

From: (b)(3):10 USC 424; (b)(6)
To:
Subject: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)
Date: 2020/11/12 12:06:56
Priority: Normal
Type: Note.SMIME.MultipartSigned

~~Classification: TOP SECRET~~
(b)(3):50 USC 3024(i)

~~Classified By: (b)(3):10 USC 424; (b)(6)~~
~~Derived From: Multiple Sources~~
~~Declassify On: 20451231~~

(b)(3):10
USC 424

FYSA, here's [redacted] fixes. I put them in the master copy.

(b)(3):10 USC 424; (b)(6)

From: (b)(3):10 USC 424; (b)(6)
Sent: Thursday, November 12, 2020 11:58 AM
To: (b)(3):10 USC 424; (b)(6)
Cc:
Subject: RE: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification: TOP SECRET~~
(b)(3):50 USC 3024(i)

~~Classified By: (b)(3):10 USC 424; (b)(6)~~
~~Derived From: Multiple Sources~~
~~Declassify On: 20451231~~

Hi (b)(3):10 USC 424; (b)(6)

I've attempted to address the questions/ concerns. Please let me know if there are remaining questions. I will be in the office today until 12:30.

Thanks!

(b)(3):10 USC 424; (b)(6)

From: (b)(3):10 USC 424; (b)(6)
Sent: Thursday, November 12, 2020 9:30 AM
To: (b)(3):10 USC 424; (b)(6)
Cc:
Subject: RE: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification: TOP SECRET~~, (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)
~~Derived From: Multiple Sources~~
~~Declassify On: 20451231~~

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(b)(3):10 USC 424; (b)(6)

I made a few small changes and we have a few questions regarding your section. I'll give you a call shortly to discuss. Also, as you'll see this is still a working draft,

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

(b)(3):10 USC 424; (b)(6)

From: (b)(3):10 USC 424; (b)(6)
Sent: Thursday, November 12, 2020 7:23 AM
To: (b)(3):10 USC 424; (b)(6)
Cc:

(b)(3):10 USC 424; (b)(6)

Subject: RE: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification:~~ TOP SECRET/ (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)

~~Derived From:~~ Multiple Sources

~~Declassify On:~~ 20451231

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(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

(b)(3):10
USC 424;
(b)(6)

From: (b)(3):10 USC 424; (b)(6)

Sent: Tuesday, November 10, 2020 12:34 PM

To: [Redacted]
Cc: [Redacted]

Subject: RE: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification:~~ TOP SECRET/ (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)

~~Derived From:~~ Multiple Sources

~~Declassify On:~~ 20451231

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Thank you! I just quickly skimmed it but this looks great. After a quick skim I just have a few comments:

- [Redacted] (b)(3):50 USC 3024(i)

The following 2 pages are withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i), and (b)(6), and are not provided.

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Grateful that you are able to take the pen for the draft. The outline hits the big themes that we think need to be included. I've included the rest of the NIC COVID team here in case they have any thoughts or concerns and ask if you can include them on any future emails. As you know, this is last week so after Friday this will officially be not her problem ☺, but she's been our heavy hitter on this so I think it will benefit from having her eyes on it.

Let us know if you have any questions or concerns as you start putting pen to paper and thank you again for taking this on!

[Redacted]

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Blue Team NIC COVID Coordinator
National Intelligence Council
Office of the Director of National Intelligence

[Redacted]

In the event I am out of the office, please contact the following alternate POCs at the NIC:

[Redacted]

From: [Redacted]
Sent: Tuesday, November 03, 2020 7:16 PM
To: [Redacted]
Cc: [Redacted]
Subject: [Redacted]

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

~~Classification: TOP SECRET~~

~~Classified By:~~

~~Derived From: Multiple Sources~~

The final 3 pages are withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i) + 50 USC 3024(m), and (b)(6), and are not provided.

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

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~~(S//NF)~~

(b)(1); (b)(3):50 USC 3024(i);
Sec. 1.4(c); Sec. 1.4(e)

DEFENSE INTELLIGENCE | 12 NOVEMBER 2020

(U) Origins of SARS-CoV-2

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424; (b)(3):50 USC
3024(i); (b)(6)

~~TOP SECRET~~

[Redacted]

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~TOP SECRET~~ (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

> (S) [redacted] Identified pangolin coronavirus samples have genomic segments that are almost identical to SARS-CoV-2, according to an academic journal article.⁵⁸

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(U) Definitions

~~(S)~~

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

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(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

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(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i)

(U) Origin of COVID-19 Outbreak

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

~~TOP SECRET~~ (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e) 3

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); (b)(6)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

[Redacted]

(b)(3):50 USC 3024(i)

~~(S//NF)~~ The COVID-19 outbreak may have occurred naturally. SARS-CoV-2 is the seventh known coronavirus that can infect humans, and the third to emerge since 2002, according to the U.S. CDC.¹²³

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

- > ~~(S//NF)~~ Previous coronavirus outbreaks occurred naturally and were linked to animal reservoirs with zoonotic transmission to humans, and scientists generally agree that bats are the probable original host reservoir for SARS-CoV-2, according to scientific literature.¹²⁹
¹³⁰ The closest overall match to SARS-CoV-2—at 96% similarity—is RaTG13, which the WIV collected from a bat in 2013, according to a 2020 journal article.¹³¹

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~(S//NF)~~ (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

The following 2 pages are withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i), and (b)(6), and are not provided.

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(b)(3):10 USC 424; (b)(3):50 USC

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

(b)(3):50 USC 3024(i)

(U) Source Endnotes

¹ (U) Xie et al.; Cell Host & Microbe Vol. 27 pg. 841-848 | 13 May 2020 | 13 May 2020 | (U) An Infectious cDNA Clone of SARS-CoV-2 | Classification of extracted information is U | Overall classification is U | (U)

(b)(3):10 USC 424

² (U) Thao et al.; bioRxiv Preprints | 21 Feb 2020 | 21 Feb 2020 | (U) Rapid reconstruction of SARS-CoV-2 using a synthetic genomics platform | Classification of extracted information is U | Overall classification is U | (U)

(b)(3):10 USC 424

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(d); Sec. 1.4(e)

⁸ (U) Internet, Andersen, Kristin G. et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

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(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

10 (U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald T. Keusch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 | (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3 - (b)(3):10 USC 424

11 (U) Zhang et al.; Cell Vol. 181 Commentary | 16 Apr 2020 | 16 Apr 2020 | (U) A Genomic Perspective on the Origin and Emergence of SARS-CoV-2 | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424

12 (U) Grace Niewijk; GENENG News | 21 Sep 2020 | 21 Sep 2020 | (U) Controversy Aside, Why the Source of COVID-19 Matters | Classification of extracted information is U | Overall classification is U | <https://www.genengnews.com/insights/controversy-aside-why-the-source-of-covid-19-matters/>, 03 Nov 2020 | (U) (b)(3):10 USC 424

¹³ (U) Journal, Zhan et al. | 01 May 2020 | 01 May 2020 | (U) SARS-CoV-2 is well adapted for humans. What does that mean for re-emergence? | <https://doi.org/10.1101/2020.05.01.073262>, 29 May 2020 | (U) (b)(3):10 USC 424

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~TOP SECRET~~ (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

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(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424

34 (U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald T. Keesch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3 [redacted]

(b)(3):10 USC 424

35 (U) Journal, Talha Burki | 01 Aug 2020 | 01 Aug 2020 (U) The Origin of SARS-CoV-2 | (U) [redacted]

[Burki et al — the origin of SARS-CoV-2](#)

36 (U) Grace Niewijk; GENENG News | 21 Sep 2020 | 21 Sep 2020 | (U) Controversy Aside, Why the Source of COVID-19 Matters | Classification of extracted information is U | Overall classification is U | <https://www.genengnews.com/insights/controversy-aside-why-the-source-of-covid-19-matters/>, 03 Nov 2020 | (U) (b)(3):10 USC 424

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

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(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

46 (U) Ren et al.; Journal of Virology Vol. 82 Iss. 4 | 01 Feb 2008 | 12 Dec 2007 | (U) Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

~~TOP SECRET~~ (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

48 (U) Zeng et al.; Journal of Virology Vol. 90 Iss. 14 | 11 May 2016 | 11 May 2016 | (U) Bat Severe Acute Respiratory Syndrome-Like Coronavirus WIV1 Encodes an Extra Accessory Protein, ORFX, Involved in Modulation of the Host Immune Response | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

49 (U) Hu et al.; PLOS Pathogens Vol. 13 Iss. 11 | 30 Nov 2017 | 30 Nov 2017 | (U) Discovery of a rich gene pool of bat SARS-related coronaviruses provides new insights into the origin of SARS coronavirus | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

52 (U) Zeng et al.; Journal of Virology Vol. 90 Iss. 14 | 11 May 2016 | 11 May 2016 | (U) Bat Severe Acute Respiratory Syndrome-Like Coronavirus WIV1 Encodes an Extra Accessory Protein, ORFX, Involved in Modulation of the Host Immune Response | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

53 (U) Ren et al.; Journal of Virology Vol. 82 Iss. 4 | 01 Feb 2008 | 12 Dec 2007 | (U) Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

54 (U) Ge et al.; Nature Vol. 503 Pg. 535-538 | 18 Sep 2013 | 18 Sep 2013 | (U) Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424

55 (U) Yang et al.; Journal of Virology Vol. 90 Iss. 6 | 30 Dec 2015 | 30 Dec 2015 | (U) Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

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(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

56 (U) Wang et al.; Viruses Vol. 11 Iss. 22 | 24 Apr 2019 | 24 Apr 2019 | (U) Characterization of a New Member of Alphacoronavirus with Unique Genomic Features in Rhinolophus Bats | Classification of extracted information is U | Overall classification is U | (U)

(b)(3):10 USC 424

57 (U) (b)(3):10 USC 424; (b)(3):50 USC 3024(i) ~~SECRET//NOFORN~~

58 (U) Journal, Alice Latinne, Ben Hu, Kevin J. Olival, Guangjian Zhu, Libiao Zhang, Hongying Li, Aleksei A. Chmura, Hume E. Field, Carlos Zambrana Torrelío, Jonathan H. Epstein, Bei Li, Wei Zhang, Lin Fa Wang, Zheng Li Shi & Peter Daszak | 01 Nov 2020 | 01 Jul 2020 | (U) Origina and cross-species transmission of bat coronaviruses in China | cnh-nqf.0/-0/27.r30356 /1/ 06576 2, 10 Nov 2020 | (U) Nature Communications | (b)(3):10 USC 424

59 (U) (b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

60 (U) Internet, Andersen, Kristin G. et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(b)(3):10 USC 424

61 (U) Journal, Alice Latinne, Ben Hu, Kevin J. Olival, Guangjian Zhu, Libiao Zhang, Hongying Li, Aleksei A. Chmura, Hume E. Field, Carlos Zambrana Torrelío, Jonathan H. Epstein, Bei Li, Wei Zhang, Lin Fa Wang, Zheng Li Shi & Peter Daszak | 01 Nov 2020 | 01 Jul 2020 | (U) Origina and cross-species transmission of bat coronaviruses in China | cnh-nqf.0/-0/27.r30356 /1/ 06576 2, 10 Nov 2020 | (U) Nature Communications | (b)(3):10 USC 424

62 (U) Zhang et al.; Cell Vol. 181 Commentary | 16 Apr 2020 | 16 Apr 2020 | (U) A Genomic Perspective on the Origin and Emergence of SARS-CoV-2 | Classification of extracted information is U | Overall classification is U | (U)

63 (U) Journal, Coutard et al. | 10 Feb 2020 | 03 Feb 2020 | (U) The spike glycoprotein of the new coronavirus 2019-nCoV contains a furin-like cleavage site absent in CoV of the same clade | (U) (b)(3):10 USC 424

(b)(3):10 USC 424

64 (U) Journal, Anderson, KG, Rambaut, A, Lipkin, WI, et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | doi.org/10.1035/s41591.020.0820.9. 19 Mar 2020 | (U) (b)(3):10 USC 424

65 (U) (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

66 (U) Internet, Andersen, Kristin G. et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(b)(3):10 USC 424

67 (U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald T. Keusch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 | (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3- (b)(3):10 USC 424

68 (U) Gu et al.; bioRxiv Preprints | 25 Feb 2020 | 25 Feb 2020 | (U) Multivariate Analyses of Codon Usage of SARS-CoV-2 and other betacoronaviruses | Classification of extracted information is U | Overall classification is U | (U)

(b)(3):10 USC 424

69 (U) Ren et al.; Journal of Virology Vol. 82 Iss. 4 | 01 Feb 2008 | 12 Dec 2007 | (U) Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

70 (U) Journal, Xiao et al. | 07 May 2020 | 28 Apr 2020 | (U) Isolation of SARS-CoV-2 related coronavirus from Malayan pangolins | (b)(3):10 USC 424

71 (U) Gu et al.; bioRxiv Preprints | 25 Feb 2020 | 25 Feb 2020 | (U) Multivariate Analyses of Codon Usage of SARS-CoV-2 and other betacoronaviruses | Classification of extracted information is U | Overall classification is U | (U)

(b)(3):10 USC 424

72 (U) Chen et al.; Emerging Microbes & Infections Vol. 9 | 30 Jan 2020 | 30 Jan 2020 | (U) RNA based mNGS approach identifies a novel human coronavirus from two individual pneumonia cases in 2019 Wuhan outbreak | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

73 (U) Kandeel et al.; Journal of Medical Virology Vol. 1 Iss. 7 | 09 Mar 2020 | 09 Mar 2020 | (U) From SARS and MERS CoVs to SARS-CoV-2: Moving toward more biased codon usage in viral structural and nonstructural genes | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

74 (U) Journal, Coutard et al. | 10 Feb 2020 | 03 Feb 2020 | (U) The spike glycoprotein of the new coronavirus 2019-nCoV contains a furin-like cleavage site absent in CoV of the same clade | (U) (b)(3):10 USC 424

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e) 11

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

75 (U) Journal, Cheng et al. | 22 Oct 2019 | 22 Oct 2019 | (U) The S2 Subunit of QX-type Infectious Bronchitis Coronavirus Spike Protein Is an Essential Determinant of Neurotropism | (U) (b)(3):10 USC 424

76 (U) Yang et al.; Journal of Virology Vol. 90 Iss. 6 | 30 Dec 2015 | 30 Dec 2015 | (U) Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

77 (U) Wang et al.; Viruses Vol. 11 Iss. 22 | 24 Apr 2019 | 24 Apr 2019 | (U) Characterization of a New Member of Alphacoronavirus with Unique Genomic Features in Rhinolophus Bats | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c)

83 (U) Ren et al.; Journal of Virology Vol. 82 Iss. 4 | 01 Feb 2008 | 12 Dec 2007 | (U) Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

84 Xiao et al., 2020

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c)

89 (U) Borucki et al.; PLOS One Vol. 8 Iss. 1 | 07 Jan 2013 | 21 Nov 2012 | (U) The Role of Viral Population Diversity in Adaptation of Bovine Coronavirus to New Host Environments | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e) 12

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

95 (U) Luo et al.; Virologica Sinica Vol. 33 Pg. 87-95 | 02 Mar 2018 | 02 Mar 2018 | (U) Longitudinal Surveillance of Betacoronaviruses in Fruit Bats in Yunnan Province, China During 2009-2016 | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

96 (U) Ge et al.; Virology Journal Vol. 14 Iss. 98 | 26 May 2017 | 26 May 2017 | (U) Detection of alpha- and betacoronaviruses in rodents from Yunnan, China | Classification of extracted information is U | Overall classification is U | (U)

(b)(3):10 USC 424

97 (U) Ge et al.; Nature Vol. 503 Pg. 535-538 | 18 Sep 2013 | 18 Sep 2013 | (U) Isolation and characterization of a bat SARS-like coronavirus that uses the ACE2 receptor | Classification of extracted information is U | Overall classification is U | (U)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424

99 (U) Grace Niewijk; GENENG News | 21 Sep 2020 | 21 Sep 2020 | (U) Controversy Aside, Why the Source of COVID-19 Matters | Classification of extracted information is U | Overall classification is U | <https://www.genengnews.com/insights/controversy-aside-why-the-source-of-covid-19-matters/>, 03 Nov 2020 | (U)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

106 13 (U) Internet, Botao Xiao and Lei Xiao | 19 Feb 2020 | 19 Feb 2020 | (U) The possible origins of 2019-nCoV coronavirus | ResearchGate.net, 19 Feb 2020 | Classification of extracted information is U | Overall classification is U | (U)

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

109 (U) Journal, Lei-Ping Zeng, et al. | 31 Jul 2016 | 31 Jul 2016 | (U) Bat Severe Acute Respiratory Syndrome-Like Coronavirus W1V1 Encodes an Extra Accessory Protein, ORFX, Involved in Modulation of the Host Immune Response | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~TOP SECRET~~ (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e) 13

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

117 (U) Internet, Science Magazine | 31 Jan 2020 | 31 Jan 2020 | (U) Mining Coronavirus Genomes for Clues to the Outbreak's Origins | <https://www.sciencemag.org/news/2020/01/mining-coronavirus-genomes-clues-outbreak-s-origins>, 07 Feb 2020 | (U)

(b)(3):10 USC 424

(b)(3):10 USC 424

118 (U) Internet, Botao Xiao and Lei Xiao | 19 Feb 2020 | 19 Feb 2020 | (U) The possible origins of 2019-nCoV coronavirus | ResearchGate.net, 19 Feb 2020 | Classification of extracted information is U | Overall classification is U | (U)

[Redacted]

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(3):10 USC 424

123 (U) Internet, Centers for Disease Control and Prevention | 11 Feb 2020 | 11 Feb 2020 | (U) Human Coronavirus Types | Classification of extracted information is U | Overall classification is U | (U)

[Redacted]

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(d)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

[Redacted]

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

127 (U) Journal, The Lancet | [Huang, Chaolin](#) | 24 Jan 2020 | 24 Jan 2020 | (U) Clinical features of patients infected with 2019 novel coronavirus in Wuhan, China | (U) (b)(3):10 USC 424

128 (U) (b)(3):10 USC 424; (b)(3):50 USC 3024(i) ~~SECRET~~ (b)(3):50 USC 3024(i)

129 (U) Journal, Respiriology | 17 Sep 2017 | 17 Sep 2017 | (U) MERS, SARS and other coronaviruses as causes of pneumonia | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

130 (U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald T. Keusch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 | (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3 (b)(3):10 USC 424

(b)(3):10 USC 424

131 (U) Journal, Anderson, KG, Rambaut A, Lipkin, WI, et. al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | doi.org/10.1035/s41591-020-0820-9, 19 Mar 2020 | (U) (b)(3):10 USC 424

132 (U) Journal, Guan et al. | 10 Oct 2003 | 10 Oct 2003 | (U) Isolation and Characterization of Viruses Related to the SARS Coronavirus from Animals in Southern China | (U) (b)(3):10 USC 424

(b)(3):10 USC 424

[Guan et al. 2003](#)
133 (U) Journal, Chu et al. | 06 Jun 2014 | 06 Jun 2014 | (U) MERS Coronaviruses in Dromedary Camels, Egypt | (U)

[Chu et al. 2014](#)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

136 (U) Internet, Andersen, Kristin G., et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(b)(3):10 USC 424

137 (U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald T. Keusch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 | (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3 (b)(3):10 USC 424

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

139 (U) Internet, Andersen, Kristin G., et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(b)(3):10 USC 424

140 (U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald T. Keusch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 | (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3 (b)(3):10 USC 424

141 (U) Internet, Andersen, Kristin G., et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(b)(3):10 USC 424

142 (U) Journal, Alice Latrine, Ben Hu, Kevin J. Olival, Guangjian Zhu, Libiao Zhang, Hongying Li, Aleksei A. Chmura, Hume E. Field, Carlos Zambrana Torrelío, Jonathan H. Epstein, Bei Li, Wei Zhang, Lin Fa Wang, Zheng Li Shi & Peter Daszak | 01 Nov 2020 | 01 Jul 2020 | (U) Origina and cross-species transmission of bat coronaviruses in China | enb.nsf.01-027-r30356/1-06576-2, 10 Nov 2020 | (U) Nature Communications (b)(3):10 USC 424

143 (U) Zhang et al.; Cell Vol. 181 Commentary | 16 Apr 2020 | 16 Apr 2020 | (U) A Genomic Perspective on the Origin and Emergence of SARS-CoV-2 | Classification of extracted information is U | Overall classification is U | (U)

[144 Coutard et al., 2020](#)

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~TOP SECRET~~

(b)(3):10 USC 424

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c)

147 (U) Journal, Shi Zhengli | 24 Jul 2020 | 24 Jul 2020 | (U) Reply to Science Magazine | (U)

Shi Science Interview

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

150 (U) Yang et al.; Journal of Virology Vol. 90 Iss. 6 | 30 Dec 2015 | 30 Dec 2015 | (U) Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

151 (U) Zeng et al.; Journal of Virology Vol. 90 Iss. 14 | 11 May 2016 | 11 May 2016 | (U) Bat Severe Acute Respiratory Syndrome-Like Coronavirus WIV1 Encodes an Extra Accessory Protein, ORFX, Involved in Modulation of the Host Immune Response | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

~~TOP SECRET~~

~~TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

The final page is withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i), and (b)(6), and is not provided.

(b)(3):10 USC 424; (b)(6)

From:

To:

Subject: Re: ~~(S//NF)~~ (U) RE: Article on (b)(7)(D); (b)(7)(E)

Date: 2020/09/09 12:01:32

Priority: Normal

Type: Note

From:

Sent: Wednesday, September 9, 2020 10:44 AM

To:

Subject: RE: ~~(S//NF)~~ (U) RE: Article on (b)(7)(D); (b)(7)(E)

~~Classified By: SECRET//NOFORN~~

~~Classified By:~~

~~Derived From:~~

~~Declassify On:~~

(b)(3):10 USC 424;
(b)(3):50 USC 3024(i);
(b)(6)

The info didn't come through.

From:

Sent: Wednesday, September 09, 2020 10:16 AM

To:

Subject: Fw: ~~(S//NF)~~ (U) RE: Article on (b)(7)(D); (b)(7)(E)

(b)(3):10 USC 424;
(b)(3):50 USC 3024(i);
(b)(6)

for your files.

From:

Sent: Thursday, September 3, 2020 9:13 AM

To:

Subject: RE: ~~(S//NF)~~ (U) RE: Article on (b)(7)(D); (b)(7)(E)

~~Classified By: SECRET//NOFORN~~

~~Classified By:~~

~~Derived From:~~

~~Declassify On:~~

(b)(3):10 USC 424; (b)(3):50
USC 3024(i); (b)(6)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(7)(D)

seems very cooperative.

Let me know and will start the process today. I have some gusto as am going on two week AT starting on Monday so would want to get something going today/tomorrow to capitalize on timing.

Best and standing by

(b)(3):10 USC 424; (b)(6)

From: [redacted]

Sent: Thursday, September 03, 2020 8:47 AM

To: [redacted]

Subject: RE: ~~(S//NF)~~ (U) RE: Article on [redacted] (b)(7)(D); (b)(7)(E)

I have not seen the documents, just finished reading them and most appreciate you

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(7)(D); (b)(7)(E)

From: [redacted]

Sent: Wednesday, September 2, 2020 9:52:31 AM

To: [redacted]

Subject: RE: ~~(S//NF)~~ (U) RE: Article on [redacted] (b)(7)(D); (b)(7)(E)

(b)(3):10 USC 424; (b)(6)

~~Classified by: [redacted] SECRET//NOFORN~~

~~Classified by: [redacted]
Declassify on: [redacted]
Declassify on: [redacted]~~

(b)(3):10 USC 424;
(b)(3):50 USC 3024(i);
(b)(6)

Have you seen the attached ...
Standing by

(b)(3):10 USC 424; (b)(6)

From: [redacted]
Sent: Wednesday, September 02, 2020 9:37 AM
To: [redacted]
Subject: Fw: ~~(S//NF)~~ (U) RE: Article on [redacted]

(b)(3):10 USC 424; (b)(6)

Sir, FYSA regarding meeting with [redacted]

From: [redacted]
Sent: Monday, August 31, 2020 5:28 PM
To: [redacted]
Subject: RE: ~~(S//NF)~~ (U) RE: Article on [redacted]

(b)(3):10 USC 424;
(b)(6)

(b)(3):10 USC 424; (b)(6)

Thanks for the update. That is good that [redacted] But, we have a different set of questions and interests than they do as well as having some additional technical background that they did not have available. Please let me know if we are able to speak with this individual directly.

(b)(3):50 USC 3024(i); (b)(7)(E)

(b)(3):10 USC 424; (b)(6)

=====
Classification: ~~SECRET//NOFORN~~
=====
Classification: ~~SECRET//NOFORN~~

(b)(3):50 USC 3024(i)

The final page is withheld in full citing (b)(3) 10 USC 424 and (b)(6) and is not provided.

(b)(3):10 USC 424; (b)(6)

To:

Subject: Re: (U) RE: Article on (b)(7)(D); (b)(7)(E)

Date: 2020/08/28 10:12:33

Priority: Normal

Type: Note

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(7)(C); (b)(7)(D)

(b)(6); (b)(7)(C); (b)(7)(D)

[redacted] is interested in following up with [redacted] with a more technical dive. Do you have [redacted] contact information or how

From: [redacted]
Sent: Tuesday, August 18, 2020 2:22:24 PM
To: [redacted]

Subject: RE: (U) RE: Article on (b)(7)(D); (b)(7)(E)

~~Classification: TOP SECRET~~
~~Classified By: [redacted]~~
~~Derived From: DIA SSG dated 20070100~~
~~Declassify On: [redacted]~~
=====

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(7)(D); (b)(7)(E)

From: [redacted]
Sent: Tuesday, August 18, 2020 9:47 AM

To:

Subject: (U) RE: Article on (b)(7)(D); (b)(7)(E)

~~CLASSIFICATION: TOP SECRET~~

~~Classified By:~~

~~Derived From: DFR SEC dated 20070108~~

~~Declassify On:~~

(b)(3); 10 USC 424; (b)(3); 50 USC 3024(i); (b)(6)

(b)(3); 50 USC 3024(i); (b)(6); (b)(7)(C); (b)(7)(D); (b)(7)(E)

All:

Thank you for forwarding the attached article

Some thoughts on the article.

(b)(3); 50 USC 3024(i); (b)(6); (b)(7)(C); (b)(7)(D); (b)(7)(E)

~~Classification: SECRET//NOFORN~~

~~Classified by~~

(b)(3):50 USC 3024(i); (b)(6)

~~Declassify on:~~

~~25M1, 20701201~~

=====

Hi All,

Has everyone already seen this? If yes, what is everyone thinking?

(b)(3):50 USC 3024(i); (b)(6)

=====

~~Classification: SECRET//NOFORN~~

~~Classification: TOP SECRET//~~

~~Classification: TOP SECRET//~~

~~Classification: TOP SECRET//~~

(b)(3):10 USC 424;
(b)(3):50 USC 3024(i);
(b)(6)

Recipient: [Redacted]
Sent Date: [Redacted]

Message Flags: Unsent

From: (b)(3):10 USC 424; (b)(6)
To:
Subject: RE: [EXTERNAL] Re: Availability?
Date: 2020/09/16 13:29:00
Priority: Normal
Type: Note

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

-----Original Message-----

From: [redacted] (b)(3):10 USC 424; (b)(6)
Sent: Wednesday, September 16, 2020 1:27 PM
To: [redacted] (b)(3):10 USC 424; (b)(6)
Subject: [Non-DoD Source] RE: [EXTERNAL] Re: Availability?

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

-----Original Message-----

From: [redacted] (b)(3):10 USC 424; (b)(6)
Sent: Wednesday, September 16, 2020 1:20 PM
To: [redacted] (b)(3):10 USC 424; (b)(6)
Subject: RE: [EXTERNAL] Re: Availability?

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(7)(D)

-----Original Message-----

From: (b)(3):10 USC 424; (b)(6)

Sent: Wednesday, September 16, 2020 12:27 PM

To: [Redacted]

Subject: [Non-DoD Source] FW: [EXTERNAL] Re: Availability? (b)(3):10 USC 424; (b)(6)

FYI...

(b)(3):10 USC 424; (b)(6)

(b)(3):10 USC 424; (b)(6)

-----Original Message-----

From: [Redacted]

Sent: Wednesday, September 16, 2020 11:51 AM

To: [Redacted]

Subject: Re: [EXTERNAL] Re: Availability? (b)(3):10 USC 424; (b)(6)

(b)(3):10 USC 424; (b)(6)

Would you please call me on my cell phone?

(b)(3):10 USC 424; (b)(6)

- >
- > All:
- >
- >

(b)(6); (b)(7)(C); (b)(7)(D); (b)(7)(E) claiming that China engineered SARS-COV-2 and released it...

- >

The final 2 pages are withheld in full citing (b)(3) 10 USC 424 + 50 USC 3024(l) and (b)(6) and are not provided.

(b)(3):10 USC 424; (b)(6)

From:

To:

Subject: RE: Article on (b)(7)(D); (b)(7)(E)

Date: 2020/08/04 11:13:53

Priority: Normal

Type: Note.SMIME.MultipartSigned

~~Classification: TOP SECRET~~

~~Classified by~~

~~Derived from~~

~~Declassify on: 20151201~~

Where was this published?

(b)(3):10 USC 424; (b)(3):50
USC 3024(i); (b)(6)

From:

Sent: Monday, August 3, 2020 11:58 AM

To:

Subject: FW: Article on (b)(7)(D); (b)(7)(E)

~~Classification: TOP SECRET~~

(b)(3):10 USC 424;
(b)(3):50 USC 3024(i);
(b)(6)

~~Classified By:~~

~~Derived From:~~

~~Declassify On: 20151231~~

[Large redacted area]

From: (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(7)(D); (b)(7)(E)

Sent: Thursday, July 30, 2020 4:56 PM

To:

[Redacted recipient list]

Subject: Article on (b)(7)(D); (b)(7)(E)

~~Classification: TOP SECRET / NOFORN~~

~~Classified By:~~

~~Derived From:~~

~~Declassify On: 25Y1, 20701231~~

=====

Hi All,

Has everyone already seen this? If yes, what is everyone thinking?

(b)(3):50 USC 3024(i); (b)(6)
[Redacted content]

The final page is withheld in full citing (b)(3) 10 USC 424 + 50 USC 3024(i) and (b)(6) and is not provided.

From: (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)
To:
Subject: RE: Coronavirus outbreaks
Date: 2020/05/19 09:15:36
Priority: Normal
Type: Note.SMIME.MultipartSigned

~~Classification: SECRET//NOFORN~~

~~Classified By:~~ (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)
~~Derived From:~~
~~Declassify On: 20451231~~

Dear (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m) (b)(3):10 USC 424

Thank you for getting back to me! I know that [redacted] is very limited these days, and figured it might be quite a while. Sure, my low side contact information is:

(b)(3):10 USC 424; (b)(6)

All the best,

(b)(3):10 USC 424; (b)(6)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

From: [redacted]
Sent: Monday, May 18, 2020 3:25 PM
To: [redacted]
Subject: RE: Coronavirus outbreaks

~~Classification: SECRET//NOFORN~~

~~Classified By:~~ (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)
~~Derived From:~~
~~Declassify On: 20451231~~

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Dear

(b)(3):10 USC 424; (b)(6)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i)

(U//FOUO) I am answering this email on behalf of [redacted] because [redacted] is currently not [redacted] able to read it. [redacted] can be reached on the low side at [redacted] I will give him a call to suggest that [redacted] he try to reach you to provide an update on recent developments to the extent they can be discussed on an unclassified line [redacted] Your signature line provides only a classified phone and email. Do you have open contact information that you would like me to pass on to [redacted]

Thank you,

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

From: [redacted]
Sent: Monday, May 18, 2020 1:01 PM
To: [redacted]
Cc: [redacted]
Subject: RE: Coronavirus outbreaks

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

~~Classification: SECRET//NOFORN~~

~~Classified By:~~ (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)
~~Derived From:~~ [redacted]
~~Declassify On:~~ 20451231

Hi again

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i)

I hope you have been well since we last corresponded in late January (which seems like years ago). And I hope it's OK to check back with you as we look into the question of [redacted]

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c)

Thanks again for any advice, and please let us know if we can do anything for you!

All the best,

(b)(3):10 USC 424; (b)(6)

(b)(3):10 USC 424; (b)(6)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6);
(b)(3):50 USC 3024(m)

From: [redacted]
Sent: Thursday, January 30, 2020 10:56 AM
To: [redacted]
Cc: [redacted]
Subject: RE: Coronavirus outbreaks

~~Classification: SECRET//NOFORN~~

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC
3024(m)

~~Classified By~~
~~Derived From~~
~~Declassify On: 20451221~~

Hi (b)(3):10 USC 424; (b)(6) thanks for your message,

I recently took custody of the IARPA FELIX (Finding Engineering Linked Indicators) program, which seeks to find signatures of genetic engineering in mixed biological samples. This is a 3.5 year program that just completed its 18-month Phase 1. A few FELIX performers are developing experimental and computational tools that can be used to study viral RNA. However, I am still getting acquainted with performer capabilities after Phase 1, and at this stage

(b)(1); (b)(3):50 USC 3024(i); (b)(5)

(b)(3):50 USC 3024(i); (b)(5)

The web site nextstrain.org has cataloged sequencing data from 42 publicly available 2019-nCov samples and determined that there is still very little genetic diversity in these strains, only 0-7 mutations away from the consensus sequence.

We are holding the FELIX Phase 2 kickoff meeting next week (Feb 4-5). I will inquire with our performers about this issue.

Best,

(b)(3):50 USC 3024(i); (b)(6);
(b)(3):50 USC 3024(m)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i);
(b)(6); (b)(3):50 USC 3024(m)

From: [redacted]
Sent: Wednesday, January 29, 2020 4:33 PM
To: [redacted]
Subject: Coronavirus outbreaks

~~Classification: SECRET//NOFORN~~
~~Classified By:~~ (b)(3):10 USC 424; (b)(6)
~~Derived From:~~ [redacted]
~~Declassify On: 20451231~~

=====
Hello (b)(3):50 USC 3024(i); (b)(6);
(b)(3):50 USC 3024(m)

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

I know it's a long shot, and am grateful for any thoughts/advice!

Thank you,

(b)(3):10 USC 424; (b)(6)

The final page is withheld in full citing (b)(3) 10 USC 424 + 50 USC 3024(i) + 50 USC 3024(m) and (b)(6) and is not provided.

From: (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

To:

CC:

Subject: RE: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

Date: 2020/06/19 11:09:44

Priority: Normal

Type: Note

~~Classification: TOP SECRET//~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

~~Classified By:~~

~~Derived From:~~

(b)(3):10 USC 424; (b)(6)

~~Declassify on: 20350705~~

(b)(3):10 USC 424

~~(S)~~ Thanks for the connect great talking with you just now, lots of exciting work going on down there. Connecting you here to Also added

who it sounds like you're already working with.

(b)(3):10 USC 424; (b)(6)

~~(TS)~~ As I said on the phone call,

(b)(3):50 USC 3024(i); (b)(6)

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(5); (b)(6)

From: (b)(3):10 USC 424; (b)(6)

Sent: Tuesday, June 2, 2020 1:41 PM

To: (b)(3):10 USC 424; (b)(6)

The following page is withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i), and (b)(6), and is not provided.

(b)(3):10 USC 424;
(b)(6)

(b)(3):50 USC 3024(i); (b)(5)

Thanks for the intro [redacted] great to e-meet you. Interested to hear what you're up to.

[redacted]

(b)(3):50 USC 3024(i); (b)(6)

From: [redacted]
Sent: Tuesday, June 2, 2020 12:07 PM
To: [redacted] (b)(3):10 USC 424; (b)(6)
Subject: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification: CONFIDENTIAL//NOFORN~~

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)
~~Derived From:~~ [redacted]
~~Declassify On:~~ 20450601

Hi [redacted] (b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); (b)(5); (b)(6)

If you're not already connected, I hope it's OK to link you guys. [redacted]
[redacted] I think you'll enjoy talking!

Thank you,

(b)(3):10 USC 424; (b)(6)

~~Classification: CONFIDENTIAL//NOFORN~~

The final page is withheld in full citing (b)(3) 10 USC 424 + 50 USC 3024(i) and (b)(6), and is not provided.

From: (b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

To:

Subject:

Date: 2020/05/29 12:31:52

Priority: Normal

Type: Note

~~CLASSIFICATION: TOP SECRET~~

~~Classified By~~

~~Derived From:~~

~~Declassify On: 20451231~~

=====
We have additional analysis we will release this afternoon that may way into this discussion.

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

From:

Sent: Friday, May 29, 2020 12:17 PM

To:

Subject:

~~CLASSIFICATION: TOP SECRET~~

~~Classified By:~~

~~Derived From:~~

~~Declassify On: 20451231~~

=====
Cool [] really glad this is proving useful!

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(5)

(b)(3):10 USC 424; (b)(6)

From: (b)(3);10 USC 424; (b)(6)

Sent: Thursday, May 28, 2020 12:49 PM

To: (b)(3);10 USC 424; (b)(1); (b)(3);50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

Subject:

~~Classification: TOP SECRET~~ (b)(3);10 USC 424; (b)(6)

(b)(3);10 USC 424; (b)(3);50 USC 3024(i); (b)(6)

~~Classified by:~~

~~Derived from:~~

~~Declassify on: 20451251~~

=====

(b)(1); (b)(3);10 USC 424; (b)(3);50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

Gentlemen,

I wrote up a short discussion below

[Redacted]

I welcome any comments, especially if I got anything

wrong. Thank you for sharing the great work!

[Large redacted area]

The final page is withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i), and (b)(6), and is not provided.

From: (b)(3):10 USC 424; (b)(6)
To: (b)(3):10 USC 424; (b)(6)
Subject: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)
Date: 2020/11/06 10:27:55
Priority: Normal
Type: Note.SMIME.MultipartSigned

~~Classification: TOP SECRET~~ (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)

~~Derived From: Multiple Sources~~

~~Declassify On: 20451231~~

=====

I'm in. Let me know what you need. Can't believe you guys got the approval!

(b)(3):10 USC 424; (b)(6)

From: (b)(3):10 USC 424; (b)(6)
Sent: Friday, November 6, 2020 4:59 AM
To: (b)(3):10 USC 424; (b)(6)
Subject: FW (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification: TOP SECRET~~ (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)

~~Derived From: Multiple Sources~~

~~Declassify On: 20451231~~

(b)(3):10 USC
424; (b)(6)

would like for you to collaborate with me on this if you are interested. At the end of this thread

(b)(3):10 USC 424;
(b)(3):50 USC
3024(i); (b)(6)

From: (b)(3):10 USC 424; (b)(6)

Sent: Thursday, November 5, 2020 3:58 PM

To: (b)(3):10 USC 424; (b)(6)

Subject: FW: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification: TOP SECRET~~ (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)

~~Derived From: Multiple Sources~~

~~Declassify On: 20451231~~

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

From: (b)(3):10 USC 424; (b)(6)

Sent: Thursday, November 05, 2020 4:40 AM

To:

(b)(3):10 USC 424; (b)(6)

Cc:

Subject: RE: (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

The following 3 pages are withheld in full citing (b)(3) 10 USC 424 + 50 USC 3024(i) + 3024(m) and (b)(6) and are not provided.

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i)

Grateful that you are able to take the pen for the draft. The outline hits the big themes that we think need to be included. I've included the rest of the NIC COVID team here in case they have any thoughts or concerns and ask if you can include them on any future emails. As you know, this is [redacted] last week so after Friday this will officially be not her problem ☺, but she's been our heavy hitter on this so I think it will benefit from having her eyes on it.

Let us know if you have any questions or concerns as you start putting pen to paper and thank you again for taking this on!

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Blue Team NIC COVID Coordinator
National Intelligence Council
Office of the Director of National Intelligence

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

[redacted]

In the event I am out of the office, please contact the following alternate POCs at the NIC:

[redacted]

From: [redacted]
Sent: Tuesday, November 03, 2020 7:16 PM
To: [redacted]
Cc: [redacted]
Subject: [redacted]

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

~~Classification: TOP SECRET//~~

~~Classified By: [redacted]~~
~~Derived From: Multiple Sources~~
~~Declassify On: 20451231~~

=====

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); Sec. 1.4(h); (b)(6); (b)(3):50 USC 3024(m)

The final 3 pages are withheld in full citing (b)(1), (b)(3) 10 USC 424 + 50 USC 3024(i), and (b)(6) and are not provided.

~~Classification: TOP SECRET~~

~~Classified By:~~ (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)
~~Derived From:~~
~~Declassify On:~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Grateful that you are able to take the pen for the draft. The outline hits the big themes that we think need to be included. I've included the rest of the NIC COVID team here in case they have any thoughts or concerns and ask if you can include them on any future emails. As you know, this is last week so after Friday this will officially be not her problem ☺, but she's been our heavy hitter on this so I think it will benefit from having her eyes on it.

Let us know if you have any questions or concerns as you start putting pen to paper and thank you again for taking this on!

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Blue Team NIC COVID Coordinator
National Intelligence Council
Office of the Director of National Intelligence

(b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

In the event I am out of the office, please contact the following alternate POCs at the NIC:

(b)(3):50 USC 3024(i); (b)(3):50 USC 3024(m)

From: [Redacted]
Sent: Tuesday, November 03, 2020 7:16 PM

To:

Cc: (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6); (b)(3):50 USC 3024(m)

Subject:

~~Classification: TOP SECRET~~

From: (b)(3):10 USC 424; (b)(6)
To:
CC:
Subject: RE: Origins Bullet
Date: 2020/11/16 05:55:51
Priority: Normal
Type: Note

~~Classification: TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classified By:~~ (b)(3):10 USC 424; (b)(6)

~~Derived From: Multiple Sources~~

~~Declassify On:~~ (b)(3):50 USC 3024(i)

=====

That sounds correct to me.
Thanks!

V/R

(b)(3):10 USC 424; (b)(6)

From: (b)(3):10 USC 424; (b)(6)

Sent: Friday, November 13, 2020 3:42 PM

To: (b)(3):10 USC 424; (b)(6)

Cc: [redacted] (b)(3):10 USC 424; (b)(6)

Subject: Origins Bullet

~~Classification: TOP SECRET~~ [redacted]

[redacted] (b)(3):50 USC 3024(i)

~~Classified By:~~ [redacted] (b)(3):10 USC 424; (b)(6)

~~Derived From: Multiple Sources~~

~~Declassify On:~~ [redacted] (b)(3):50 USC 3024(i)

=====

[redacted] (b)(3):10 USC 424; (b)(6)

[redacted]

comments on our product I combined two bullets. In doing so I want to make sure I didn't make it factually incorrect. Is this still ok? It's super long, I know ☹

[redacted] (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

Thanks!

[redacted] (b)(3):10 USC 424; (b)(6)

=====

~~Classification: TOP SECRET~~ [redacted]

[redacted] (b)(3):10 USC 424; (b)(3):50 USC 3024(i)

~~Classification: TOP SECRET~~

(b)(3):10 USC 424; (b)(3):50 USC 3024(i)

(U) Internet, Andersen, Kristin G. et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(U) Journal, Alice Latinne, Ben Hu, Kevin J. Olival, Guangjian Zhu, Libiao Zhang, Hongying Li, Aleksei A. Chmura, Hume E. Field, Carlos Zambrana Torrelío, Jonathan H. Epstein, Bei Li, Wei Zhang, Lin Fa Wang, Zheng Li Shi & Peter Daszak | 01 Nov 2020, 01 Jul 2020 | (U) Original and cross-species transmission of bat coronaviruses in China - [cnh-ngf.0:-0:/27.r30356 /1/ 06576 2](https://doi.org/10.1038/s41591-020-0820-9), 10 Nov 2020 | (U) Nature Communications - (b)(3):10 USC 424

(U) Zhang et al.; Cell Vol. 181 Commentary | 16 Apr 2020 | 16 Apr 2020 | (U) A Genomic Perspective on the Origin and Emergence of SARS-CoV-2 | Classification of extracted information is U | Overall classification is U | (U)

(U) Journal, Coutard et al. | 10 Feb 2020 | 03 Feb 2020 | (U) The spike glycoprotein of the new coronavirus 2019-nCoV contains a furin-like cleavage site absent in CoV of the same clade | (U) (b)(3):10 USC 424

(U) Journal, Anderson, KG, Rambaut A, Lipkin, WI, et al., | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | doi.org/10.1038/s41591-020-0820-9, 19 Mar 2020 | (U) (b)(3):10 USC 424

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(U) Internet, Andersen, Kristin G. et al. | 17 Mar 2020 | 17 Mar 2020 | (U) The Proximal Origin of SARS-CoV-2 | (U)

(U) Journal, David M. Morens, Joel G. Breman, Charles H. Calisher, Peter C. Dohe, Beatrice H. Hahn, Gerald I. Keusch, Laura D. Kramer, James W. LeDuc, Thomas P. Monath, and Jeffery K. Taubenberger | 22 Jul 2020 | 22 Jul 2020 | (U) The Origin of COVID-19 and Why It Matters | (U) Am. J. Trop. Med. Hyg. 103:3 - (b)(3):10 USC 424

(U) Gu et al.; bioRxiv Preprints | 25 Feb 2020 | 25 Feb 2020 | (U) Multivariate Analyses of Codon Usage of SARS-CoV-2 and other betacoronaviruses | Classification of extracted information is U | Overall classification is U | (U)

(U) Ren et al.; Journal of Virology Vol. 82 Iss. 4 | 01 Feb 2008 | 12 Dec 2007 | (U) Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(U) Journal, Xiao et al. | 07 May 2020 | 28 Apr 2020 | (U) Isolation of SARS-CoV-2 related coronavirus from Malayan pangolins | (b)(3):10 USC 424

(U) Gu et al.; bioRxiv Preprints | 25 Feb 2020 | 25 Feb 2020 | (U) Multivariate Analyses of Codon Usage of SARS-CoV-2 and other betacoronaviruses | Classification of extracted information is U | Overall classification is U | (U)

(U) Chen et al.; Emerging Microbes & Infections Vol. 9 | 30 Jan 2020 | 30 Jan 2020 | (U) RNA based mNGS approach identifies a novel human coronavirus from two individual pneumonia cases in 2019 Wuhan outbreak | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(U) Kandeel et al.; Journal of Medical Virology Vol. 1 Iss. 7 | 09 Mar 2020 | 09 Mar 2020 | (U) From SARS and MERS CoVs to SARS-CoV-2: Moving toward more biased codon usage in viral structural and nonstructural genes | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(U) Journal, Coutard et al. | 10 Feb 2020 | 03 Feb 2020 | (U) The spike glycoprotein of the new coronavirus 2019-nCoV contains a furin-like cleavage site absent in CoV of the same clade | (U) (b)(3):10 USC 424

(U) Journal, Cheng et al. | 22 Oct 2019 | 22 Oct 2019 | (U) The S2 Subunit of OX-type Infectious Bronchitis Coronavirus Spike Protein Is an Essential Determinant of Neurotropism | (U) (b)(3):10 USC 424

(U) Yang et al.; Journal of Virology Vol. 90 Iss. 6 | 30 Dec 2015 | 30 Dec 2015 | (U) Isolation and Characterization of a Novel Bat Coronavirus Closely Related to the Direct Progenitor of Severe Acute Respiratory Syndrome Coronavirus | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

^{xxv} (U) Wang et al.; Viruses Vol. 11 Iss. 22 | 24 Apr 2019 | 24 Apr 2019 | (U) Characterization of a New Member of Alphacoronavirus with Unique Genomic Features in Rhinolophus Bats | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424

^{xxvi} (U) Sirotkin et al.; BioEssays | 13 Jul 2020 | 13 Jul 2020 | (U) Might SARS-CoV-2 Have Arisen via Serial Passage through an Animal Host or Cell Culture? | Classification of extracted information is U | Overall classification is U | (U)

[Redacted]

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

^{xxvii} (U) Journal, Guan et al. | 10 Oct 2003 | 10 Oct 2003 | (U) Isolation and Characterization of Viruses Related to the SARS Coronavirus from Animals in Southern China | (U) NCMID: f2d26c7f-e4fc-4691-8de7-2e1650070ab3

^{xxviii} (U) Journal, Chu et al. | 06 Jun 2014 | 06 Jun 2014 | (U) MERS Coronaviruses in Dromedary Camels, Egypt | (U)

^{xxix} (U) Ren et al.; Journal of Virology Vol. 82 Iss. 4 | 01 Feb 2008 | 12 Dec 2007 | (U) Difference in Receptor Usage between Severe Acute Respiratory Syndrome (SARS) Coronavirus and SARS-Like Coronavirus of Bat Origin | Classification of extracted information is U | Overall classification is U | (U) (b)(3):10 USC 424

(b)(3):10 USC 424

^{xxx} Xiao et al., 2020

Sender: (b)(3):10 USC 424; (b)(6)
Recipient:

Sent Date: 2020/11/16 05:55:51

(b)(3):10 USC 424

~~Derived From:~~

~~Declassify On: 20450421~~

=====

Yep I hear you, and I don't have a really great answer.

(b)(3):50 USC 3024(i); (b)(5)

There are few ways to splice things together.

[Redacted]

However, this is not how I'd go about it if I was them.

(b)(3):50 USC 3024(i); (b)(5)

Have you talked to [Redacted]

about this

have almost

certainly taken a swing at this question.

Best,

(b)(3):10 USC 424; (b)(6)

[Redacted]

From: (b)(3):10 USC 424; (b)(6)

Sent: Thursday, May 14, 2020 11:02 AM

To: (b)(3):50 USC 3024(i); (b)(6)

Cc:

Subject: (b)(3):50 USC 3024(i)

~~Classification: SECRET//NOFORN~~

~~Classified By:~~ (b)(3):10 USC 424;

~~Derived From:~~ (b)(6)

~~Declassify On: 20450421~~

=====

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

[Redacted]

Best,

Evidence	Natural	Manipulated	Comments
(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)			
Capability			
Unpublished seqs?			
Research objectives			
Ongoing research			
Genomic features...			
The final page is withheld in full citing (b)(3) 10 USC 424 + 50 USC 3024(i) and (b)(6) and is not provided.			

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i)

SARS-CoV-2 highly adaptable to humans early in the outbreak

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i)

Zhang et al., 2020

The SARS-CoV-2 virus has a combination of multiple unique structures that have not been observed in its most closely related coronaviruses, nor has the ancestral virus been identified in animal hosts, according to a 2020 scientific article.

Andersen et al., 2020

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

This is the first time scientists have seen this combination of multiple unique structures in the genus Betacoronavirus, to which SARS-CoV-2 belongs

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i)

Andersen et al., 2020

According to reputable scientists, the multiple structures individually have been observed in

(b)(3):50 USC 3024(i)

Andersen et al., 2020

(b)(3):50 USC 3024(i)

other coronaviruses in nature but not in combination						
Coronavirus genetic engineering capabilities have significantly matured worldwide since 2005	(b)(3):50 USC 3024(i)					Zeng et al., 2016; Hu et al., 2017; Menachery et al., 2015; Roberts et al., 2007; Belouzard et al., 2009; Follis et al., 2006; Almazan et al., 2014
(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)						
The WIV conducts research on novel coronaviruses and uses genetic engineering to understand pathogenicity.	(b)(3):50 USC 3024(i)					Zeng et al., 2016; Hu et al., 2017; Ren et al., 2008; Ge et al., 2013; Menachery et al., 2015, 2016; Yang et al., 2015; Wang et al., 2019
	(b)(3):50 USC 3024(i)					
First direct in vitro manipulation of full-length coronavirus cDNA at Huazhong University. Will simplify the construction of mutant infectious clones and help accelerate progress in coronavirus research	(b)(3):50 USC 3024(i)					Wang et al., 2019
(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)						

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

Coronavirus reverse genetics system at WIV	(b)(3):50 USC 3024(i)	Zeng et al., 2016; Hu et al., 2017
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NIH grant funded EcoHealth Alliance and WIV up to 2021 to conduct gain of function (GOF) studies on chimeric bat coronaviruses. (b)(3):50 USC 3024(i)	(b)(3):50 USC 3024(i) Assumes SARS-CoV-2 is a chimeric virus	NIH 2R01AI110964-06
--	---	---------------------

Demonstrated GOF studies in several coronaviruses including SARS, MERS, IBV, and PEDV with inserted furin cleavage site	(b)(3):50 USC 3024(i)	(b)(3):50 USC 3024(i) Cheng et al., 2019; Wan et al., 2019; Shen et al., 2019; Wang et al., 2019; Menachery et al., 2019; Zhou et al., 2018; Letko et al., 2018
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(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

Trained scientists in coronavirus research	(b)(3):50 USC 3024(i)	Zeng et al., 2016; Hu et al., 2017; Ren et al., 2008; Ge et al., 2013; Ge et al., 2016
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(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e)

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(d); Sec. 1.4(e); (b)(6)

[Redacted content]

Published
bat coronavirus
sequence - RATG13

[Redacted]

(b)(3):50 USC 3024(i)

(b)(3):50 USC 3024(i)

Lin et al., 2020; Segreto
2020; Monali et al., 2020

(b)(3):50 USC 3024(i)

ZC45 and ZXC 21
homologous to SARS-
COV-

Wu, 2020

(b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(d); Sec. 1.4(e)

[Redacted content]

WIV Modified COV
spike genes with spike
genes from different
coronavirus constructs

(b)(3):50 USC 3024(i)

Hu et al., 2017

Coronavirus spike
gene swapping using
WIV's reverse genetics
system

Zeng et al., 2016; Hu et al.,
2017

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

[Redacted content]

(b)(1); (b)(3):10 USC 424; (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(e); (b)(6)

The Furin cleavage sequence of SARS-COV-2 was published by Shi in 2017					(b)(3):50 USC 3024(i)	Ge et al., 2017
Codon optimized spike gene constructed at WIV using restriction fragment length polymorphism						Shang et al., 2020; Zeng et al., 2016

With the furin cleavage site on the S protein, SARS-CoV-2 gains the ability to infect organs or tissues insensitive to other COVs						Wang et al., 2020
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(b)(3):50 USC 3024(i)

(b)(1); Sec. 1.4(b); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(d); Sec. 1.4(e)

No natural reservoir or intermediate host	(b)(3):50 USC 3024(i)	(b)(3):50 USC 3024(i)	Andersen et al., 2020
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(b)(3):50 USC 3024(i)

linked to the
pandemic has been
identified

(b)(3):10 USC 424; (b)(1); (b)(3):50 USC 3024(i); Sec. 1.4(b); Sec. 1.4(c); Sec. 1.4(d); Sec. 1.4(e)

(b)(3):50 USC 3024(i)

Xiao et al., 2020

(b)(1); Sec. 1.4(b); (b)(3):50 USC 3024(i); Sec. 1.4(c); Sec. 1.4(d); Sec. 1.4(e)

From: [redacted]
To: [redacted]
Subject: Fw: [redacted]
Date: 2020/12/31 06:38:54 (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)
Priority: Normal
Type: Note

From: [redacted]
Sent: Tuesday, December 15, 2020 8:39 AM
To: [redacted] (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)
Subject: RE: [redacted]

~~Classification: SECRET//NOFORN~~

~~Classified By:~~ (b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

~~Derived From:~~

~~Declassify On: 20350705~~

=====

For whatever it is worth.....probably nothing coming from me.....but I added a few comments. In 50 years when this is declassified at least I made some comments. Thanks.

V/R

(b)(3):10 USC 424; (b)(6)

[Large redacted area]

From: [redacted]

Sent: Tuesday, December 15, 2020 7:57 AM (b)(3):10 USC 424; (b)(6)

To: [redacted]

Subject: Fw [redacted]

[redacted] my following sent to my management. I concur with all your statements and most appreciate your sage and informed thoughts (b)(3):10 USC 424; (b)(6)

From: [redacted]

Sent: Tuesday, December 15, 2020 7:54 AM (b)(3):10 USC 424; (b)(6)

To: [redacted]

Cc: [redacted]

Subject: [redacted]

(b)(3):10 USC 424; (b)(3):50 USC 3024(i); (b)(6)

~~Classification: SECRET//NOFORN~~

Sender: [redacted] (b)(3):10 USC 424; (b)(6)

Recipient: [redacted]

Sent Date: 2020/12/31 06:38:53

Delivered Date: 2020/12/31 06:38:54

(b)(3):50 USC 3024(i); (b)(6)