

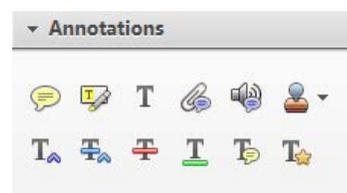
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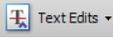
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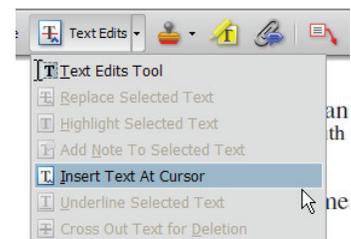
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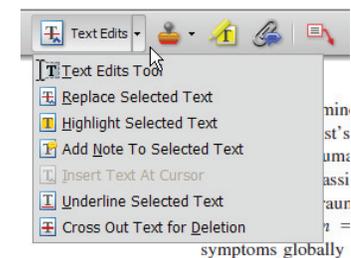
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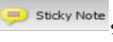
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Table 5  
Experiment 4: Comparative Optimism as a Function of Self-Presentation and Event Valence

Self-presentation	Event					
	Positive		Negative		Total	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Public/student	3.46	0.13	3.60	0.10	3.53	0.12
Public/expert	2.66	0.12	2.78	0.13	2.73	0.13
Control	2.39	0.11	2.46	0.09	2.43	0.11
Total	2.84	0.47	2.95	0.50		

The first column's entries should be flush left (except for "Total", which should be indented one em-space), as in Tables 1 and 2 previously.

- Use the **Highlight tool**, , to indicate font problems, bad breaks, and other textual inconsistencies. Describe the inconsistencies with the callout tool (shown) or a sticky note. One callout (or sticky note) can describe many changes.

$$du/dt = -\lambda v^\alpha = -\lambda u$$

$$du/u = -\lambda dt$$

$$u_t = ue^{-\lambda t}$$

Close up minus sign to lambda (3 times, highlighted)

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# Coding-Complete Sequences of Recombinant Lumpy Skin Disease Viruses Collected in 2020 from Four Outbreaks in Northern Vietnam

AQ: title

AQ: au  Elisabeth Mathijs,<sup>a</sup>  Frank Vandebussche,<sup>a</sup> Long Nguyen,<sup>b</sup> Laetitia Aerts,<sup>a</sup> Tho Nguyen,<sup>c</sup> Ilse De Leeuw,<sup>a</sup> Minh Quang,<sup>b</sup> Hoang Dang Nguyen,<sup>c</sup> Wannes Philips,<sup>a</sup> Thi Vui Dam,<sup>c</sup> Andy Haegeman,<sup>a</sup> Steven Van Borm,<sup>a</sup> Kris De Clercq<sup>a</sup>

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**ABSTRACT** *Lumpy skin disease virus* (LSDV) causes a severe, systemic, and economically important disease in cattle. Here, we report coding-complete sequences of recombinant LSDVs from four outbreaks in October and November 2020 in northeastern Vietnam.

AQ: A Lumpy skin disease (LSD) is a viral disease in cattle with important economic losses. The  
AQ: B disease is caused by the lumpy skin disease virus (LSDV), a double-stranded DNA virus  
AQ: C belonging to the genus *Capripoxvirus* in the family *Poxviridae*. Recently, LSD began spread-  
AQ: D ing in the eastern part of the Russian Federation, China, and Southeast Asia. On 1 November  
2020, Vietnam reported its first outbreak of LSDV in cattle in the region of the northeastern  
border with China (1). The disease quickly spread across the entire country. We obtained  
near-complete genome sequences of LSDVs from four of the first outbreaks in northeastern  
Vietnam: 20L42\_Quyet Thang/VNM/20 (Quyết Thắng, Hữu Lũng District), 20L43\_Ly Quoc/  
VNM/20 (Lý Quốc, Hữu Lũng District), 20L70\_Dinh To/VNM/20 (Đình Tô, Thuận Thành  
District), and 20L81\_Bang Thanh/VNM/20 (Bằng Thành, Pắc Nặm District).

AQ: E DNA was purified from skin samples collected for LSDV diagnosis using the Puregene  
Core kit A (Qiagen) as previously described (2). Twenty-three overlapping PCR products  
(ranging between 7,417 and 7,852 bp) covering the entire genome were amplified using  
Q5 high-fidelity DNA polymerase (New England Biolabs) (E. Mathijs, A. Haegeman, K. De  
Clercq, S. Van Borm, F. Vandebussche, submitted for publication). To distinguish between the  
inverted terminal repeats (ITR), two libraries, each comprising a pool of PCR amplicons cor-  
responding to half of the CaPV genome, were prepared using the Nextera XT library prepara-  
tion kit (Illumina). MiSeq sequencing (reagent kit v3 with 2 × 300-bp paired-end sequencing;  
Illumina) was performed. Information about the data generated for all four samples is given in  
T1 Table 1. Trim Galore v0.3.8 (<http://www.bioinformatics.babraham.ac.uk/>) was used for read  
trimming based on quality (Q score, >30) and length (>80 bp; 5' clip for R1 and R2, 20).  
For each library, a subset of 20,000 trimmed paired-end reads (theoretical coverage, 50×)  
were assembled *de novo* into a single contig using SPAdes v3.9.0 with k values of 21, 33,  
and 55 (3). No nucleotide variants were identified using the LoFreq v2.1.3.1 variant caller  
(4). Default parameters were used for all software unless otherwise specified. The contigs  
from both libraries were manually merged into a single sequence of at least 150,551 bp,  
with an evenly distributed average GC content of 25.93% and an average coverage depth  
of minimum 2,537× (Table 1). All four sequences are characterized by a 145,885-bp central  
coding region, flanked by two ITRs of at least 2,164 bp, and contain all expected LSDV  
open reading frames (ORFs). With the exception of a single nucleotide mutation in LSDV073  
(S26L) for 20L43\_Ly Quoc/VNM/20, all four coding genome sequences were identical at the  
nucleotide level. NCBI BLAST analysis (5) showed that the Vietnamese field strains share

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AQ: K **TABLE 1** Summary of the sequencing and assembly results of the 20L42\_Quyet Thang/VNM/20,  
 AQ: L 20L43\_Ly Quoc/VNM/20, 20L70\_Dinh To/VNM/20, and 20L81\_Bang Thanh/VNM/20 data sets

Sample ID	Library	No. of reads	Contig length (bp)	%GC	Mean coverage depth (×)	GenBank accession no.
20L42_Quyet Thang	1	438,944	150,665	25.93	2,945	<a href="#">MZ577073.1</a>
	2	447,798				
20L43_Ly Quoc	1	585,237	150,599	25.93	4,260	<a href="#">MZ577074.1</a>
	2	605,618				
20L70_Dinh To	1	431,910	150,600	25.93	2,807	<a href="#">MZ577075.1</a>
	2	431,020				
20L81_Bang Thanh	1	508,084	150,664	25.93	2,537	<a href="#">MZ577076.1</a>
	2	433,720				

99.99% and 99.41% nucleotide identity with the LSDV field isolates China/GD01/2020 (GenBank accession no. [MW355944](#)) and Saratov/RUS/2017 ([MH646674](#)), respectively. Annotation and amino-acid gene prediction was performed using GATU software (downloaded from <https://4virology.net/virology-ca-tools/gatu/>; accessed 24 Feb 2020) (6) relative to the LSDV field isolate China/GD01/2020 ([MW355944](#)). The LSDV strains characterized from these first Vietnamese outbreaks are most closely related to contemporary recombinant LSDV strains from China and Russia (7, 8). These strains are in fact patchwork genomes resulting from multiple recombination events involving a least one field strain and one vaccine LSDV strain. This finding highlights the importance of complete genomes in LSDV outbreak tracing.

AQ: I **Data availability.** The LSDV sequences from this study have been deposited in GenBank  
 AQ: J under accession numbers [MZ577073.1](#) to [MZ577076.1](#), and the raw data have been submitted to the SRA under BioProject accession number [PRJNA746718](#).

## ACKNOWLEDGMENTS

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