNA).

ASO	Sequence
Anti-LS1	GTAATTC+CTTAAAA+CTAAG
Anti-LS2a	TGAAA+AGCAA+CATTGTT
Anti-LS2b	TA+CCGGGTTTGACAG
Anti-LS3b	A+CCCTTAGACACAGCA
Anti-AS1	TGGGTTCGCG+GAGTTG
Anti-PS2-overlap	GT+TAAAATTA+CCG+GG

Table 4: **PCR primer annealing temperatures for coronavirus gene fragments.**

Coronavirus	Annealing Temperature (°C)
Bat Coronavirus 1A	55
Bat Coronavirus BM48-31	60
Common Moorhen Coronavirus	55
Human Coronavirus OC43	55
Infectious Bronchitis Virus	60
MERS Coronavirus	60
Murine Hepaitis Virus	60
SARS Coronavirus 1	60
SARS Coronavirus 2	55
Transmissible Gastroenteritis Virus	55

Table 5: **Sequences of the forward (F), forward with T7 promoter (F+T7), and reverse (R) primers for amplifying the short segment of each 1,799 nt segment of coronaviral RNAs.**

Coronavirus	Primer	Sequence
Bat Coronavirus 1A	F	GGACCCTATACGGTTTTGTCT-TGAAAA
	F+T7	TAATACGACTCACTATAGGAC-CCTATACGGTTTTGTCTTGAA-AA
	R	TTTTACAATAAAGAAAGCATC-ATGCTT
Bat Coronavirus BM48-31	F	GGGTTTTATTCTTAGAAACAC-AGTCTG
	F+T7	TAATACGACTCACTATAGGGT-TTTATTCTTAGAAACACAGTC-TG
	R	GGAGTCTAATAAGTTGCCCTC-TTCATC
Common Moorhen Coronavirus	F	GGATAAAGATAAGGAACCTG-TTTCTTT
	F+T7	TAATACGACTCACTATAGGAT-AAAGATAAGGAACCTGTTTCT-TT
	R	ACTATTAGGTATTGGCAAATT-AATGCG
Human Coronavirus OC43	F	GGCTGTGTCTTATGTTTTGAC-ACATGA

Table 5: **Sequences of the forward (F), forward with T7 promoter (F+T7), and reverse (R) primers for amplifying the short segment of each 1,799 nt segment of coronaviral RNAs.** (Continued)

	F+T7	TAATACGACTCACTATAGGCT-GTGTCTTATGTTTTGACACAT-GA
	R	ATCTAATTTATCACCGTTCTC-ATCAAC
Infectious Bronchitis Virus	F	GGTTTGCACTGTTTGCCAGTG-TTGGAT
	F+T7	TAATACGACTCACTATAGGTT-TGCACTGTTTGCCAGTGTTGG-AT
	R	CTCAAGATTTCCATCTTCAGT-ATCGCG
MERS Coronavirus	F	GGGATTTTGTTTGTCAAATAC-CCCCTG
	F+T7	TAATACGACTCACTATAGGGA-TTTTGTTTGTCAAATACCCCCT-G
	R	ATGATGCCCTTGGTCATCTAA-TTCTAC
Murine Hepatitis Virus	F	GGCTGTGTCATATGTGTTGAC-GCATGA
	F+T7	TAATACGACTCACTATAGGCT-GTGTCATATGTGTTGACGCAT-GA

Table 5: **Sequences of the forward (F), forward with T7 promoter (F+T7), and reverse (R) primers for amplifying the short segment of each 1,799 nt segment of coronaviral RNAs.** (Continued)

	R	ATCCAACTTGTTGCCGTCCTC-ATCTAC
SARS Coronavirus 1	F	GGGTTTTACACTTAGAAACAC-AGTCTG
	F+T7	TAATACGACTCACTATAGGGT-TTTACACTTAGAAACACAGTC-TG
	R	AGAGTCTAATAAATTGCCTTC-CTCATC
SARS Coronavirus 2	F	GGGTTTTACACTTAAAAACAC-AGTCTG
	F+T7	TAATACGACTCACTATAGGGT-TTTACACTTAAAAACACAGTC-TG
	R	AGAATCAATTAAATTGTCATC-TTCGTC
Transmissible Gastroenteritis Virus	F	GGCAATTCGGTTCTGTATTGA-AAATGA
	F+T7	TAATACGACTCACTATAGGCA-ATTCGGTTCTGTATTGAAAAT-GA
	R	TTTGACAATGTAGTAGGCATC-ATGTTT

Table 6: **Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segments of coronaviral RNAs.**

Coronavirus	ASO	Sequence
Bat Coronavirus 1A	1	CAGGGCTCTAGTCGAGCTGCAC-TAGAGCCCCTTGCTCGTTTAAA-TAAGCCTGATCAACAG
	2	GCAACTTCTTTATTGTAAATATC-AAAGGCGCGTACAACATGCTCC-GGTTCAGTACCATTA
Bat Coronavirus BM48-31	1	GACATCAGTGCTTGTGCCTGTG-CCGCACGGTGTAAGACGGGCC-GCACTTACACCGCAAAC
	2	TTTTAGGAACTTTGCAAAACCA-GCAACTTTCTCATTATAAATATC-AAAAGCCCTGTAAAC
	3	AAAATAGGAGTCTAATAAGTTG-CCCTCTTCATCAACTTCCTGGAA-ACGGCAACAATTTGT
Common Moorhen Coronavirus	1	TGGGGTTCTAGACGGGCATCAC-TAGAACCCTTTACTCGTTTAAAT-AAGCTGTATTTTGCA
	2	GTTATATTATTATGTACATGAAA-CGCCCTTTTTACAATATCCGGCT-GAGTGCCAGACTGT
Infectious Bronchitis Virus	1	ACATCAAAGGCTCGCTTTACAA-CATCAGGATCACATCCACTAGC-AAGGGGTATCAGCCGA

Table 6: **Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segments of coronaviral RNAs.** (Continued)

Murine Hepatitis Virus	1	AAGCCACTGGCACAGGGTACAA-GACGGGCATTTACACTTGTACC-CCGAATCCGTTTAAAA
	2	CCAATGCCAGCTCGATTAGCAT-TACAAATGTCAAATGCCCTTAA-TTGAACATCAGTGTCC
	3	AACTTGTTGCCGTCCTCATCTAC-ACGCTGGAAGCGGCAGCAATTC-ACTTTATAATACAAA
SARS Coronavirus 1	1	TTTGCAAAACCAGCAACTTTTTC-GTTGTAAATATCAAAAGCCCTG-TAGACGACATCAGTA
	2	TCTAATAAATTGCCTTCCTCATC-CTTCTCCTGGAAGCGACAGCAA-TTAGTTTTTAGGAAC
SARS Coronavirus 2	1	GACATCAGTACTAGTGCCTGTG-CCGCACGGTGTAAGACGGGCT-GCACTTACACCGCAAAC
	2	TTTTAGGAATTTAGCAAAACCA-GCTACTTTATCATTGTAGATGTC-AAAAGCCCTGTATAC
Transmissible Gastroenteritis Virus	1	TAAATAACTTTGATCAACAGTA-AAACTCTGCATAGAAGTACGAT-CGCACATGCAACCATT

Table 6: **Sequences of the antisense oligonucleotides (ASOs) targeting the 1,799 nt segments of coronaviral RNAs.** (Continued)

2	GGTCTGGATCAGTACCATTGCA-GGGTTCTAGTCGAGCTGCACTA-GAACCCCGCACTCGTT