**Severe acute respiratory syndrome coronavirus 2 isolate SARS-CoV-2/human/USA/KY-GD\_02040/2021, complete genome**

GenBank: OM918478.1

[FASTA](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?report=fasta) [Graphics](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?report=graph)

[Go to:](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1" \l "goto2204028285_0)

LOCUS OM918478 29689 bp RNA linear VRL 05-MAR-2022

DEFINITION Severe acute respiratory syndrome coronavirus 2 isolate

SARS-CoV-2/human/USA/KY-GD\_02040/2021, complete genome.

ACCESSION OM918478

VERSION OM918478.1

KEYWORDS .

SOURCE Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)

ORGANISM [Severe acute respiratory syndrome coronavirus 2](https://www.ncbi.nlm.nih.gov/Taxonomy/Browser/wwwtax.cgi?id=2697049)

Viruses; Riboviria; Orthornavirae; Pisuviricota; Pisoniviricetes;

Nidovirales; Cornidovirineae; Coronaviridae; Orthocoronavirinae;

Betacoronavirus; Sarbecovirus.

REFERENCE 1 (bases 1 to 29689)

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Neupane,A., Rouchka,E.C. and Smith,M.L.

TITLE Direct Submission

JOURNAL Submitted (05-MAR-2022) Biochemistry and Molecular Genetics,

University of Louisville, 522 East Gray Street, Louisville, KY

40292, USA

COMMENT ##Assembly-Data-START##

Assembly Method :: SMRTLink HiFi Viral SARS-CoV-2 pipeline v.

10.2

Sequencing Technology :: PacBio

##Assembly-Data-END##

FEATURES Location/Qualifiers

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/gene="ORF1ab"

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/gene="ORF1ab"

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[mat\_peptide](https://www.ncbi.nlm.nih.gov/protein/UMP59568.1?from=819&to=2762) 2618..8449

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/gene="ORF1ab"

/note="Coronavirus frameshifting stimulation element

stem-loop 1"

[stem\_loop](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=13374&to=13428) 13374..13428

/gene="ORF1ab"

/note="Coronavirus frameshifting stimulation element

stem-loop 2"

[gene](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=21449&to=25264) 21449..25264

/gene="S"

[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=21449&to=25264) 21449..25264

/gene="S"

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CTFEYVSQPFLMDLEGKQGNFKNLREFVFKNIDGYFKIYSKHTPINLVREPEDLPQGF

SALEPLVDLPIGINITRFQTLLALHRSYLTPGDSSSGWTAGAAAYYVGYLQPRTFLLK

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REGVFVSNGTHWFVTQRNFYEPQIITTDNTFVSGNCDVVIGIVNNTVYDPLQPELDSF

KEELDKYFKNHTSPDVDLGDISGINASVVNIQKEIDRLNEVAKNLNESLIDLQELGKY

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[gene](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=25273&to=26100) 25273..26100

/gene="ORF3a"

[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=25273&to=26100) 25273..26100

/gene="ORF3a"

/codon\_start=1

/product="ORF3a protein"

/protein\_id="[UMP59570.1](https://www.ncbi.nlm.nih.gov/protein/2204028289)"

/translation="MDLFMRIFTIGTVTLKQGEIKDATPSDFVRATATIPIQASLPFG

WLIVGVALLAVFQSASKIITLKKRWQLALSKGVHFVCNLLLLFVTVYSHLLLVAAGLE

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NSVTSSIVITSGDGTTSPISEHDYQIGGYTEKWESGVKDCVVLHSYFTSDYYQLYSTQ

LSTDTGVEHVTFFIYNKIVDEPEEHVQIHTIDGSSGVVNPVMEPIYDEPTTTTSVPL"

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/gene="E"

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/gene="E"

/codon\_start=1

/product="envelope protein"

/protein\_id="[UMP59571.1](https://www.ncbi.nlm.nih.gov/protein/2204028290)"

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/gene="M"

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/gene="M"

/codon\_start=1

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/protein\_id="[UMP59572.1](https://www.ncbi.nlm.nih.gov/protein/2204028291)"

/translation="MAGSNGTITVEELKKLLEEWNLVIGFLFLTWICLLQFAYANRNR

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IKDLPKEITVATSRTLSYYKLGASQRVAGDSGFAAYSRYRIGNYKLNTDHSSSSDNIA

LLVQ"

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/gene="ORF6"

[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=27082&to=27267) 27082..27267

/gene="ORF6"

/codon\_start=1

/product="ORF6 protein"

/protein\_id="[UMP59573.1](https://www.ncbi.nlm.nih.gov/protein/2204028292)"

/translation="MFHLVDFQVTIAEILLIIMRTFKVSIWNLDYIINLIIKNLSKSL

TENKYSQLDEEQPMEID"

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/gene="ORF7a"

[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=27274&to=27639) 27274..27639

/gene="ORF7a"

/codon\_start=1

/product="ORF7a protein"

/protein\_id="[UMP59574.1](https://www.ncbi.nlm.nih.gov/protein/2204028293)"

/translation="MKIILFLALITLATCELYHYQECVRGTTVLLKEPCSSGTYEGNS

PFHPLADNKFALTCFSTQFAFACPDGVKHVYQLRARSVSPKLFIRQEEVQELYSPIFL

IVAAIVFITLCFTLKRKTE"

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/gene="ORF7b"

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/codon\_start=1

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/translation="MIELSLIDFYLCFLAFLLFLVLIMLIIFWFSLELQDHNETCHA"

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/gene="ORF8"

[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=27774&to=28139) 27774..28139

/gene="ORF8"

/codon\_start=1

/product="ORF8 protein"

/protein\_id="[UMP59576.1](https://www.ncbi.nlm.nih.gov/protein/2204028295)"

/translation="MKFLVFLGIITTVAAFHQECSLQSCTQHQPYVVDDPCPIHFYSK

WYIRVGARKSAPLIELCVDEAGSKSPIQYIDIGNYTVSCLPFTINCQEPKLGSLVVRC

SFYEDFLEYHDVRVVLDFI"

[gene](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=28154&to=29404) 28154..29404

/gene="N"

[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=28154&to=29404) 28154..29404

/gene="N"

/codon\_start=1

/product="nucleocapsid phosphoprotein"

/protein\_id="[UMP59577.1](https://www.ncbi.nlm.nih.gov/protein/2204028296)"

/translation="MSDNGPQNQRNALRITFGGPSDSTGSNQNGGARSKQRRPQGLPN

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GTTLPKGFYAEGSRGGSQASSRSSSRSRNSSRNSTPGSSKRTSPARMAGNGGDAALAL

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[gene](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=29429&to=29545) 29429..29545

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[CDS](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=29429&to=29545) 29429..29545

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/codon\_start=1

/product="ORF10 protein"

/protein\_id="[UMP59578.1](https://www.ncbi.nlm.nih.gov/protein/2204028297)"

/translation="MGYINVFAFPFTIYSLLLCRMNSRNYIAQVDVVNFNLT"

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/gene="ORF10"

/note="Coronavirus 3' UTR pseudoknot stem-loop 1"

[stem\_loop](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=29500&to=29528) 29500..29528

/gene="ORF10"

/note="Coronavirus 3' UTR pseudoknot stem-loop 2"

[stem\_loop](https://www.ncbi.nlm.nih.gov/nuccore/OM918478.1?from=29599&to=29639) 29599..29639

/note="Coronavirus 3' stem-loop II-like motif (s2m)"

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121 atcagcacat ctaggttttg tccgggtgtg accgaaaggt aagatggaga gccttgtccc

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1081 tgcgtcacca aatgaatgca accaaatgtg cctttcaact ctcatgaagt gtgatcattg

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