From: Conrad, Patricia (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7EA3E3EA7DAA432887495D6825C9E588-CONRADPA]
Sent: 2/3/2020 5:34:06 PM
To: Fauci, Anthony (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df38103d75134f658ae2d356f0396b94-afauci]

Subject: 2:15 pm ET call with NAS -
Attachments: FW: Today's Call/meeting info
Location: dial in from VRC

Start: 2/3/2020 7:00:00 PM
End: 2/3/2020 7:30:00 PM
Show Time As: Busy

"Zoom" Call-in info is as follows (and is included at top of agenda):

Zoom Dial-in Info:
Time: Feb 3, 2020 02:00 PM Eastern Time (US and Canada)
Join from PC, Mac, Linux, iOS or Android: https://nasem.zoom.us/j/ (b) (6)
Telephone: (b) (6)
Meeting ID: (b) (6)
International numbers available: https://nasem.zoom.us/u/aA3S9pYwW

Andrew M. Pope, Ph.D.
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From: Conrad, Patricia (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=7EA3E3EA7DAA432887495D6825C9E588-CONRADPA]
Sent: 2/3/2020 5:09:58 PM
To: Barasch, Kimberly (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ea5fad4c52f64f80b7daee4982ae495f-baraschk]
CC: Eisinger, Robert (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0bad2a8c45514ee48985880de66674ad-eisinger]; Marston, Hilary (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ab30660917b942ffba9ae95d631116f3-marstonhd]; Lerner, Andrea (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=53254f4fb04e4bcbabe37940b4b41887-fennellyam]
Subject: FW: Today's Call/meeting info
Attachments: Agenda- 2019-nCoV.docx; SOW.docx

THIS IS FOR ASF CALL AT 2:15 PM – 2:30 PM ET TODAY

Kim – please make sure he takes this to VRC

Patricia L. Conrad
Public Health Analyst and
Special Assistant to the Director
National Institute of Allergy and Infectious Diseases
The National Institutes of Health
31 Center Drive, MSC 2520 - Room 7A03
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From: Pope, Andrew <APope@nas.edu>
Sent: Monday, February 3, 2020 12:05 PM
To: 'Chakravarti, Aravinda' <Aravinda.Chakravarti@nyulangone.org>; 'andersen@scripps.edu' <andersen@scripps.edu>; Baric, Ralph <rbaric@email.unc.edu>; 'trevor@bedford.io' <trevor@bedford.io>; Peter Daszak (b) (6); 'dgriffi6@jhmi.edu' <dgriffi6@jhmi.edu>; Gigi Gronvall <ggronvall@jhu.edu>; 'tinglesby@jhu.edu' <tinglesby@jhu.edu>; Stanley Perlman (stanley-perlman@uiowa.edu) <stanley-perlman@uiowa.edu>; 'KATHRYBR' (b) (6); Fauci, Anthony (NIH/NIAID) [E] (b) (6); Hassell, David (Chris) (OS/ASPR/IO) (b) (6); Prasher, Joanna (CDC/DDPHSIS/CPR/OD) (b) (6); (b) (6); 'Watson, Ian D. EOP/OSTP' (b) (6); Kadlec, Robert (OS/ASPR/IO) (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6); Barasch, Kimberly (NIH/NIAID) [C] (b) (6)
Cc: May, David <DMay@nas.edu>; Chao, Samantha <SChao@nas.edu>; Laney, Kara N. <KLaney@nas.edu>; Shore, Carolyn <CShore@nas.edu>; Shelton Davenport, Marilee <MShelton@nas.edu>; Symmes, Gregory <GSymmes@nas.edu>; Brown, Lisa <LBrown@nas.edu>; Downey, Autumn <ADowney@nas.edu>; Wollek, Scott <SWollek@nas.edu>; Kanarek, Morgan <MKanarek@nas.edu>; Dzau, Victor J. <VDzau@nas.edu>; Beachy, Sarah <SBeachy@nas.edu>; Logan, Kendall <KLogan@nas.edu>; Kearney, Megan <MKearney@nas.edu>; Korsen, Dana

<DKorsen@nas.edu>; Behney, Clyde <CBehney@nas.edu>; Shern, Lauren <LShern@nas.edu>; Borel, Bridget <BBorel@nas.edu>
Subject: Today's Call/meeting info

Thank you for participating in today's meeting of experts at the National Academies to discuss and identify what data, information and samples are needed to understand the evolutionary origins of 2019-nCoV and more effectively respond to the outbreak and resulting misinformation.

Attached for your information are:
- Agenda
- Scope of Work

A list of participants will be sent along shortly

Please let me know if you have any questions of problems with connecting.

"Zoom" Call-in info is as follows (and is included at top of agenda):

Zoom Dial-in Info:
Time: Feb 3, 2020 02:00 PM Eastern Time (US and Canada)
Join from PC, Mac, Linux, iOS or Android: https://nasem.zoom.us/j/ (b) (6)
Telephone: (b) (6)
Meeting ID: (b) (6)
International numbers available: https://nasem.zoom.us/u/aA3S9pYwW

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Expert Meeting
Rapid Response for Assessment of Data Needs for 2019-nCoV

Agenda

February 3, 2020
2:00 p.m.–3:00 p.m. (ET)

Keck Center, Room 103
500 5th St NW, Washington, DC 20001

Join from PC, Mac, Linux, iOS or Android: https://nasem.zoom.us/j/ (b) (6)
Telephone: (b) (6)
Meeting ID: (b) (6)
International numbers available: https://nasem.zoom.us/u/aA3S9pYwW

Meeting Objective: *Assess what data, information and samples are needed to understand the evolutionary origins of 2019-nCoV and more effectively respond to the outbreak and resulting misinformation.*

2:00 p.m. **Welcome and Introductions** (*5 mins*)

ANDREW POPE
Director, Board on Health Sciences Policy
National Academies of Sciences, Engineering, and Medicine

2:05 p.m. **Statement of Work** (*10 mins*)

KELVIN DROEGEMEIER
Director
Office of Science and Technology Policy

D. CHRISTIAN ("CHRIS") HASSELL
Senior Science Advisor
U.S. Department of Health and Human Services

2:15 p.m. **Perspective from NIH/NIAID** (*10 mins*)

ANTHONY ("TONY") S. FAUCI
Director
National Institute of Allergy and Infectious Diseases
National Institutes of Health

2:25 p.m. **Discussion of Meeting Objective** (*30 mins*)

2:55 p.m. **Determine Next Steps** (*5 mins*)

3:00 p.m. **Adjourn**

The National Academies of
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Statement of Work

Rapid Response for Assessment of Data Needs for 2019-nCoV

February 3, 2020

Statement of Task:

In response to a request from OSTP, the NASEM will examine information and identify data requirements that would help determine the origins of 2019-nCoV, specifically from an evolutionary/structural biology standpoint. NASEM will also consider whether this should include more temporally and geographically diverse clinical isolates, sequences, etc. Although a widely-disputed paper posted on a pre-print server last week has since been withdrawn, the response to that paper highlights the need to determine these information needs as quickly as possible. As part of a broader deliberative process, this review will help prepare for future events by establishing a process for quickly assembling subject matter experts for evaluation of other potentially threatening organisms.

Workplan:

NASEM will hold a meeting of experts to assess what data, information and samples are needed to address the unknowns, in order to understand the evolutionary origins of NCoV and more effectively respond to both the outbreak and any resulting misinformation. A statement from the National Academies will be prepared and published on the Web as a "Based on Science" article that summarizes the status and needs for more and what types of data. A more in-depth examination of the issues will be established as a follow up as needed.

From: (b) (6)
Sent: 6/22/2018 4:13:56 PM
To: Handley, Gray (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1ceb55d4b673477391c9da8a3eb3c75c-handleygr]
Subject: Re: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland

Just let them know it will be Hilary.

Sent from my iPhone

On Jun 22, 2018, at 12:06 PM, Handley, Gray (NIH/NIAID) [E] (b) (6) wrote:

> Do we need to raise this with ASF or should I just go ahead and inform WHO we will send Hilary instead of Emily? Thanks.
>
> **From:** Marston, Hilary (NIH/NIAID) [E]
> **Sent:** Friday, June 22, 2018 11:24 AM
> **To:** Handley, Gray (NIH/NIAID) [E] (b) (6)
> **Subject:** RE: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland
>
> Spoke to Hugh about this and he is supportive of me going. Let me know if you need anything from me.
>
> **From:** Handley, Gray (NIH/NIAID) [E]
> **Sent:** Tuesday, June 19, 2018 12:43 PM
> **To:** Marston, Hilary (NIH/NIAID) [E] (b) (6)
> **Subject:** RE: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland
>
> Would these concerns warrant sending someone to this meeting or could we brief whoever does attend (from CDC or OGA, most likely) and ask that they convey these concerns and seek an acceptable outcome we would recommend? G
>
> **From:** Marston, Hilary (NIH/NIAID) [E]
> **Sent:** Tuesday, June 19, 2018 12:39 PM
> **To:** Handley, Gray (NIH/NIAID) [E] (b) (6)
> **Subject:** Re: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland
>
> (b) (5)
>
> On Jun 19, 2018, at 12:30 PM, Handley, Gray (NIH/NIAID) [E] (b) (6) wrote:
>
> > So at the prioritization meeting you attended did you feel WHO needed to focus on methodology and was this need discussed as requiring a special meeting? (b) (5)

[redacted] (b) (5)
[redacted] G

From: Marston, Hilary (NIH/NIAID) [E]
Sent: Tuesday, June 19, 2018 9:29 AM
To: Weinberger, Collin (OS/OGA) (CTR) [redacted] (b) (6); Handley, Gray (NIH/NIAID) [E] [redacted] (b) (6)
Cc: Kerr, Lawrence (HHS/OS/OGA) [redacted] (b) (6)
Subject: RE: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland

Thanks Collin – we're trying to sort out whether this is the prioritization meeting, or the prioritization methodology meeting only (and there will be a second meeting for the prioritization). The latter was the approach last yr, but if you could help with question, that we'd appreciate it.

From: Weinberger, Collin (OS/OGA) (CTR) [redacted] (b) (6)
Sent: Tuesday, June 19, 2018 9:26 AM
To: Handley, Gray (NIH/NIAID) [E] [redacted] (b) (6); Marston, Hilary (NIH/NIAID) [E] [redacted] (b) (6)
Cc: Kerr, Lawrence (HHS/OS/OGA) [redacted] (b) (6)
Subject: FW: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland

Dear Gray and Hilary,

Wanted to pass along the below heads up about a R&D Blueprint disease prioritization meeting the blueprint team is organizing for October 1-2. Rita's below note is the first I have heard about this meeting, but I will try to find out more. Note that Rita thinks that Emily Erbelding may be the NIH representative the invite went to.

Best,
Collin

From: Helfand, Rita (CDC/OID/NCEZID) [redacted] (b) (6)
Sent: Tuesday, June 19, 2018 9:05 AM
To: Weinberger, Collin (OS/OGA) (CTR) [redacted] (b) (6)
Cc: Damon, Inger K. (CDC/OID/NCEZID) [redacted] (b) (6)
Subject: FW: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland

FYI looks like they're having a R&D Blueprint disease prioritization meeting. From what I can tell, the invites are to those who attended the initial meetings (e.g., from NIH it's Emily Erbelding).

From: SI MEHAND, Massinissa [redacted] (b) (6)
Sent: Monday, June 18, 2018 11:25 AM
To: Munyua, Penina (CDC/CGH/DGHP) [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6); [redacted] (b) (6);

(b) (6); (b) (6); (b) (6);
(b) (6); (b) (6); (b) (6);
(b) (6); (b) (6); Helfand, Rita
(CDC/OID/NCEZID) (b) (6); Erbelding, Emily (NIH/NIAID) [E]
(b) (6); (b) (6); (b) (6);
(b) (6); (b) (6); (b) (6)
Cc: MURGUE, Bernadette (b) (6); AL-SHORBAJI, Farah
(b) (6); Ryan, Michael (CDC who.int) (b) (6); FARES,
Christine Youssef (b) (6)
Subject: [Save the Date] The WHO R&D Blueprint: Disease Prioritization Methodology Review Meeting, 01-02 October 2018, Geneva-Switzerland

Dear colleagues,

The World Health Organization is planning a two-day meeting on the 01-02 October 2018 to review the WHO R&D Blueprint disease prioritization methodology here at WHO HQ. We would be delighted if you would join us.

The R&D Blueprint is a global strategy and preparedness plan. The main objective of the R&D Blueprint is to pre-empt the development of a public health emergency due to highly infectious pathogens by implementing a plan of action for research preparedness. The ultimate goal is to reduce delay between the declaration of an emergency and the availability of effective medical or other interventions in order to save lives and avoid social and economic disruption.

The R&D Blueprint focuses diseases or pathogens: (1) with epidemic potential or which may cause public health emergencies; (2) where there are no, or insufficient, preventative and curative solutions; and (3) without major disease control programs, comprehensive R&D pipelines, or extensive funding or regulatory pathways. As the result of expert consultations, an initial priority list was compiled December 2015 along with the prioritization criteria. These criteria were the base for the development of the WHO R&D Blueprint prioritization methodology, which was reviewed in 2016, applied in 2017 and 2018 to review the WHO R&D Blueprint priority list of diseases.

Based upon the feedback of 2017 and 2018 consultations, WHO is asking for your expert advice to review the prioritization methodology. We are hoping that you can help us review: the prioritization process and criteria.

Inputs from experts involved in the previous consultations will be shared with you, along with formal invitation letters and the meeting agenda, at the end of July.

Please let us know whether you can attend before the 20th July by sending a confirmation to (b) (6).

We are looking forward to receiving your confirmation.

Best regards,

Massi.

Dr Massinissa Si Mehand

Technical Officer
Office of the Assistant Director General
Health Emergencies Program
Avenue Appia 20, 1202 Geneva, Switzerland
Tel. : (b) (6)
Mobile: (b) (6)
Email: (b) (6)

From: Auchincloss, Hugh (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9304C753BB9E422C977DDDAB54DA924B-AUCHINCLOSS]
on behalf of Fauci, Anthony (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DF38103D75134F658AE2D356F0396B94-AFAUCI]
Sent: 6/1/2020 8:22:24 PM
To: DMID Word Nerds [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=3eccde02a4fc4c02a3cffec1d0c15b7a-DMID Word N]
Subject: FW: Ebselen (SPI-1005) for COVID-19
Attachments: Ebselen_COVID-19_Nature.pdf; Ebselen_COVID_Nature_Matters Arising May 6 2020.docx

From: Jonathan Kil <jkil@soundpharma.com>
Sent: Monday, June 1, 2020 4:18 PM
To: Fauci, Anthony (NIH/NIAID) [E] (b) (6)
Subject: Ebselen (SPI-1005) for COVID-19

Dear Dr. Fauci,

I hope all is well. You may have heard that a recent study published in Nature showed that ebselen is a potent inhibitor of nCoV2. I have attached the pre-published copy from April 9, and have cut in two of the figures from that paper below (Jin, Nature 2020). Importantly, ebselen was found to be the most potent inhibitor of the Major Protease responsible for viral replication identified from the screening of a 10,000 compound library. As an anti-inflammatory, ebselen (SPI-1005) is very well tolerated (delivered orally twice daily) and appears to be safer that any other approved anti-inflammatory that has been approved, and does not elicit nausea/vomiting, cardiac side effect (no QT prolongation), or prolong bleeding time, that limit other anti-inflammatories, DMARDS and antibiotic medications. We have scaled the GMP manufacturing of ebselen (>20 kg batches) and SPI-1005 (200 mg capsule) to pre-commercial batches (>100,000 capsules), and are organizing a multi-national multi-site study. Drs Jiang, Rao, and Yang have responded and are enthusiastic to collaborate. In addition, we have been talking with multiple US, UK and German sites.

In the US/UK, we have completed 6 RCTs with SPI-1005 across five different study populations (N>400) including healthy volunteers, noise exposed young adults (Kil, Lancet 2017), Meniere's disease, Bipolar Disorder, and Cystic Fibrosis patients receiving IV tobramycin due to acute pulmonary exacerbation. We have treated these adults (18-75 yo) for up to 28 days without any significant adverse events due to study drug, and SPI-1005 was recently granted Fast Track Designation for the Treatment of Meniere's Disease by the FDA. Our Meniere's, Bipolar and in particular CF study populations have a long list of concomitant medications for which we have not observed a DDI. A preliminary analysis shows improvement in FEV1 in this affected population. We have developed two Phase 2 protocols to test Ebselen in moderate and severe study populations for 7 and 14 days and will receive FDA comments to our pre-IND package later this week.

I have also attached a brief summary on Sound Pharma's efforts with SPI-1005. Please let us know if the NIAID would like to collaborate on COVID-19.

Jonathan

Jonathan Kil, MD
CEO and CMO
Sound Pharmaceuticals
4010 Stone Way N
Suite 120
Seattle, WA 98103
(b) (6) (cell)

(b) (6) (office)

Some of the key figures and statements involving ebselen's MOA as a potent inhibitor of Mpro activity, a protease critical for viral replication:
"...reasonable docking poses were found, demonstrating that they could fit inside the substrate-binding pocket (Extended Data Fig. 6)."
"Six of these inhibit Mpro with IC50 values ranging from 0.67 to 21.4 μM. Ebselen has the strongest inhibition of Mpro activity with an IC50 of 0.67 μM."

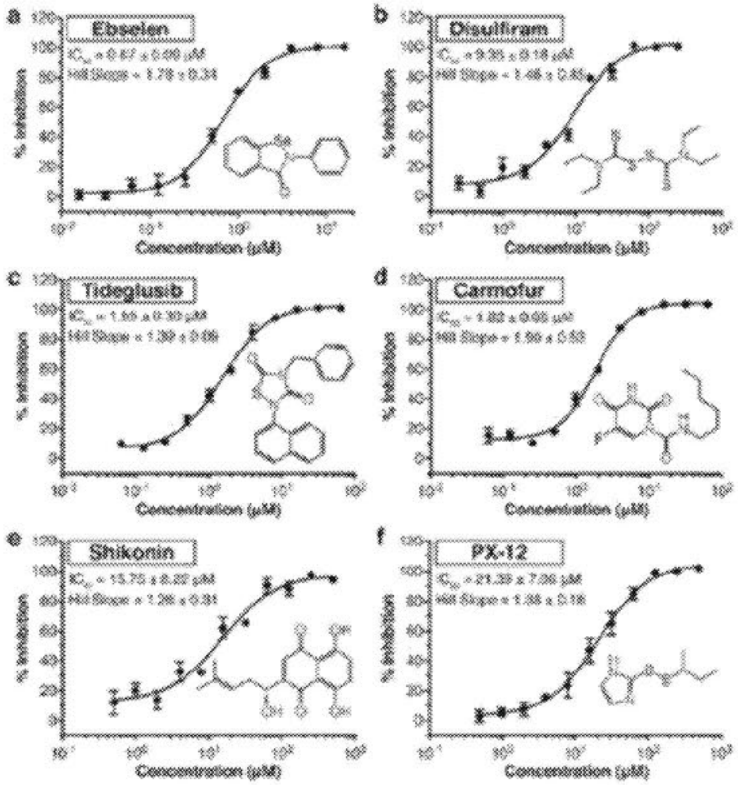

Fig. 3 | Drug leads inhibit the activity of COVID-19 virus M^{pro}. a-f, The hydrolytic activity of COVID-19 virus M^{pro} was measured in the presence of varying concentrations of the drug candidates. Dose-response curves for half-maximum inhibitory concentration (IC_{50}) values were determined by nonlinear regression. All data are shown as mean ± s.e.m., $n = 3$ technical replicates.

Importantly, "Ebselen and N3 displayed inhibition against COVID-19 virus with individual EC50 values of 4.67 μM and 16.77 μM, respectively (Fig. 4b, c). The dose-response curves suggest that both of them could be able to penetrate cellular membrane to access their targets. Ebselen is an organoselenium compound with anti-inflammatory, anti-oxidant and cytoprotective properties."

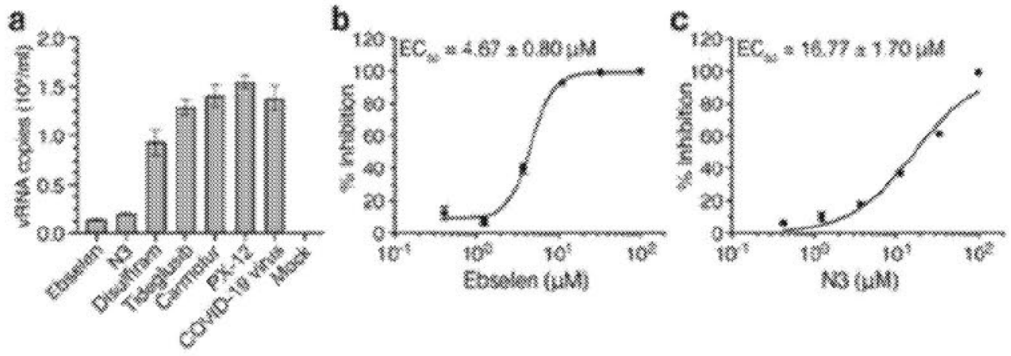

Fig. 4 | Antiviral activities of the drug leads against COVID-19 virus. a, The quantification of absolute viral RNA copies (per ml) in the supernatant at 72 h post infection (p.i.) determined by qRT-PCR analysis. Data are mean ± s.e.m., $n = 3$ technical replicates. b, c, Dose-response curves for ebselen and N3 in the plaque-reduction assay, respectively. All data are shown as mean ± s.e.m., $n = 4$ technical replicates.

nature

https://doi.org/10.1038/s41586-020-2223-y

Accelerated Article Preview

Structure of M^{pro} from COVID-19 virus and discovery of its inhibitors

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Zhenming Jin, Xiaoyu Du, Yechun Xu, Yongqiang Deng, Meiqin Liu, Yao Zhao, Bing Zhang, Xiaofeng Li, Leike Zhang, Chao Peng, Yinkai Duan, Jing Yu, Lin Wang, Kailin Yang, Fengjiang Liu, Rendi Jiang, Xinglou Yang, Tian You, Xiaoce Liu, Xiuna Yang, Fang Bai, Hong Liu, Xiang Liu, Luke W. Guddat, Wenqing Xu, Gengfu Xiao, Chengfeng Qin, Zhengli Shi, Hualiang Jiang, Zihe Rao & Haitao Yang

Structure of M^{pro} from COVID-19 virus and discovery of its inhibitors

https://doi.org/10.1038/s41586-020-2223-y

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Zhenming Jin[1,2,10], Xiaoyu Du[2,10], Yechun Xu[3,10], Yongqiang Deng[4,10], Meiqin Liu[5,10], Yao Zhao[1], Bing Zhang[1], Xiaofeng Li[4], Leike Zhang[5], Chao Peng[6], Yinkai Duan[1], Jing Yu[1], Lin Wang[1], Kailin Yang[7], Fengjiang Liu[1], Rendi Jiang[5], Xinglou Yang[5], Tian You[1], Xiaoce Liu[1], Xiuna Yang[1], Fang Bai[1], Hong Liu[3], Xiang Liu[8], Luke W. Guddat[9], Wenqing Xu[1,6], Gengfu Xiao[5], Chengfeng Qin[4], Zhengli Shi[5], Hualiang Jiang[1,3]✉, Zihe Rao[1,2,8]✉ & Haitao Yang[1]✉

A new coronavirus (CoV) identified as COVID-19 virus is the etiological agent responsible for the 2019-2020 viral pneumonia outbreak that commenced in Wuhan[1–4]. Currently there are no targeted therapeutics and effective treatment options remain very limited. In order to rapidly discover lead compounds for clinical use, we initiated a program of combined structure-assisted drug design, virtual drug screening and high-throughput screening to identify new drug leads that target the COVID-19 virus main protease (M^{pro}). M^{pro} is a key CoV enzyme, which plays a pivotal role in mediating viral replication and transcription, making it an attractive drug target for this virus[5,6]. Here, we identified a mechanism-based inhibitor, N3, by computer-aided drug design and subsequently determined the crystal structure of COVID-19 virus M^{pro} in complex with this compound. Next, through a combination of structure-based virtual and high-throughput screening, we assayed over 10,000 compounds including approved drugs, drug candidates in clinical trials, and other pharmacologically active compounds as inhibitors of M^{pro}. Six of these compounds inhibited M^{pro} with IC_{50} values ranging from 0.67 to 21.4 μM. Ebselen also exhibited promising antiviral activity in cell-based assays. Our results demonstrate the efficacy of this screening strategy, which can lead to the rapid discovery of drug leads with clinical potential in response to new infectious diseases for which no specific drugs or vaccines are available.

CoVs infect humans and other animal species, causing a variety of highly prevalent and severe diseases, including Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS)[7]. The COVID-19 virus genome is comprised of ~30,000 nucleotides; its replicase gene encodes two overlapping polyproteins, pp1a and pp1ab, required for viral replication and transcription[3,4]. The functional polypeptides are released from the polyproteins by extensive proteolytic processing, predominantly by a 33.8-kDa main protease (M^{pro}), also referred to as the 3C-like protease. M^{pro} digests the polyprotein at no less than 11 conserved sites, starting with the autolytic cleavage of this enzyme itself from pp1a and pp1ab[8]. The functional importance of M^{pro} in the viral life cycle, together with the absence of closely related homologues in humans, identify the M^{pro} as an attractive target for antiviral drug design[9].

To facilitate the rapid discovery of antiviral compounds with clinical potential, we developed a strategy combining structure-assisted drug design, virtual drug screening and high-throughput screening to repurpose existing drugs to target COVID-19 virus M^{pro}.

Establishing a high-throughput activity assay

Recombinant COVID-19 virus M^{pro} with native N and C termini was expressed in *Escherichia coli* and subsequently purified (Extended Data Fig. 1a, b). The molecular weight of COVID-19 virus M^{pro} as determined by mass spectroscopy is 33797.0 Da, consistent with its theoretical molecular weight 33796.8 Da. In order to characterize its enzymatic activity and to carry out high-throughput screening of inhibitors, we developed a fluorescence resonance energy transfer (FRET) assay. To do this, a fluorescently labeled substrate, MCA-AVLQ↓SGFR-Lys(Dnp)-Lys-NH_2, derived from the N-terminal auto-cleavage sequence of the viral protease was designed and synthesized for time-dependent kinetic analysis (Extended Data Fig. 1e). The catalytic efficiency (k_{cat}/K_m)

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for COVID-19 virus M^{pro} was measured to be 28,500 $M^{-1}s^{-1}$ which is slightly higher than that for SARS-CoV M^{pro} (k_{cat}/K_m=26,500 $M^{-1}s^{-1}$)[10], but over 30-fold higher than that of human rhinovirus 3C protease (k_{cat}/K_m=920 $M^{-1}s^{-1}$)[11].

N3 is a potent irreversible inhibitor of COVID-19 virus M^{pro}

In a previous study, we designed a Michael acceptor inhibitor N3 using computer-aided drug design (CADD) (Extended Data Fig. 1c), which can specifically inhibit multiple CoV M^{pro}s, including those from SARS-CoV and MERS-CoV[12–15]. It also has displayed potent antiviral activity against infectious bronchitis virus in an animal model[13]. The CC_{50} of N3 is >133 μM (Extended Data Fig. 1f). Next, we constructed a homology model for COVID-19 virus M^{pro} and used molecular docking to see if N3 could target this new CoV M^{pro}. A docking pose showed that it could fit inside the substrate-binding pocket. To assess the efficacy of N3 for COVID-19 virus M^{pro}, kinetic analysis was performed. A progress curve showed that it is a time-dependent irreversible inhibitor of this enzyme. Further, the shape of this curve supports the mechanism of two-step irreversible inactivation. The inhibitor first associates with COVID-19 virus M^{pro} (EI) with a dissociation constant K_i; then, a stable covalent bond is formed between N3 and M^{pro} (E–I). The evaluation of this time-dependent inhibition requires both the equilibrium-binding constant K_i (designated as k_2/k_1) and the inactivation rate constant for covalent bond formation k_3. However, N3 exhibits very potent inhibition of COVID-19 virus M^{pro}, such that measurement of K_i and k_3 proved not feasible (Extended Data Fig. 1d, e). When very rapid inactivation occurs, $k_{obs}/[I]$ was utilized to evaluate the inhibition as an approximation of the pseudo second-order rate constant (k_3/K_i)[12]. The value of $k_{obs}/[I]$ of N3 for COVID-19 virus M^{pro} was determined to be 11,300±880 $M^{-1}s^{-1}$, suggesting this Michael acceptor has potent inhibition.

The crystal structure of COVID-19 virus M^{pro} in complex with N3

In order to elucidate the inhibitory mechanism of this compound, we determined the crystal structure of COVID-19 virus M^{pro} in complex with N3 to 2.1-Å resolution. The asymmetric unit contains only one polypeptide (Extended Data Table 1). However, two of these associate to form a dimer by a crystallographic 2-fold symmetry axis (the two molecules are designated protomer A and B) (Fig. 1b). All residues (residues 1–306) are visible in electron density maps. Each protomer is composed of three domains (Fig. 1a). Domains I (residues 8–101) and II (residues 102–184) have an antiparallel β-barrel structure. Domain III (residues 201–303) contains five α-helices arranged into a largely antiparallel globular cluster, and is connected to domain II by means of a long loop region (residues 185–200). COVID-19 virus M^{pro} has a Cys–His catalytic dyad, and the substrate-binding site is located in a cleft between Domain I and II. These features are similar to those of other M^{pro}s reported previously[5,6,13–15]. The electron density map shows that N3 binds in the substrate-binding pocket in an extended conformation (Fig. 1c, Extended Data Fig. 2), with the inhibitor backbone atoms forming an antiparallel sheet with residues 164–168 of the long strand$_{155\text{-}168}$ on one side, and with residues 189–191 of the loop linking domains II and III.

Here we detail the specific interactions of N3 with M^{pro} (Fig. 1c, d). The electron density shows that the Sγ atom of C145-A forms a covalent bond (1.8-Å) with the Cβ of the vinyl group, confirming that the Michael addition has occurred. The S1 subsite has an absolute requirement for Gln at the P1 position. The side chains of F140-A, N142-A, E166-A, H163-A, H172-A, S1-B (from protomer B), and main chains of F140-A and L141-A are involved in S1 subsite formation, which also includes two ordered water molecules (named W1 and W2). The lactam at P1 inserts into the S1 subsite and forms a hydrogen bond with H163-A. The side chain of Leu at P2 site inserts deeply into the hydrophobic S2 subsite, which consists of the side chains of H41-A, M49-A, Y54-A, M165-A, and the alkyl portion of the side chain of D187-A. The side chain of Val at P3 is solvent-exposed, indicating that this site can tolerate a wide range of functional groups. The side chain of Ala at P4 side is surrounded by the side chains of M165-A, L167-A, F185-A, Q192-A and the main chain of Q189-A, all of which form a small hydrophobic pocket. P5 makes van der Waals contacts with P168-A and the backbone of residues 190–191. The bulky benzyl group extends into the S1′ site, forming van der Waals interactions with T24-A and T25-A. In addition, N3 forms multiple hydrogen bonds with the main chain of the residues in the substrate-binding pocket, which also helps lock the inhibitor inside the substrate-binding pocket.

An overlay of the structures of COVID-19 virus M^{pro}-N3 and SARS-CoV M^{pro}-N1[12] shows that N3 and N1 bind to M^{pro}s in a similar mode (Fig. 2a, Extended Data Fig. 3). The major difference lies in the P1′ site. Compared with the benzyl ester portion of N3 in the COVID-19 virus M^{pro} structure, the ethyl ester portion in N1 adopts a slightly different conformation. This may be attributed to an ordered water (W1) in SARS-CoV M^{pro}-N1 structure, which makes a long-distance hydrogen bond to the carboxylate oxygen of the ester and also forms two hydrogen bonds from the backbone NH of G143 and the side chain of N142. In our previous study, we proposed that all the CoV M^{pro}s share a highly conserved substrate-recognition pocket, which could serve as a drug target for the design of broad-spectrum inhibitors[12]. The recent discovery of new CoVs and accumulation of structural data for CoV M^{pro}s from various species provided the opportunity to further examine this hypothesis. Superposition of the 12 crystal structures of M^{pro}s[12–21] have shown that the most variable regions were the helical domain III and surface loops, but the substrate-binding pockets located in a cleft between domains I and II are still highly conserved among all CoV M^{pro}s, suggesting the antiviral inhibitors targeting this site should have wide-spectrum anti-CoV activity (Fig. 2b, c).

Virtual screening

The structure of COVID-19 virus M^{pro} in complex with N3 provides a model for identifying lead inhibitors to target COVID-19 virus M^{pro} through *in silico* screening. To achieve this, an in-house database of potential binding compounds was docked using Glide (v8.2). The results show that cinanserin fits snugly into the substrate-binding pocket, by interacting with H41 and E166 of M^{pro} by cation-π. Subsequently we determined this compound has an IC_{50} value of 125 μM for M^{pro}. Moreover, cinanserin is a well-characterized serotonin antagonist, which underwent preliminary clinical testing in humans in the 1960s[22] and has previously been shown to inhibit SARS-CoV M^{pro} [23]. The CC_{50} of cinanserin is > 200 μM (Extended Data Fig. 4). Thus, it has potential for optimization as an anti-viral drug lead.

High-throughput screening

Next, we used our FRET assay, to screen a library of ~10,000 compounds consisting of approved drugs, clinical trial drug candidates and natural products. Primary hits included seven compounds that are either FDA-approved drugs or clinical trial/preclinical drug candidates. We then determined their IC_{50} values, which are in the range from 0.67 to 21.4 μM (Fig. 3). Amongst them, disulfiram and carmofur are FDA-approved drugs, whilst ebselen, shikonin, tideglusib, PX-12 and TDZD-8 are currently in clinical trials or preclinical studies. Ebselen has the strongest inhibition of M^{pro} activity with an IC_{50} of 0.67 μM. However, in a detergent-based assay[24], TDZD-8 was found to be an aggregate-based inhibitor, which might non-specifically inhibit M^{pro} (Extended Data Fig. 5) and was therefore not considered for further investigation. Next, we set out to identify the potential covalent inhibitors among these compounds through tandem MS/MS analysis.

The MS/MS data shows that ebselen, PX-12 and carmofur are all able to covalently bind to C145 of the catalytic dyad in COVID-19 virus M^{pro}. However, while PX-12 and carmofur completely modified M^{pro}, ebselen could only partially modify this viral cysteine protease (Extended Data Fig. 6). Since ebselen has even stronger inhibition than the others, there is a possibility that ebselen could also inhibit M^{pro} through non-covalent binding. It is likely that a portion of the hits identified by screening are covalently bonded to the catalytic cysteine of M^{pro} through their sulfhydryl groups. In general, such molecules are expected to be promiscuous binders and therefore, as they stand, may have limited potential as drug leads. Since our structural data is based on N3, we investigated if molecular docking could predict how disulfiram, tideglusib and shikonin bind to this protein. In all cases, reasonable docking poses were found, demonstrating that they could fit inside the substrate-binding pocket (Extended Data Fig. 7).

Antiviral activity assay

To further substantiate the enzymatic inhibition results *in vitro*, we evaluated whether these compounds could prevent viral replication in cell-based assays. As shown in Fig. 4a, quantitative real-time RT-PCR (qRT-PCR) demonstrated that ebselen and N3 showed the strongest antiviral effects among them at a concentration of 10 μM treatment in COVID-19 virus infected Vero cells. A plaque-reduction assay (Extended Data Fig. 8) was performed to further assess the efficacy of these two compounds in protecting cells. Ebselen and N3 displayed inhibition against COVID-19 virus with individual EC_{50} values of 4.67 μM and 16.77 μM, respectively (Fig. 4b, c). The dose-response curves suggest that both of them could be able to penetrate cellular membrane to access their targets. Ebselen is an organoselenium compound with anti-inflammatory, anti-oxidant and cytoprotective properties. This compound has been investigated for the treatment of multiple diseases, such as bipolar disorders[25] and hearing loss[26,27]. Ebselen has extremely low cytotoxicity (LD_{50} in rats > 4,600 mg/kg, per os)[28] and its safety in humans has been evaluated in a number of clinical trials[26,27,29]. These data strongly suggest the clinical potential of ebselen for CoV treatment. It is also interesting that cinanserin displayed moderate inhibition against COVID-19 virus with an EC_{50} value of 20.61 μM from qRT-PCR analysis (Extended Data Fig. 4), which is superior to that in the enzymatic inhibition assay, suggesting that cinanserin might have multi-drug targets in preventing viral infection. In further studies, selection and characterization of drug-resistant mutants will help clarify the mode of cinanserin's action.

Discussion

Our crystal structural and docking data have shown that the drug leads identified can bind to the substrate-binding pocket of COVID-19 virus M^{pro}, which is highly conserved among all CoV M^{pro}s. This strongly supports our hypothesis that development of a single antiviral agent targeting M^{pro} or in combination with other potential therapies could provide an effective first line of defense against all CoV-associated diseases.

In the last twenty years, new infectious agents have emerged to cause epidemics, such as SARS and MERS[7]. The timely development of effective antiviral agents for clinical use is extremely challenging because conventional drug development approaches normally take years of investigations and cost billions of dollars. The repurposing of approved pharmaceutical drugs and drug candidates provides an alternative approach to rapidly identify potential drug leads to manage rapidly emerging viral infections. Cell-based phenotypic screening has proven to be valuable[30], but the complexity of this approach is not readily compatible with high-throughput pipelines, and it cannot identify the molecular target or mechanism of action[31]. In this study, the convergence of structure-based *ab initio* drug design, virtual screening and high-throughput screening proved to be an efficient strategy to find antiviral leads against COVID-19 virus. The methods presented here can greatly assist in the rapid discovery of drug leads with clinical potential in response to new emerging infectious diseases that currently lack specific drugs and vaccines.

Online content

Any methods, additional references, Nature Research reporting summaries, source data, extended data, supplementary information, acknowledgements, peer review information; details of author contributions and competing interests; and statements of data and code availability are available at https://doi.org/10.1038/s41586-020-2223-y.

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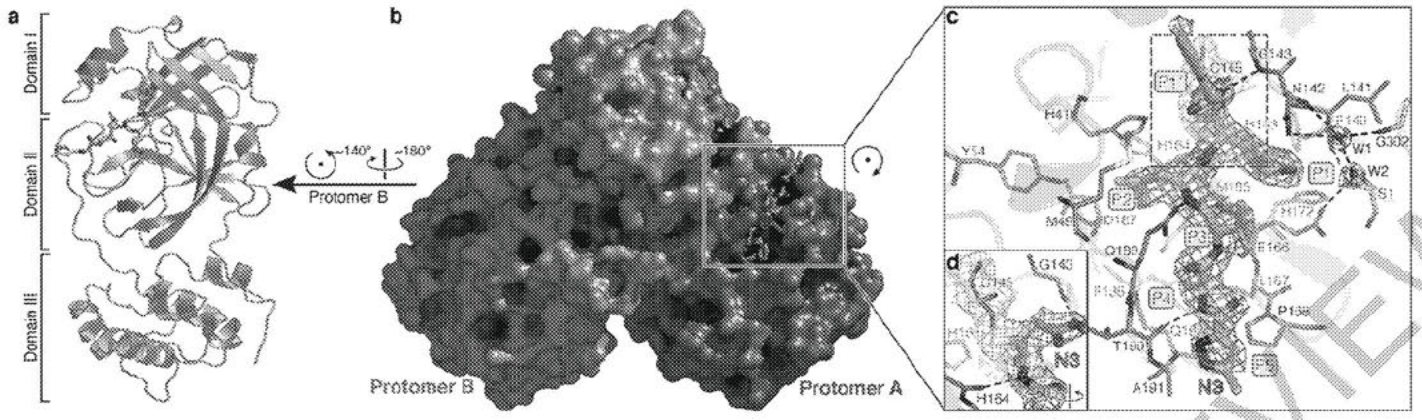

Fig. 1 | The crystal structure of COVID-19 virus M^{pro} in complex with N3. **a**, Cartoon representation of one protomer of the dimeric M^{pro}-inhibitor complex. **b**, Surface representation of the homodimer of M^{pro}. Protomer A is in blue, protomer B is in salmon, N3 is presented as green sticks. **c**, A zoomed view of the substrate-binding pocket. The key residues forming the binding pocket are shown in sticks, the two waters, assigned as W1 and W2, are shown as red spheres. P1, P1′, P2, P3, P4 and P5 sites of N3 are indicated. Hydrogen bonds that help to lock the inhibitor are shown in black dashed lines. The $2F_o$-F_c density map contoured at 1.2 σ is shown around N3 molecule (blue mesh), C145-A (yellow mesh), and the two waters (blue mesh). **d**, The C-S covalent bond.

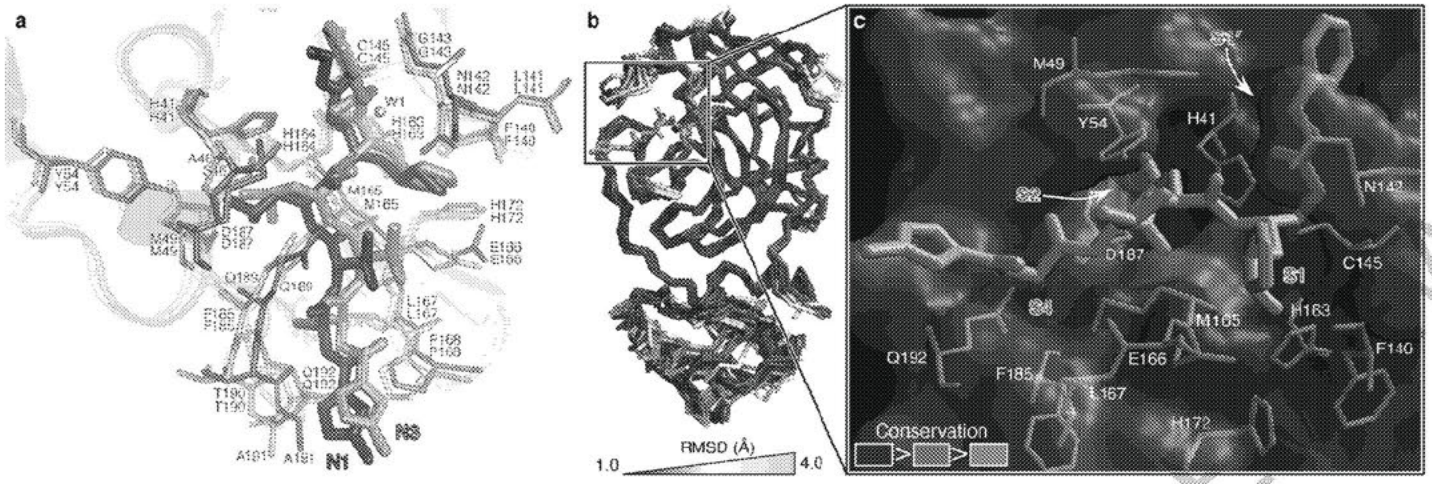

Fig. 2| The substrate-binding pockets of CoV M^{pro}s across different species. **a**, Comparison of inhibitor binding mode between the structures of COVID-19 virus M^{pro}-N3 and SARS-CoV M^{pro}-N1. COVID-19 virus M^{pro} is shown in marine cartoon; SARS-CoV M^{pro} in grey; N3 in green sticks; N1 in hot pink. **b**, Superposition of crystal structures of M^{pro}s (Cα 1-300) from 12 CoVs, including COVID-19 virus, SARS-CoV, MERS-CoV, HCoV-HKU1, BtCoV-HKU4, MHV-A59, PEDV, FIPV, TGEV, HCoV-NL63, HCoV-229E and IBV. The color spectrum represents the root-mean-square deviation (RMSD) of the aligned Cα atoms. **c**, Surface presentation of conserved substrate-binding pockets of 12 CoV M^{pro}s. Red: residues are entirely identical among all 12 M^{pro}s; violet: conserved substitution in one CoV M^{pro}; orange: conserved substitution in more than one CoV M^{pro}s. S1, S2, S4, and S1′ subsites are indicated.

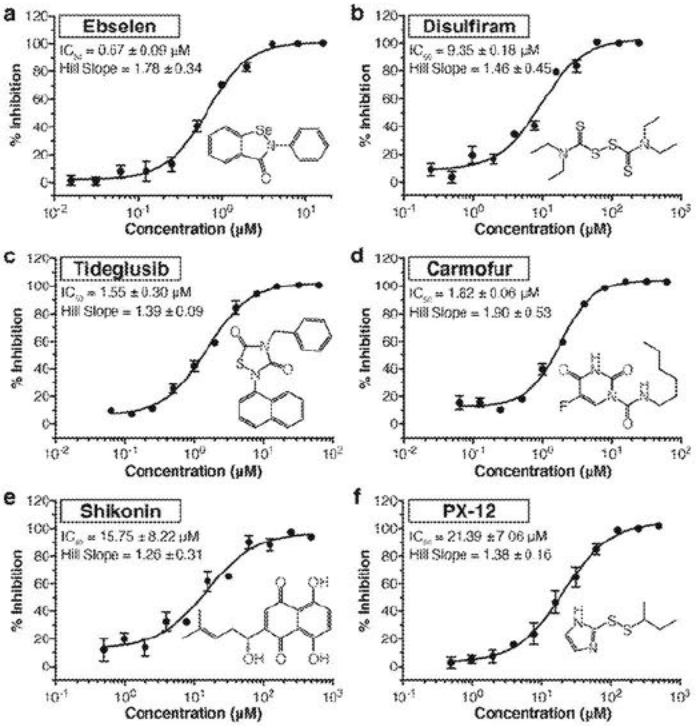

Fig. 3 | Drug leads inhibit the activity of COVID-19 virus M^{pro}. a-f, The hydrolytic activity of COVID-19 virus M^{pro} was measured in the presence of varying concentrations of the drug candidates. Dose-response curves for half-maximum inhibitory concentration (IC_{50}) values were determined by nonlinear regression. All data are shown as mean ± s.e.m., $n = 3$ biological replicates.

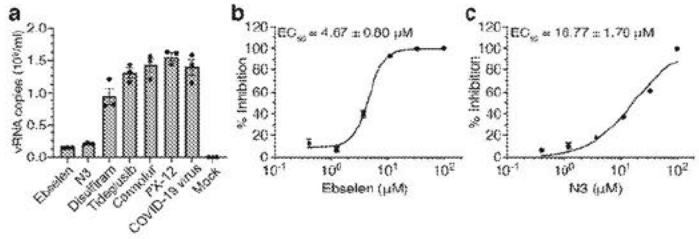

Fig. 4 | Antiviral activities of the drug leads against COVID-19 virus. a, The quantification of absolute viral RNA copies (per ml) in the supernatant at 72 h post infection (p.i.) determined by qRT-PCR analysis. Data are mean ± s.e.m., $n = 3$ biological replicates. **b, c**, Dose-response curves for ebselen and N3 in the plaque-reduction assay, respectively; all data are shown as mean ± s.e.m., $n = 4$ biological replicates.

Methods

Cloning, protein expression and purification of COVID-19 virus M^{pro}

The full-length gene encoding COVID-19 virus M^{pro} (NC_045512) was optimized and synthesized for *Escherichia coli* expression (Genewiz, USA). Cloning strategy for producing authentic viral M^{pro} has been reported previously[10]. The expression plasmid was transformed into *Escherichia coli* BL21 (DE3) cells and then cultured in Luria Broth medium containing 100 μg/ml ampicillin at 37 °C. When the cells were grown to OD_{600} of 0.6-0.8, 0.5 mM IPTG was added to the cell culture to induce the expression at 16 °C. After 10 h, the cells were harvested by centrifugation at 3,000*g*. The cell pellets were resuspended in lysis buffer (20 mM Tris-HCl pH 8.0, 300 mM NaCl), lysed by high-pressure homogenization, and then centrifuged at 25,000*g* for 40 min. The supernatant was loaded onto Ni-NTA affinity column (Qiagen, Germany), and washed by the resuspension buffer containing 20 mM imidazole. The His tagged M^{pro} was eluted by cleavage buffer (50 mM Tris-HCl pH 7.0, 150 mM NaCl) including 300 mM imidazole. Human rhinovirus 3C protease was added to remove the C-terminal His tag. The M^{pro} was further purified by ion exchange chromatography and size exclusion chromatography. CoV M^{pro}s exist as a mixture of monomers and dimers in solutions[32]. The purified M^{pro} was stored in 50 mM Tris-HCl pH 7.3, 1 mM EDTA.

Crystallization, data collection and structure determination

COVID-19 virus M^{pro} was incubated with 10 mM N3 for 30 min and the complex (5 mg/ml) was crystallized by hanging drop vapor diffusion method at 20 °C. The best crystals were grown with well buffer containing 0.1 M MES pH 6.0, 2% polyethylene glycol (PEG) 6000, 3% DMSO, 1 mM DTT. The cryo-protectant solution contained 0.1 M MES pH 6.0, 30% PEG 400.

X-ray data were collected on beamline BL17U1 at Shanghai Synchrotron Radiation Facility (SSRF) at 100 K and at a wavelength of 1.07180 Å using an Eiger X 16M image plate detector. Data integration and scaling were performed using the program Xia2[33]. The structure was determined by molecular replacement (MR) with the Phaser module[34] in CCP4[35] using the SARS-CoV M^{pro} (PDB ID: 2H2Z) as a search template. The output model from MR was subsequently subjected to iterative cycles of manual model adjustment with Coot[36] and refinement was finished with Phenix[37]. The inhibitor N3 was built according to the omit map. The phasing and refinement statistics are summarized in Extended Data Table 1. The R_{work}/R_{free} values are 0.202/0.235, respectively. 97.3% residues are in most favored regions of the Ramachandran plot, and no residues are found in disallowed regions. Coordinates and structure factors for COVID-19 virus M^{pro} in complex with the inhibitor N3 have been deposited in Protein Data Bank (PDB) with accession number 6LU7. While this work was under review, we solved the complex structure at a higher resolution (1.7 Å). The relevant coordinates and structure factors have been deposited in PDB with accession number 7BQY.

Enzymatic activity and inhibition assays

The enzyme activity assays have been described previously[10]. Briefly, the activity of COVID-19 virus M^{pro} was measured by a continuous kinetic assay, with the substrate MCA-AVLQSGFR-Lys(Dnp)-Lys-NH2 (GL Biochem, Shanghai), using wavelengths of 320 nm and 405 nm for excitation and emission, respectively. The assay started by immediately mixing 0.2 μM COVID-19 virus M^{pro} with different concentrations of substrate (2.5-100 μM). Fluorescence intensity was monitored with an EnVision multimode plate reader (Perkin Elmer, USA). Initial rates were obtained by fitting the linear portion of the curves to a straight line. The kinetic parameters K_m and k_{cat} were calculated from a double-reciprocal plot. As N3 is a mechanism-based irreversible inhibitor for COVID-19 virus M^{pro}, $k_{obs}/[I]$ was used as an approximation of the pseudo second-order rate constant to evaluate the inhibition effect of the inhibitor N3[12]. In this case, the measurement was carried out with 0.2 μM of enzyme, 20 μM of substrate and inhibitor at 6 different concentrations (0-1 μM).

Virtual screening

The virtual screening was performed using our in-house database via a workflow application of Glide (v8.2), Maestro (Schrödinger 2019-1a)[38]. All compounds in the database were considered to be at pH 7.4 ± 0.2 to estimate their protonation state using the program EpiK[39]. Their three dimensional conformations were generated by the ligPrep module of Maestro. The structure of COVID-19 virus M^{pro} (PDB ID: 6LU7) was used to generate receptor grid for docking simulations. The center of active site of the grid was determined according to the position of N3 in the structure. The flexibility of the receptor hydroxyl and thiol groups in side chains of C145, S46 and Y54 were considered. At the very beginning, a relatively fast but raw screening was performed by using the glide standard precision model, and the top 20% of compounds were kept. Finally, the candidate molecules were picked by analysing the predicted binding modes and their scores.

High-throughput drug screen and IC_{50} measurement

Potential inhibitors against COVID-19 virus M^{pro} were screened by an enzymatic inhibition assay. When the different compounds were added into the enzymatic reaction mixture, the change of initial rates was calculated to evaluate their inhibitory effect. Five drug libraries, Approved Drug Library (Target Mol, USA), Clinic Compound Library (Target Mol, USA), FDA-approved Drug Library (Selleck, USA), Natural Product Library (Selleck, USA), and Anti-virus Drug Library (Shanghai Institute for Advanced Immunochemical Studies, SIAIS), which includes ~10,000 compounds, were used. The preliminary screening reaction mixture included 0.2 μM protein, 20 μM substrate and 50 μM compounds. The compounds of interest were defined as those with a percentage of inhibition over 60% compared with the reaction in the absence of inhibitor. IC_{50} values of seven drug leads were measured using 0.2 μM protein, 20 μM substrate and 11 different inhibitor concentrations. In order to exclude inhibitors possibly acting as aggregators, detergent-based control was performed by adding 0.001% or 0.01% freshly made up Triton X-100 to the reaction at the same time[24]. All experimental data was analyzed using GraphPad Prism. All experiments were performed in triplicate.

Molecular docking

To understand the binding interaction of these molecules with COVID-19 virus M^{pro}, two different molecular docking methods, i.e., Glide (v8.2)[38] and iFitDock[40] were used to predict their binding poses. Then a 3D molecular similarity calculation method, SHAFTS[41], was used for molecular alignment poses enumeration by matching the critical pharmacophore and volumetric overlay between the N3 molecule within the M^{pro} structure and the six drug candidates. However, the selenium atom of ebselen could not be treated by any of these above methods, so sulfur was used to replace it in the calculations. Then the obtained optimal superposition of these molecules was used to assess the reasonability of the predicted binding poses from the two docking methods, and only the binding orientations which were consistent among different methods were kept for constructing the initial complexes. Finally, these complexes were further optimized and re-scored by using MM-GBSA module[42] of Schrödinger, and the residues within 5 Å around the ligand were refined.

Antiviral and cytotoxicity assays for compounds from high-throughput screening

The *in vitro* antiviral efficacy of the drug candidates on Vero cells were determined by qRT-PCR. About 1×10^4 Vero cells were seeded into a 96-well plate and incubated for 20-24 h at 37 °C. All the infection experiments were performed at biosafety level-3 (BSL-3). Cells were

pre-treated with the drug candidates (10 μM) for 1 h; the COVID-19 virus (MOI of 0.01) was subsequently added to allow infection for 2 h. Then, the virus-drug mixture was removed and cells were further cultured with fresh drug-containing medium. At 72 h post infection (p.i.), viral RNA (vRNA) was extracted from the culture supernatant using QIAamp viral RNA mini kit (Qiagen, Germany) according to the manufacturer's recommendation and detected by qRT-PCR assay using the COVID-19 virus-specific primers. Because shikonin showed cellular toxicity at the test concentration, its antiviral activity assay did not further proceed. Viral RNA copies per milliliter were determined using a synthetic RNA fragment to amplify the target region. The linearized plasmid containing S gene of COVID-19 virus was subjected to *in vitro* transcription. The resulting RNA transcripts were purified and then quantified using spectrophotometry on Nanodrop 2000 (Thermo Fisher Scientific, USA). The purified RNA was diluted 10-fold serially using RNase-free water and was detected using qRT-PCR. Threshold cycle (Ct) values for the known concentrations of the RNA were plotted against the log of the number of genome equivalent copies. The resultant standard curve was used to determine the number of genome equivalents of vRNA in the samples. The determination of the detection limit was based on the lowest level at which vRNA was detected and remained within the range of linearity of a standard curve (Ct value of 38). TaqMan primers for COVID-19 virus are 5'-TCCTGGTGATTCTTCTTCAGG-3' and 5'-TCTGAGAGAGGGTCAAGTGC-3' with COVID-19 virus probe 5'-FAM-AGCTGCAGCACCAGCTGTCCA-BHQ1-3'. The cytotoxicity of the tested drugs on Vero cell were determined by MTS cell proliferation assays (Promega, USA). 1×10^4 cells were seeded into a 96-well plate and incubated for 20-24 h at 37 °C. After that, the medium was removed, and 100 μl of medium containing decreasing concentrations of antiviral compounds were added to the wells. After 4 days incubation at 37 °C, MTS assays were performed according to manufacturer's protocols. All experiments were performed in triplicate. Vero cells were obtained from ATCC(American Type Culture Collection)with authentication service. All cell lines were tested negative for mycoplasma contamination. No commonly misidentified cell lines were used.

Antiviral and cytotoxicity assays for cinanserin

For the antiviral assay, a clinical isolate COVID-19 virus[3] was propagated in Vero E6 cells, and viral titer was determined as described previously[43]. All the infection experiments were performed at BSL-3. Pre-seeded Vero E6 cells (5×10^4 cells/well) were pre-treated with the different concentrations of cinanserin for 1 h and the virus was subsequently added (MOI of 0.05) to allow infection for 2 h. Then, the virus-drug mixture was removed and cells were further cultured with fresh drug containing medium. At 24 h p.i., the cell supernatant was collected and vRNA in supernatant was subjected to qRT-PCR analysis. For cytotoxicity assays, Vero E6 cells were suspended in growth medium in 96-well plates. The next day, appropriate concentrations of cinanserin were added to the medium. After 24 h, the relative numbers of surviving cells were measured by CCK8 (Beyotime, China) assay in accordance with the manufacturer's instructions. All experiments were performed in triplicate. Vero E6 cells were obtained from ATCC with authentication service. All cell lines were tested negative for mycoplasma contamination. No commonly misidentified cell lines were used.

Plaque-reduction assays

1×10^5 Vero E6 cells were seeded in a 24-well plate and treated with different doses of the inhibitors. All the infection experiments were performed at BSL-3. Inhibitors with different dilution concentrations were mixed with COVID-19 virus (100 PFU), 200 μl mixtures were inoculated onto monolayer Vero E6 cells for 1 h. After removing the supernatant, the plate was washed twice with DMEM medium, cells were incubated with 0.9% agarose containing appropriate concentrations of inhibitors. The overlay was discarded at 4 days p.i. and cells were fixed for 30 min in 4% polyoxymethylene and stained with crystal violet working solution. The plaque forming units were determined. All experiments were performed in four biological replicates.

Intact protein analysis

2.5 μl of compounds (10 mM in DMSO) were added into 50 μl of COVID-19 virus M^{pro} (10 mg/ml). The mixtures were kept in room temperature for 30 min. Liquid chromatography-mass spectrometry (LC-MS) analyses were performed in positive-ion mode with a quadrupole-time-of-flight (QTOF) mass spectrometer (Agilent 6550, USA) coupled with a high-performance liquid chromatograph (HPLC, Agilent 1260, USA) for detecting the molecular weight of intact proteins. The samples were eluted from a Phenomenex Jupiter C4 300Å LC Column (2×150 mm, 5 μm) over a 15 min gradient from 5% to 100% acetonitrile containing 0.1% formic acid at a flow rate of 0.5 ml/min. The acquisition method in positive-ion mode with Dual Agilent Jet Stream electrospray voltage used a capillary temperature of 250 °C, a fragmentor of 175 V, a capillary voltage of 3000 V. Mass deconvolution was performed using Agilent MassHunter Qualitative Analysis B.06.00 software with BioConfirm Workflow.

Tandem MS/MS analysis

The samples were precipitated and redissolved by 8 M urea, and then digested for 16 h at 25 °C by chymotrypsin at an enzyme-to-substrate ratio of 1:50 (w/w). The digested peptides were desalted and loaded onto a homemade 30 cm-long pulled-tip analytical column (ReproSil-Pur C18 AQ 1.9 μm particle size, Dr. Maisch GmbH, 75 μm ID× 360 μm OD) connected to an Easy-nLC1200 UHPLC (Thermo Fisher Scientific, USA) for mass spectrometry analysis. The elution gradient and mobile phase constitution used for peptide separation were as follows: 0-1 min, 4%-8% B; 1-96 min, 8-35% B; 96-104 min, 35-60% B; 105-120min, 60-100% B (mobile phase A: 0.1% formic acid in water; mobile phase B: 0.1% formic acid in 80% acetonitrile) at a flow rate of 300 nl /min. Peptides eluted from the LC column were directly electro-sprayed into the mass spectrometer with the application of a distal 1.8-kV spray voltage. Survey full-scan MS spectra (from m/z 300–1800) were acquired in the Orbitrap analyzer (Q Exactive, Thermo Fisher Scientific, USA) with resolution r = 70,000 at m/z 400. The top 20 MS/MS events were sequentially generated and selected from the full MS spectrum at a 30% normalized collision energy. The dynamic exclusion time was set at 10 seconds. One acquisition cycle includes one full-scan MS spectrum followed by top 20 MS/MS events, sequentially generated on the first to the twentieth most intense ions selected from the full MS spectrum at a 28% normalized collision energy. The acquired MS/MS data were analyzed UniProtKB *E.coli* database (database released on Nov. 11, 2016) containing nsp5 using Protein Discoverer 2.1. In order to accurately estimate peptide probabilities and false discovery rates (FDR), we used a decoy database containing the reversed sequences of all the proteins appended to the target database. FDR was set at 0.01. Mass tolerance for precursor ions was set at 20 ppm. Chymotrypsin was defined as cleavage enzyme and the maximal number of missed cleavage sites was set at 4. Protein N-terminus acetylation, methionine oxidation and compounds covalent bindings were set as variable modifications. The modified peptides were manually checked and labeled.

Reporting summary

Further information on research design is available in the Nature Research Reporting Summary linked to this paper.

Data availability

The PDB accession No. for the coordinates of COVID-19 virus M^{pro} in complex with N3 is 6LU7 (Deposited: 2020-01-26; Released: 2020-02-05).

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Author contributions Z.R. and H.Y. conceived the project; Z.J., H.J., Z.R., and H.Y. designed the experiments; Z.J., X.D., Y.Duan., J.Y., T.Y., Xiaoce Liu and Xiuna Yang cloned, expressed, purified and crystallized proteins; Z.J., Y.Z., B.Z. and F.L. collected the diffraction data; B.Z. and Xiang Liu solved the crystal structure; Z.J., X.D., Y.Duan. and J.Y. performed enzymatic activity and inhibition assay, high-throughput drug screen and IC50 measurement; L.W. and F.B. performed virtual screening and molecular docking; Y.X., L.Z. and H.L. performed enzymatic inhibition, cell-based antiviral and cytotoxicity assay for cinanserin; Y.Deng. and X. Li performed qRT-PCR analysis and cytotoxicity assay of N3; M.L., R.J. and Xingtou Yang performed plaque-reduction assay; C.P. performed intact protein and tandem MS/MS analyses; Z.J., X.D., Y.X., Y.Deng., C.P., F.B., H.L., Xiang Liu, K.Y., L.G., W.X., G.X., C.Q., Z.S., H.J., Z.R. and H.Y. analyzed and discussed the data; Z.J., X.D., F.B., Xiang Liu, L.G., G.X., C.Q., Z.S., H.J., Z.R. and H.Y wrote the manuscript.

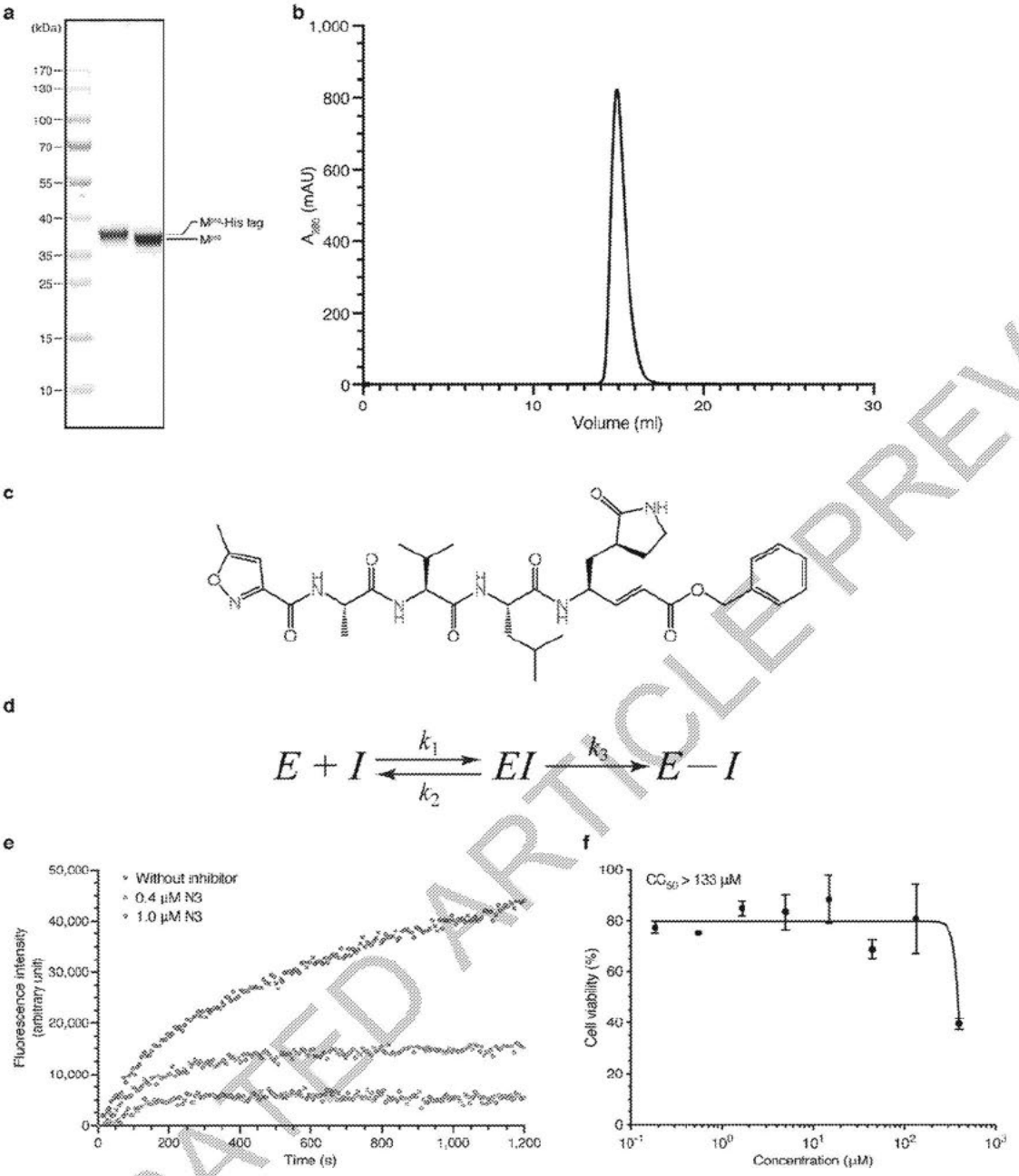
Competing interests The authors declare no competing interests.

Additional information

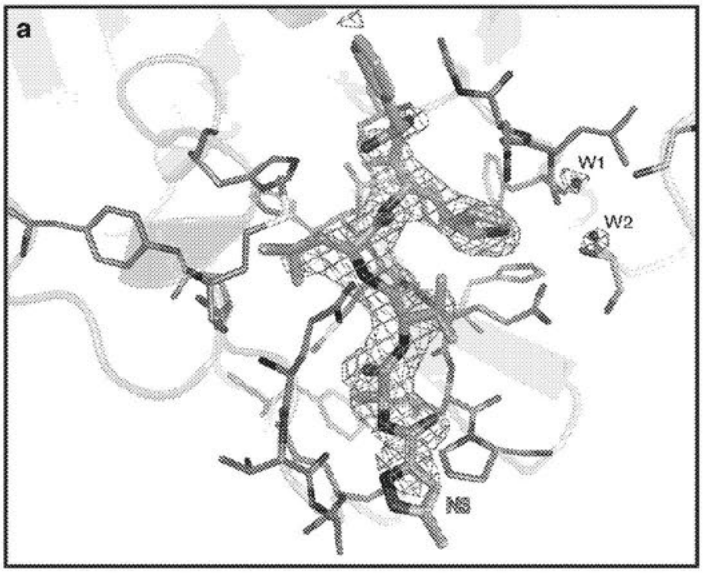
Supplementary information is available for this paper at https://doi.org/10.1038/s41586-020-2223-y.

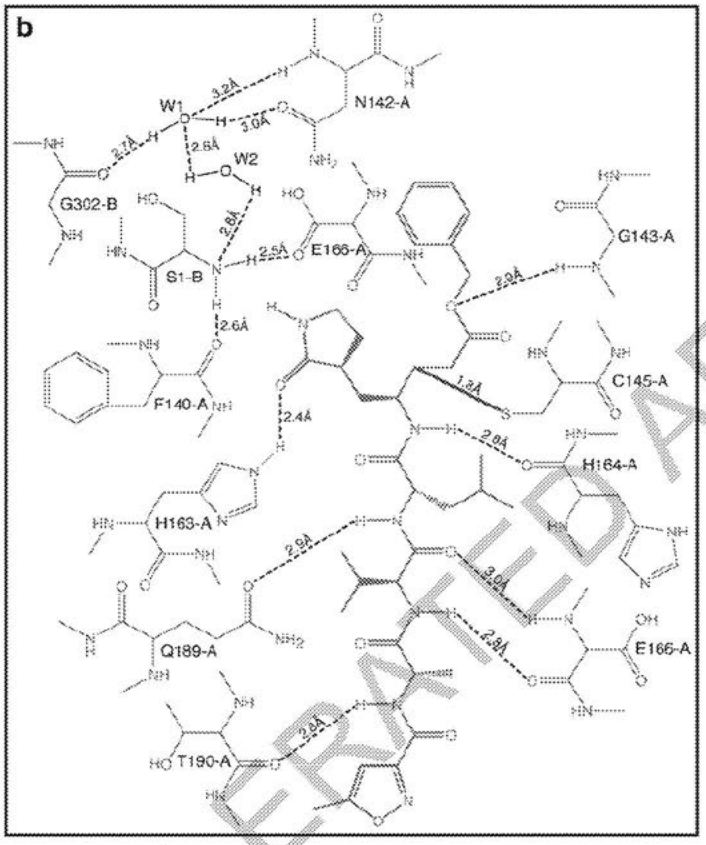
Correspondence and requests for materials should be addressed to H.J., Z.R. and H.Y.

Peer review information *Nature* thanks Julien Lescar and the other, anonymous, reviewer(s) for their contribution to the peer review of this work.

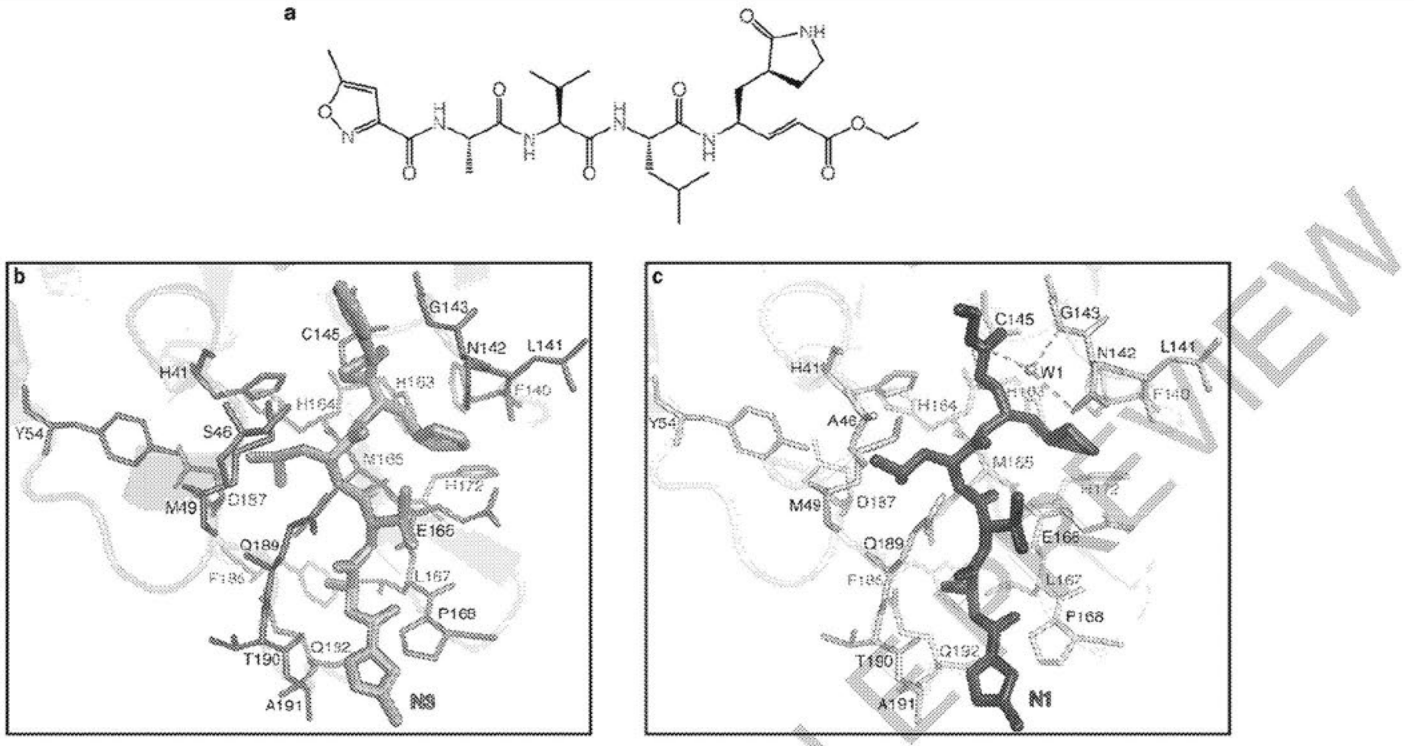


Extended Data Fig. 1 | The purification of COVID-19 virus M^{pro} and the inhibitory assay of N3 compound. a, The SDS-PAGE gel of COVID-19 virus M^{pro}. The first lane: marker; the second lane: M^{pro} before treating with rhinovirus 3C protease; third lane: M^{pro} after the cleavage of C-terminal His tag. For gel source data, see Supplementary Figure 1. **b**, Size-exclusion chromatography profile of M^{pro}. **c**, The chemical structure of N3 inhibitor. **d**, Inhibition mechanism for N3. **e**, Typical inhibition curves for N3. **f**, Cytotoxicity assay of N3 on Vero cells, data are shown as mean ± s.e.m., $n = 3$ biological replicates. The data (**a**, **b**, **f**) are representative of three independent experiments with similar results.

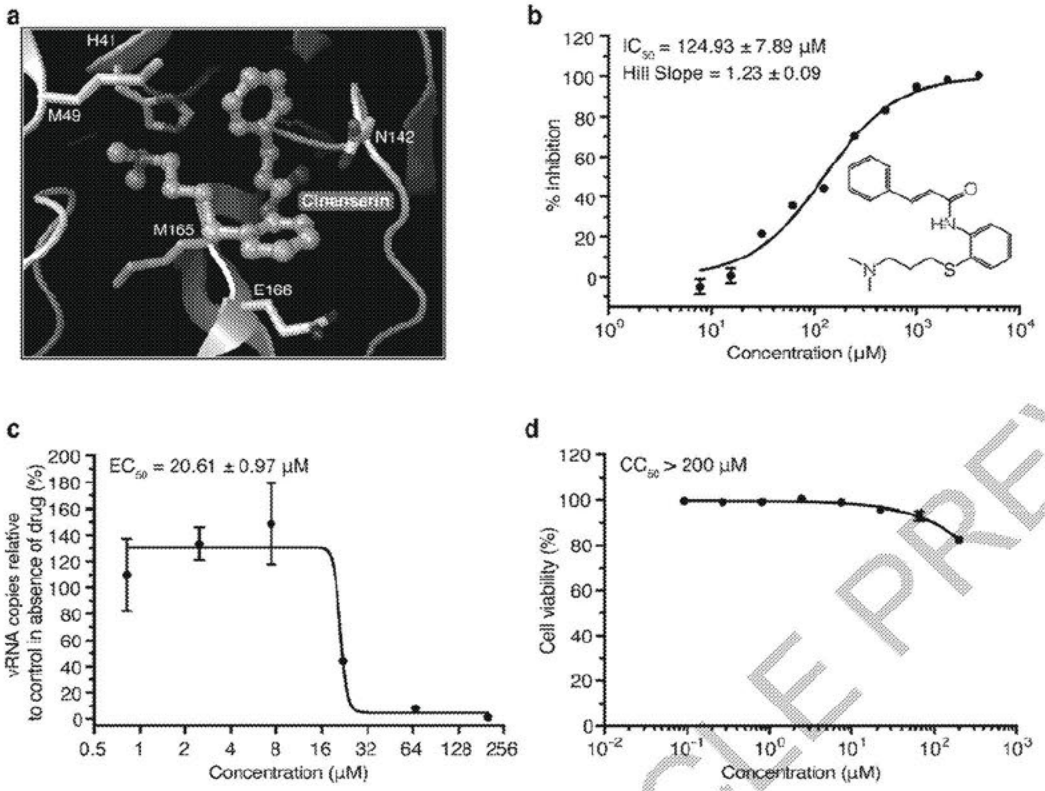




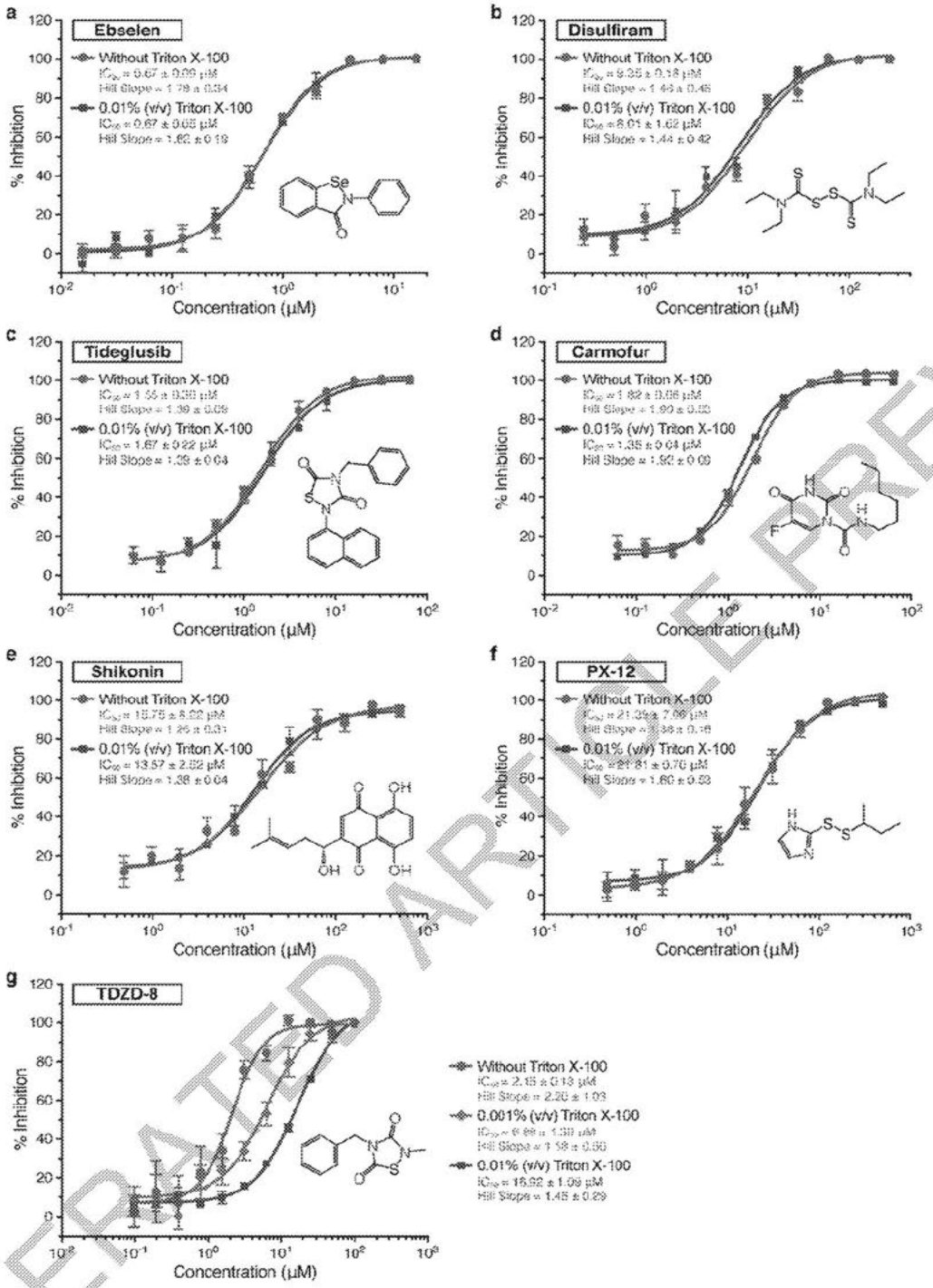
Extended Data Fig. 2 | The interactions between COVID-19 virus M^{pro} and N3. a, The F_o-F_c omit map (contour level = 3σ, shown as the blue mesh). **b**, Detailed view of the interactions between the inhibitor N3 and COVID-19 virus M^{pro}. M^{pro} residues are shown in blue (Protomer A) and salmon (Protomer B); N3 is in green, water is in black. The hydrogen bonds are shown as black dashed lines. The covalent bond between N3 and C145-A is in purple.



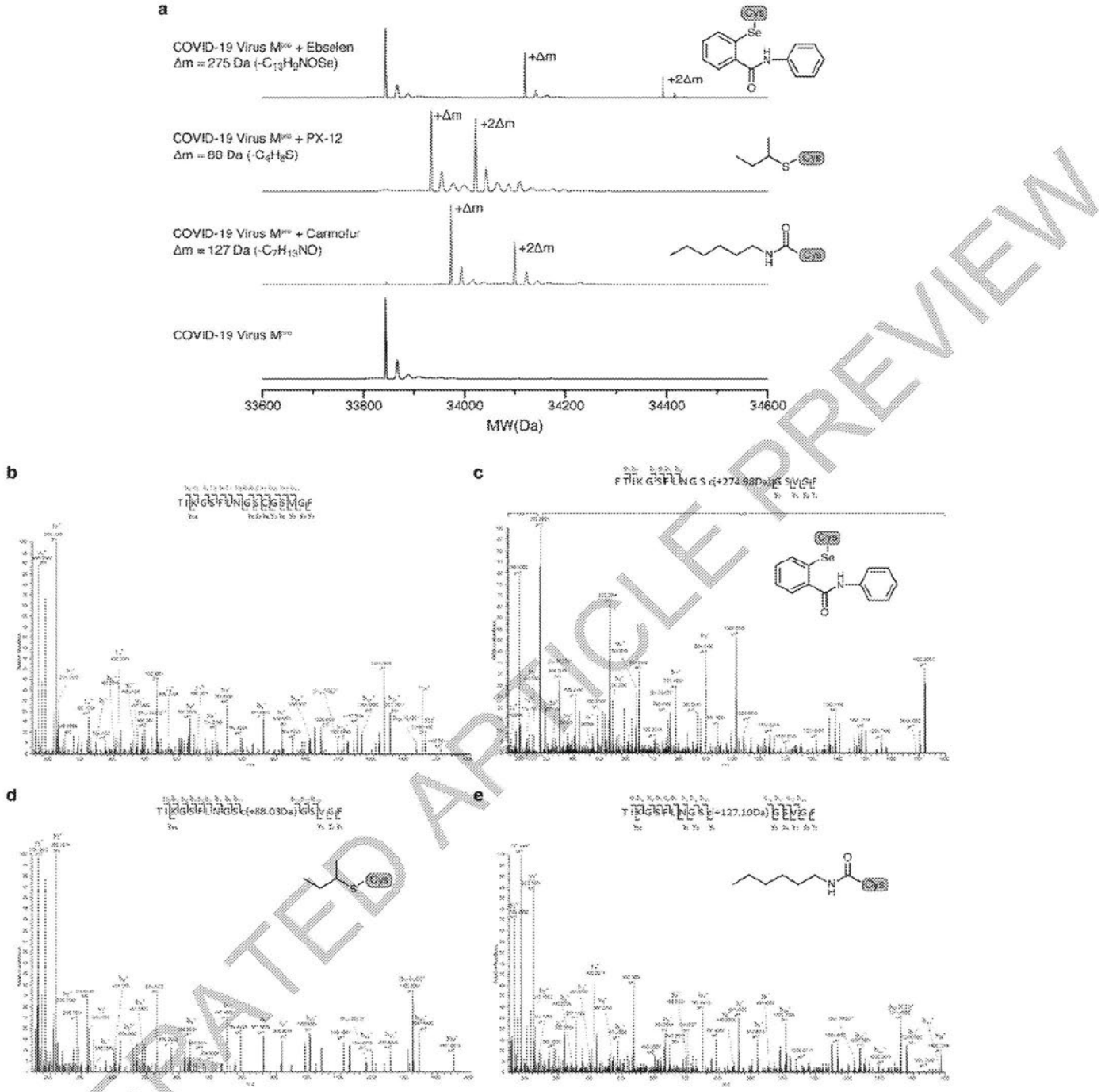
Extended Data Fig. 3 | Comparison of the binding modes between COVID-19 virus M^{pro}-N3 and SARS-CoV M^{pro}-N1. a, The chemical structure of N1 inhibitor. **b**, The binding mode of COVID-19 virus M^{pro} (blue sticks) with N3 (green sticks). **c**, The binding mode of SARS-CoV M^{pro} (grey sticks) with N1 (pink sticks). The hydrogen bonds formed by water (W1) are indicated by the dashed lines.



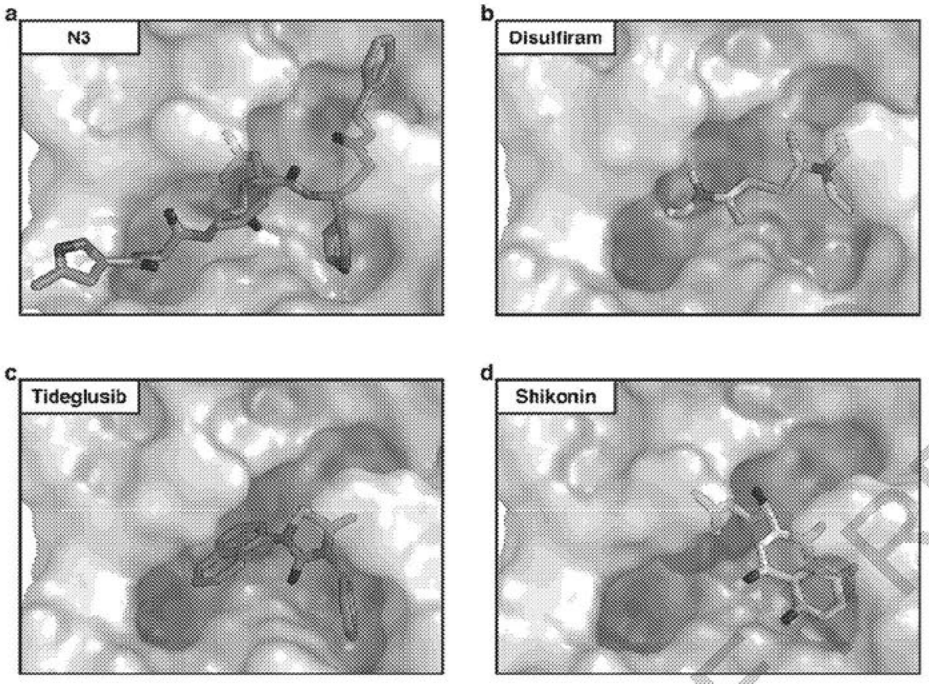
Extended Data Fig. 4 | Cinanserin is an inhibitor for COVID-19 virus M^{pro}. **a**, The docking result of cinanserin. The structure of COVID-19 virus M^{pro} is shown as a white cartoon, cinanserin is shown as cyan balls and sticks, residues predicted to be interacting with cinanserin are shown as sticks. **b**, Inhibitory activity of cinanserin on M^{pro}. **c**, Antiviral activity of cinanserin determined by qRT-PCR. **d**, Cytotoxicity assay of cinanserin on Vero E6 cells. All data are shown as mean ± s.e.m., $n = 3$ biological replicates.



Extended Data Fig. 5 | The detergent-based assay for drug leads. a-f, The IC_{50} values determined by in the presence or absence of 0.01% Triton X-100, which showed that detergent did not affect the results. **g**, Different concentrations of Triton X-100 notably affected IC_{50} curves for TDZD-8. All data are shown as mean ± s.e.m., $n = 3$ biological replicates.



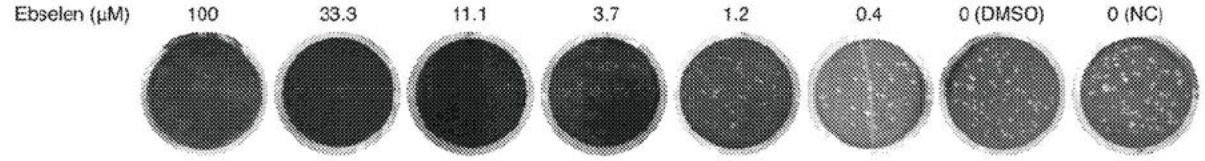
Extended Data Fig. 6 | Tandem MS/MS analysis reveals that ebselen, PX-12 and carmofur are able to covalently bind to C145 of COVID-19 virus M^{pro}. **a**, Molecular weight of apo COVID-19 virus M^{pro} and compounds treated M^{pro}. The mass shifts (Δm) of the proteins indicate that more than one molecular of the compounds can be covalently bonded to one molecular of M^{pro}. **b-e**, A higher-energy collisional dissociation (HCD) MS/MS spectrum recorded on the $[M+H]^{2+}$ ion **b**, at m/z 787.3852 of the M^{pro} unmodified peptide TIKGSFLNGSCGSVGF, **c**, at m/z 998.4152 of the M^{pro} modified peptide FTIKGSFLNGSCGSVGF harboring a modification (-$C_{13}H_9NOSe$) induced by ebselen on C145, **d**, at m/z 831.4080 of the M^{pro} modified peptide TIKGSFLNGSCGSVGF harboring a modification (-C_4H_8S) induced by PX-12 on C145, **e**, at m/z 850.9414 of the M^{pro} modified peptide TIKGSFLNGSCGSVGF harboring a modification (-$C_7H_{13}NO$) induced by carmofur on C145. Predicted b- and y-type ions (not including all) are listed above and below the peptide sequence, respectively. The experiment was performed once.



e

Drug	Predicted ΔG_{bind} (kcal/mol)
Disulfiram	-46.16
Tideglusib	-61.79
Shikonin	-47.35

Extended Data Fig. 7 | Docking Poses of different COVID-19 virus M^{pro} inhibitors. a, The crystal structure of COVID-19 virus M^{pro}-N3 complex. **b-d**, The docking results of three drug leads. M^{pro} is shown as grey background, inhibitors are in different colors. The inhibitors identified through the high-throughput screening are likely to occupy the same pocket as N3. **e**, Predicted binding affinities for the drug leads to COVID-19 virus M^{pro} by using MM-GBSA module integrated in Schrödinger.



Extended Data Fig. 8 | Images for the plaque-reduction assay (ebselen). As the concentration of the inhibitor (ebselen) increases, there is a significant reduction in the numbers of the plaques by comparison with NC (negative control) and DMSO. Results are shown as representative of four biological replicates. For image source data, see Supplementary Figure 2.

Extended Data Table 1 | Data collection and refinement statistics

	PDB code: 6LU7*
Data collection	
Space group	*C*2
Cell dimensions	
a, *b*, *c* (Å)	97.931, 79.477, 51.803
α, β, γ (°)	90, 114.55, 90
Resolution (Å)	50.00-2.16 (2.22-2.16)†
R_{merge}	18.9 (147.2)
$I / \sigma I$	6.3 (3.2)
Completeness (%)	100.0 (100.0)
Redundancy	6.6 (6.1)
Refinement	
Resolution (Å)	50.00-2.16
No. reflections	19455 (1431)
R_{work} / R_{free}	0.2020/0.2350
No. atoms	
Protein	2367
Ligand/ion	49
Water	84
B-factors	
Protein	42.7
Ligand/ion	46.3
Water	44.2
R.m.s. deviations	
Bond lengths (Å)	0.002
Bond angles (°)	0.474

*A single crystal was used for data collection and structure determination. †Values in parentheses are for highest-resolution shell.

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Reporting Summary

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Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

n/a	Confirmed	
☐	☒	The exact sample size (*n*) for each experimental group/condition, given as a discrete number and unit of measurement
☐	☒	A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
☒	☐	The statistical test(s) used AND whether they are one- or two-sided *Only common tests should be described solely by name; describe more complex techniques in the Methods section.*
☒	☐	A description of all covariates tested
☒	☐	A description of any assumptions or corrections, such as tests of normality and adjustment for multiple comparisons
☐	☒	A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
☒	☐	For null hypothesis testing, the test statistic (e.g. *F*, *t*, *r*) with confidence intervals, effect sizes, degrees of freedom and *P* value noted *Give P values as exact values whenever suitable.*
☒	☐	For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
☒	☐	For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
☒	☐	Estimates of effect sizes (e.g. Cohen's *d*, Pearson's *r*), indicating how they were calculated

Our web collection on statistics for biologists contains articles on many of the points above.

Software and code

Policy information about availability of computer code

Data collection	Blu-ice BL17U1; EnVision Manager (v1.13.3009.1409)
Data analysis	Xia2 (v0.3.8.0); HKL2000 (v712); CCP4 (v7.0.077); Coot (v0.8.9.2); Phenix (v1.17.1-3660); Glide (v8.2); Maestro (Schrödinger 2019-1); EpiK (Schrödinger 2019-1); GraphPad Prism (v8.3.1); Microsoft Excel (v16.35); PyMOL (v2.3.4); iFitDock (1.0); SHAFTS (1.0); MM-GBSA (Schrödinger 2019-1); Agilent MassHunter Qualitative Analysis (B.06.00); Protein Discoverer (2.1)

For manuscripts utilizing custom algorithms or software that are central to the research but not yet described in published literature, software must be made available to editors/reviewers. We strongly encourage code deposition in a community repository (e.g. GitHub). See the Nature Research guidelines for submitting code & software for further information.

Data

Policy information about availability of data

All manuscripts must include a data availability statement. This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A list of figures that have associated raw data
- A description of any restrictions on data availability

The PDB accession No. for the coordinates of COVID-19 virus main protease in complex with N3 is 6LU7.

Field-specific reporting

Please select the one below that is the best fit for your research. If you are not sure, read the appropriate sections before making your selection.

☒ Life sciences ☐ Behavioural & social sciences ☐ Ecological, evolutionary & environmental sciences

For a reference copy of the document with all sections, see nature.com/documents/nr-reporting-summary-flat.pdf

Life sciences study design

All studies must disclose on these points even when the disclosure is negative.

Sample size	Sample size estimation was not relevant for this study, as it does not report on a statistical evaluation of effects between two or more groups.
Data exclusions	Samples deemed to be technical failures were excluded. Two data points were verified to be extreme outliers and were therefore removed when calculating the IC50 values: Extended Data Fig. 5a (0.0625 µM ebselen with 0.01% Triton X-100, one of the three biological replicates) Extended Data Fig. 5g (0.390625 µM TDZD-8 with 0.001% Triton X-100, one of the three biological replicates) Removal of these data points do not alter any conclusions made in this study.
Replication	To ensure reproducibility of experimental findings, each assay was performed at least three times to confirm the results. IC50 measurements (Fig. 3; Extended Data Fig. 4b; Extended Data Fig. 5) were carried out with three biological replicates for each data point and these data were used to calculate mean values. Antiviral activity assays (qRT-PCR, shown in Fig. 4a and Extended Data Fig. 4c) were performed in three biological replicates. Antiviral activity assays (plaque-reduction assays, shown in Fig. 4b, c and Extended Data Fig. 8) were carried out with four biological replicates. Cytotoxicity assays (Extended Data Fig. 1f; Extended Data Fig. 4d) were carried out with three biological replicates.
Randomization	Animals or human research participants were not involved in this study and, as such, samples were not randomized for the experiments.
Blinding	Animals or human research participants were not involved in this study and, as such, samples were not blinded for the experiments.

Behavioural & social sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description	*Briefly describe the study type including whether data are quantitative, qualitative, or mixed-methods (e.g. qualitative cross-sectional, quantitative experimental, mixed-methods case study).*
Research sample	*State the research sample (e.g. Harvard university undergraduates, villagers in rural India) and provide relevant demographic information (e.g. age, sex) and indicate whether the sample is representative. Provide a rationale for the study sample chosen. For studies involving existing datasets, please describe the dataset and source.*
Sampling strategy	*Describe the sampling procedure (e.g. random, snowball, stratified, convenience). Describe the statistical methods that were used to predetermine sample size OR if no sample-size calculation was performed, describe how sample sizes were chosen and provide a rationale for why these sample sizes are sufficient. For qualitative data, please indicate whether data saturation was considered, and what criteria were used to decide that no further sampling was needed.*
Data collection	*Provide details about the data collection procedure, including the instruments or devices used to record the data (e.g. pen and paper, computer, eye tracker, video or audio equipment) whether anyone was present besides the participant(s) and the researcher, and whether the researcher was blind to experimental condition and/or the study hypothesis during data collection.*
Timing	*Indicate the start and stop dates of data collection. If there is a gap between collection periods, state the dates for each sample cohort*
Data exclusions	*If no data were excluded from the analyses, state so OR if data were excluded, provide the exact number of exclusions and the rationale behind them, indicating whether exclusion criteria were pre-established*
Non-participation	*State how many participants dropped out/declined participation and the reason(s) given OR provide response rate OR state that no participants dropped out/declined participation.*
Randomization	*If participants were not allocated into experimental groups, state so OR describe how participants were allocated to groups, and if allocation was not random, describe how covariates were controlled.*

Ecological, evolutionary & environmental sciences study design

All studies must disclose on these points even when the disclosure is negative.

Study description	*Briefly describe the study. For quantitative data include treatment factors and interactions, design structure (e.g. factorial, nested, hierarchical), nature and number of experimental units and replicates.*
Research sample	*Describe the research sample (e.g. a group of tagged Passer domesticus, all Stenocereus thurberi within Organ Pipe Cactus National Monument), and provide a rationale for the sample choice. When relevant, describe the organism taxa, source, sex, age range and any manipulations. State what population the sample is meant to represent when applicable. For studies involving existing datasets, describe the data and its source.*
Sampling strategy	*Note the sampling procedure. Describe the statistical methods that were used to predetermine sample size OR if no sample-size calculation was performed, describe how sample sizes were chosen and provide a rationale for why these sample sizes are sufficient.*
Data collection	*Describe the data collection procedure, including who recorded the data and how.*
Timing and spatial scale	*Indicate the start and stop dates of data collection, noting the frequency and periodicity of sampling and providing a rationale for these choices. If there is a gap between collection periods, state the dates for each sample cohort. Specify the spatial scale from which the data are taken*
Data exclusions	*If no data were excluded from the analyses, state so OR if data were excluded, describe the exclusions and the rationale behind them, indicating whether exclusion criteria were pre-established.*
Reproducibility	*Describe the measures taken to verify the reproducibility of experimental findings. For each experiment, note whether any attempts to repeat the experiment failed OR state that all attempts to repeat the experiment were successful.*
Randomization	*Describe how samples/organisms/participants were allocated into groups. If allocation was not random, describe how covariates were controlled. If this is not relevant to your study, explain why.*
Blinding	*Describe the extent of blinding used during data acquisition and analysis. If blinding was not possible, describe why OR explain why blinding was not relevant to your study.*

Did the study involve field work? ☐ Yes ☐ No

Field work, collection and transport

Field conditions	*Describe the study conditions for field work, providing relevant parameters (e.g. temperature, rainfall).*
Location	*State the location of the sampling or experiment, providing relevant parameters (e.g. latitude and longitude, elevation, water depth).*
Access and import/export	*Describe the efforts you have made to access habitats and to collect and import/export your samples in a responsible manner and in compliance with local, national and international laws, noting any permits that were obtained (give the name of the issuing authority, the date of issue, and any identifying information).*
Disturbance	*Describe any disturbance caused by the study and how it was minimized.*

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a	Involved in the study
☒	☐ Antibodies
☐	☒ Eukaryotic cell lines
☒	☐ Palaeontology
☒	☐ Animals and other organisms
☒	☐ Human research participants
☒	☐ Clinical data

Methods

n/a	Involved in the study
☒	☐ ChIP-seq
☒	☐ Flow cytometry
☒	☐ MRI-based neuroimaging

Antibodies

Antibodies used	*Describe all antibodies used in the study; as applicable, provide supplier name, catalog number, clone name, and lot number.*
Validation	*Describe the validation of each primary antibody for the species and application, noting any validation statements on the manufacturer's website, relevant citations, antibody profiles in online databases, or data provided in the manuscript.*

Eukaryotic cell lines

Policy information about cell lines

Cell line source(s)	1. African green monkey origin, Vero from ATCC; 2. African green monkey origin, Vero E6 from ATCC.
Authentication	All monkey cells were from ATCC with authentication. The authentication was performed by morphology check under microscopes and growth curve analysis.
Mycoplasma contamination	We confirm that all cells were tested as mycoplasma negative.
Commonly misidentified lines (See ICLAC register)	No commonly misidentified cell lines were used.

Palaeontology

Specimen provenance	*Provide provenance information for specimens and describe permits that were obtained for the work (including the name of the issuing authority, the date of issue, and any identifying information).*
Specimen deposition	*Indicate where the specimens have been deposited to permit free access by other researchers.*
Dating methods	*If new dates are provided, describe how they were obtained (e.g. collection, storage, sample pretreatment and measurement), where they were obtained (i.e. lab name), the calibration program and the protocol for quality assurance OR state that no new dates are provided.*

☐ Tick this box to confirm that the raw and calibrated dates are available in the paper or in Supplementary Information.

Animals and other organisms

Policy information about studies involving animals; ARRIVE guidelines recommended for reporting animal research

Laboratory animals	*For laboratory animals, report species, strain, sex and age OR state that the study did not involve laboratory animals.*
Wild animals	*Provide details on animals observed in or captured in the field; report species, sex and age where possible. Describe how animals were caught and transported and what happened to captive animals after the study (if killed, explain why and describe method; if released, say where and when) OR state that the study did not involve wild animals.*
Field-collected samples	*For laboratory work with field-collected samples, describe all relevant parameters such as housing, maintenance, temperature, photoperiod and end-of-experiment protocol OR state that the study did not involve samples collected from the field.*
Ethics oversight	*Identify the organization(s) that approved or provided guidance on the study protocol, OR state that no ethical approval or guidance was required and explain why not.*

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Human research participants

Policy information about studies involving human research participants

Population characteristics	*Describe the covariate-relevant population characteristics of the human research participants (e.g. age, gender, genotypic information, past and current diagnosis and treatment categories). If you filled out the behavioural & social sciences study design questions and have nothing to add here, write "See above."*
Recruitment	*Describe how participants were recruited. Outline any potential self-selection bias or other biases that may be present and how these are likely to impact results.*
Ethics oversight	*Identify the organization(s) that approved the study protocol.*

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Clinical data

Policy information about clinical studies

All manuscripts should comply with the ICMJE guidelines for publication of clinical research and a completed CONSORT checklist must be included with all submissions.

Clinical trial registration	*Provide the trial registration number from ClinicalTrials.gov or an equivalent agency.*
Study protocol	*Note where the full trial protocol can be accessed OR if not available, explain why.*
Data collection	*Describe the settings and locales of data collection, noting the time periods of recruitment and data collection.*
Outcomes	*Describe how you pre-defined primary and secondary outcome measures and how you assessed these measures.*

ChIP-seq

Data deposition

☐ Confirm that both raw and final processed data have been deposited in a public database such as GEO.

☐ Confirm that you have deposited or provided access to graph files (e.g. BED files) for the called peaks.

Data access links *May remain private before publication.*	*For "Initial submission" or "Revised version" documents, provide reviewer access links. For your "Final submission" document, provide a link to the deposited data.*
Files in database submission	*Provide a list of all files available in the database submission*
Genome browser session (e.g. UCSC)	*Provide a link to an anonymized genome browser session for "Initial submission" and "Revised version" documents only, to enable peer review. Write "no longer applicable" for "Final submission" documents.*

Methodology

Replicates	*Describe the experimental replicates, specifying number, type and replicate agreement.*
Sequencing depth	*Describe the sequencing depth for each experiment, providing the total number of reads, uniquely mapped reads, length of reads and whether they were paired- or single-end.*
Antibodies	*Describe the antibodies used for the ChIP-seq experiments; as applicable, provide supplier name, catalog number, clone name, and lot number.*
Peak calling parameters	*Specify the command line program and parameters used for read mapping and peak calling, including the ChIP, control and index files used.*
Data quality	*Describe the methods used to ensure data quality in full detail, including how many peaks are at FDR 5% and above 5-fold enrichment.*
Software	*Describe the software used to collect and analyze the ChIP-seq data. For custom code that has been deposited into a community repository, provide accession details.*

Flow Cytometry

Plots

Confirm that:

☐ The axis labels state the marker and fluorochrome used (e.g. CD4-FITC).

☐ The axis scales are clearly visible. Include numbers along axes only for bottom left plot of group (a 'group' is an analysis of identical markers).

☐ All plots are contour plots with outliers or pseudocolor plots.

☐ A numerical value for number of cells or percentage (with statistics) is provided.

Methodology

Sample preparation	*Describe the sample preparation, detailing the biological source of the cells and any tissue processing steps used.*
Instrument	*Identify the instrument used for data collection, specifying make and model number.*
Software	*Describe the software used to collect and analyze the flow cytometry data. For custom code that has been deposited into a community repository, provide accession details.*

Cell population abundance	*Describe the abundance of the relevant cell populations within post-sort fractions, providing details on the purity of the samples and how it was determined.*
Gating strategy	*Describe the gating strategy used for all relevant experiments, specifying the preliminary FSC/SSC gates of the starting cell population, indicating where boundaries between "positive" and "negative" staining cell populations are defined.*

☐ Tick this box to confirm that a figure exemplifying the gating strategy is provided in the Supplementary Information.

Magnetic resonance imaging

Experimental design

Design type	*Indicate task or resting state; event-related or block design.*
Design specifications	*Specify the number of blocks, trials or experimental units per session and/or subject, and specify the length of each trial or block (if trials are blocked) and interval between trials.*
Behavioral performance measures	*State number and/or type of variables recorded (e.g. correct button press, response time) and what statistics were used to establish that the subjects were performing the task as expected (e.g. mean, range, and/or standard deviation across subjects).*

Acquisition

Imaging type(s)	*Specify: functional, structural, diffusion, perfusion.*
Field strength	*Specify in Tesla*
Sequence & imaging parameters	*Specify the pulse sequence type (gradient echo, spin echo, etc.), imaging type (EPI, spiral, etc.), field of view, matrix size, slice thickness, orientation and TE/TR/flip angle.*
Area of acquisition	*State whether a whole brain scan was used OR define the area of acquisition, describing how the region was determined*

Diffusion MRI ☐ Used ☐ Not used

Preprocessing

Preprocessing software	*Provide detail on software version and revision number and on specific parameters (model/functions, brain extraction, segmentation, smoothing kernel size, etc.).*
Normalization	*If data were normalized/standardized, describe the approach(es): specify linear or non-linear and define image types used for transformation OR indicate that data were not normalized and explain rationale for lack of normalization.*
Normalization template	*Describe the template used for normalization/transformation, specifying subject space or group standardized space (e.g. original Talairach, MNI305, ICBM152) OR indicate that the data were not normalized.*
Noise and artifact removal	*Describe your procedure(s) for artifact and structured noise removal, specifying motion parameters, tissue signals and physiological signals (heart rate, respiration).*
Volume censoring	*Define your software and/or method and criteria for volume censoring, and state the extent of such censoring.*

Statistical modeling & inference

Model type and settings	*Specify type (mass univariate, multivariate, RSA, predictive, etc.) and describe essential details of the model at the first and second levels (e.g. fixed, random or mixed effects; drift or auto-correlation).*
Effect(s) tested	*Define precise effect in terms of the task or stimulus conditions instead of psychological concepts and indicate whether ANOVA or factorial designs were used.*

Specify type of analysis: ☐ Whole brain ☐ ROI-based ☐ Both

Statistic type for inference (See Eklund et al. 2016)	*Specify voxel-wise or cluster-wise and report all relevant parameters for cluster-wise methods*
Correction	*Describe the type of correction and how it is obtained for multiple comparisons (e.g. FWE, FDR, permutation or Monte Carlo).*

Models & analysis

n/a	Involved in the study
☐	☐ Functional and/or effective connectivity
☐	☐ Graph analysis
☐	☐ Multivariate modeling or predictive analysis

Functional and/or effective connectivity	*Report the measures of dependence used and the model details (e.g. Pearson correlation, partial correlation, mutual information).*
Graph analysis	*Report the dependent variable and connectivity measure, specifying weighted graph or binarized graph, subject- or group-level, and the global and/or node summaries used (e.g. clustering coefficient, efficiency, etc.).*
Multivariate modeling and predictive analysis	*Specify independent variables, features extraction and dimension reduction, model, training and evaluation metrics.*

Ebselen, an Investigational New Drug for the Prevention and Treatment of COVID-19

Shaun A. Nguyen[1], E. Emily Harruff[2], Young Jae Byun[1], Ann Sharpley[3], Philip J Cowen[3], Paul R. Lambert[1], Jonathan Kil[2]

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Article Type: Matter Arising

Word Count: 400

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To the editor:

SARS-CoV-2 (nCoV2) has been identified as the viral etiology of COVID-19, a pandemic respiratory disease that has no effective treatment and growing morbidity and mortality. A groundbreaking study, recently published in the journal *Nature*,[1] showed three major findings involving nCoV2. First, Jin et al. crystalized the main protease (M^{pro}) structure, a critical enzyme responsible for viral replication. Second, they identified several potential pharmacologic agents or drugs that inhibit M^{pro} activity, utilizing a structure-based virtual screening of >10,000 compounds including approved and investigational drugs, and other pharmacologically active compounds. Among the six compounds that showed significant inhibition of M^{pro} activity, ebselen demonstrated the lowest IC_{50}. Third, they showed viral load reduction in an *in vitro* cell-based assay, where ebselen demonstrated the lowest EC_{50}. M^{pro} may be the first identified specific nCoV2 drug target that, when inhibited, could reduce viral load or virulence, and potentially mitigate the devastating course of COVID-19.

Ebselen is a novel selenorganic compound with anti-inflammatory, cytoprotective, and neuroprotective properties. Biochemically, ebselen mimics glutathione peroxidase (GPx) activity, and under redox stress can transcriptionally activate GPx1 in cells and tissues through a Nrf2 dependent mechanism.[2,3] Ebselen has been tested in multiple animal models of acute lung and kidney injury and has been shown to reverse the cytokine storm and cellular injury induced by a multitude of agents including antibiotics, chemotherapy, and viruses that are pathogenic to man.

Ebselen is an investigational new drug being tested in five different neurotologic and neuropsychiatric indications,[4,5] and it has received Fast Track designation by the FDA for the treatment of Meniere's Disease. Ebselen's safety has been assessed in adult patients (18-75

42 years) with underlying medical conditions that require significant concomitant therapies. More
43 than 6 RCTs (>400 patients) have been completed, primarily involving oral doses of 400 to 1200
44 mg/day for 21-28 days, with no serious adverse events related to study drug. As an anti-
45 inflammatory, ebselen does not induce gastrointestinal upset, prolong bleeding time, prolong
46 QTc interval, or negatively immunosuppress, which are limitations of many other anti-
47 inflammatory treatments, especially at high doses.

48 These nonclinical and clinical data indicate that ebselen is a unique investigational drug that
49 could inhibit viral replication as well as mitigate the body's response to nCoV2, thereby
50 reversing or limiting the pathogenesis of COVID-19. A series of RCTs are being designed to
51 test whether ebselen is effective as an antiviral in nCoV2 positive patients and in the prevention
52 and treatment of COVID-19.

References

1. Jin Z, Du X, Xu Y, et al. Structure of M(pro) from COVID-19 virus and discovery of its inhibitors. Nature. doi:10.1038/s41586-020-2223-y.
2. Kil J, Pierce C, Tran H, Gu R, Lynch ED. Ebselen treatment reduces noise induced hearing loss via the mimicry and induction of glutathione peroxidase. Hear Res, 226(1-2), 44-51. doi:10.1016/j.heares.2006.08.006
3. Kim SJ, Park C, Han AL, Youn MJ, Lee JH, Kim Y, . . . Park R. (2009). Ebselen attenuates cisplatin-induced ROS generation through Nrf2 activation in auditory cells. Hear Res, 251(1-2), 70-82. doi:10.1016/j.heares.2009.03.003
4. Kil J, Lobarinas E, Spankovich C, et al. Safety and efficacy of ebselen for the prevention of noise-induced hearing loss: a randomized, double-blind, placebo-controlled, phase 2 trial. Lancet 2017;390:969-979.
5. Masaki C, Sharpley AL, Cooper CM, et al. Effects of the potential lithium-mimetic, ebselen, on impulsivity and emotional processing. Psychopharmacology 2016;233:2655-2661.

Contacts and Conflicts of Interests:

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Conflict of Interest: None

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Conflict of Interest: None

From: Auchincloss, Hugh (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9304C753BB9E422C977DDDAB54DA924B-AUCHINCLOSS]
Sent: 4/4/2020 10:19:59 AM
To: Handley, Gray (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1ceb55d4b673477391c9da8a3eb3c75c-handleygr]
CC: Marston, Hilary (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ab30660917b942ffba9ae95d631116f3-marstonhd]
Subject: Re: Statement of collaboration towards a COVID-19 vaccine

Sounds good

Sent from my iPad

On Apr 3, 2020, at 4:46 PM, Handley, Gray (NIH/NIAID) [E] (b) (6) wrote:

Can I get some guidance on this or should I just make a decision? Lots of queries from our scientists.

My recommendation is (b) (5)

How does that sound?

Gray

From: Handley, Gray (NIH/NIAID) [E]
Sent: Wednesday, April 1, 2020 10:43 AM
To: Marston, Hilary (NIH/NIAID) [E] (b) (6); Auchincloss, Hugh (NIH/NIAID) [E] (b) (6)
Cc: Steven T. Smith (b) (6); Stemmy, Erik (NIH/NIAID) [E] (b) (6); Degrace, Marciela (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6)
Subject: FW: Statement of collaboration towards a COVID-19 vaccine

(b) (5)

Please let me know if you see anything of concern in this statement (b) (5).

Gray

From: Post, Diane (NIH/NIAID) [E] (b) (6)
Sent: Wednesday, April 1, 2020 10:19 AM
To: Handley, Gray (NIH/NIAID) [E] (b) (6); Steven T. Smith (b) (6); Touchette, Nancy (NIH/NIAID) [E] (b) (6); Marston, Hilary (NIH/NIAID) [E] (b) (6)
Cc: Stemmy, Erik (NIH/NIAID) [E] (b) (6); Degrace, Marciela (NIH/NIAID) [E]

(b) (6)

Subject: FW: Statement of collaboration towards a COVID-19 vaccine

Dear All,

Please see the below request from WHO. This email went to several NIH people who are part of the WHO working groups for COVID-19. (b) (5)

Thank you,
Diane

From: Cesar Munoz-Fontela (b) (6)
Sent: Wednesday, April 1, 2020 6:36 AM
To: Carolyn Clark (b) (6); (b) (6); (b) (6); Damon, Inger K. (CDC/DDID/NCEZID/DHCPP) (b) (6) (b) (6); Hensley, Lisa (NIH/NIAID) [E] (b) (6); Adolfo Garcia-Sastre (b) (6); Alyson Kelvin (b) (6); (b) (6) (b) (6); Smith, Ashley (OS/ASPR/BARDA) (b) (6); (b) (6) B.L. Haagmans (b) (6); (b) (6); (b) (6); Graham, Barney (NIH/VRC) [E] (b) (6); Kerscher, Bernhard (b) (6); Gerber, Susan I. (CDC/DDID/NCIRD/DVD) (b) (6); Bozick, Brooke (NIH/OD) [E] (b) (6); (b) (6); (b) (6); Christian Drosten (b) (6); (b) (6) Florence, Clint (NIH/NIAID) [E] (b) (6); Schmaljohn, Connie (NIH/NIAID) [E] (b) (6); Roy, Chad (b) (6); (b) (6); (b) (6); Dan Barouch (b) (6); (b) (6); (b) (6); (b) (6); (b) (6); De wit, Emmie (NIH/NIAID) [E] (b) (6); Stemmy, Erik (NIH/NIAID) [E] (b) (6); Rodriguez-Burgos, Estefania (b) (6); Krammer, Florian (b) (6); Gary Kobinger (b) (6); Kovacs, Gerald (OS/ASPR/BARDA) (CTR) (b) (6); (b) (6); (b) (6); (b) (6); Palacios, Gustavo F CIV USARMY MEDCOM USAMRIID (USA) (b) (6); Golding, Hana (FDA/CBER) (b) (6); (b) (6); (b) (6) Crozier, Ian (NIH) [C] (b) (6); Guthrie, Erica (CDC/DDID/NCIRD/ID) (b) (6); (b) (6); Little, James (OS/ASPR/BARDA) (b) (6); Lathey, Janet (NIH/NIAID) [E] (b) (6); Jason Kindrachuk (b) (6); (b) (6); (b) (6); (b) (6) Treanor, John (OS/ASPR/BARDA) (CTR) (b) (6); Johnson, Reed (NIH/NIAID) [E] (b) (6); (b) (6); (b) (6); Mellors, John W (b) (6); Morabito, Kaitlyn (NIH/VRC) [E] (b) (6); (b) (6); (b) (6); Bok, Karin (NIH/VRC) [E] (b) (6); Erlandson, Karl (OS/ASPR/BARDA) (b) (6); Corbett, Kizzmekia (NIH/VRC) [E] (b) (6); Kayvon Modjarrad (b) (6); Luis Enjuanes (b) (6); Jayashankar, Lakshmi (OS/ASPR/BARDA) (b) (6); Wolfraim, Larry (NIH/NIAID) [E] (b) (6); (b) (6); (b) (6); (b) (6); (b) (6); (b) (6); Pallansch, Mark A. (CDC/DDID/NCIRD/OD) (b) (6); Degrace, Marciela (NIH/NIAID) [E] (b) (6); (b) (6); (b) (6); (b) (6); (b) (6); Holbrook, Michael

(NIH/NIAID) [C] (b) (6); Carroll, Miles
(b) (6); (b) (6); (b) (6); Lewis, Mark
(b) (6); (b) (6); (b) (6);
(b) (6); (b) (6); (b) (6);
Thornburg, Natalie (CDC/DDID/NCIRD/DVD) (b) (6); (b) (6);
(b) (6); (b) (6); (b) (6); (b) (6);
(b) (6); Duprex, Paul (b) (6); (b) (6);
(b) (6); Krause, Philip (FDA/CBER) (b) (6); Paul Scott
(b) (6); 秦川 (b) (6); Delgado Vazquez.Rafael
(b) (6); Albrecht, Randy (b) (6);
raul.gomezroman@cepi.net; Baric, Ralph (b) (6); (b) (6);
(b) (6); Levis, Robin (FDA/CBER) (b) (6); (b) (6)
(b) (6); sandra cordo (b) (6); (b) (6); (b) (6);
(b) (6); (b) (6); Hild, Sheri (NIH/OD) [E] (b) (6);
(b) (6); (b) (6); Spergel, Jonathan
(b) (6); (b) (6); (b) (6); (b) (6)
(b) (6); (b) (6); (b) (6); (b) (6);
(b) (6); Wang, Tony (FDA/CBER) (b) (6); (b) (6);
(b) (6); Vasan, Vasan (H&B, Geelong AAHL)
(b) (6); Munster, Vincent (NIH/NIAID) [E] (b) (6);
(b) (6); (b) (6); (b) (6); (b) (6);
(b) (6); Carroll, Darin (CDC/DDID/NCEZID/OD) (b) (6)
Cc: Munoz-Fontela, Cesar (b) (6); William Dowling
(b) (6); Simon Funnell (b) (6); RIVEROS BALTA, Alina
Ximena (b) (6); GSELL, Pierre (b) (6); HENAO RESTREPO, Ana Maria
(b) (6); COSTA, Alejandro Javier (b) (6)
Subject: Statement of collaboration towards a COVID-19 vaccine

Dear colleagues,

During a recent meeting with vaccine manufacturers and funders there was a suggestion to have a statement to support the RD of a vaccine against COVID-19. WHO would like to extend this invitation to all groups working on vaccine development, which of course includes the *ad hoc* expert groups for development of COVID-19 animal models as well as assays and reagents. If you support the statement below and are willing to sign it please acknowledge it by emailing Ximena Riveros at (b) (6).

Thank you all very much for your continued support

César Muñoz-Fontela, Simon Funnell and William Dowling (seconded to WHO).

We are scientists, physicians, funders, and manufacturers who have come together as part of an international collaboration, coordinated by WHO, to help speed the availability of a vaccine against COVID-19. While a vaccine for general use will not be available quickly, a vaccine may ultimately be instrumental in controlling this worldwide pandemic. In the interim, we applaud the implementation of measures that reduce spread of the virus and protect vulnerable populations, and pledge to use the time gained by use of such measures to develop a vaccine as efficiently as possible. We will continue and strengthen the unprecedented world-wide collaboration, cooperation and sharing of data already underway to reduce inefficiencies and duplication of effort, working tenaciously to increase the likelihood that one or more safe and effective vaccines will soon be made available to all whose health would benefit.

From: Barasch, Kimberly (NIH/NIAID) [C] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EA5FAD4C52F64F80B7DAEE4982AE495F-BARASCHK]
Sent: 8/31/2020 6:35:09 PM
To: Fauci, Anthony (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DF38103D75134F658AE2D356F0396B94-AFAUCI]

Subject: HOLD: 10:15am - Call with Drs. Collins & Varmus
Attachments: Re: Reaching out for a chance to talk

Start: 9/4/2020 2:00:00 PM
End: 9/4/2020 2:30:00 PM
Show Time As: Busy

From: Wood, Gretchen (NIH/OD) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=549F390B39D044A8B5D1E0E1A8F76C1F-WOODGS]
Sent: 8/31/2020 6:34:06 PM
To: Barasch, Kimberly (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ea5fad4c52f64f80b7daee4982ae495f-baraschk]; Conrad, Patricia (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ea3e3ea7daa432887495d6825c9e588-conradpa]
Subject: Re: Reaching out for a chance to talk

Thanks very much, Kim. Please hold both times and I will circle back shortly. Appreciate your help!

From: "Barasch, Kimberly (NIH/NIAID) [C]" (b) (6)
Date: Monday, August 31, 2020 at 2:33 PM
To: Gretchen Wood (b) (6), Patricia Conrad (b) (6)
Subject: RE: Reaching out for a chance to talk

Hi Gretchen,
We can make 10:15am on either Sept 3rd or Sept. 4th work for Dr. Fauci.

Thank you,
Kim

Kim Barasch [C]
Office of the Director
National Institute of Allergy & Infectious Diseases
(b) (6)
(b) (6)

From: Wood, Gretchen (NIH/OD) [E] (b) (6)
Sent: Monday, August 31, 2020 2:31 PM
To: Barasch, Kimberly (NIH/NIAID) [C] (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6)
Subject: Re: Reaching out for a chance to talk

Hi Kimberly and Patty,

Will 10:15 AM on either Thursday, September 3, or Friday, September 4 work for Dr. Fauci? Wednesday is a complete wash for us.

Thank you,

Gretchen

From: Anthony Fauci (b) (6)
Date: Monday, August 31, 2020 at 2:22 PM
To: Francis Collins (b) (6)
Cc: "Barasch, Kimberly (NIH/NIAID) [C]" (b) (6), Patricia Conrad (b) (6)
Subject: RE: Reaching out for a chance to talk

Sure. Please let me know what works for you.
Tony

Anthony S. Fauci, MD
Director
National Institute of Allergy and Infectious Diseases
Building 31, Room 7A-03
31 Center Drive, MSC 2520
National Institutes of Health
Bethesda, MD 20892-2520
Phone: (b) (6)
FAX: (301) 496-4409
E-mail: (b) (6)

From: Collins, Francis (NIH/OD) [E] (b) (6)
Sent: Monday, August 31, 2020 1:50 PM
To: Fauci, Anthony (NIH/NIAID) [E] (b) (6)
Subject: FW: Reaching out for a chance to talk

Are you still up for a call with Harold? If so, shall I ask Gretchen to work with Patti and try to find a good time?

Francis

From: Harold E. Varmus (b) (6)
Sent: Monday, August 31, 2020 1:47 PM
To: Collins, Francis (NIH/OD) [E] (b) (6)
Subject: RE: Reaching out for a chance to talk

Yes, I am here in Old Chatham and reasonably flexible, especially on Wednesday, with some other free times on Thursday and Friday mornings. You will have a much fuller calendar than my own, so make some suggestions and we'll make a date. The weekend would also work at most times.

Thanks for sending the NPR account; I have been aware of EcoHealth's inclusion in the alliance for some time, but hadn't seen this version of the story.

Best, HV

From: "Collins, Francis (NIH/OD) [E]" (b) (6)
Date: Sunday, August 30, 2020 at 11:06 PM
To: "Harold E. Varmus" (b) (6)
Subject: [EXTERNAL] RE: Reaching out for a chance to talk

Hi Harold,

Last week was pretty horrible here, so Tony and I didn't manage to coordinate to arrange a call. Are you around this coming week?

Francis

P.S. in case you didn't see it: https://www.npr.org/sections/goatsandsoda/2020/08/29/907237520/group-whose-nih-grant-for-virus-research-was-revoked-just-got-a-new-grant

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From: Harold E. Varmus (b) (6)
Sent: Thursday, August 20, 2020 10:33 AM
To: Collins, Francis (NIH/OD) [E] (b) (6)
Subject: Reaching out for a chance to talk

Yes, of course, we can talk next week. Your schedule will be less flexible than mine, so suggest some times. Early in the week is better than later.

You can call me in Old Chatham at (b) (6)

HV

From: "Collins, Francis (NIH/OD) [E]" (b) (6)
Date: Wednesday, August 19, 2020 at 9:49 PM
To: "Harold E. Varmus" (b) (6)
Cc: "Fauci, Anthony (NIH/NIAID) [E]" (b) (6)
Subject: [EXTERNAL] Reaching out for a chance to talk

Harold,

(b) (6)

Tony and I would like the chance to speak with you about this – but for various personal reasons we can't do so until next week. How about a call then?

Meanwhile, (b) (6), I wonder if you have seen this article: https://www.independentsciencenews.org/commentaries/a-proposed-origin-for-sars-cov-2-and-the-covid-19-pandemic/

Francis

From: Fine, Amanda (NIH/OD) [E] (b) (6)
Sent: Wednesday, August 19, 2020 10:03 AM
To: Collins, Francis (NIH/OD) [E] (b) (6); NIH Director's Executive Committee < (b) (6)
Cc: Burklow, John (NIH/OD) [E] (b) (6); OCPLPressTeam (b) (6)
Subject: WSJ: NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab

NIH Presses U.S. Nonprofit for Information on Wuhan Virology Lab

National Institutes of Health told EcoHealth Alliance it must hand over information and materials from Chinese research facility to resume funding for suspended grant

By
Betsy McKay
Aug. 19, 2020 5:30 am ET

The National Institutes of Health told a small New York-based nonprofit that it must hand over information and materials from a research partner in Wuhan, China, that is under scrutiny by the Trump administration to win back a multimillion-dollar research grant.

Among the items the nonprofit EcoHealth Alliance must provide to resume funding is a sample of the new coronavirus that the Wuhan researchers used to determine its genetic sequence, according to a July 8 letter from the NIH viewed by The Wall Street Journal.

EcoHealth Alliance must also arrange for an inspection of the Wuhan Institute of Virology by an outside team that would examine the facility's lab and records "with specific attention to addressing the question of whether WIV staff had SARS-CoV-2 in their possession prior to December 2019," the U.S. health-research agency's letter said.

"The NIH has received reports that the Wuhan Institute of Virology…has been conducting research at its facilities in China that pose serious bio-safety concerns," read the letter, which was signed by Michael Lauer, the NIH deputy director for extramural research.

"We have concerns that WIV has not satisfied safety requirements under the award, and that EcoHealth Alliance hasn't satisfied its obligations to monitor" its partner to ensure it has complied with regulations regarding the use of the grant money, the letter added.

EcoHealth Alliance, which searches for warning signs of animal viruses that could cause human outbreaks, confirmed it had received the letter.

The NIH said it doesn't discuss internal deliberations on specific grants. Dr. Lauer declined a request for an interview, an NIH spokeswoman said.

The Trump administration has suggested, without providing evidence, that the SARS-CoV-2 virus causing the current pandemic originated in a high-security lab at the Wuhan institute.

Recipients of U.S. government research grants are required to routinely monitor subrecipients to ensure that they are using the money as intended, researchers say.

Yet the NIH doesn't usually set the kinds of conditions it required EcoHealth Alliance to meet, said Heather Pierce, senior director for science policy and regulatory counsel at the Association of American Medical Colleges.

Jimmy Kolker, a former U.S. ambassador and former assistant secretary for global affairs at the Department of Health and Human Services, said the NIH can routinely ask for reports about the progress of research, including updates on the work of a partner and the safety of its lab, but shouldn't ask about matters outside the scope of the funded research.

"What they're asking for is intelligence information that will be used for policy-making," he said in an interview.

The NIH's list of conditions "is outrageous, especially when a grant has already been carefully evaluated by peer review and addresses one of the most important problems in the world right now—how viruses from animals spill over to human beings," Harold E. Varmus, a former NIH director, said in an interview. "What could be more important at the moment?"

Dr. Varmus is one of 77 Nobel laureates who asked NIH Director Francis Collins and Secretary of Health and Human Services Alex Azar in May to review the NIH's termination of the grant the month before.

"This whole episode is just a woeful attack on the traditional way NIH has maintained its integrity," he said.

EcoHealth Alliance responded to the NIH last week, calling the U.S. research agency's suspension unjustified, according to a copy of the letter reviewed by the Journal.

EcoHealth Alliance said in its response that it hadn't sent any grant funds to the Wuhan institute before the grant was suspended, though it has provided funding to the institute in previous years.

The conditions are outside the scope of the grant, said Peter Daszak, president of EcoHealth Alliance, adding that his nonprofit doesn't have access to the information the NIH is seeking.

"Our work is part of protecting the U.S. citizen against diseases like Covid-19," Dr. Daszak said. "It's just so shortsighted to drop that research."

Since 2004, the New York City-based nonprofit has collaborated with Wuhan Institute of Virology researchers and others to study coronaviruses in bats in China and how they infect people, according to EcoHealth Alliance and the nonprofit's published research.

EcoHealth Alliance received a $3.4 million grant from the National Institute of Allergy and Infectious Diseases in 2014, which the nonprofit used, working with its Wuhan institute collaborators, to study coronaviruses in bats roosting in caves in China and how the viruses infect people.

In one study resulting from that grant, the researchers found evidence that people living near the caves had been infected with viruses resembling the one that caused severe acute respiratory syndrome, the disease that originated in China and caused a deadly epidemic in 2002 and 2003.
The Wuhan institute received $133,000 each year from EcoHealth Alliance for the first four years of that grant and $66,000 in the fifth year, according to the nonprofit. The WIV, part of the Chinese Academy of Sciences, is a major research institute focusing on animal and human pathogens. It houses a laboratory that operates at the highest level of biosafety precautions.

The NIAID renewed the EcoHealth Alliance grant last year for another five years, at $3.7 million.

EcoHealth Alliance planned to use the renewed grant for further study into how often SARS-like viruses in southern China are spilling over to humans and the consequences for public health, Dr. Daszak said.

The Trump administration has expressed concerns about biosafety in China, and U.S. intelligence agencies said in April they were attempting to determine whether a lab accident in Wuhan might have caused a release of the virus. U.S. diplomats in China sent a cable to the State Department in 2018 warning of insufficient safety training at the Wuhan lab, which was conducting research on bat coronaviruses.
The NIH terminated the grant to EcoHealth Alliance in April, saying it didn't believe the work aligned with "program goals and agency priorities," according to a letter the NIH sent that was viewed by the Journal.

The agency reinstated the grant in July but suspended its activities, saying in its July 8 letter to the nonprofit that it must fulfill seven criteria before funding on the grant can resume.

The Wuhan institute sequenced the genome of the new virus in January after receiving patient samples. In addition to requiring EcoHealth Alliance provide a sample of the sequenced coronavirus, the NIH said in its letter that EcoHealth Alliance must "explain the apparent disappearance" of a scientist who worked in the Wuhan lab.

The scientist was rumored on some social media to be a "patient zero" of the pandemic. The Wuhan institute has denied that the pandemic began at its facility or among its scientists. The institute said in a statement earlier this year that the scientist in question was a graduate student who went to work elsewhere after receiving her master's degree.

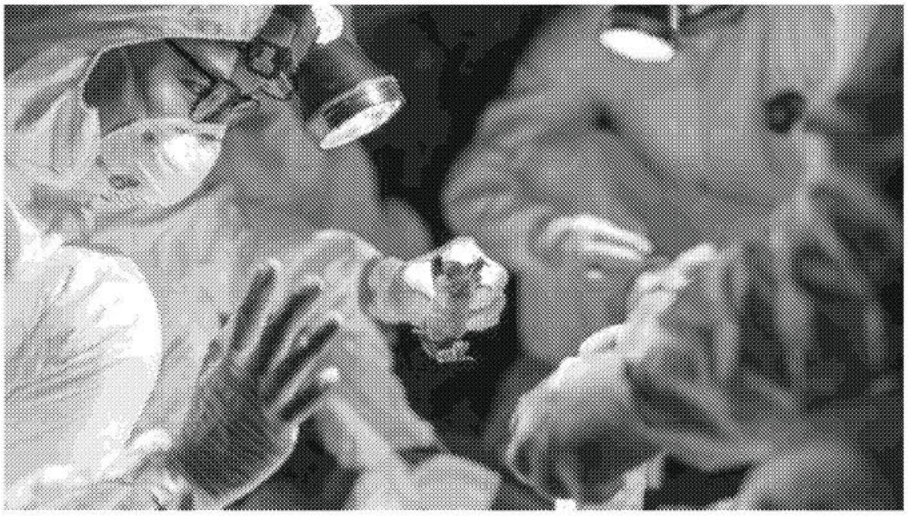
The NIH also ordered EcoHealth Alliance to explain purported restrictions at the Wuhan institute, including "diminished cell-phone traffic in October 2019, and the evidence that there may have been roadblocks surrounding the facility from October 14-19, 2019."

The U.S. research agency also asked EcoHealth Alliance to provide it with the Wuhan institute's response to the safety concerns described in the 2018 cable sent to the State Department.

From: Fauci, Anthony (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=DF38103D75134F658AE2D356F0396B94-AFAUCI]
Sent: 2/1/2020 12:29:36 PM
To: Auchincloss, Hugh (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9304c753bb9e422c977dddab54da924b-auchincloss]
CC: Lane, Cliff (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2d7e368a3137473bbce161547a82f2de-clane]
Subject: FW: Science: Mining coronavirus genomes for clues to the outbreak's origins

As per my prior e-mail.

From: Folkers, Greg (NIH/NIAID) [E] (b) (6)
Sent: Friday, January 31, 2020 8:43 PM
Subject: Science: Mining coronavirus genomes for clues to the outbreak's origins



As part of a long-running effort to see what viruses bats harbor, researchers in China collect one from a cave in Guandong.

EcoHealth Alliance

Mining coronavirus genomes for clues to the outbreak's origins

By Jon CohenJan. 31, 2020 , 6:20 PM

attaaaggtt tataccttcc caggtaacaa accaaccaac tttcgatctc ttgtagatct ...

That string of apparent gibberish is anything but: It's a snippet of a DNA sequence from the viral pathogen, dubbed 2019 novel coronavirus (2019-nCoV), that is overwhelming China and frightening the entire world. Scientists are publicly sharing an ever-growing number of full sequences of the virus from patients—53 at last count in the Global Initiative on Sharing All Influenza Data database. These viral genomes are being intensely studied to try to understand the origin of

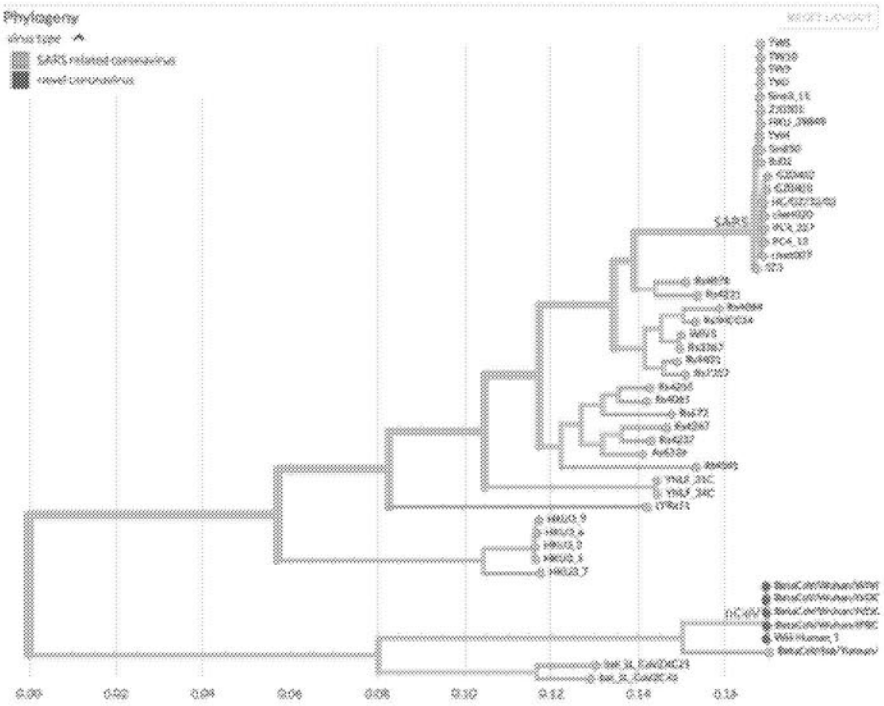
2019-nCoV and how it fits on the family tree of related viruses found in bats and other species. They have also given glimpses into what this newly discovered virus physically looks like, how it's changing, and how it might be stopped.

"One of the biggest takeaway messages [from the viral sequences] is that there was a single introduction into humans and then human-to-human spread," says Trevor Bedford, a bioinformatics specialist at the University of Washington, Seattle. The role of Huanan Seafood Wholesale Market in Wuhan, China, in spreading 2019-nCoV remains murky, though such sequencing, combined with sampling the market's environment for the presence of the virus, is clarifying that it indeed had an important early role in amplifying the outbreak. The viral sequences, most researchers say, also knock down the idea the pathogen came from a virology institute in Wuhan.

In all, 2019-nCoV has nearly 29,000 nucleotides bases that hold the genetic instruction book to produce the virus. Although it's one of the many viruses whose genes are in the form of RNA, scientists convert the viral genome into DNA, with bases known in shorthand as A, T, C, and G, to make it easier to study. Many analyses of 2019-nCoV's sequences have already appeared on virological.org, nextstrain.org, preprint servers like bioRxiv, and even in peer-reviewed journals. The sharing of the sequences by Chinese researchers allowed public health labs around the world to develop their own diagnostics for the virus, which now has been found in 18 other countries. (*Science*'s news stories on the outbreak can be found here.)

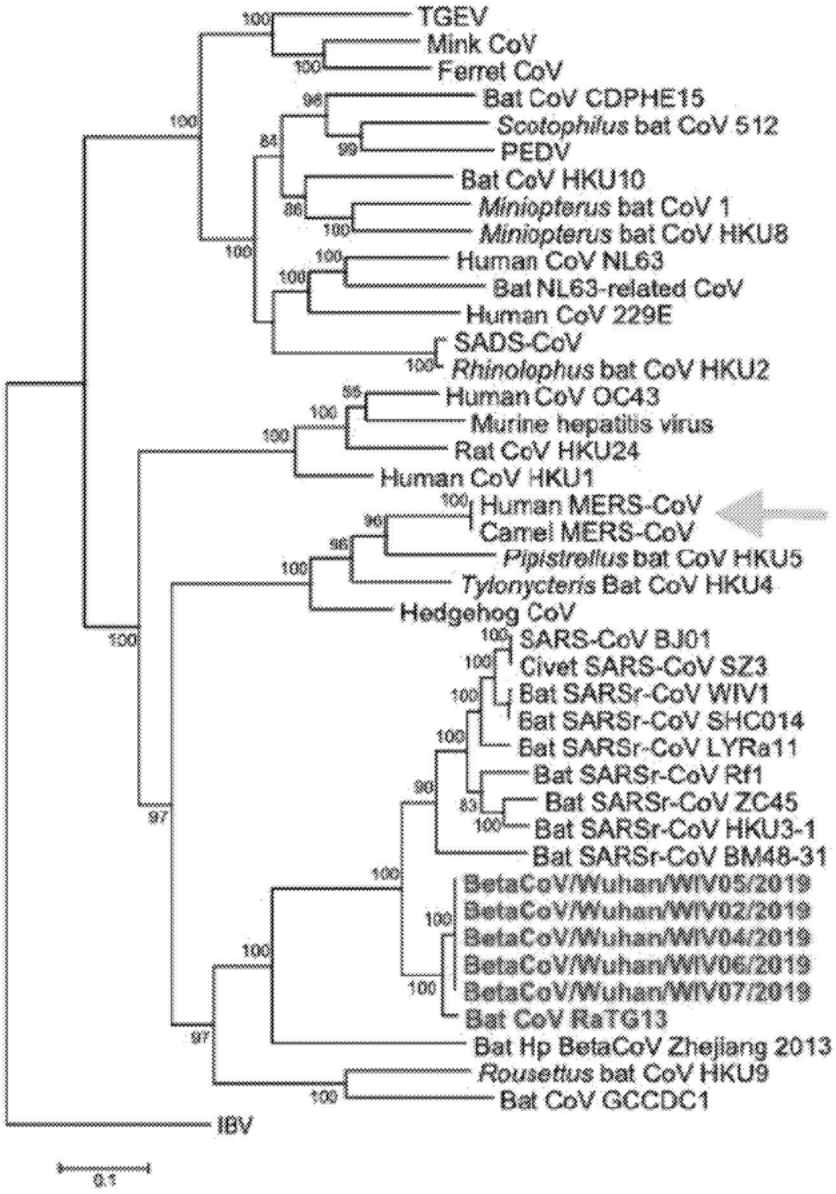
When the first 2019-nCoV sequence became available, researchers placed it on a family tree of known coronaviruses—which are abundant and infect many species—and found that it was most closely related to relatives found in bats. A team led by Shi Zheng-Li, a coronavirus specialist at the Wuhan Institute of Virology, reported on 23 January on bioRxiv that 2019-nCoV's sequence was 96.2% similar to a bat virus and had 79.5% similarity to the coronavirus that causes severe acute respiratory syndrome (SARS), a disease whose initial outbreak was also in China more than 15 years ago. But the SARS coronavirus has a similarly close relationship to bat viruses, and sequence data make a powerful case that it jumped into people from a coronavirus in civets that differed from human SARS viruses by as few as 10 nucleotides. That's one reason why many scientists suspect there's an "intermediary" host species—or several—between bats and 2019-nCoV.

According to Bedford's analysis, the bat coronavirus sequence that Shi Zheng-Li's team highlighted, dubbed RaTG13, differs from 2019-nCoV by nearly 1100 nucleotides. On nextstrain.org, a site he co-founded, Bedford has created coronavirus family trees (example below) that include bat, civet, SARS, and 2019-nCoV sequences. (The trees are interactive—by dragging a computer mouse over them, it's easy to see the differences and similarities between the sequences.)



Bedford's analyses of RaTG13 and 2019-nCoV suggest that the two viruses shared a common ancestor 25 to 65 years ago, an estimate he arrived at by combining the difference in nucleotides between the viruses with the presumed rates of mutation in other coronaviruses. So it likely took decades for RaTG13-like viruses to mutate into 2019-nCoV.

Middle East respiratory syndrome (MERS), another human disease caused by a coronavirus, similarly has a link to bat viruses. But studies have built a compelling case it jumped to humans from camels. And the phylogenetic tree from Shi's bioRxiv paper (below) makes the camel-MERS link easy to see.



The longer a virus circulates in a human populations, the more time it has to develop mutations that differentiate strains in infected people, and given that the 2019-nCoV sequences analyzed to date differ from each other by seven nucleotides at most, this suggests it jumped into humans very recently. But it remains a mystery which animal spread the virus to humans. "There's a very large gray area between viruses detected in bats and the virus now isolated in humans," says Vincent Munster, a virologist at the U.S. National Institute of Allergy and Infectious Diseases who studies coronaviruses in bats, camels, and others species.

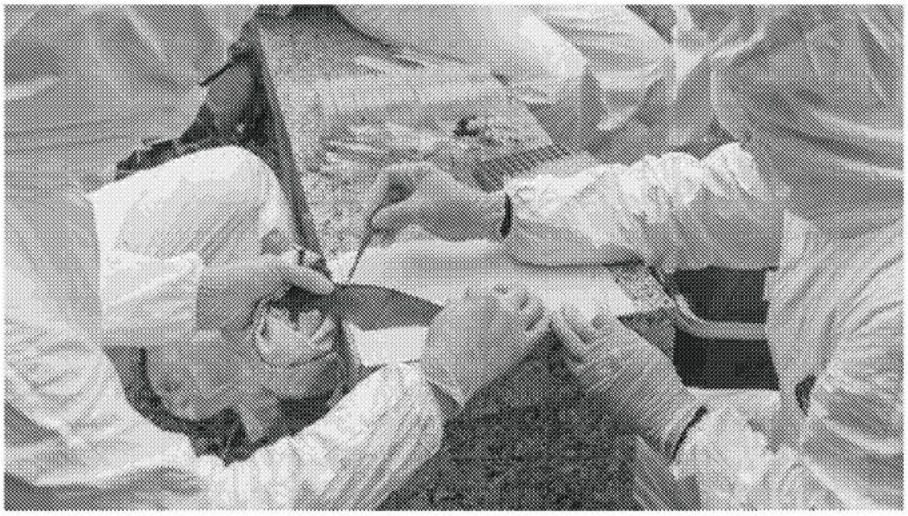
Strong evidence suggests the marketplace played an early role in spreading 2019-nCoV, but whether it was the origin of the outbreak remains uncertain. Many of the initially confirmed 2019-nCoV cases—27 of the first 41 in one report, 26 of 47 in another—were connected to the Wuhan market, but up to 45%, including the earliest handful, were not. This raises the possibility that the initial jump into people happened elsewhere.

According to Xinhua, the state-run news agency, "environmental sampling" of the Wuhan seafood market has found evidence of 2019-nCoV. Of the 585 samples tested, 33 were positive for 2019-nCoV and all were in the huge market's western portion, which is where wildlife were sold. "The positive tests from the wet market are hugely important," says Edward Holmes, an evolutionary biologist at the University of Sydney who collaborated with the first group to publicly

release a 2019-nCoV sequence. "Such a high rate of positive tests would strongly imply that animals in the market played a key role in the emergence of the virus."

Yet there have been no preprints or official scientific reports on the sampling, so it's not clear which, if any, animals tested positive. "Until you consistently isolate the virus out of a single species, it's really, really difficult to try and determine what the natural host is," says Kristian Andersen, an evolutionary biologist at Scripps Research.

One possible explanation for the confusion about where the virus first entered humans is if there was a batch of recently infected animals sold at different marketplaces. Or an infected animal trader could have transmitted the virus to different people at different markets. Or, Bedford suggests, those early cases could have been infected by viruses that didn't easily transmit and sputtered out. "It would be hugely helpful to have just a sequence or two from the marketplace [environmental sampling] that could illuminate how many zoonoses occurred and when they occurred," Bedford says.



A research group sent fecal and other bodily samples from bats they trapped in caves to the Wuhan Institute of Virology to search for coronaviruses.

EcoHealth Alliance

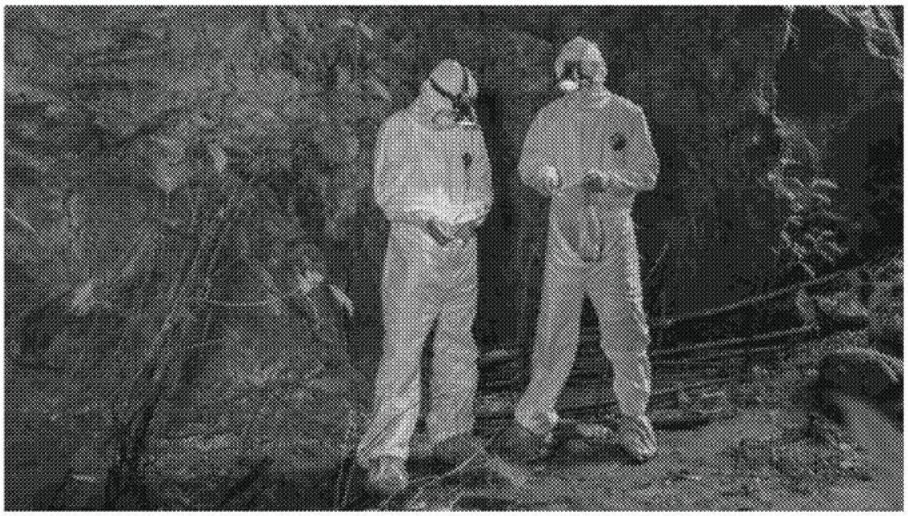
In the absence of clear conclusions about the outbreak's origin, theories thrive, and some have been scientifically shaky. A sequence analysis led by Wei Ji of Peking University and published online by the *Journal of Medical Virology* received substantial press coverage when it suggested that "snake is the most probable wildlife animal reservoir for the 2019-nCoV." Sequence specialists, however, pilloried it.

Conspiracy theories also abound. A CBC News report about the Canadian government deporting Chinese scientists who worked in a Winnipeg lab that studies dangerous pathogens was distorted on social media to suggest that they were spies who had smuggled out coronaviruses. The Wuhan Institute of Virology, which is the premier lab in China that studies bat and human coronaviruses, has also come under fire. "Experts debunk fringe theory linking China's coronavirus to weapons research," read a headline on a story in *The Washington Post* that focused on the facility.

Concerns about the institute predate this outbreak. *Nature* ran a story in 2017 about it building a new biosafety level 4 lab and included molecular biologist Richard Ebright of Rutgers University, Piscataway, expressing concerns about accidental infections, which he noted repeatedly happened with lab workers handling SARS in Beijing. Ebright, who has a long history of raising red flags about studies with dangerous pathogens, also in 2015 criticized an experiment in which modifications were made to a SARS-like virus circulating in Chinese bats to see whether it had the potential to cause disease in humans. Earlier this week, Ebright questioned the accuracy of Bedford's calculation that there are at least 25 years of evolutionary distance between RaTG13—the virus held in the Wuhan virology institute—and 2019-nCoV,

arguing that the mutation rate may have been different as it passed through different hosts before humans. Ebright tells *Science*Insider that the 2019-nCoV data are "consistent with entry into the human population as a natural accident."

Shi did not reply to emails from *Science*, but her longtime collaborator, disease ecologist Peter Daszak of the EcoHealth Alliance, dismissed Ebright's conjecture. "Every time there's an emerging disease, a new virus, the same story comes out: This is a spillover or the release of an agent or a bioengineered virus," Daszak says. "It's just a shame. It seems humans can't resist controversy and these myths, yet it's staring us right in the face. There's this incredible diversity of viruses in wildlife and we've just scratched the surface. Within that diversity, there will be some that can infect people and within that group will be some that cause illness."



A team of researchers from the Wuhan Institute of Virology and the EcoHealth Alliance have trapped bats in caves all over China, like this one in Guangdong, to sample them for coronaviruses.

EcoHealth Alliance

Daszak and Shi's group have for 8 years been trapping bats in caves around China to sample their feces and blood for viruses. He says they have sampled more than 10,000 bats and 2000 other species. They have found some 500 novel coronaviruses, about 50 of which fall relatively close to the SARS virus on the family tree, including RaTG13—it was fished out of a bat fecal sample they collected in 2013 from a cave in Moglang in Yunnan province. "We cannot assume that just because this virus from Yunnan has high sequence identity with the new one that that's the origin," Daszak says, noting that only a tiny fraction of coronaviruses that infect bats have been discovered. "I expect that once we've sampled and sampled and sampled across southern China and central China that we're going to find many other viruses and some of them will be closer [to 2019-nCoV]."

It's not just a "curious interest" to figure out what sparked the current outbreak, Daszak says. "If we don't find the origin, it could still be a raging infection at a farm somewhere, and once this outbreak dies, there could be a continued spillover that's really hard to stop. But the jury is still out on what the real origins of this are."

Posted in:

- Asia/Pacific
- Health
- Coronavirus

doi:10.1126/science.abb1256

Jon Cohen

Jon is a staff writer for *Science*.

- Email Jon
- Twitter

From: Handley, Gray (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1CEB55D4B673477391C9DA8A3EB3C75C-HANDLEYGR]
Sent: 11/19/2020 4:20:45 PM
To: Auchincloss, Hugh (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=9304c753bb9e422c977dddab54da924b-auchincloss]; Erbelding, Emily (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e976ebf7b14142fbb3c5c294efb334fe-erbeldingej]
CC: Marston, Hilary (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ab30660917b942ffba9ae95d631116f3-marstonhd]; Dominique, Joyelle (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5c55f75b58f14ab2b2ccbac0a881ccae-dominiquejk]; Munster, Vincent (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c102984bddda4f2b824283360d09a48b-munstervj]
Subject: Fwd: WHO Origins Investigation

FYI. No surprise they chose non-government person. The US is still officially withdrawing from WHO membership.
Gray

Begin forwarded message:

From: "Smith, Steven T (Geneva)" (b) (6)
Date: November 19, 2020 at 11:15:50 AM EST
To: "Marston, Hilary (NIH/NIAID) [E]" (b) (6), "Handley, Gray (NIH/NIAID) [E]" (b) (6)
Subject: WHO Origins Investigation

We learned today that the US expert on the WHO international team investigating the origins of SARS-CoV-2 is Peter Daszak from EcoHealth Alliance.

Steve

Steven Smith
Representative of NIH/National Institute of Allergy and Infectious Diseases
United States Mission to the United Nations and other International Organizations
Geneva, Switzerland
(b) (6)

Organizer: Handley, Gray (NIH/NIAID) [E] (b) (6)

From: Williams, Nekisha (NIH/NIAID) [C][/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]

Location: Zoom meeting

Importance: Normal

Subject: USJCMSP: Planning Virtual COVID-19 Workshop

Start Time: Wed 2/24/2021 7:00:00 AM (UTC-05:00)

End Time: Fri 2/26/2021 9:30:00 AM (UTC-05:00)

Draft Agenda_02162021.docx

FW: Registration Confirmed - United States-Japan Cooperative Medical Sciences Program: Virtual Workshop on COVID-19

For Speakers: USJCMSP Virtual Workshop on COVID-19 - Additional Information

Dear Frank Gray,

Thank you for registering for the U.S.-Japan Cooperative Medical Sciences Program's Virtual Workshop on COVID-19.

Here are the links to the daily workshop agenda: Day 1- February 24, Day 2 – February 25, and Day 3 – February 26

7:00 - 9:30 am Eastern Standard Time (EST) / 20:00 - 22:30 Philippines Standard Time (PST) / 21:00 - 23:30 Japan Standard Time (JST)

Please see below for the Zoom Webinar details. If you have any technical issues connecting, please send an email to (b) (6)

Please click the link below to join the webinar:
https://nih.zoomgov.com/j/(b) (6)?pwd=M3BEaTRnazNjMHQ4aGFOWUZTMVVWUT09
Passcode: (b) (6)
Or iPhone one-tap :
US: +16692545252,,(b) (6) or +16468287666,,(b) (6)
Or Telephone:
Dial(for higher quality, dial a number based on your current location):
US: +1 669 254 5252 or +1 646 828 7666 or +1 669 216 1590 or +1 551 285 1373
Webinar ID: (b) (6)
Passcode: (b) (6)
International numbers available: https://nih.zoomgov.com/u/aTcOBtYoq

Please download and import the following iCalendar (.ics) files to your calendar system.
Daily: https://nih.zoomgov.com/webinar/vJIsc-qspj0uE6qusyNpCaXMnkHsrd3xubg/ics?icsToken=98tyKuiurz8pHtyTtBDBeI86FcH8bevr0mRr_LJIjwbLEwNSWi74PcpRILYsCM3S

Sincerely,

Kerry Gilbertson

CRDF Global

events@crdfglobal.org

Virtual Workshop on COVID-19

February 24-26, 2021 7:00-9:30 AM Eastern Standard Time

(20:00-22:30 Philippines Standard Time / 21:00-23:30 Japan Standard Time)

Registration Website: [HYPERLINK "https://cvent.me/yqX3Oq" \t "_blank"]

DESCRIPTION

The focus of the COVID-19 workshop is to discuss and provide an update on the current situation, recent scientific advances, and emerging techniques/technologies, as well as the intersection and impact on other infectious diseases, particularly in the Asia-Pacific region. The objectives of this virtual workshop are to share current research findings and foster existing and potential international research collaborations that engage scientists in the Asia-Pacific region and the United States. The target audience include scientists, public health practitioners/officials, and other stakeholders from the region interested in collaborative research.

The workshop is organized by the Scientific Planning Committee of the U.S.-Japan Cooperative Medical Sciences Program and the Philippines Department of Science and Technology.

Format: 20 minutes/talk (15 minutes presentation + 5 minutes discussion)

DRAFT AGENDA [Note: Times shown below are in Eastern Standard Time (EST)]

Wednesday, February 24 – Day 1 Clinical/Epidemiology

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting

Meeting Chairs and Moderators: Dr. Diane Griffin/USA and Dr. Ichiro Kurane/Japan
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:10 am EST Meeting Welcome - Brief Opening remarks

- Dr. Yasuyuki Sahara, Senior Assistant Minister for Health Security, Science and Technology, Minister's Secretariat Ministry of Health, Labour and Welfare, *JAPAN*
- Dr. Diane Griffin and Dr. Ichiro Kurane – Co-Chairs of U.S.-Japan Cooperative Medical Sciences Program

7:10 – 7:30 am EST Special Lecture: Global and regional situation of COVID-19

- Dr. Babatunde Olowokure, Regional Emergency Director, WHO Health Emergencies Programme, Regional Office for the Western Pacific World Health Organization Region (WPRO), Manila, *PHILIPPINES*

7:30 – 7:50 am EST Transmission and epidemiology of SARS-CoV-2 in Hong Kong

- Prof. Benjamin John Cowling, Professor and Division Head, Division of Epidemiology and Biostatistics, The University of Hong Kong, *HONG KONG, SAR CHINA*

7:50 – 8:10 am EST Antibody responses after COVID-19 infection in patients who are mildly symptomatic or asymptomatic in Bangladesh, perspective of impact of COVID on cholera issues

- Dr. Firdausi Qadri, Director, Centre for Vaccine Sciences at the International Centre for Diarrhoeal Disease Research (icddr,b), *BANGLADESH*

8:10 – 8:30 am EST SARS-CoV-2 seroepidemiology: progress and challenges

- Dr. Andrew S. Azman, Associate Scientist, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, *USA* [based in Geneva]

8:30 – 8:50 am EST Factors affecting COVID-19 infection outcome: Host Factors and characteristics of the virus

- Prof. Marissa Alejandria, President, Philippine Society for Microbiology and Infectious Diseases, *PHILIPPINES*

8:50 – 9:10 am EST Antibody against SARS-CoV-2 for its diagnosis and epidemiological analysis

- Prof. Akihide Ryo, Department of Microbiology, Yokohama City University School of Medicine, *JAPAN*

9:10 – 9:30 am EST Preparing for the influenza pandemic-What can be learned from SARS-CoV-2 serosurvey

- Dr. Florian Krammer, Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, *USA*

Thursday, February 25 – Day 2 Vaccine/Immunology/Therapeutics/Diagnostics

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting / Brief administrative announcements (if needed)

Meeting Chairs and Moderators: Dr. Charles Yu/Philippines and Dr. Akira Nishizono/Japan
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:20 am EST Adjuvant for COVID-19 vaccine development

- Prof. Ken Ishii, The Institute of Medical Science, The University of Tokyo, *JAPAN*

7:20 – 7:40 am EST Immune response to SARS- CoV-2 (Through natural infection and through vaccination)

- Prof. Nina Gloriani, Professor, College of Public Health, University of the Philippines/Vaccine Expert Panel for COVID19, Department of Science and Technology, *PHILIPPINES*

7:40 – 8:00 am EST Updates on Diagnostics (Tests for neutralizing and protective antibodies)

- Dr. Mario Antonio Jiz, Head, Immunology Department, Research Institute for Tropical Medicine, *PHILIPPINES*

8:00 – 8:20 am EST Favipiravir

- Prof. Yohei Doi, Professor, Fujita Health University School of Medicine, Department of Infectious Diseases, *JAPAN*

8:20 – 8:40 am EST COVID-19 vaccine tracker

- Dr. Nicole Basta, Associate Professor, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, *CANADA*

8:40 – 9:00 am EST SARS-CoV-2 immunity and therapeutics

- Dr. Yoshimasa Takahashi, Director, Department of Immunology, the National Institute of Infectious Diseases, *JAPAN*

Friday, February 26 – Day 3 Virology/ Zoonosis/One-Health

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting / Brief administrative announcements (if needed)

Meeting Chairs and Moderators: USA and Dr. Gloria Nenita Velasco/Philippines
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:20 am EST COVID-19: Philippine Experience

- Dr. Maria Rosario Vergeire, OIC- Undersecretary of Health, Health Regulation Team, Department of Health (DOH), *PHILIPPINES*

7:20 – 7:40 am EST	SARS-CoV-2: What we have learned so far
	• Prof. Yoshihiro Kawaoka, Professor, Division of Virology, Department of Microbiology and Immunology, The Institute of Medical Science, The University of Tokyo, *JAPAN*
7:40 – 8:00 am EST	Compromised humoral functional evolution tracks with SARS-CoV-2 mortality
	• Dr. Galit Alter, Professor, Harvard University, *USA*
8:00 – 8:20 am EST	Zoonosis/One health
	• Prof. Ling Fa WANG, Professor, the Programme in Emerging Infectious Diseases at Duke-NUS Medical School, *SINGAPORE*
8:20 – 8:40 am EST	Zoonosis/One health
	• Dr. Peter Daszak, President, EcoHealth Alliance, *USA*
8:40 – 9:00 am EST	Environmental surveillance of SARS-CoV-2: opportunities and challenges
	• Dr. Frederic Béen, Scientific Researcher, KWR Water Research Institute, *NETHERLANDS*
9:00 – 9:05 am EST	Closing Remarks
	• Honorable Fortunato T. De La Peña, Secretary, Department of Science and Technology, *PHILIPPINES*

From: Handley, Gray (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1ceb55d4b673477391c9da8a3eb3c75c-handleygr]
Sent: 2/17/2021 4:12:34 PM
To: Williams, Nekisha (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]
Subject: FW: Registration Confirmed - United States-Japan Cooperative Medical Sciences Program: Virtual Workshop on COVID-19

From: Kerry Gilbertson <events@crdfglobal.org>
Sent: Wednesday, February 17, 2021 7:55 AM
To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Subject: Registration Confirmed - United States-Japan Cooperative Medical Sciences Program: Virtual Workshop on COVID-19

Dear Frank Gray,

Your registration has been confirmed. Please save this email for future reference.

Event: United States-Japan Cooperative Medical Sciences Program: Virtual Workshop on COVID-19

Attending: Frank Gray Handley

Number in Party: 1

Time: 7:00 - 9:30 am EST

Date: February 24 - 26, 2021

Confirmation Number: 9VN8QLSM8LN

The Zoom meeting link will be sent the day before the workshop begins.

Registration Information

Frank Gray Handley

Questions

City
Rockville

View or modify your registration

We look forward to seeing you there.

Sincerely,

Kerry Gilbertson

CRDF Global

events@crdfglobal.org

If you no longer want to receive emails from Kerry Gilbertson, please Opt-Out.

From: Bernabe, Gayle (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c78e95b3db24482ba3dcbdedc2d3a003-gbernabe]
Sent: 2/19/2021 1:33:50 AM
To: Ben Cowling (b) (6); (b) (6); (b) (6); Florian Krammer [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=4cc99636a93e4b26ada2e9c2b8652bd7-florian.kra]; (b) (6) (b) (6); (b) (6); Davis, Madeline Barrett (b) (6); Peter Daszak (b) (6); mailto: (b) (6) (b) (6); 'Béen, Frederic' (b) (6)
CC: Goldman, Marlene (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d2e8879372ca46c2b10114db7fd4fac6-goldmanm3]; Sands, Benjamin (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a5293a1187004ab2889d8de7427a5732-sandsbc]; Gatling, Eric (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=69732150849545ea9c6a0d3770c345cd-gatlingec]; Handley, Gray (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1ceb55d4b673477391c9da8a3eb3c75c-handleygr]; Williams, Nekisha (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]; Diane Griffin (b) (6); (b) (6)]; Park, Eun-Chung (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5ed1c49dc72d4c9f89c55025c8f8f08e-epark]; McDonald, David (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=ed4df702b18a4b56a27b92899e8bd0c1-mcdonalddj2]; Lu, Kristina (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=f49de373909a444796d6406435965b5c-lukr]; Dominique, Joyelle (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5c55f75b58f14ab2b2ccbac0a881ccae-dominiquejk]; Rosa, William (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6ad94c8f809d41ad91b1f78754f60c54-rosawi]; Lu, Tami (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=683d9f298f344f53b273ce527aa15d9a-lutt]
Subject: For Speakers: USJCMSP Virtual Workshop on COVID-19 - Additional Information
Attachments: NIAID Meet Virtual Meeting Attendee and Speaker Tips 10.20.docx; Draft Agenda_02182021.docx; Speaker Rehearsal 1 - US Japan COVID-19 Workshop; Speaker Rehearsal 2 - US Japan COVID-19 Workshop

Dear Workshop Speakers,

Thank you so much for agreeing to speak at the upcoming U.S.-Japan Cooperative Medical Sciences Program (USJCMSP) Virtual Workshop on COVID-19!

Here are some additional information for you, and kindly request to please do the following:

- **Check draft agenda**: Attached is an updated draft agenda. If you have not already done so, please let me know if you have any changes/corrections (e.g., title of your talk).

- **Register**: Please go to the workshop website and register at https://cvent.me/yqX3Og. The Zoom link will be sent to you next week.

- **Send presentation in advance**: If possible, please send a copy of your presentation to the AV Tech (Mr. Ben Sands - (b) (6) by February 22 or at least one day before your scheduled talk. Inform him if you will be using a Mac or PC. During the workshop sessions, the AV Tech will bring-up the PowerPoint presentation and give control to the speaker to advance the slides.

- **Note recording of the workshop**: The workshop will be recorded to allow others to view the sessions later due to the time zone differences, and the link will likely be available on the workshop website for a limited time period. Each speaker has the option to opt-out. If you do not want your presentation to be recorded, please inform the AV Tech (Mr. Ben Sands - (b) (6) and please copy me in your email. You can also remind the AV Tech right before your presentation to stop the recording.

- **Check-in early:** Please check-in and join the meeting 30 minutes before the start of the workshop on the day of your presentation at 6:30 AM EST. This allows to help set-up in advance, provide a brief check of your presentation, including testing audio and video.

- **Stay on time**: As a reminder, each speaker will have 15 minutes to present and then 5 minutes for discussion/Q&A. There will be a timekeeper and a chat/Q&A monitor, as well as moderators to help facilitate each session.

- **See attached helpful tips**: Attached are some helpful tips for speakers and attendees to consider, which were put together by NIAID MEET (the group that provides the technical meeting support for this virtual workshop and will host/run the Zoom meeting). In case of unexpected technical/internet connection issues, speakers are encouraged to print a hard copy of their presentation and write-down the phone number of the Zoom meeting (which will be provided next week). The AV Tech will show the slides.

- **Attend a speaker rehearsal/practice session**: If you would like to practice your presentation with NIAID MEET, we have scheduled two speaker rehearsals: 1) Monday, February 22 from 8-9 AM EST and 2) Tuesday, February 23 from 7-8 AM EST. The AV Tech and others will be available to address questions that you may have. Attached are two calendar invites for the speaker rehearsals with the Zoom meeting details. Please feel free to attend either session and join in when you are available. Though this is optional, we encourage you to take advantage and attend a practice session.

- **Refer to contact list**: Here is a contact list for NIAID MEET in case you have any technical questions or come across any technical issues:

    - Lead AV Tech: Ben Sands (b) (6)
    - AV Tech: Eric Gatling (b) (6)
    - Event Coordinator: Marlene Goldman (b) (6)

If you have any questions, please feel free to contact me or the other NIAID points of contact (Kristina Lu, David McDonald, and Eun-Chung Park).

We look forward to your presentations and a scientifically exciting workshop.

Thank you all very much!

Kind regards,
Gayle
U.S. Secretariat, U.S.-Japan Cooperative Medical Sciences Program

Gayle Bernabe, MPH
Regional Program Officer-East/SE Asia and the Pacific
Office of Global Research (OGR)
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Department of Health and Human Services

5601 Fishers Ln Rm 1E MSC 9802
Bethesda, MD 20892-9802 [For courier deliveries: 20852]
Phone: (b) (6)
Fax: (301) 480-2954
Email: (b) (6)

NIAID Meet Virtual Meeting Attendee and Speaker Tips

Attendee Tips

- Turn on the camera when you're speaking! It will result in more effective communication.
- Make sure that light comes from in front of you rather than from behind you so that you are not in a shadow, e.g., lamps/windows should not be behind you.
- Keep your head high in the picture frame—it conveys confidence.
- Look at your computer camera and do not turn your face or you will lose audio.
- Dress appropriately: you are being seen!
- Be mindful that physical movement and facial expressions matter, just as in face-to-face meetings.
- Keep your microphone muted until you are ready to speak-- mics pick up ambient noise. This will prevent you from inadvertently appearing in the active window as a speaker.
- Use a headset or earbuds with a microphone, if available, rather than the computer mic to avoid background noises.
- If using a phone for the audio connection (rather than your computer audio), use the Call Me feature in Zoom rather than calling the session phone number separately.
- Speak slowly and clearly.
- Be considerate—use the raise hand function, if available, or excuse yourself if you speak at the same time as someone else.
- Remember that when on-camera, other activities such as eating, drinking, and shuffling papers are unflattering and distracting.
- If you cannot use video, upload a nice profile image of your face to your Zoom account
- VPN: Attendees should make sure that their VPN software is completely closed out and not running in the background.
- Try to limit home Wi-Fi use by others during your virtual meeting or it may impact audio and/or video.

Moderator Tips

- The moderator is crucial! The moderator is the "cruise director" and lets everyone know what to do and when to do it. Their voice should be calm, neutral, and understandable. They must be assertive and interrupt speakers if they exceed their allotted time.
- Timing and Flow: Moderators tell everyone when to speak, when to ask questions, and what's happening.
- Moderators should be ready to ask speakers the first question after the presentation in case participants do not ask a question right away.

- Moderators should be ready to step in and move on to the next speaker if the current speaker's computer freezes up or drops off. (For example: I see that we may have lost Dr. Doe. Let's move on to the next speaker while Dr. Doe gets reconnected. Dr. Smith, can you please start sharing your screen?)

Speaker Tips

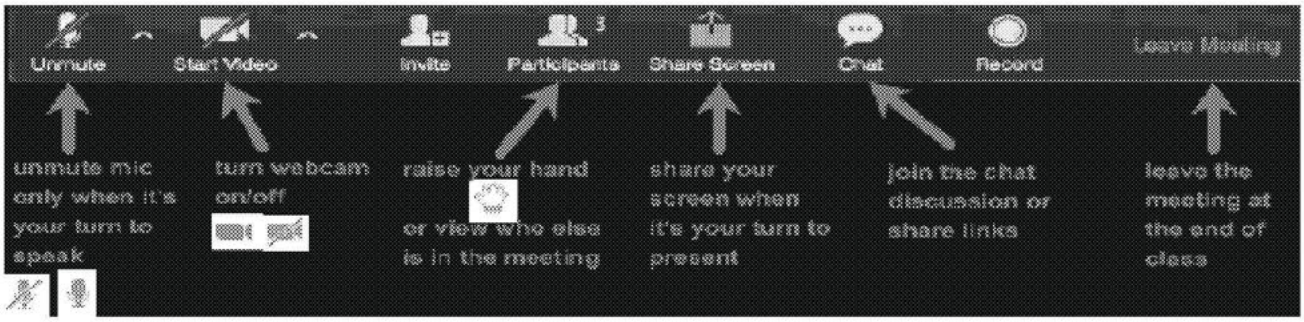
- Don't wear a crazy patterned shirt, bright white, or black. Avoid sitting with your back to the window, instead face the window.
- Don't get too close to the camera. The web camera should be eye level or higher, and the top of your head should be just below the top of the frame. If necessary, stack books under your laptop to get the camera to the correct height.

- As noted above, the microphones that are integral to laptops are generally of poor quality and typically pick up ambient noise that can be districting. Instead, use either a headset or earbuds with a built-in microphone.
- It is strongly recommended that presentations be shared from the AV tech's computer, and they will transfer control to the individual speakers. If you choose to share from your computer, be sure to open the deck in Presentation Mode *before* sharing your screen. Having the AV tech display the slides and advance on a verbal cue from the speaker is recommended only as a last resort. In using any of these methods, you should have a printed copy of the presentation on hand in case of a technology failure.
- Please mute your microphone and turn off your video when you're not presenting.

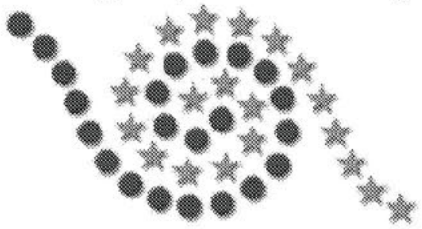
Helpful Zoom Tips

Here are the main icons displayed during a Zoom Meeting:

- Microphone: mute/unmute your microphone
- Video: start/stop your device webcam which allows other participants to see you
- Chat: join the chat discussion, pose questions, and post website URLs
- Participants: view who else is in attendance and raise your hand
- Share Screen: present content from your screen then stop sharing when finished
- Leave Meeting: when appropriate



United States-Japan Cooperative Medical Science Program



Virtual Workshop on COVID-19

February 24-26, 2021 7:00-9:30 AM Eastern Standard Time

(20:00-22:30 Philippines Standard Time / 21:00-23:30 Japan Standard Time)

Registration Website: [HYPERLINK "https://cvent.me/yqX3Oq" \t "_blank"]

DESCRIPTION

The focus of the COVID-19 workshop is to discuss and provide an update on the current situation, recent scientific advances, and emerging techniques/ technologies, as well as the intersection and impact on other infectious diseases, particularly in the Asia-Pacific region. The objectives of this virtual workshop are to share current research findings and foster existing and potential international research collaborations that engage scientists in the Asia-Pacific region and the United States. The target audience include scientists, public health practitioners/officials, and other stakeholders from the region interested in collaborative research.

The workshop is organized by the Scientific Planning Committee of the U.S.-Japan Cooperative Medical Sciences Program and the Philippines Department of Science and Technology.

Format: 20 minutes/talk (15 minutes presentation + 5 minutes discussion)

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Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:10 am EST Meeting Welcome - Brief Opening remarks

- Mr. Gray Handley, Associate Director for International Research Affairs, National Institute of Allergy and Infectious Diseases (NIAID), National Institutes of Health (NIH), *USA*

- Dr. Yasuyuki Sahara, Senior Assistant Minister for Health Security, Science and Technology, Minister's Secretariat Ministry of Health, Labour and Welfare, *JAPAN* [Video recording]
- Dr. Diane Griffin and Dr. Ichiro Kurane – Co-Chairs of U.S.-Japan Cooperative Medical Sciences Program

7:10 – 7:30 am EST Special Lecture: Global and regional situation of COVID-19

- Dr. Babatunde Olowokure, Regional Emergency Director, WHO Health Emergencies Programme, Regional Office for the Western Pacific World Health Organization Region (WPRO), Manila, *PHILIPPINES*

7:30 – 7:50 am EST Transmission and epidemiology of SARS-CoV-2 in Hong Kong

- Prof. Benjamin John Cowling, Professor and Division Head, Division of Epidemiology and Biostatistics, The University of Hong Kong, *HONG KONG, SAR CHINA*

7:50 – 8:10 am EST Antibody responses after COVID-19 infection in patients who are mildly symptomatic or asymptomatic in Bangladesh, perspective of impact of COVID on cholera issues

- Dr. Firdausi Qadri, Director, Centre for Vaccine Sciences at the International Centre for Diarrhoeal Disease Research (icddr,b), *BANGLADESH*

8:10 – 8:30 am EST SARS-CoV-2 seroepidemiology: progress and challenges

- Dr. Andrew S. Azman, Associate Scientist, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, *USA* [based in Geneva]

8:30 – 8:50 am EST Factors affecting COVID-19 infection outcome: Host Factors and characteristics of the virus

- Prof. Marissa Alejandria, President, Philippine Society for Microbiology and Infectious Diseases; Professor and Associate Dean for Research, University of the Philippines Manila College of Medicine; Director, Institute of Clinical Epidemiology, National Institutes of Health, University of the Philippines Manila, *PHILIPPINES*

8:50 – 9:10 am EST Antibody against SARS-CoV-2 for its diagnosis and epidemiological analysis

- Prof. Akihide Ryo, Department of Microbiology, Yokohama City University School of Medicine, *JAPAN*

9:10 – 9:30 am EST Preparing for the influenza pandemic-What can be learned from SARS-CoV-2 serosurvey

- Dr. Florian Krammer, Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, *USA*

Thursday, February 25 – Day 2 Vaccine/Immunology/Therapeutics/Diagnostics

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting / Brief administrative announcements (if needed)

Meeting Chairs and Moderators: Dr. Charles Yu/Philippines and Dr. Akira Nishizono/Japan
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:20 am EST Adjuvant for COVID-19 vaccine development

- Prof. Ken Ishii, The Institute of Medical Science, The University of Tokyo, *JAPAN*

7:20 – 7:40 am EST Immune response to SARS- CoV-2 (Through natural infection and through vaccination)

- Prof. Nina Gloriani, Professor, College of Public Health, University of the Philippines/Vaccine Expert Panel for COVID19, Department of Science and Technology, *PHILIPPINES*

7:40 – 8:00 am EST Updates on Diagnostics (Tests for neutralizing and protective antibodies)

- Dr. Mario Antonio Jiz, Head, Immunology Department, Research Institute for Tropical Medicine, *PHILIPPINES*

8:00 – 8:20 am EST Favipiravir

- Prof. Yohei Doi, Professor, Fujita Health University School of Medicine, Department of Infectious Diseases, *JAPAN*

8:20 – 8:40 am EST COVID-19 vaccine tracker

- Dr. Nicole Basta, Associate Professor, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, *CANADA*

8:40 – 9:00 am EST SARS-CoV-2 immunity and therapeutics

- Dr. Yoshimasa Takahashi, Director, Department of Immunology, the National Institute of Infectious Diseases, *JAPAN*

Friday, February 26 – Day 3 Virology/ Zoonosis/One-Health

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting / Brief administrative announcements (if needed)

Meeting Chairs and Moderators: USA and Dr. Gloria Nenita Velasco/Philippines
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:20 am EST	COVID-19: Philippine Experience
	• Dr. Maria Rosario Vergeire, OIC- Undersecretary of Health, Health Regulation Team, Department of Health (DOH), *PHILIPPINES*
7:20 – 7:40 am EST	SARS-CoV-2: What we have learned so far
	• Prof. Yoshihiro Kawaoka, Professor, Division of Virology, Department of Microbiology and Immunology, The Institute of Medical Science, The University of Tokyo, *JAPAN*
7:40 – 8:00 am EST	Compromised humoral functional evolution tracks with SARS-CoV-2 mortality
	• Dr. Galit Alter, Professor, Harvard University, *USA*
8:00 – 8:20 am EST	Zoonosis/One health
	• Prof. Ling Fa WANG, Professor, the Programme in Emerging Infectious Diseases at Duke-NUS Medical School, *SINGAPORE*
8:20 – 8:40 am EST	Zoonosis/One health
	• Dr. Peter Daszak, President, EcoHealth Alliance, *USA*
8:40 – 9:00 am EST	Environmental surveillance of SARS-CoV-2: opportunities and challenges
	• Dr. Frederic Béen, Scientific Researcher, KWR Water Research Institute, *NETHERLANDS*
9:00 – 9:05 am EST	Closing Remarks
	• Honorable Fortunato T. De La Peña, Secretary, Department of Science and Technology, *PHILIPPINES*

From: Goldman, Marlene (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d2e8879372ca46c2b10114db7fd4fac6-goldmanm3]
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CC: Daly, Marilyn (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eff78b35d7454e0b89d11ef0a557b0cd-dalymari]; Baij, Dean (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d76d85fc03dc49adb01e0d48f6969777-baijdv]; Setton, Michael (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2a8ba3233454ada870f1b457fd48c7c-settonmc]

Subject: Speaker Rehearsal 1 - US Japan COVID-19 Workshop
Location: Zoom Link Below

Start: 2/22/2021 1:00:00 PM
End: 2/22/2021 2:00:00 PM
Show Time As: Tentative

Required Attendees: Bernabe, Gayle (NIH/NIAID) [E]; Sands, Benjamin (NIH/NIAID) [C]; Gatling, Eric (NIH/NIAID) [C]; Jones, Reigna (NIH/NIAID) [C]; Marant, Simone(NIH/NIAID) [C]; Freeman, Dante (NIH/NIAID) [C]
Optional Attendees: Daly, Marilyn (NIH/NIAID) [E]; Baij, Dean (NIH/NIAID) [C]; Setton, Michael (NIH/NIAID) [C]

Topic: **Speaker Rehearsal 1 - US Japan Covid-19 Workshop**
Time: Feb 22, 2021 08:00 AM Eastern Time (US and Canada)

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161.199.136.10 (US East)
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Passcode: (b) (6)

From: Goldman, Marlene (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d2e8879372ca46c2b10114db7fd4fac6-goldmanm3]
Sent: 2/19/2021 12:26:13 AM
To: Goldman, Marlene (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d2e8879372ca46c2b10114db7fd4fac6-goldmanm3]; Bernabe, Gayle (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=c78e95b3db24482ba3dcbdedc2d3a003-gbernabe]; Sands, Benjamin (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=a5293a1187004ab2889d8de7427a5732-sandsbc]; Gatling, Eric (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=69732150849545ea9c6a0d3770c345cd-gatlingec]
CC: Daly, Marilyn (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=eff78b35d7454e0b89d11ef0a557b0cd-dalymari]; Baij, Dean (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=d76d85fc03dc49adb01e0d48f6969777-baijdv]; Jones, Reigna (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=10cef1cdbd8a4264b026dc992f40bab2-jonesrt]; Setton, Michael (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e2a8ba3233454ada870f1b457fd48c7c-settonmc]; Marant, Simone(NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=57176cfe9eeb4497824c39322ab37158-marantsr]; Freeman, Dante (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=2c3b9203ede44b4783cec1a304f298e5-freemandc]

Subject: Speaker Rehearsal 2 - US Japan COVID-19 Workshop
Location: Zoom Link Below

Start: 2/23/2021 12:00:00 PM
End: 2/23/2021 1:00:00 PM
Show Time As: Tentative

Required Attendees: Bernabe, Gayle (NIH/NIAID) [E]; Sands, Benjamin (NIH/NIAID) [C]; Gatling, Eric (NIH/NIAID) [C]
Optional Attendees: Daly, Marilyn (NIH/NIAID) [E]; Baij, Dean (NIH/NIAID) [C]; Jones, Reigna (NIH/NIAID) [C]; Setton, Michael (NIH/NIAID) [C]; Marant, Simone(NIH/NIAID) [C]; Freeman, Dante (NIH/NIAID) [C]

Topic: **Speaker Rehearsal 2 - US Japan Covid-19 Workshop**
Time: Feb 23, 2021 07:00 AM Eastern Time (US and Canada)

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161.199.136.10 (US East)
Meeting ID: (b) (6)
Passcode: (b) (6)

From: Fauci, Anthony (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df38103d75134f658ae2d356f0396b94-afauci]
Sent: 2/9/2021 6:55:16 PM
To: Fauci, Anthony (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=df38103d75134f658ae2d356f0396b94-afauci]; Handley, Gray (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1ceb55d4b673477391c9da8a3eb3c75c-handleygr]
CC: Awwad, David (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0a5171ce4c4d4110abfe9aebfbdafbe7-dawwad]; Williams, Nekisha (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]

Subject: Pre-Brief w/ Gray re: Fireside Chat with AUS CMO
Attachments: RE: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]; 4_Australia Country Page 3 2021.docx; FW: Briefing Materials for CSIS Sponsored "Fireside Chat" with Australia CMO Kelly, March 9, 2021
Location: Zoom

Start: 3/9/2021 7:00:00 PM
End: 3/9/2021 7:30:00 PM
Show Time As: Busy

Required Attendees: Handley, Gray (NIH/NIAID) [E]
Optional Attendees: Awwad, David (NIH/NIAID) [C]; Williams, Nekisha (NIH/NIAID) [C]

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833 568 8864 US Toll-free
Meeting ID (b) (6)
Find your local number: https://www.zoomgov.com/u/adH7EWOlT8

From: Barasch, Kimberly (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=EA5FAD4C52F64F80B7DAEE4982AE495F-BARASCHK]
Sent: 2/9/2021 6:53:19 PM
To: Williams, Nekisha (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]
CC: Conrad, Patricia (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=7ea3e3ea7daa432887495d6825c9e588-conradpa]; Folkers, Greg (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=614c792839a146b9a8f87a1378519dbd-gfolkers]
Subject: RE: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

Hi Nekisha,
Great, I will send Gray a calendar invite for March 9th at 2:00pm for a pre-brief regarding the Fireside Chat with the AUS CMO later that day.

Thanks,
Kim

Kim Barasch [C]
Office of the Director
National Institute of Allergy & Infectious Diseases
(b) (6)
(b) (6)

From: Williams, Nekisha (NIH/NIAID) [C] (b) (6)
Sent: Tuesday, February 9, 2021 1:31 PM
To: Barasch, Kimberly (NIH/NIAID) [E] (b) (6)
Subject: RE: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

Yes, that would work!

Thanks,
Nekisha

From: Barasch, Kimberly (NIH/NIAID) [E] (b) (6)
Sent: Tuesday, February 9, 2021 1:20 PM
To: Williams, Nekisha (NIH/NIAID) [C] (b) (6)
Subject: RE: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

Hi Nekisha,
Does 2:00pm on March 9th work for Gray for a pre-brief?

Thanks,
Kim

Kim Barasch [C]
Office of the Director
National Institute of Allergy & Infectious Diseases
(b) (6)
(b) (6)

From: Williams, Nekisha (NIH/NIAID) [C] (b) (6)
Sent: Tuesday, February 9, 2021 10:44 AM
To: Barasch, Kimberly (NIH/NIAID) [E] (b) (6)
Subject: RE: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

Hi Kim,

Can we schedule a pre-brief for the meeting below at ASF availability?

Thanks,
Nekisha

From: Chris Elstoft (b) (6)
Sent: Tuesday, February 9, 2021 10:26 AM
To: Conrad, Patricia (NIH/NIAID) [E] (b) (6)
Cc: Barasch, Kimberly (NIH/NIAID) [E] (b) (6); (b) (6); James Hall (b) (6); Paul Myler (b) (6); Awwad, David (NIH/NIAID) [C] (b) (6); Billet, Courtney (NIH/NIAID) [E] (b) (6); Auchincloss, Hugh (NIH/NIAID) [E] (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6)
Subject: Re: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

OFFICIAL

Hi Patricia,

Letting you know that the March 9 date and time works for us and we will be in touch closer to the time to take forward the details including the questions to be addressed and the technology to be used.

Regards

Chris

OFFICIAL

From: "Conrad, Patricia (NIH/NIAID) [E]" (b) (6)
Date: Friday, 5 February 2021 at 8:10:57 am
To: "Chris Elstoft" (b) (6)
Cc: "Barasch, Kimberly (NIH/NIAID) [C]" (b) (6), (b) (6) (b) (6), "James Hall" (b) (6), "Paul Myler" (b) (6), "Awwad, David (NIH/NIAID) [C]" (b) (6), "Billet, Courtney (NIH/NIAID) [E]" (b) (6), "Auchincloss, Hugh (NIH/NIAID) [E]" (b) (6), "Handley, Gray (NIH/NIAID) [E]" (b) (6)
Subject: RE: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

Good morning:

Dr. Fauci would be delighted to participate in a 30 minute fireside chat event with Prof. Kelley. Dr. Fauci can be available on March 9 at 3:00 pm ET – 3:30 pm ET.

David Awwad – cc'd here will be the point of contact for the zoom connection. Please have your staff work with him directly as to what platform will work best.

We would kindly ask that you send the questions/specific topics to us one week prior to the event date. We will need to reconfirm the event a few days prior as our schedule is always subject to change.

At your earliest convenience, please let us know if the March 9th date works for your calendar. Thank you and we look forward to hearing back from you.

Best,

Patricia L. Conrad
Public Health Analyst and
Special Assistant to the Director
National Institute of Allergy and Infectious Diseases
The National Institutes of Health

From: Chris Elstoft (b) (6)
Sent: Tuesday, February 2, 2021 5:34 PM
To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Cc: Conrad, Patricia (NIH/NIAID) [E] (b) (6); Barasch, Kimberly (NIH/NIAID) [C] (b) (6); (b) (6); James Hall (b) (6); Paul Myler (b) (6)
Subject: Invitation to Fireside Chat with Australia's Chief Medical Officer [SEC=OFFICIAL]

OFFICIAL

Dear Gray,
I am writing to invite NIH Director Dr Fauci to participate in a webinar on the pandemic response with an Australian counterpart, Chief Medical Officer Professor Paul Kelly. We are referring to the idea informally as a fireside chat – Australians like informality as you might know.
We have in mind a discussion facilitated by a journalist or academic. Professor Kelly and Dr Fauci will have their own ideas on what should be discussed, but we have outlined some thoughts in the attached concept note. In essence, they could discuss the two very different experiences of COVID in our respective countries, the role of science-based public health policy, look forward to how the pandemic ends, and discuss ideas for US-Australian collaboration. The target audience would be public heath experts and policy makers in both countries.
We would like to convene this webinar in late February. Timezones dictate a morning event in Australia (7am – 10am), corresponding to an afternoon event in the United States (3pm – 6pm). The following dates work at our end: 23, 24, 25 Feb, 2, 3, 9, 11 March.

For a successful event we will want strong partners. At the Australian end the key partner would be the Centre for Heath Security (Indo-Pacific Centre for Health Security). We are currently considering US partners and would welcome views.

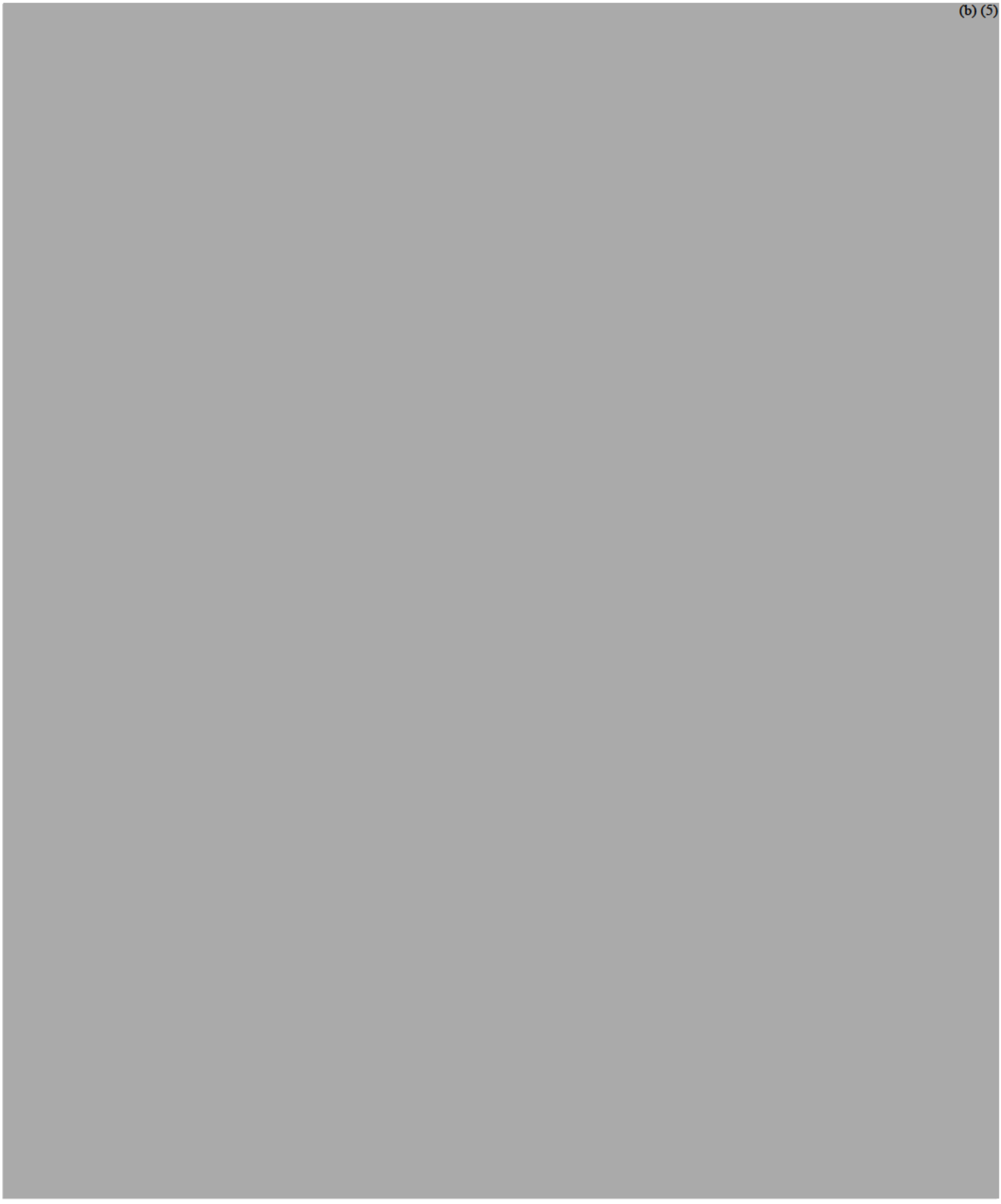
To start the ball rolling, we would be grateful for an indication of whether Dr Fauci would be available to participate in this event.

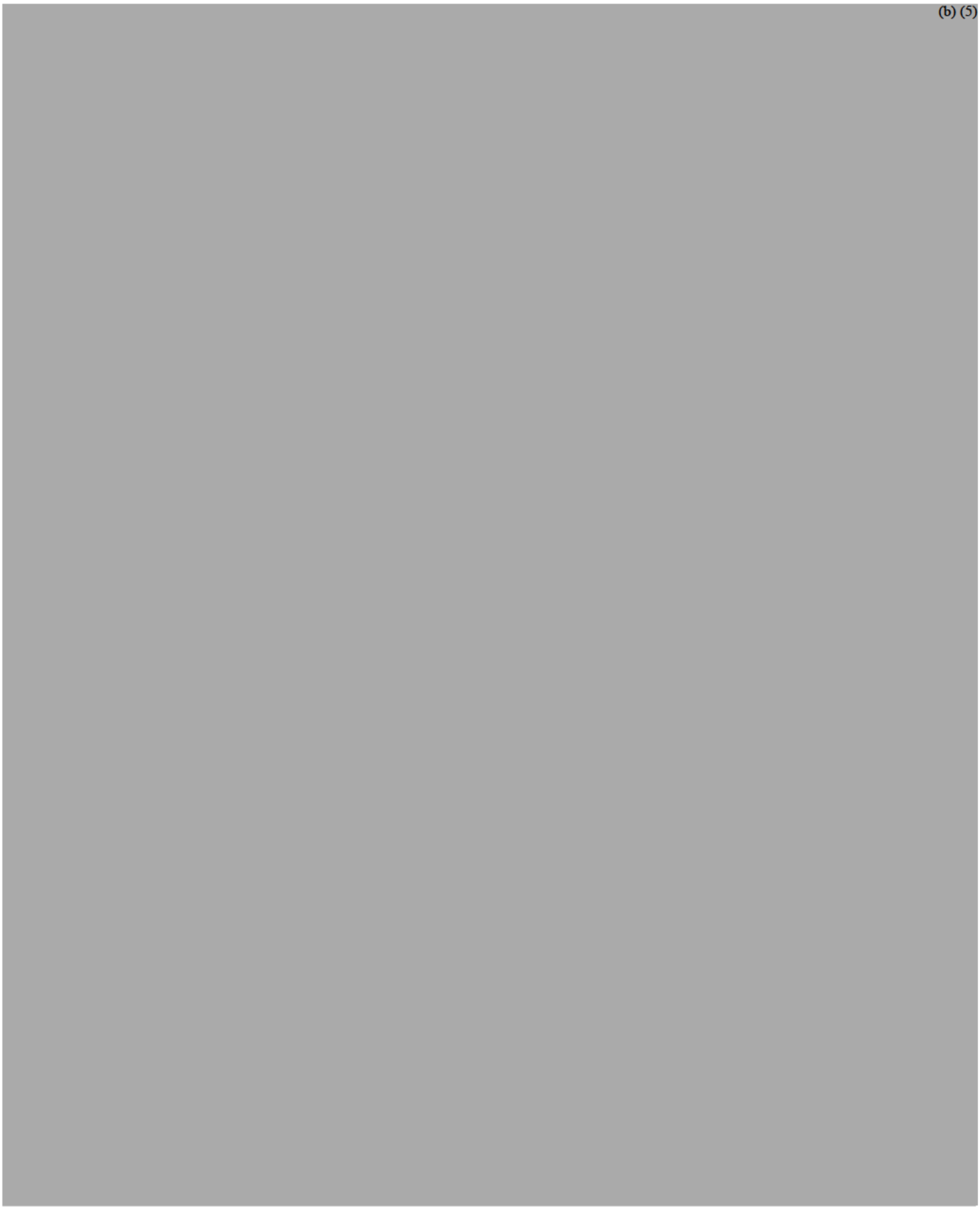
Yours sincerely

Chris Elstoft

Chris Elstoft
Visiting Officer, Political Branch
Australian Embassy
Washington DC
Tel: (b) (6)
(b) (6)
1145 17th St NW,
Washington, DC

(b) (5)

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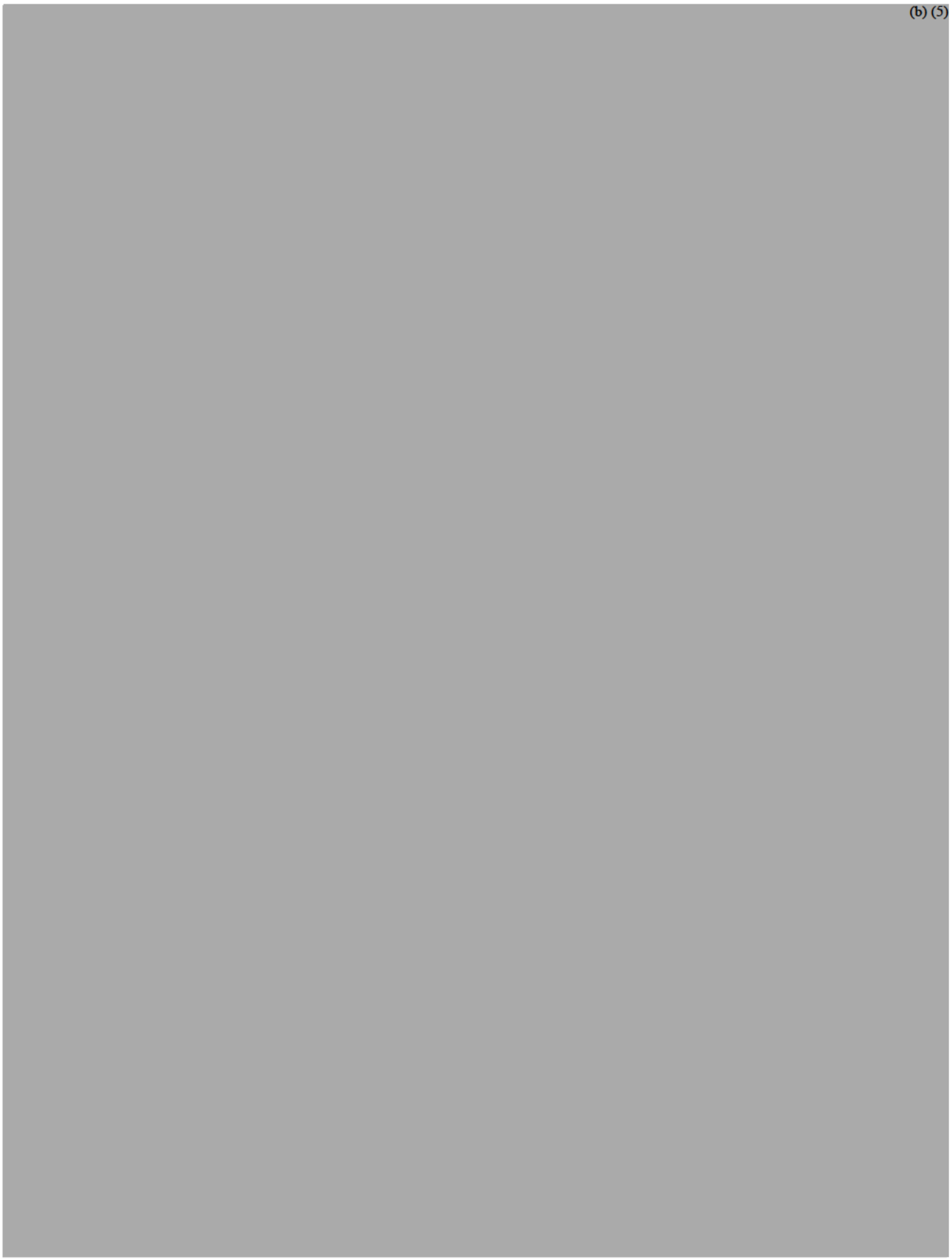

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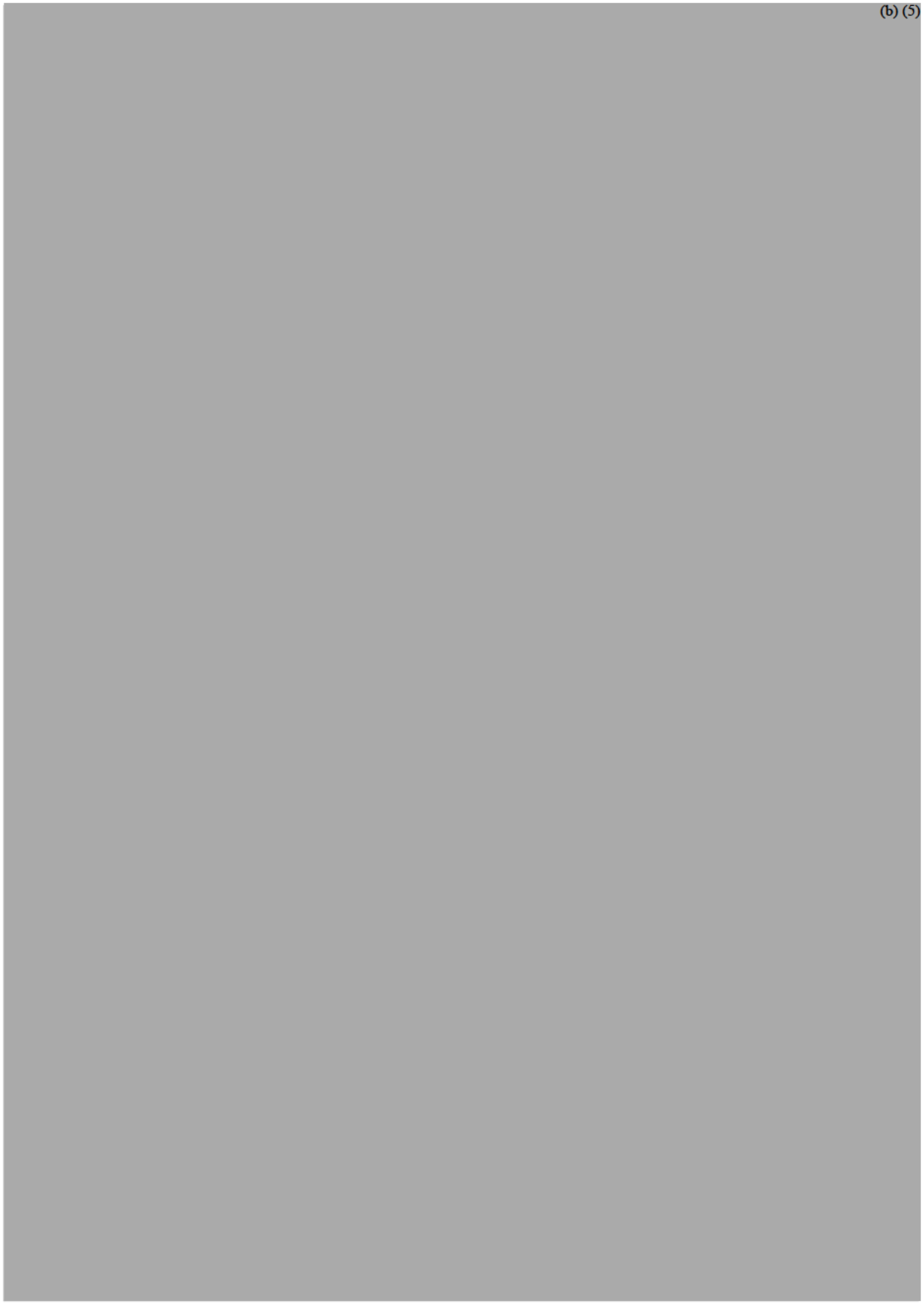

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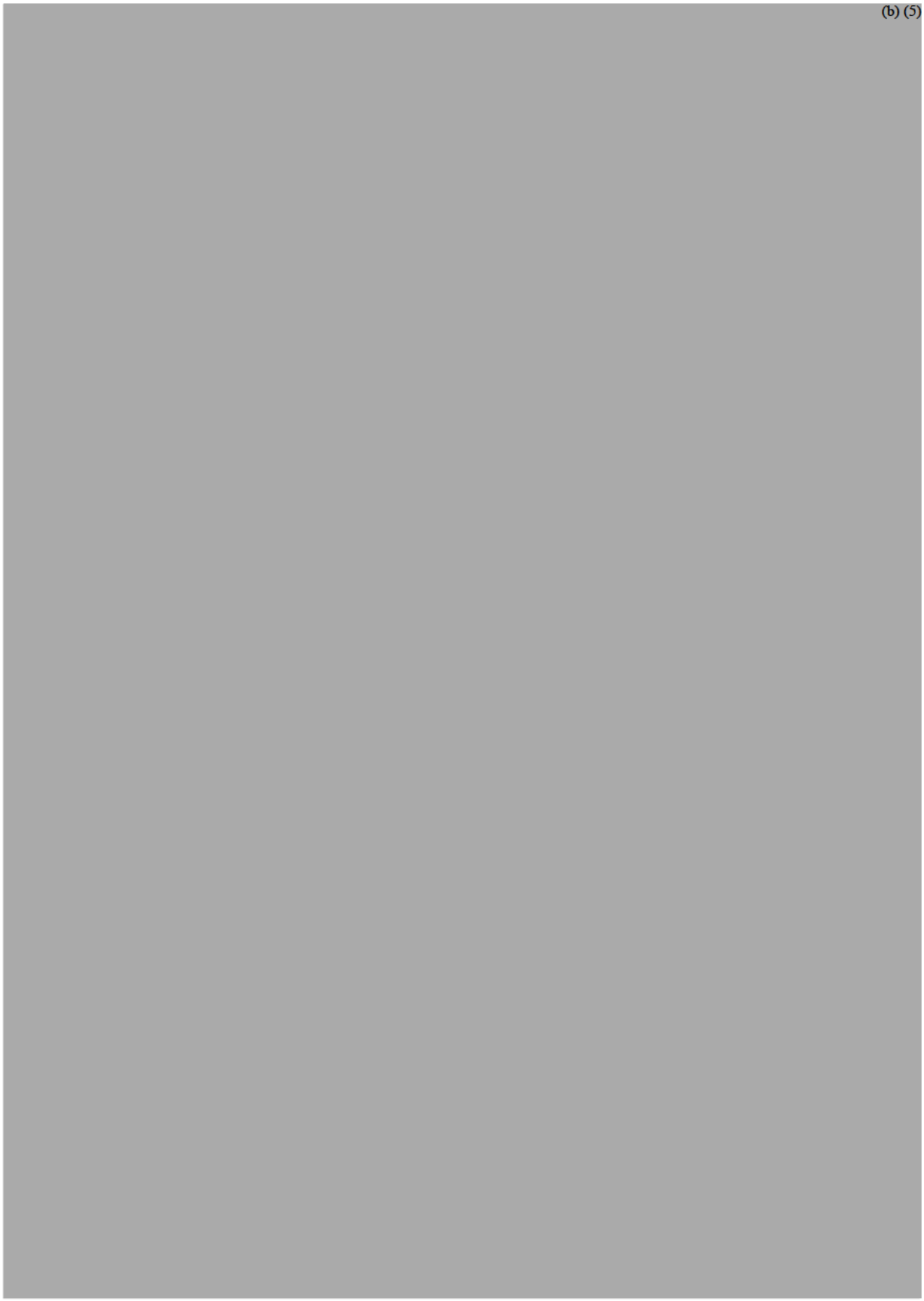

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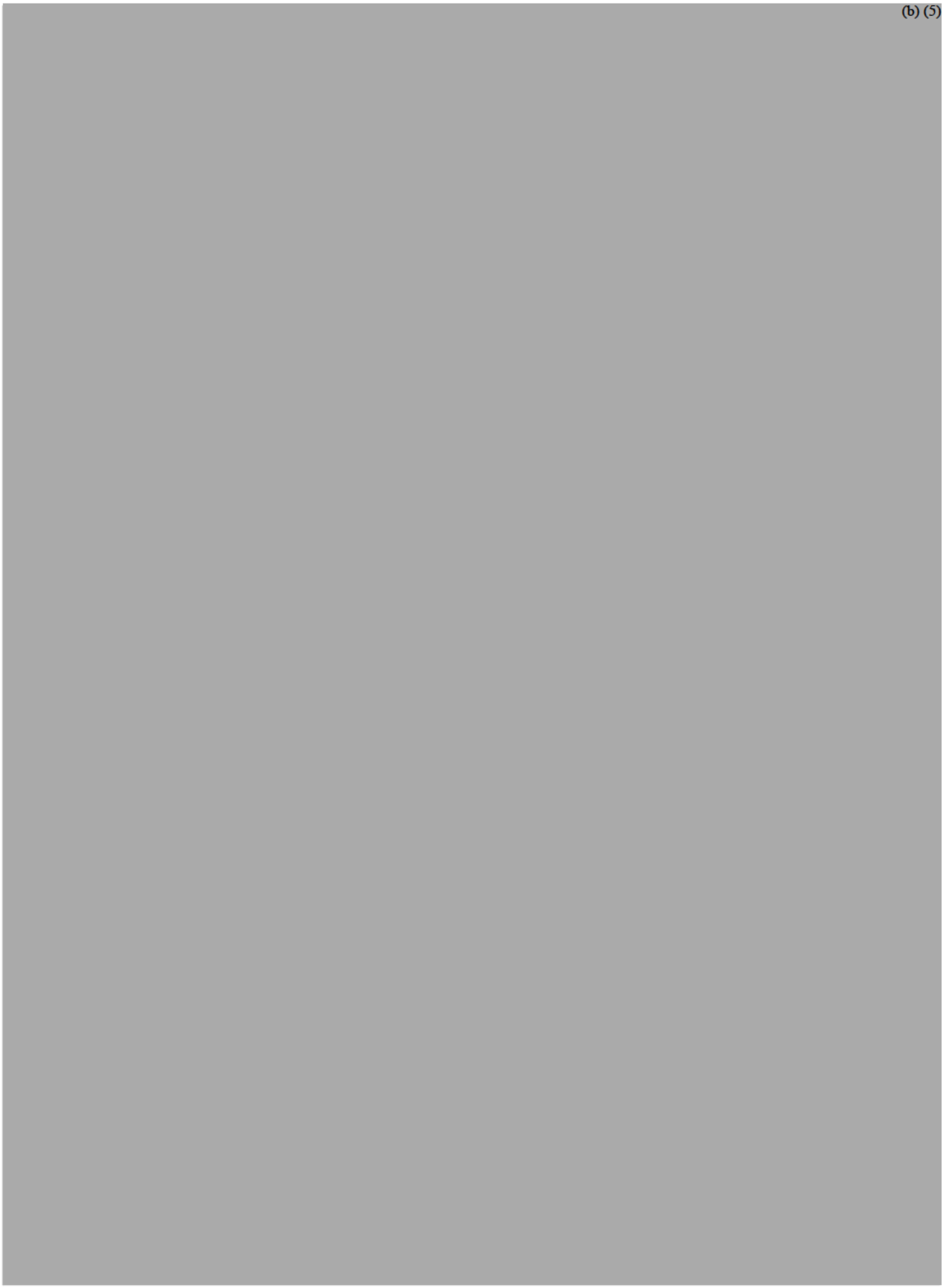

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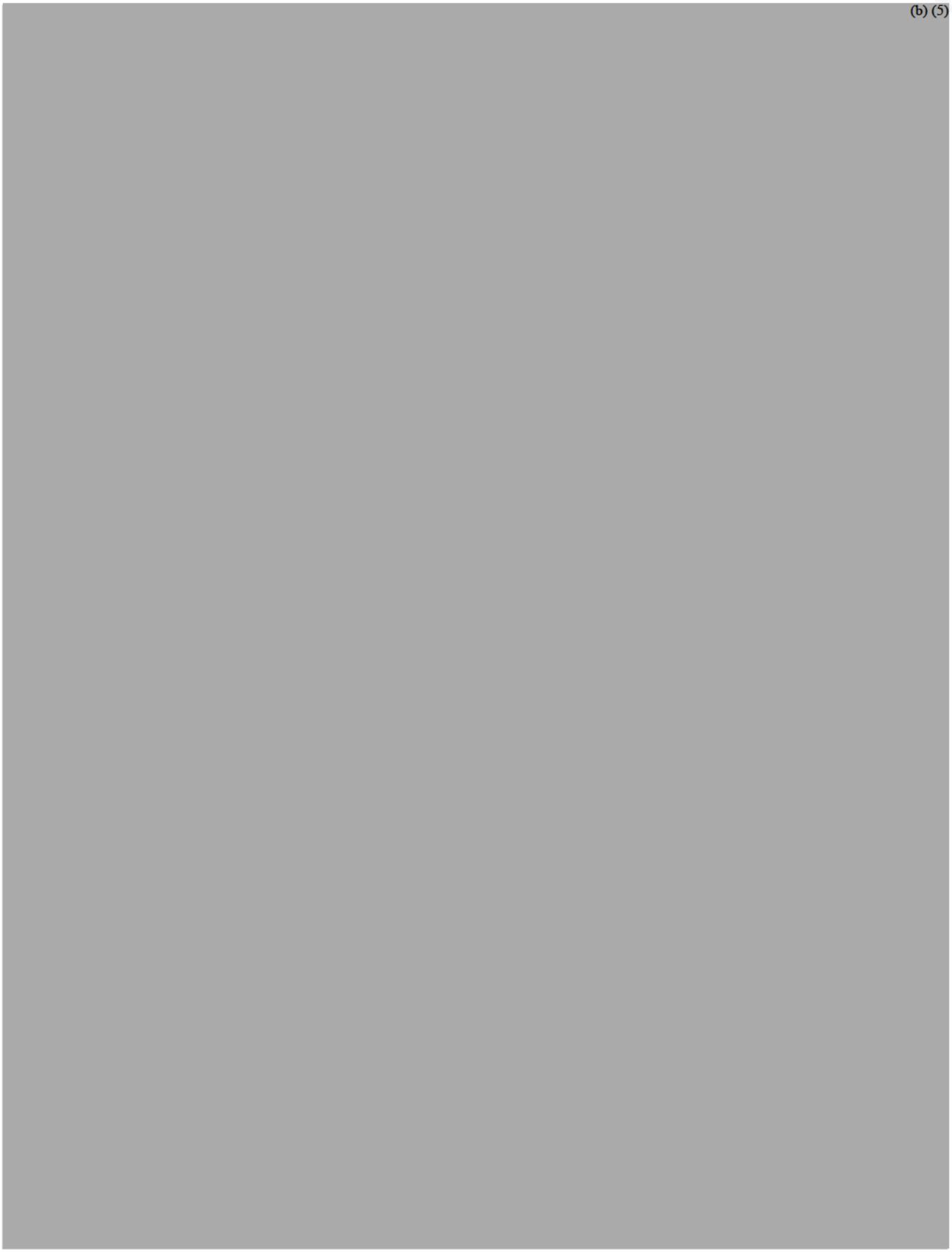

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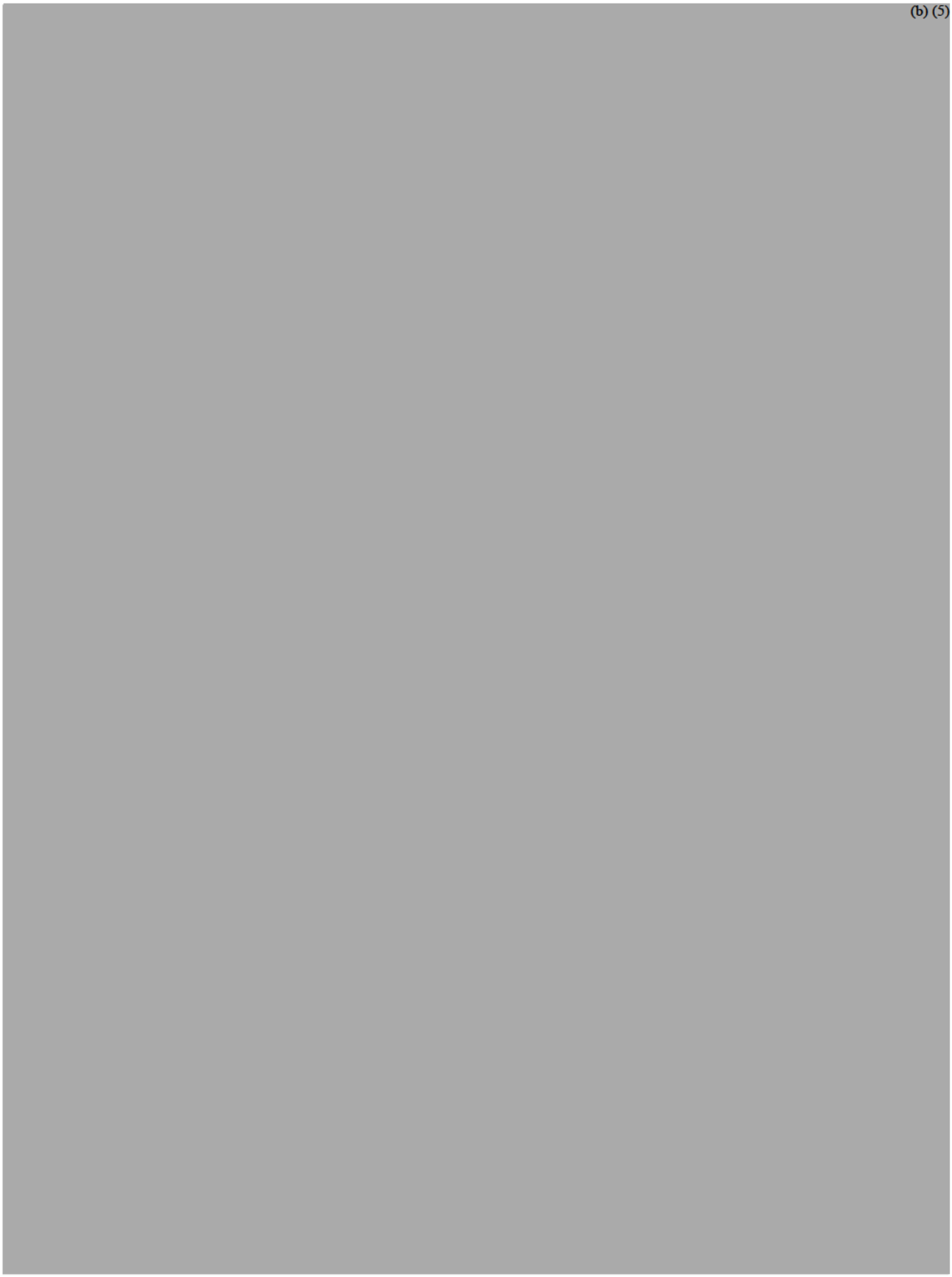
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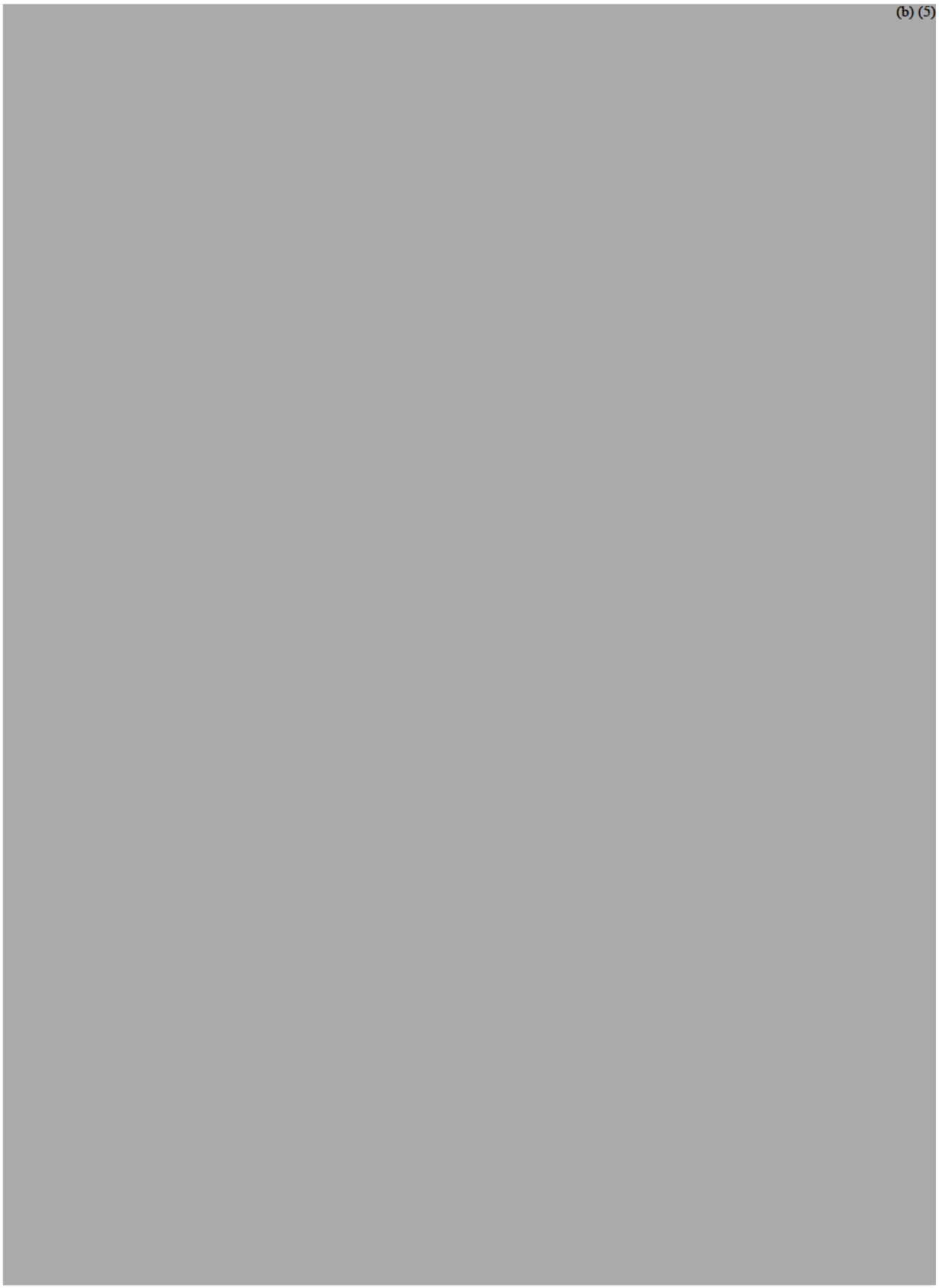

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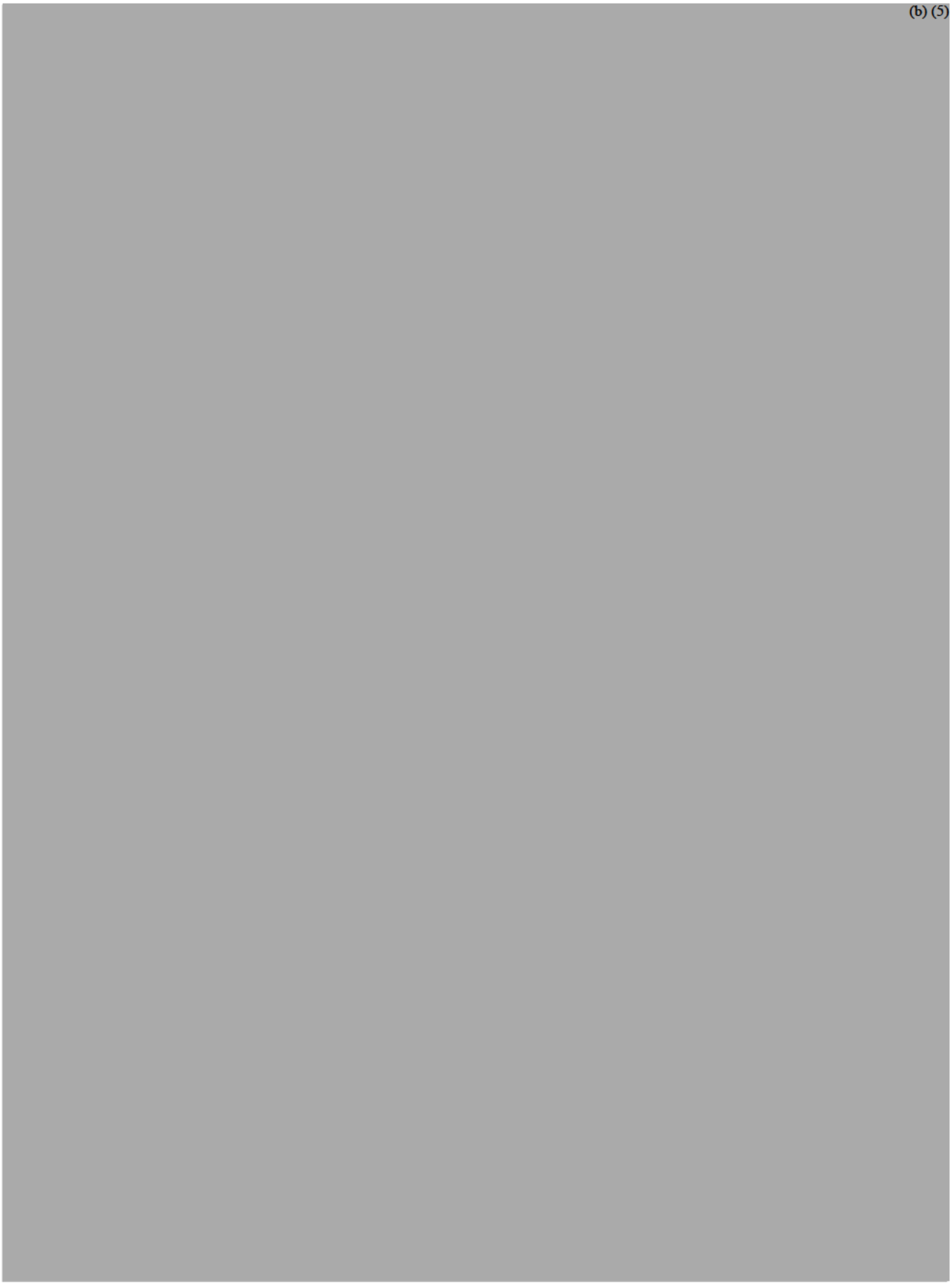

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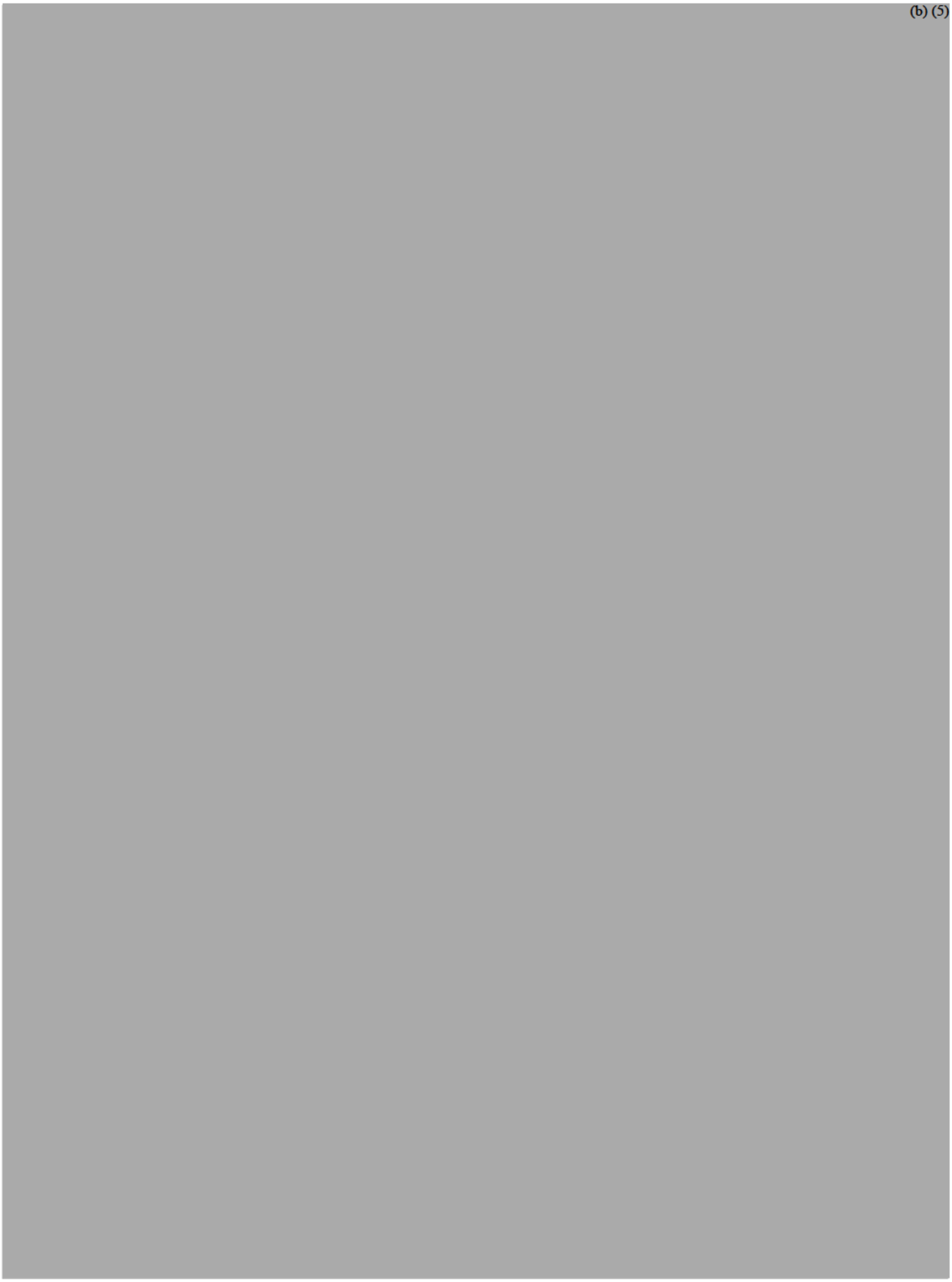

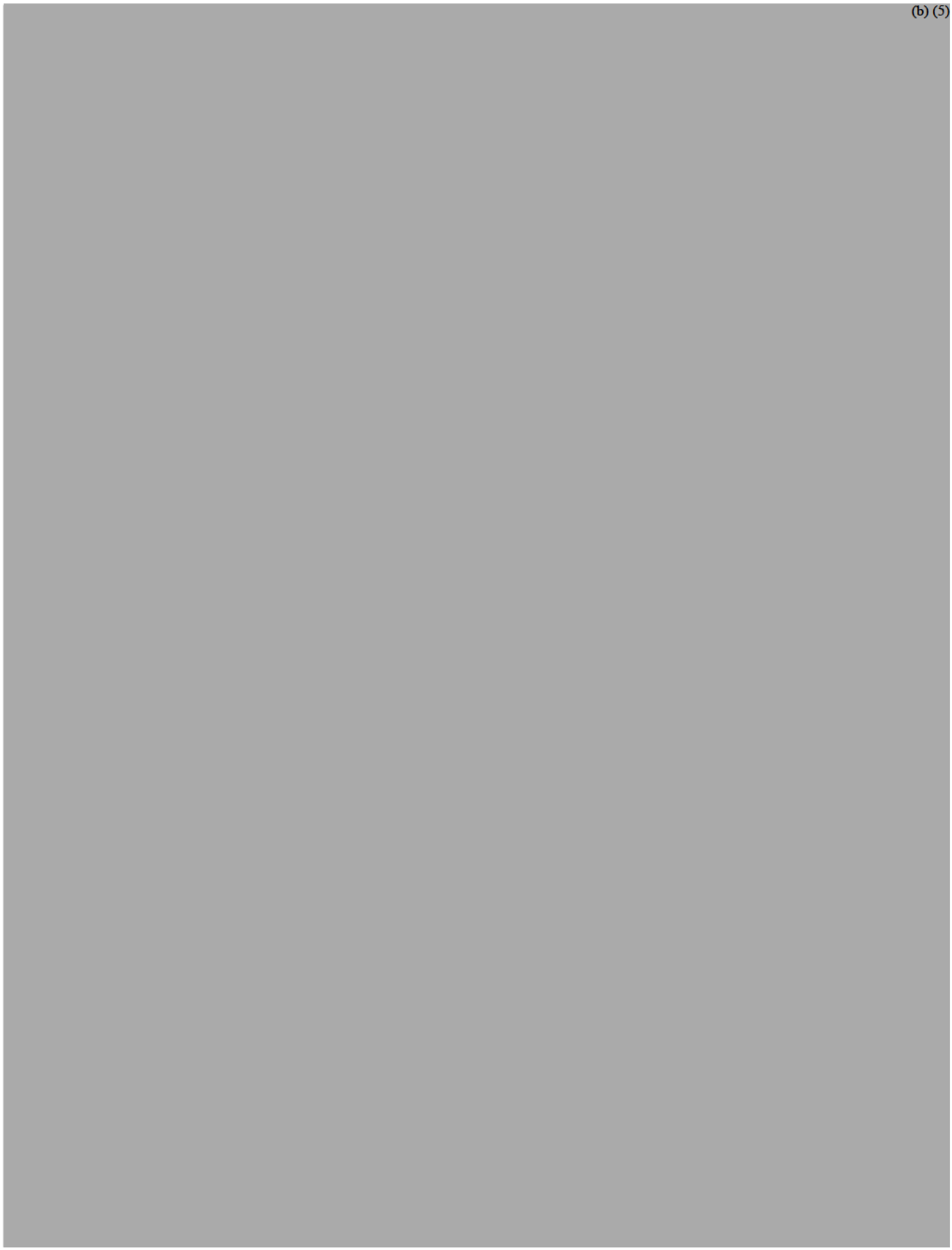
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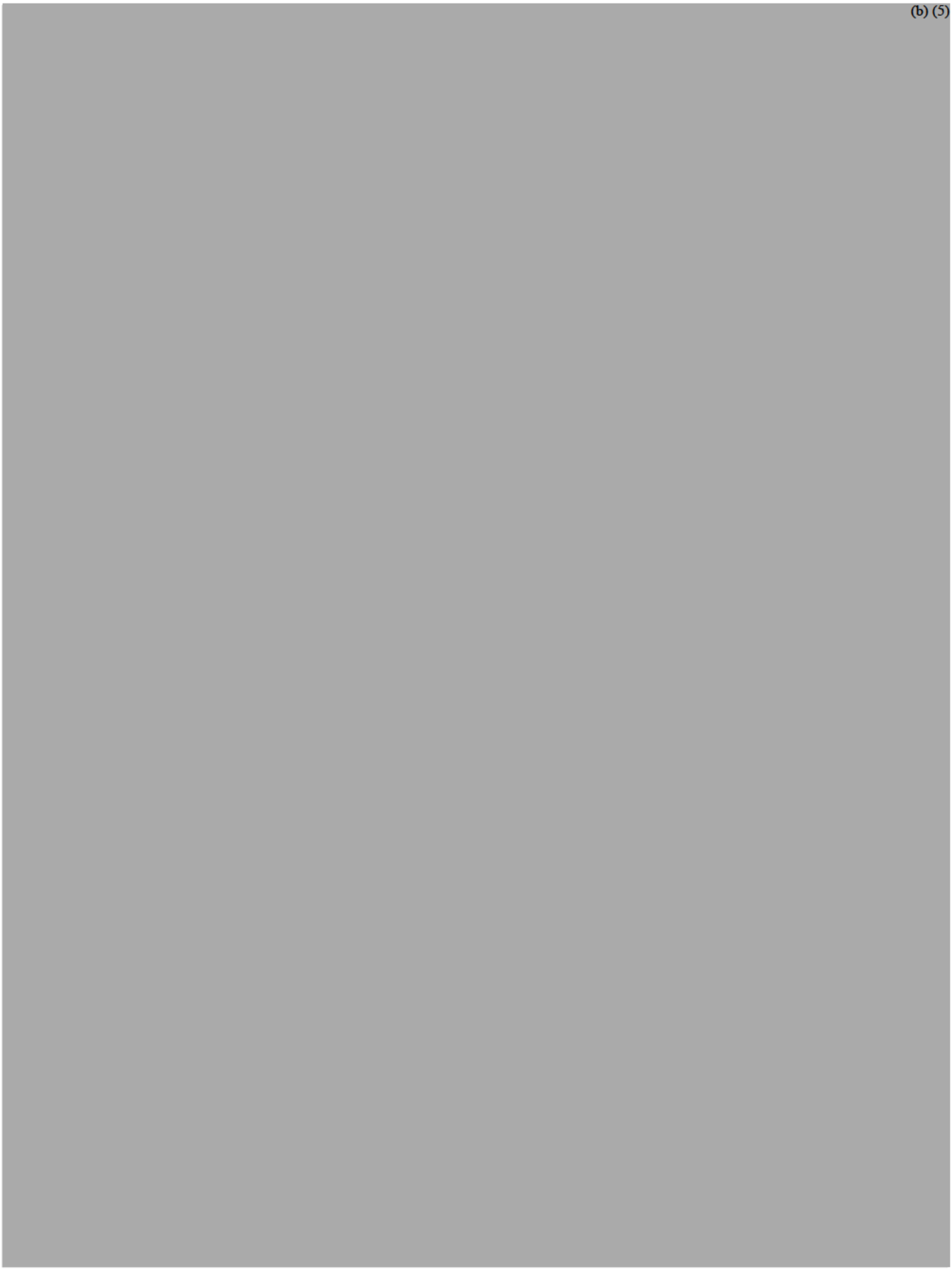

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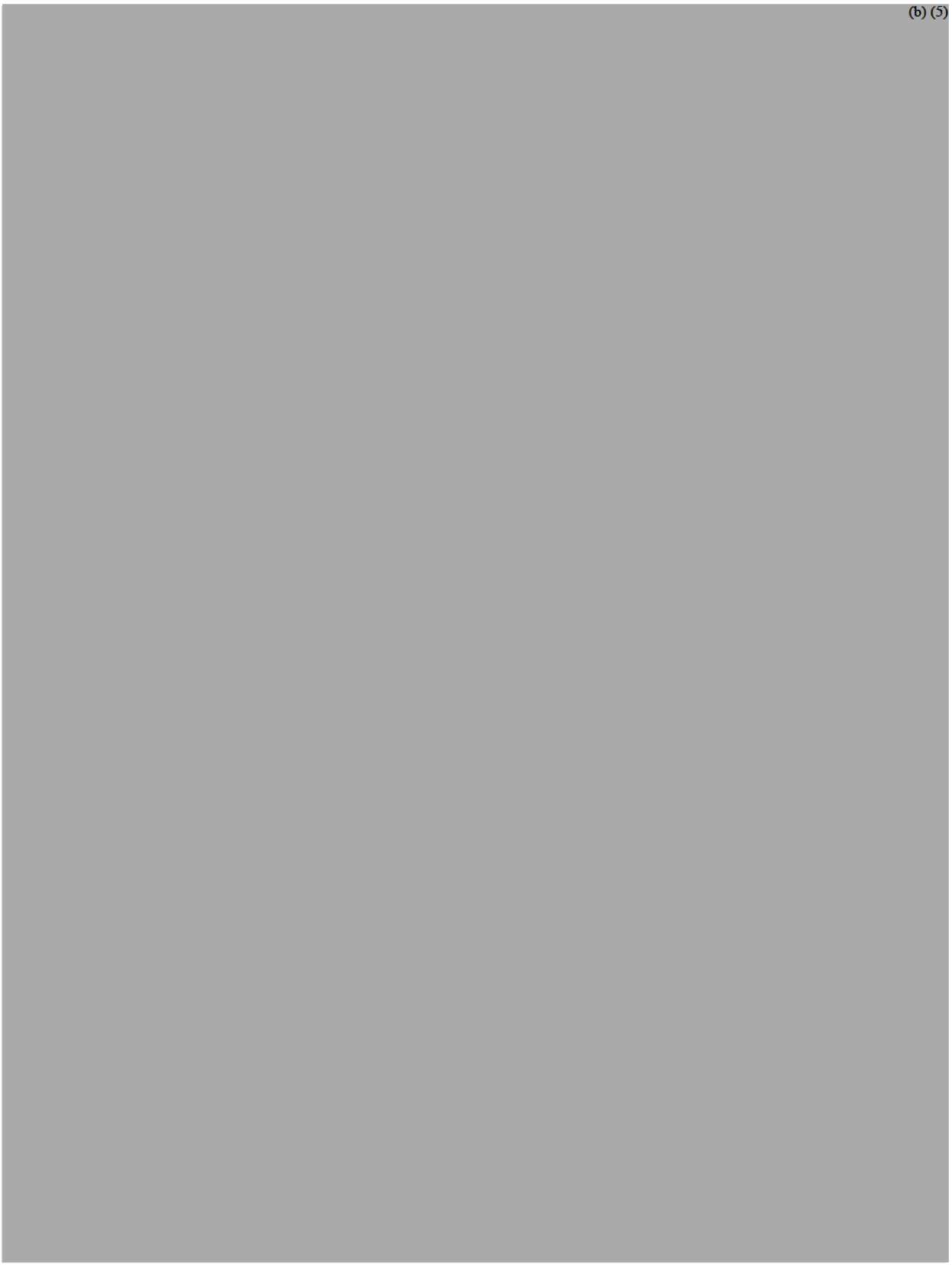

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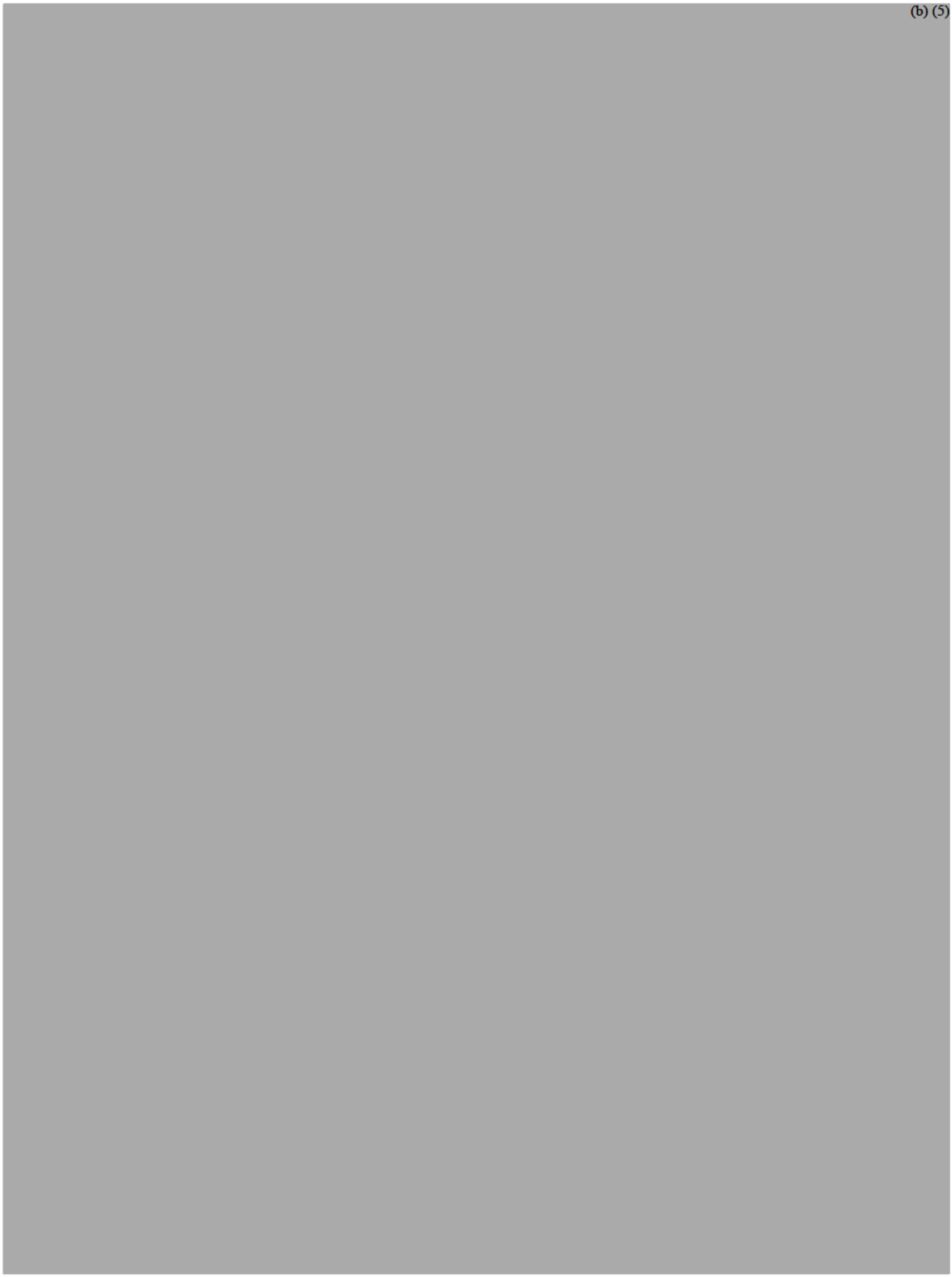

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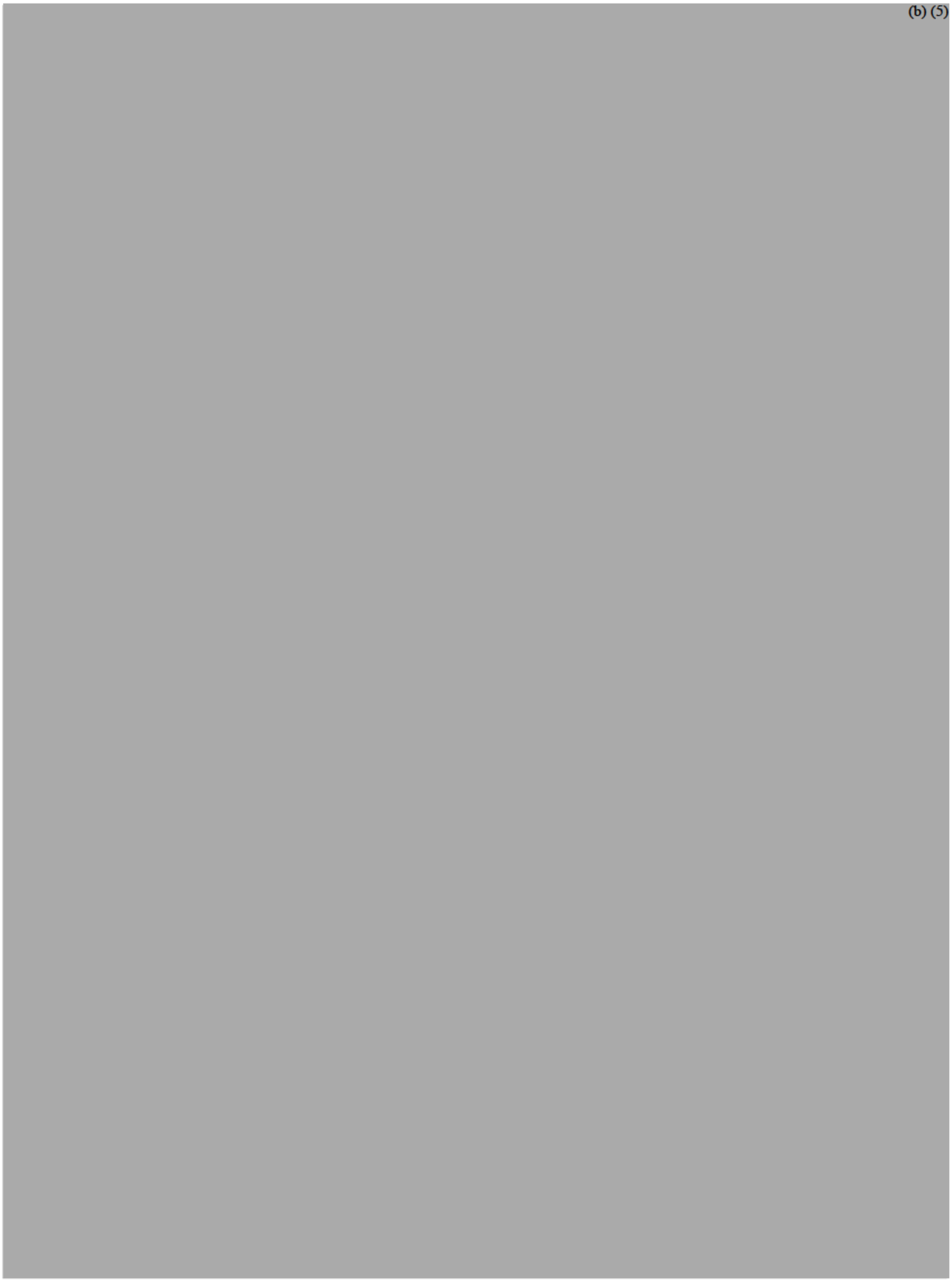

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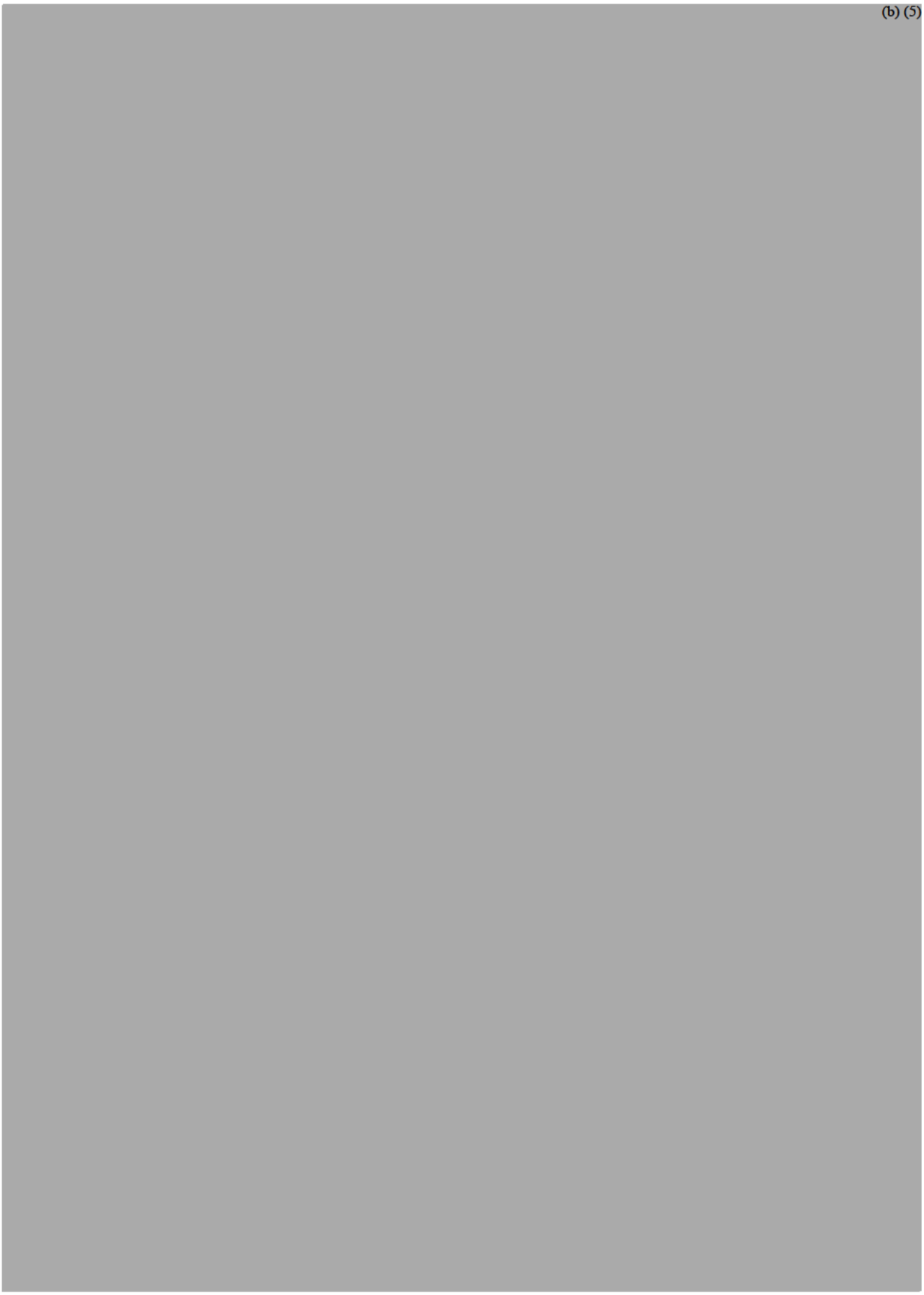

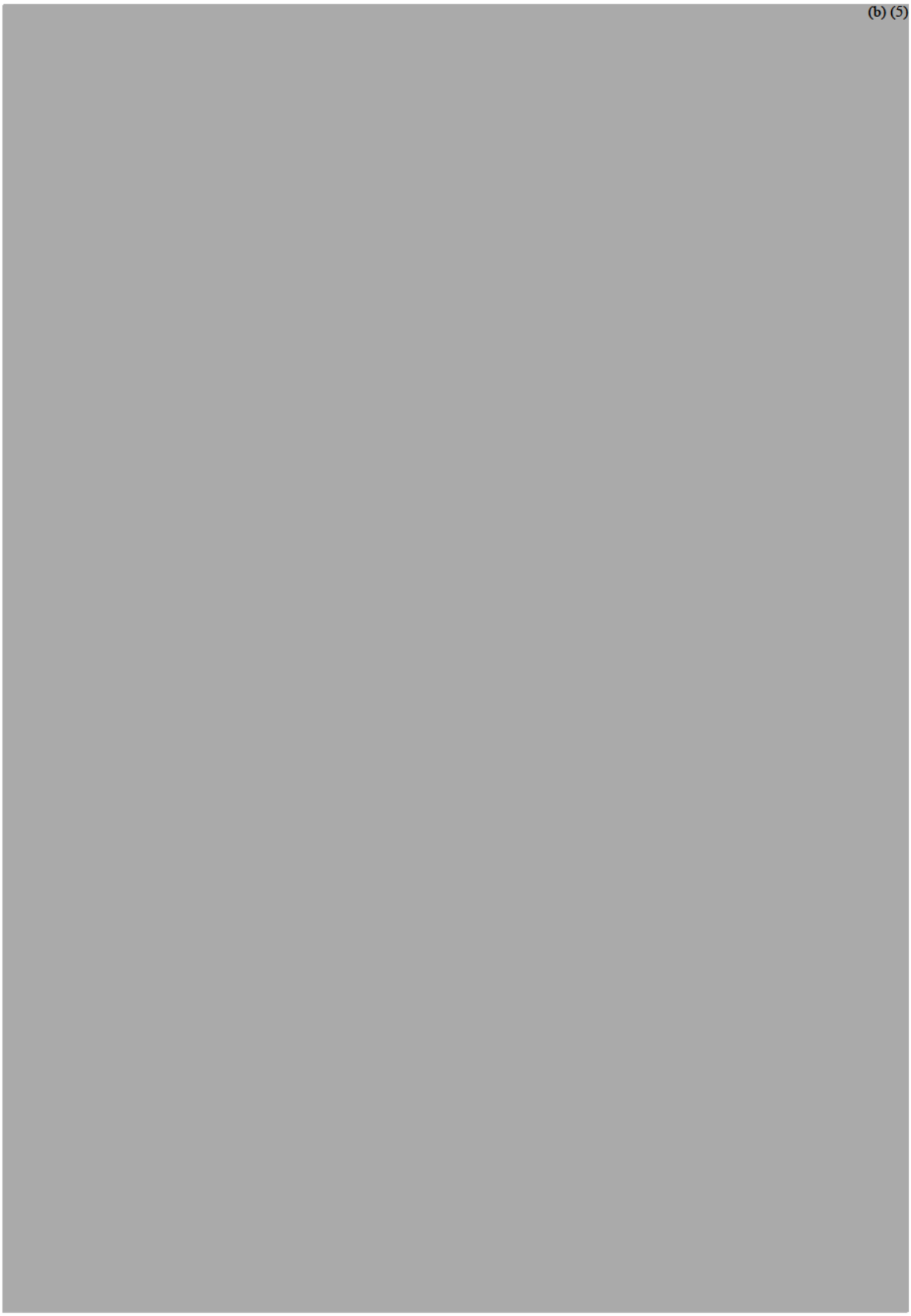
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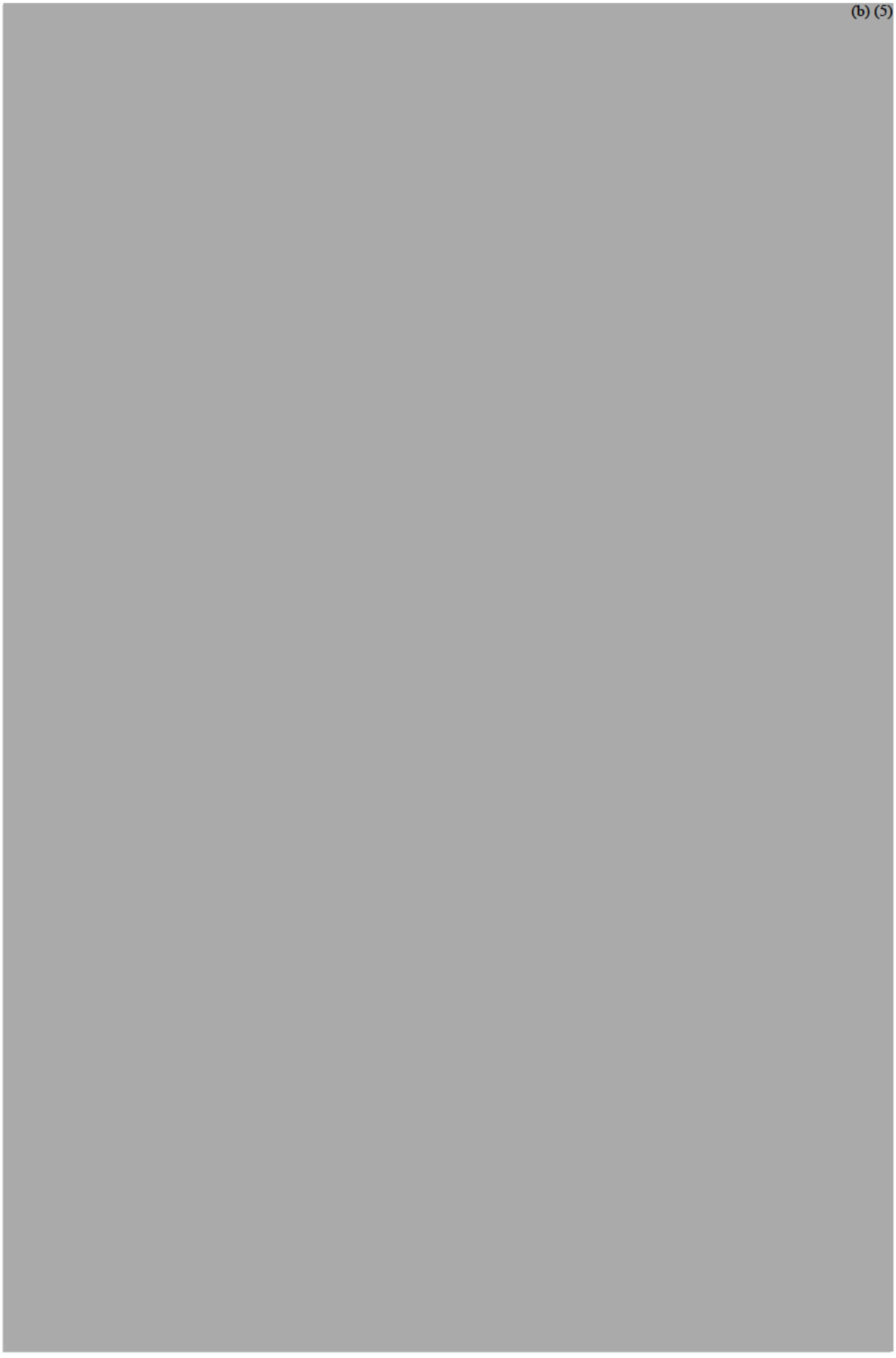

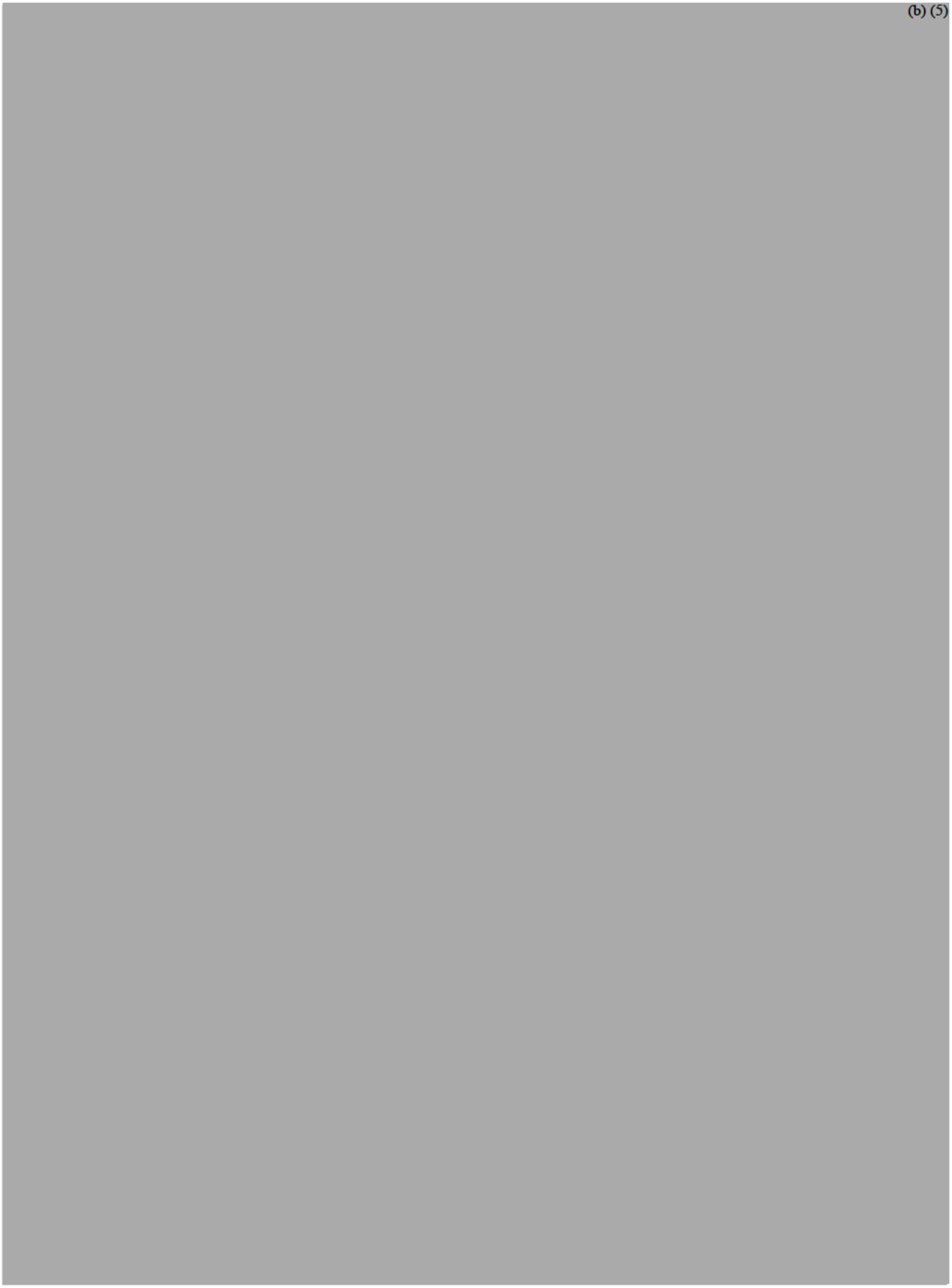
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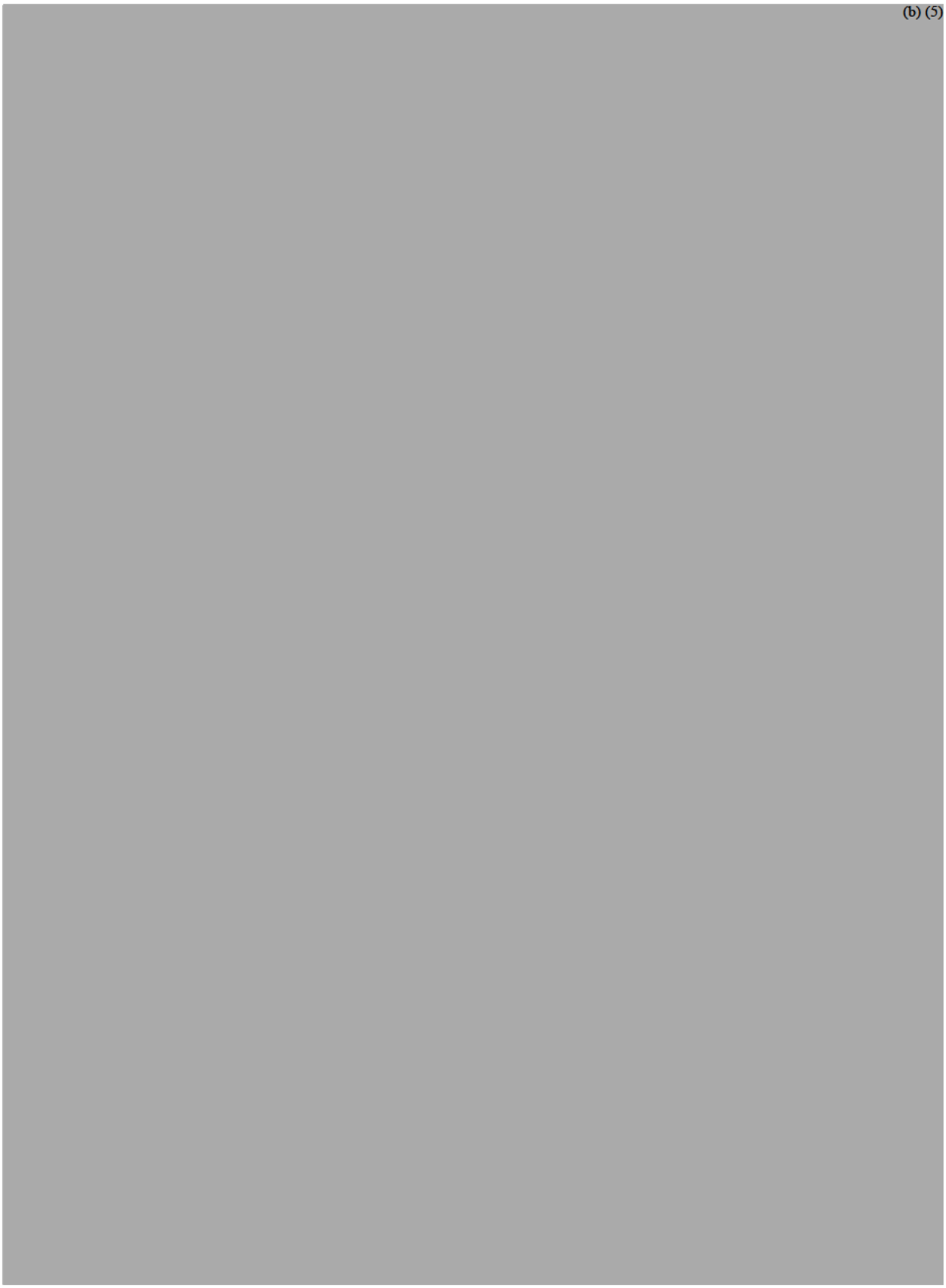

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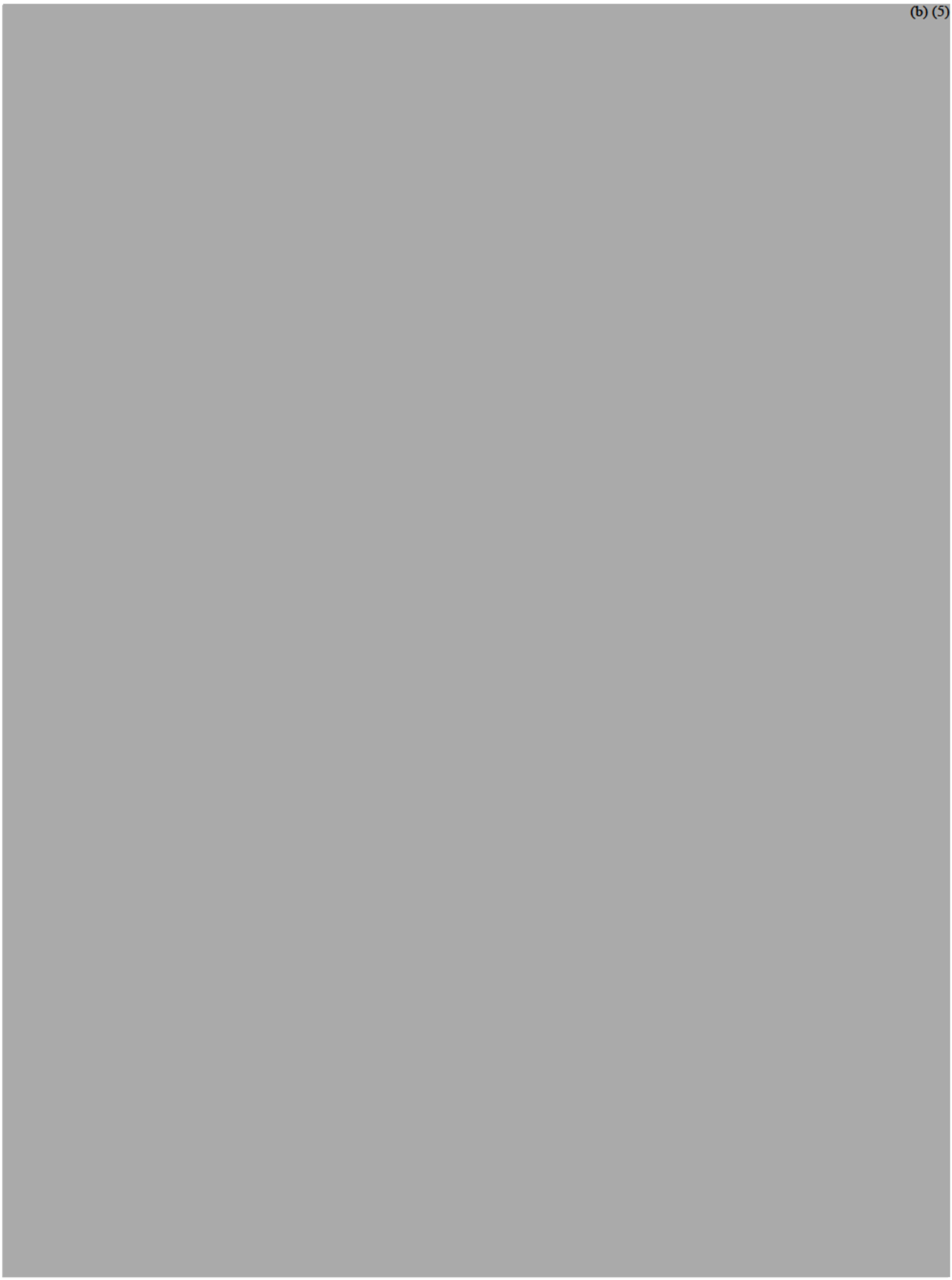

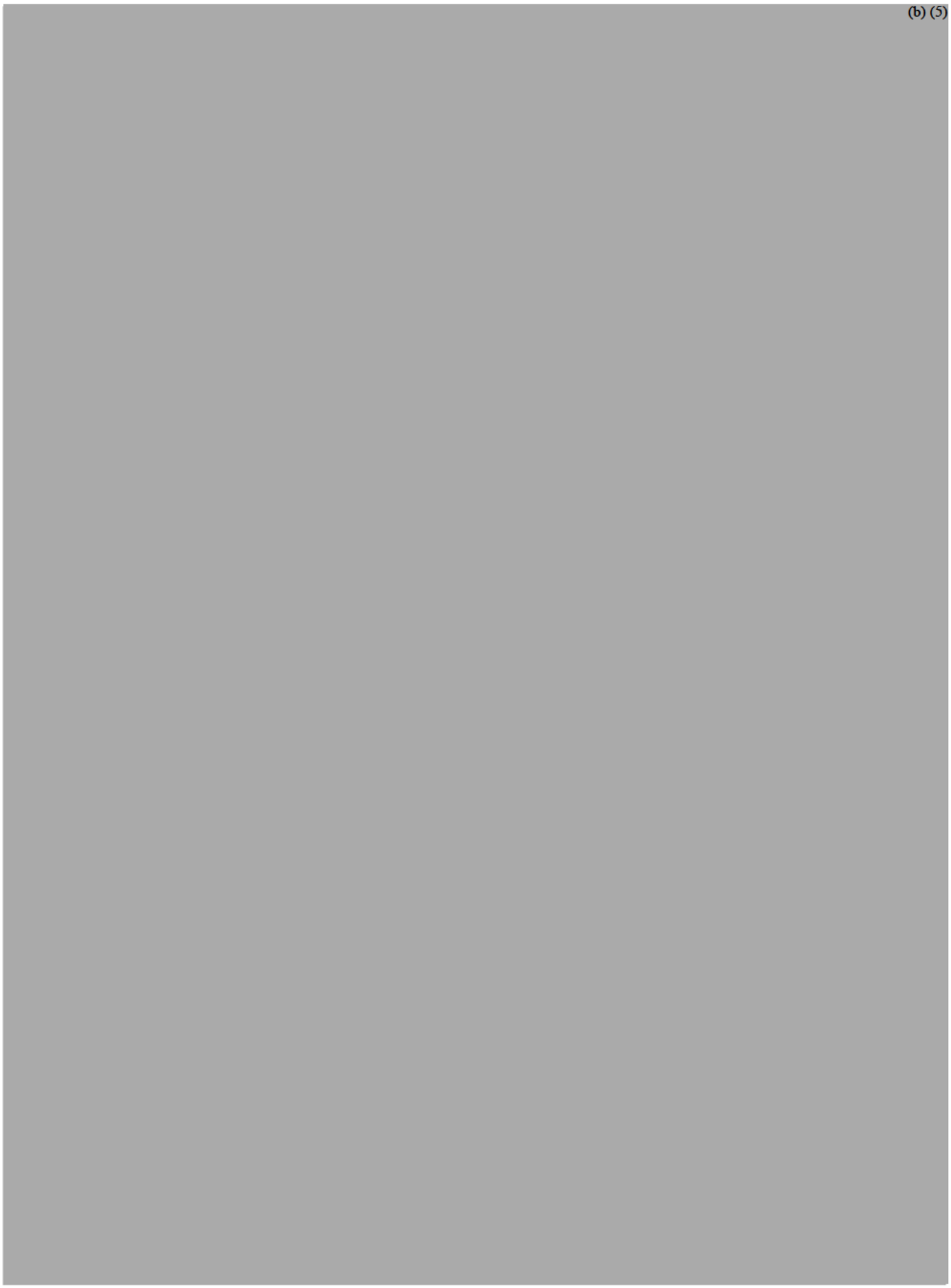
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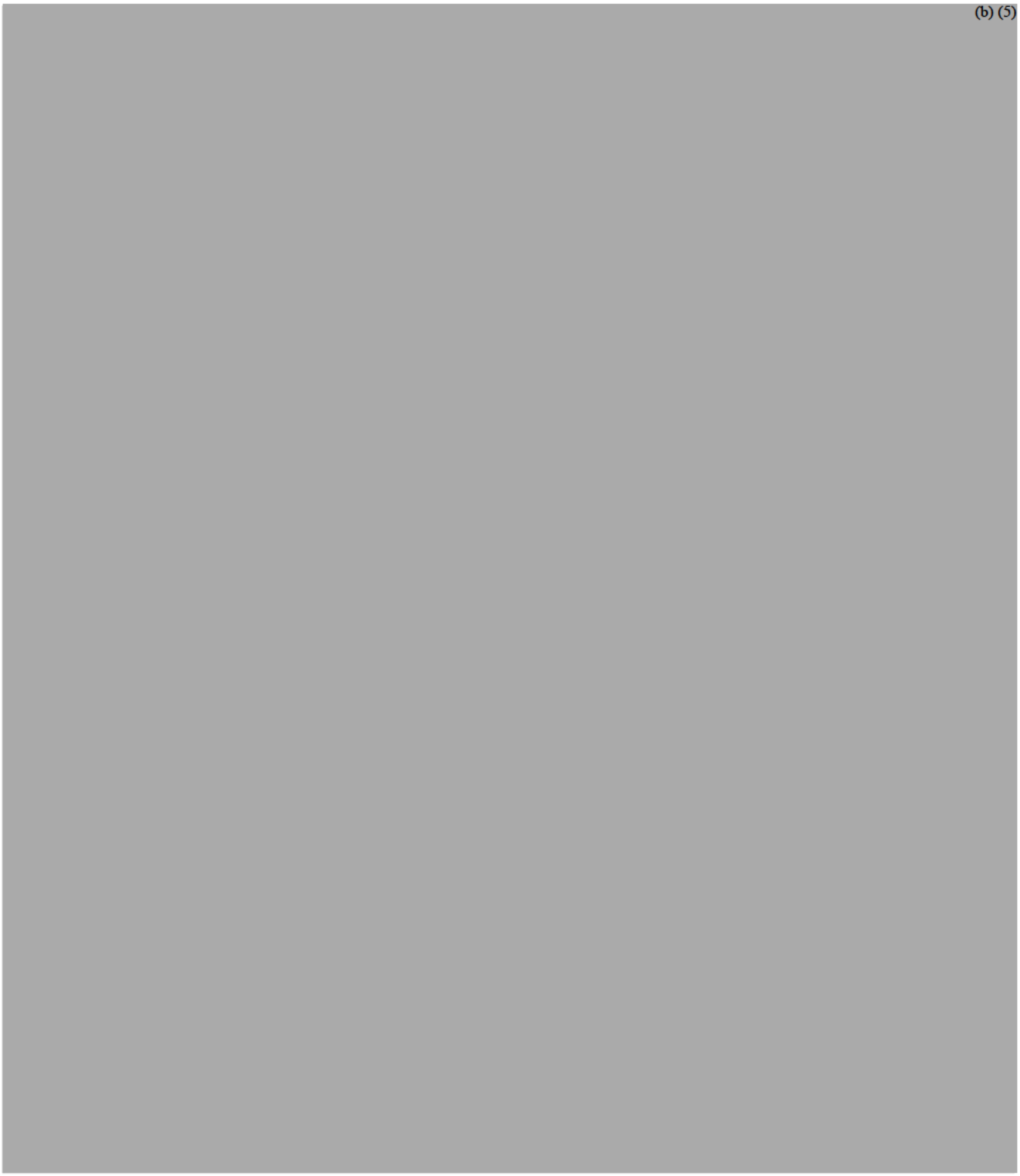
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From: Handley, Gray (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1ceb55d4b673477391c9da8a3eb3c75c-handleygr]
Sent: 3/8/2021 2:13:10 PM
To: Williams, Nekisha (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]
Subject: FW: Briefing Materials for CSIS Sponsored "Fireside Chat" with Australia CMO Kelly, March 9, 2021
Attachments: 2_03.09.21, CSIS Public Event, Fauci and Kelly, Run of Show, FINAL.pdf; 3_CMO Paul Kelly Bio.docx; 1_Draft Briefing Memo_Fireside Chat with Chief Medical Officer Kelly_updated_clean.doc

For Australia. G

From: Handley, Gray (NIH/NIAID) [E]
Sent: Friday, March 5, 2021 5:54 PM
To: Barasch, Kimberly (NIH/NIAID) [E] (b) (6)
Cc: Auchincloss, Hugh (NIH/NIAID) [E] (b) (6); Conrad, Patricia (NIH/NIAID) [E] (b) (6); Embry, Alan (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Awwad, David (NIH/NIAID) [C] (b) (6)
Subject: Briefing Materials for CSIS Sponsored "Fireside Chat" with Australia CMO Kelly, March 9, 2021

Hi Kim, Finally the weekend!

Here are briefing materials for the upcoming CSIS-moderated interaction with Australian Chief Medical Officer Kelly. The pre-brief is scheduled for just before the event.

Please let me know if anything else is needed.

Gray

A Conversation with Dr. Anthony Fauci and Dr. Paul Kelly

Public Event

CSIS Global Health Policy Center

SPEAKER RUN OF SHOW

Tuesday, March 9, 2021 | 3:00 p.m. – 3:30 p.m. **EST** | Washington D.C., U.S.A.

2:45 p.m. **Steve Morrison**, **Katherine Bliss, Dr. Kelly**, and **David Awwad** enter Zoom portal.

2:55 p.m. **Dr. Fauci** enters Zoom portal.

Participants confirm audio and video functionality. Participants review run of show and discussion items.

3:00 p.m. Event begins. **Katherine Bliss** provides welcoming remarks on behalf of the CSIS Commission on Strengthening America's Health Security.

3:01 p.m. **Katherine Bliss** asks opening question:

Opening Question:
The proliferation of variants is significantly changing the pandemic. We are entering a phase of seasonal, recurrent outbreaks, prompting changes in the development and use of vaccines and therapies. It changes what it means to achieve herd immunity and how we see the future.

How are the governments of Australia and the United States thinking about the transition in the pandemic and the policies that will be required to respond to new viral variants?

3:02 p.m. **Dr. Kelly** responds for approximately six minutes.

3:08 p.m. **Dr. Fauci** responds for approximately six minutes.

3:14 p.m. **Katherine Bliss** asks a follow up question:

Follow Up Question:
What does this change mean in the long term, particularly in the case of vaccines, control measures, and public behavior? How do we communicate this complicated new set of realities to a weary public?

3:15 p.m. **Dr. Kelly** responds for approximately two minutes.

3:17 p.m. **Dr. Fauci** responds for approximately two minutes.

3:18 p.m. **Katherine Bliss** directs the remainder of the conversation around the following points:

- *Australia and the United States are opposites in their pandemic experience, but close collaborators in many areas of health security.*
- *Thinking globally, what are the most important issues of common interest between the United States and Australia and where do you see the most fruitful directions for U.S.-Australian collaboration in health security at this moment, and for the future?*

3:30 p.m. **Katherine Bliss** concludes discussion. Event ends.

Points of Contact:
Amith Mandavilli, (919) 802-1440, AMandavilli@csis.org

Panelist Zoom Details:
https://csis.zoom.us/j/94254297785?pwd=RVh5WEZqcCtJZ3F0ck1OU1p4dDlyQT09
Meeting ID: 942 5429 7785
Passcode: 879267

Event Webpage:
Linked Here.

Event Concept:
On **Tuesday, March 9 from 3:00 p.m. - 3:30 p.m. EST** the CSIS Commission on Strengthening America's Health Security and the Indo Pacific Centre for Health Security will co-host a discussion with **Dr. Anthony Fauci**, Chief Medical Advisor to the President and Director of the National Institute of Allergy and Infectious Diseases, and **Dr. Paul Kelly**, Chief Medical Officer at the Australian Government Department of Health. Moderated by **Katherine E. Bliss**, Senior Fellow with the CSIS Global Health Policy Center, the discussion will examine how the Australian and United States governments are recalibrating their public health strategies in response to SARS-CoV-2 variants, which have fundamentally changed the trajectory of the pandemic.

The proliferation of variants threatens to curtail vaccine efficacy and generate an endemic, recurrent pandemic. Prospects for reaching a single pivot moment, in which herd immunity is achieved and public health controls are loosened, appear to have faded. Panelists will consider how to communicate this complicated set of new realities to a weary public, as well as the most promising areas of health security collaboration between the United States and Australia.

This event is made possible by the generous support of the Bill & Melinda Gates Foundation.

Chief Medical Officer Paul Kelly's Bio

Professor Paul Kelly is an Australian public health physician, epidemiologist and public servant, who is the Chief Medical Officer (CMO) of Australia. Prof. Kelly is also the head of the Australian Health Protection Principal Committee, and in that role, is an adviser to the National Cabinet of Australia created to respond to the COVID-19 pandemic.

He is also an epidemiologist with more than 30 years of research experience and has worked around the world in health system development and infectious disease epidemiology. Prof. Kelly was one of the leads in developing the FluCAN project, Australia's national influenza surveillance system used by hospitals to track patients who are hospitalized with influenza. This work helps to determine the effectiveness of the yearly influenza vaccine. He also has vast experience in infectious disease epidemiology, in particular influenza, pneumonia and tuberculosis.

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institute of Allergy
and Infectious Diseases
National Institutes of Health
Bethesda, MD 20892

March 5, 2021

Briefing Memorandum

To: Director, NIAID

Through: Principal Deputy Director, NIAID

From: Associate Director for International Research Affairs, NIAID

Subject: CSIS-hosted Fireside Chat with Australian Chief Medical Officer (CMO) Paul Kelly; Tuesday, March 9, 2021; 3 - 3:30 p.m.

Purpose

At his invitation, you will have a "fireside" chat with the Australian CMO Prof. Paul Kelly. Topic: "How the Australian and United States' Governments are recalibrating their public health strategies in response to SARS-CoV-2 variants".

Scenario

The CSIS Commission on Strengthening America's Health Security and the Indo Pacific Centre for Health Security will co-host this 30-minute Zoom public event. Katherine Bliss, CSIS Global Health Policy Center Senior Fellow, will moderate.

Background

Prof. Kelly, the Australian Department of Health's Chief Medical Officer, is a public health physician and epidemiologist. As the head of the Australian Health Protection Principal Committee, he advises the National Cabinet's COVID-19 response.

Australia's COVID-19 response strategy has included strict border closures, social distancing (including lockdowns), aggressive testing and contact tracing – with high rates of community compliance, The Australian government has vaccine purchase agreements with Pfizer, AstraZeneca, Novavax, and COVAX. Through COVAX, Australia has committed to support vaccine access for lower-income countries.

As of March 1, WHO had reported 28,970 confirmed COVID-19 cases and 909 deaths in Australia. Vaccination of high priority groups started in February.

If needed, NIAID currently supports 205 projects (five direct awards) that involve Australian scientists focused on: antimicrobial resistance, HIV/AIDS, immunology, influenza, malaria, SARS-CoV-2/COVID-19, and other emerging infectious diseases. Australian institutions participate in many NIAID-supported networks. NIAID funding to Australian institutions in FY19 was $17.7M and there were nine NIAID Australian intramural fellows. The Kirby Institute, University of New South Wales, is one of the international coordinating centers for INSIGHT and ACTIV-3.

CSIS-Provided Questions

Q. How are the governments of Australia and the United States thinking about the transition in the pandemic and the policies that will be required to respond to new viral variants? [Six minutes to respond]

Q. What does this change mean in the long term, particularly in the case of vaccines, control measures, and public behavior? How do we communicate this complicated new set of realities to a weary public? [Two minutes to respond]

Q. Australia and the United States are opposites in their pandemic experience, but close collaborators in many areas of health security. Thinking globally, what are the most important issues of common interest between the United States and Australia and where do you see the most fruitful directions for U.S.-Australian collaboration in health security at this moment, and for the future? [remainder of the conversation will focus on these points]

- Collaborations between the United States and Australia continue to be robust and prolific, and we hope we can continue to build on this relationship and strong foundation. I see opportunities for cooperation on emerging infectious diseases, particularly in Asia and the Pacific; a shared interest in anti-microbial resistance; and well matched capabilities for basic research that will lay the foundation for future pandemic response – like the development of pandemic pathogen vaccine platform technologies.
- In the infectious disease research arena, there is very active collaboration. NIAID provided nearly $18M to support scientific collaboration between U.S. and Australian scientists last year. Australian scientists and institutions, like the Kirby Institute at the University of New South Whales, participate in NIH networks that are implementing important COVID-19 clinical trials.
- Both the U.S. and Australia are committed to expanding global access to safe and effective vaccines. To help fund this access, President Biden recently announced that the U.S. will provide COVAX up to $4B this year. I know Australia also has made a strong commitment to COVAX.
- President Biden also has committed to U.S. actions that will help strengthen global health security and improve worldwide preparation for future pandemics. In this effort the U.S. will work both with individual countries like Australia, and with international organizations including WHO, CEPI, GAVI, and the Global Fund – as well as key private sector entities like the Gates Foundation and the Wellcome Trust.
- There are special opportunities for the U.S. and Australia to work together on regional initiatives to strengthen science and health security in the East-Asia and Pacific Region. Hopefully we can even develop some new activities in this area.

Enclosures

- CSIS *"Run of Show"* agenda
- Kelly Bio
- Australia Country Page

CC
Dr. Auchincloss
Mr. Folkers
Ms. Conrad

Drafted by: G. Bernabe, 3/1/21
Cleared by: J. Dominique

To: 'Gilbertson, Kerry'[kgilbertson@crdfglobal.org]
Cc: 'Kornek, Kay'[kkornek@crdfglobal.org]
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Wed 2/10/2021 9:13:11 AM (UTC-05:00)
Subject: RE: USJCMSP Workshop Registration Discussion
Draft Agenda_02102021.docx

Hi Kerry,

Attached is an updated draft agenda. Two speakers revised the title of their talks. Also, the Timekeeper has been identified. In the coming days, there will likely be additional changes from speakers and others.

We can discuss this further tomorrow.

Thanks again,
Gayle

From: Bernabe, Gayle (NIH/NIAID) [E]
Sent: Wednesday, February 10, 2021 8:52 AM
To: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Thanks Kerry!

I just received DOST's logo (see attachment).

Talk with you tomorrow,
Gayle

From: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Sent: Wednesday, February 10, 2021 8:47 AM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Hi Gayle,

Great! Tomorrow at 1:00 pm works well for us. I'll go ahead and send a calendar invite, and will follow-up later this afternoon with a link.

Please let me know if there is anything else we can do in the interim,
Kerry

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Wednesday, February 10, 2021 8:30 AM
To: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: Re: USJCMSP Workshop Registration Discussion

Good morning Kerry,

I'm available this afternoon from 1-2 or after 4:15 pm, and also tomorrow before 10 am or between 12-2.

For the agenda, it's ok to have individual tabs for each day (e.g., "Day 1 Agenda" and "Day 2 Agenda").

Thank you,
Gayle

From: "Gilbertson, Kerry" <kgilbertson@crdfglobal.org>
Date: Wednesday, February 10, 2021 at 8:10 AM
To: "Bernabe, Gayle (NIH/NIAID) [E]" (b) (6)
Cc: "Kornek, Kay" <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Hi Gayle,

Absolutely! Would you be available for a demonstration later this afternoon or tomorrow? Additionally, when adding in the agenda I've realized the whole three days likely won't fit on one page. Would you prefer to have a "Day 1 Agenda" and "Day 2 Agenda" tabs created, or remove some of the information (such as speakers) in order to save some space on one page? I'm also happy to walk through this in greater detail during our meeting.

All the best,
Kerry

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Tuesday, February 9, 2021 7:49 PM
To: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Thanks Kerry! It would be good to review the link and also schedule a meeting.

Kind regards,
Gayle

From: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Sent: Tuesday, February 9, 2021 3:01 PM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Hi Gayle,

Thank you for the attached documents – this is very useful! We'll work on building out the website and registration page, and will aim to have everything updated by tomorrow afternoon. Would you like to schedule a meeting to go over everything before it goes live, or would you prefer to review via link?

Warm regards,
Kerry

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Tuesday, February 9, 2021 1:12 PM
To: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Hi Kerry,

Attached are the following:

1. Website information with the main page summary, and other information to include in other webpage links (e.g., draft agenda, funding opportunities, and helpful links)
2. PDF of draft CVENT website content from a few years ago, to show just as an example but most of the content is not

needed for the workshop (unfortunately, I don't have a PDF copy of the final version of the CVENT webpages)
3. AMED's Logo (we are still waiting for DOST's logo)

Let me know if you have any questions or need additional information.

Thanks and kind regards,
Gayle

From: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Sent: Friday, February 5, 2021 2:13 PM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Hi Gayle,

It was nice to speak with you as well! Thank you for sending over the draft agenda. I've taken a look through our older records, and found a record of a previous request for CVENT web page and registration support. The email includes a draft for the website and the main page summary: would you be able to send us something similar? Unfortunately, the link to the previous site for the US-Japan conference is no longer live!

Warm regards,
Kerry

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Friday, February 5, 2021 12:20 PM
To: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Cc: Kornek, Kay <kkornek@crdfglobal.org>
Subject: RE: USJCMSP Workshop Registration Discussion

Hi Kerry,

It was very nice and helpful to speak with you this morning. Attached is the draft agenda that I mentioned. It includes a brief description of the workshop.

Let me know if there are any questions.

Thanks again and have a good weekend,
Gayle

-----Original Appointment-----
From: Gilbertson, Kerry <kgilbertson@crdfglobal.org>
Sent: Thursday, February 4, 2021 4:44 PM
To: Gilbertson, Kerry; Kornek, Kay; Bernabe, Gayle (NIH/NIAID) [E]
Subject: USJCMSP Workshop Registration Discussion
When: Friday, February 5, 2021 10:00 AM-10:30 AM (UTC-05:00) Eastern Time (US & Canada).
Where: https://crdfglobal.zoom.us/j/(b) (6)?pwd=QjVGU2ozbFozenhVQjZuVk45QmpFdz09

Kerry Gilbertson is inviting you to a scheduled Zoom meeting.

Join Zoom Meeting
https://crdfglobal.zoom.us/j/(b) (6)?pwd=QjVGU2ozbFozenhVQjZuVk45QmpFdz09

Meeting ID: (b) (6)
Passcode: (b) (6)
One tap mobile

+19294362866, (b) (6) US (New York)
+13017158592,, (b) (6) US (Washington DC)

Dial by your location
+1 929 436 2866 US (New York)
+1 301 715 8592 US (Washington DC)
+1 312 626 6799 US (Chicago)
+1 669 900 6833 US (San Jose)
+1 253 215 8782 US (Tacoma)
+1 346 248 7799 US (Houston)
888 788 0099 US Toll-free
877 853 5247 US Toll-free
Meeting ID: (b) (6)
Passcode: (b) (6)
Find your local number: https://crdfglobal.zoom.us/u/abJHCuws9h

Virtual Workshop on COVID-19

February 24-26, 2021 7:00-9:30 AM Eastern Standard Time

(20:00-22:30 Philippines Standard Time / 21:00-23:30 Japan Standard Time)

DESCRIPTION

The focus of the COVID-19 workshop is to discuss and provide an update on the current situation, recent scientific advances, and emerging techniques/technologies, as well as the intersection and impact on other infectious diseases, particularly in the Asia-Pacific region. The objectives of this virtual workshop are to share current research findings and foster existing and potential international research collaborations that engage scientists in the Asia-Pacific region and the United States. The target audience include scientists, public health practitioners/officials, and other stakeholders from the region interested in collaborative research.

The workshop is organized by the Scientific Planning Committee of the U.S.-Japan Cooperative Medical Sciences Program and the Philippines Department of Science and Technology.

Format: 20 minutes/talk (15 minutes presentation + 5 minutes discussion)

DRAFT AGENDA [Note: Times shown below are in Eastern Standard Time (EST)]

Wednesday, February 24 – Day 1 Clinical/Epidemiology

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting

Meeting Chairs and Moderators: Dr. Diane Griffin/USA and Dr. Ichiro Kurane/Japan
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:10 am EST Meeting Welcome - Brief Opening remarks

- Yasuyuki Sahara, Senior Assistant Minister for Health Security, Science and Technology, Minister's Secretariat Ministry of Health, Labour and Welfare, *JAPAN*
- Dr. Diane Griffin and Dr. Ichiro Kurane – Co-Chairs of U.S.-Japan Cooperative Medical Sciences Program

7:10 – 7:30 am EST Special Lecture: Global and regional situation of COVID-19

- Dr. Takeshi Kasai, Regional Director, Regional Office for the Western Pacific World Health Organization Region (WPRO), Manila, *PHILIPPINES*

7:30 – 7:50 am EST Transmission and epidemiology of SARS-CoV-2 in Hong Kong

- Prof. Benjamin John Cowling, Professor and Division Head, Division of Epidemiology and Biostatistics, The University of Hong Kong, *HONG KONG, SAR CHINA*

7:50 – 8:10 am EST Antibody responses after COVID-19 infection in patients who are mildly symptomatic or asymptomatic in Bangladesh, perspective of impact of COVID on cholera issues

- Dr. Firdausi Qadri, Director, Centre for Vaccine Sciences at the International Centre for Diarrhoeal Disease Research (icddr,b), *BANGLADESH*

8:10 – 8:30 am EST SARS-CoV-2 seroepidemiology: progress and challenges

- Dr. Andrew S. Azman, Associate Scientist, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, *USA* [based in Geneva]

8:30 – 8:50 am EST Factors affecting COVID-19 infection outcome: Host Factors and characteristics of the virus

- Prof. Marissa Alejandria, President, Philippine Society for Microbiology and Infectious Diseases, *PHILIPPINES*

8:50 – 9:10 am EST Antibody against SARS-CoV2 for its diagnosis, therapeutics and epidemiological analysis

- Prof. Akihide Ryo, Department of Microbiology, Yokohama City University School of Medicine, *JAPAN*

9:10 – 9:30 am EST Preparing for the influenza pandemic-What can be learned from SARS-CoV-2 serosurvey

- Dr. Florian Krammer, Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, *USA*

Thursday, February 25 – Day 2 Vaccine/Immunology/Therapeutics/Diagnostics

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting / Brief administrative announcements (if needed)

Meeting Chairs and Moderators: Philippines and Dr. Akira Nishizono/Japan
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:20 am EST Adjuvant for COVID-19 vaccine development

- Prof. Ken Ishii, The Institute of Medical Science, The University of Tokyo, *JAPAN*

7:20 – 7:40 am EST Immune response to SAR- CoV-2 (Through natural infection and through vaccination)

- Prof. Nina Gloriani, Professor, College of Public Health, University of the Philippines/Vaccine Expert Panel for COVID19, Department of Science and Technology, *PHILIPPINES*

7:40 – 8:00 am EST Updates on Diagnostics (Tests for neutralizing and protective antibodies)

- Dr. Mario Antonio Jiz, Head, Immunology Department, Research Institute for Tropical Medicine, *PHILIPPINES*

8:00 – 8:20 am EST Clinical trial study of Avigan (favipiravir)

- Prof. Yohei Doi, Professor, Fujita Health University School of Medicine, Department of Infectious Diseases, *JAPAN*

8:20 – 8:40 am EST COVID-19 vaccine tracker

- Dr. Nicole Basta, Associate Professor, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, *CANADA*

8:40 – 9:00 am EST B cell immunity of SARS-CoV-2

- Dr. Yoshimasa Takahashi, Director, Department of Immunology, the National Institute of Infectious Diseases, *JAPAN*

Friday, February 26 – Day 3 Virology/ Zoonosis/One-Health

6:30 – 6:45 am EST Speaker Check-In

6:45 – 7:00 am EST Attendees Join Zoom Meeting / Brief administrative announcements (if needed)

Meeting Chairs and Moderators: USA and Philippines
Chat/Q&A Monitor: Ruth Jomao-as/Philippines
Timekeeper: Dr. Naoko Kojima/Japan

7:00 – 7:20 am EST COVID-19: Philippine Experience

- Dr. Maria Rosario Vergeire, OIC- Undersecretary of Health, Health Regulation Team, Department of Health (DOH), *PHILIPPINES*

7:20 – 7:40 am EST Pathobiology of SARS-CoV-2, and animal model

- Prof. Yoshihiro Kawaoka, Professor, Division of Virology, Department of Microbiology and Immunology, The Institute of Medical Science, The University of Tokyo, *JAPAN*
  or

- Dr. Masaki Imai, Associate Professor, Institute of Medical Science, The University of Tokyo, *JAPAN*

7:40 – 8:00 am EST Compromised humoral functional evolution tracks with SARS-CoV-2 mortality

- Dr. Galit Alter, Professor, Harvard University, *USA*

8:00 – 8:20 am EST Zoonosis/One health

- Prof. Ling Fa WANG, Professor, the Programme in Emerging Infectious Diseases at Duke-NUS Medical School, *SINGAPORE*

8:20 – 8:40 am EST Zoonosis/One health

- Dr. Peter Daszak or Designee, EcoHealth Alliance, *USA*

8:40 – 9:00 am EST Environmental surveillance of SARS-CoV-2: opportunities and challenges

- Dr. Frederic Béen, Scientific Researcher, KWR Water Research Institute, *NETHERLANDS*

9:00 – 9:05 am EST Closing Remarks by the Philippines Department of Sciences and Technology

To: Balbus, John (NIH/NIEHS) [E] (b) (6)
Cc: Handley, Gray (NIH/NIAID) [E] (b) (6) Dominique, Joyelle (NIH/NIAID) [E][/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5c55f75b58f14ab2b2ccbac0a881ccae-dominiquejk]
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Thur 11/12/2020 9:47:24 PM (UTC-05:00)
Subject: For NIEHS: e-ASIA Climate Change Seminar Draft Agenda
easia_seminar_updated draft1.docx

Dear John,

Attached is the draft agenda for the e-ASIA climate change seminar.

It's great to hear your interest, and hope we could all work together to plan and convene this seminar in Hawaii next year.

Please let us know if you have any questions.

Thanks and kind regards,
Gayle

Gayle Bernabe, MPH
Regional Program Officer-East/SE Asia and the Pacific
Office of Global Research (OGR)
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Department of Health and Human Services
5601 Fishers Ln Rm 1E MSC 9802
Bethesda, MD 20892-9802 [For courier deliveries: 20852]
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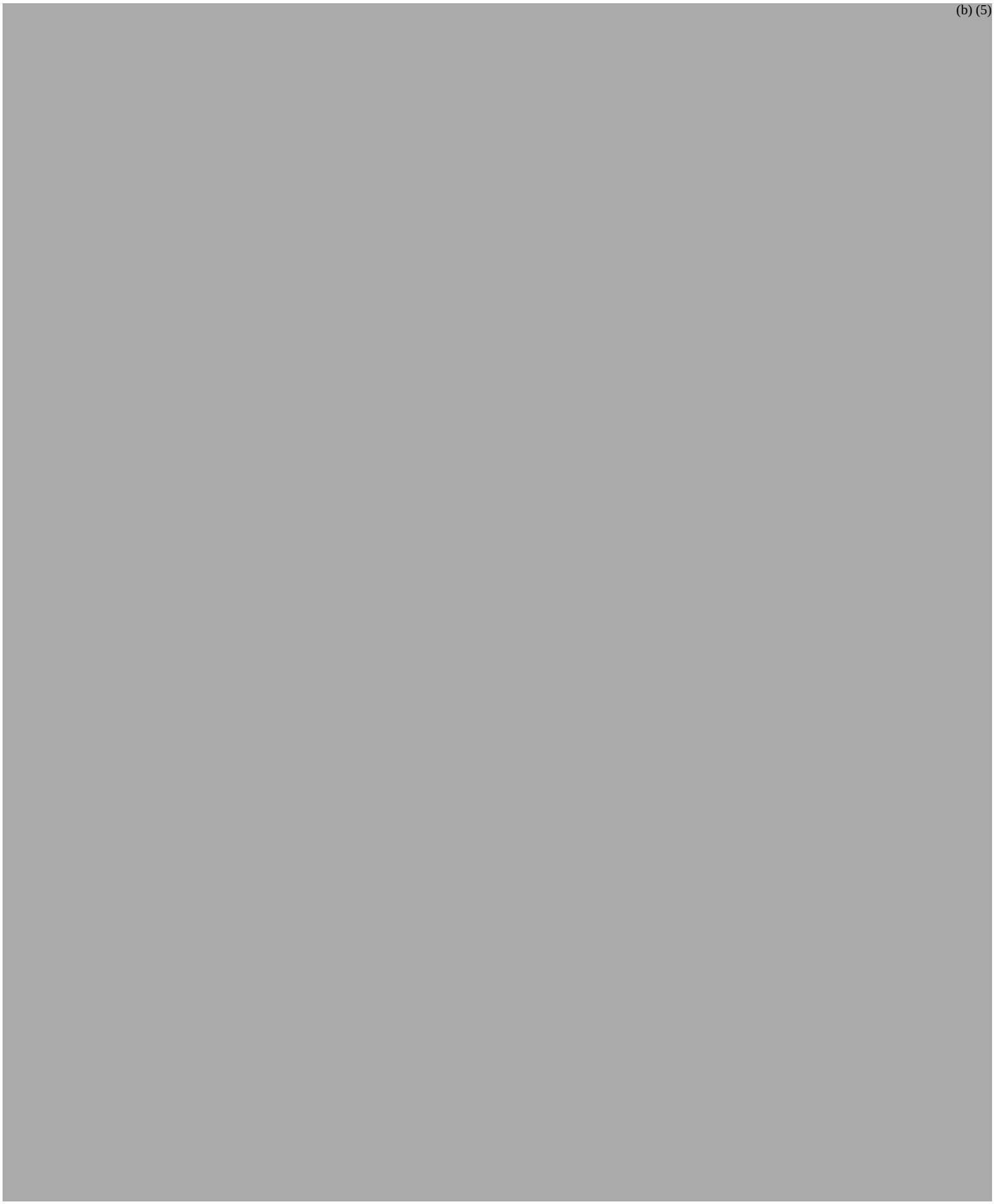
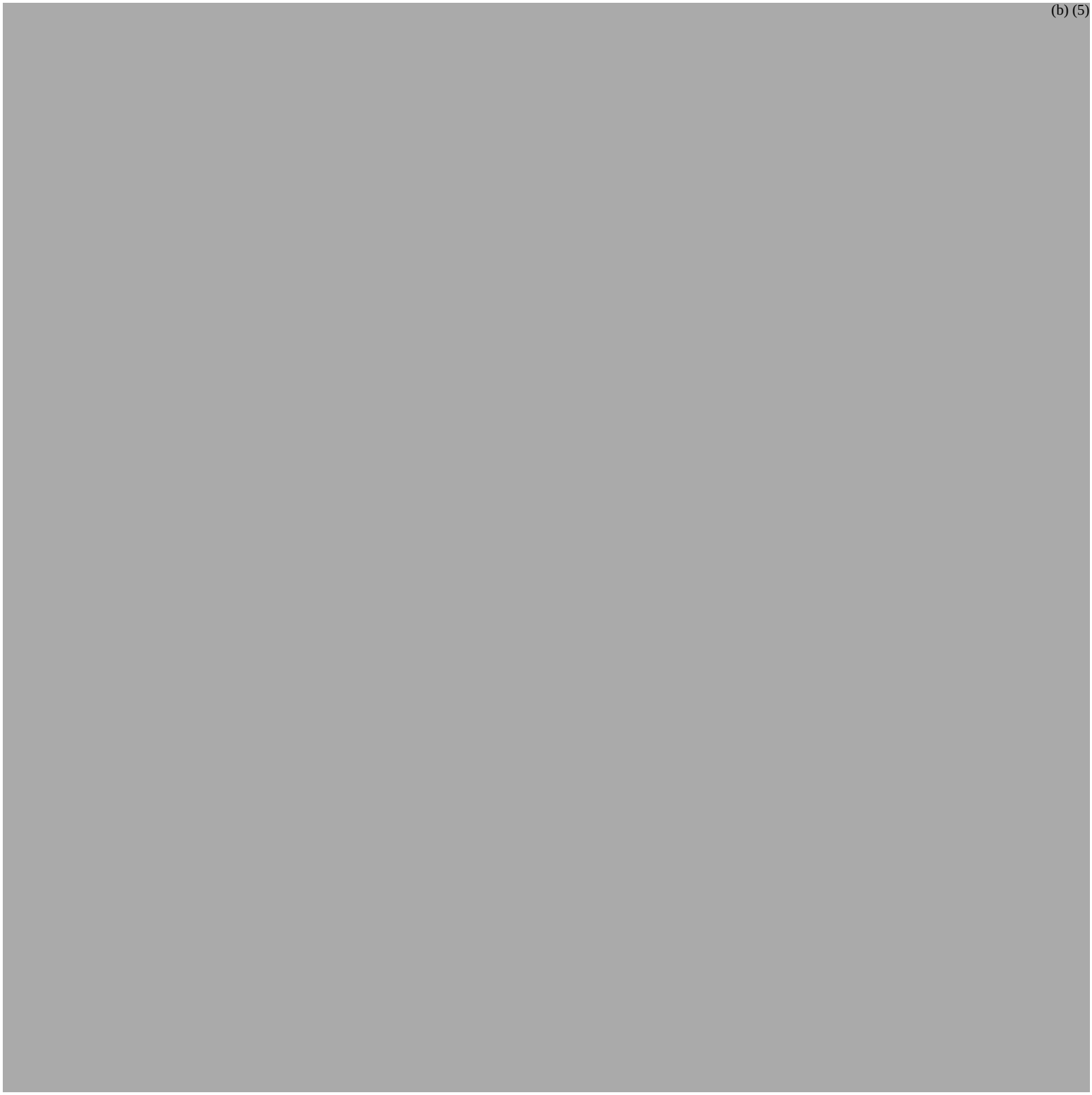
Email: (b) (6)




(b) (5)

To: ????[naoko-kojima@amed.go.jp]; Diane Griffin[dgriffi6@jhmi.edu]; kurane@niid.go.jp[kurane@niid.go.jp]; jinahgjomao-as@su.edu.ph[jinahgjomao-as@su.edu.ph]; Jaime Montoya (b) (6)
Cc: (b) (6); (b) (6) Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); ?????[yuriko-suzuki@amed.go.jp]; ????[takuto-miyamoto@amed.go.jp]; ????[shuhei-furukawa@amed.go.jp]
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Mon 2/1/2021 10:14:54 PM (UTC-05:00)
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)
Draft Agenda_02012021.docx

Dear All,

Thanks for the additional input and feedback, as well as your flexibility with the schedule!

Based on the updated outline sent by Naoko-san, attached is a revised draft agenda for consideration.

As for the schedule of the workshop, if for example we start at 7:00 AM Eastern Time (in DC/Baltimore area), that would be 20:00 in Manila and 21:00 in Tokyo. Would that work for the speakers/participants in the Philippines and Japan? We also need to check with the availability of the speakers in the US. Everyone's flexibility is much appreciated.

Will AMED confirm Dr. Takeshi Kasai's availability? If needed, we can modify the draft agenda for his talk depending on the day he is available to speak.

We can schedule a Zoom logistics planning meeting soon for those interested and available, and will coordinate with Naoko-san/AMED and Ruth/DOST.

Thank you all very much and kind regards,
Gayle

From: 小島直子 <naoko-kojima@amed.go.jp>
Sent: Monday, February 1, 2021 2:34 AM
To: Diane Griffin <dgriffi6@jhmi.edu>; Bernabe, Gayle (NIH/NIAID) [E] (b) (6); kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya (b) (6)
Cc: (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear all,

Thank you very much for updating the speaker's information in a separate email.

I have added speaker's title & affiliation (based on the internet information), and update the draft program to Ver3.
Please let me know if any edits are necessary.
(Sorry that I added to WPRO in topic 4 by mistake. I have added Dr. Takeshi Kasai (WPRO) to a special lecture as attached.)

>Dear Gayle and all,

Thank you so much for providing the draft agenda and program roles.

Either morning or night time would be fine to Japan side. (Dr. Kurane and AMED)
Thanks for your suggestion to have a zoom planning meeting.
If it is possible, could we have the meeting within this week or early next week ?
So that we can make a decision on time and also other logistics planning.

For the capacity of the workshop, AMED thinks that up to 500 participants is enough for discussion/interaction of the workshop.

Thank you for your consideration.

Kind regards,
Naoko

From: Diane Griffin <dgriffi6@jhmi.edu>
Sent: Friday, January 29, 2021 9:28 PM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); 小島直子 <naoko-kojima@amed.go.jp>; kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya (b) (6)
Cc: (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Gayle et al - I think this is fine in principle, but 2 questions/suggestions:

1. Please confirm that the Philippine Dept of S and T plans to identify speakers for the several TBD slots. It was my impression that they suggested these topics but did not suggest Philippine speakers for the topics. If they can identify speakers, that would be ideal, but if not, we should.
2. If you switched the timing so that it was morning in the US and evening in Japan/Philippines it would be afternoon in Europe and much better for those speakers than the middle of the night. Early morning is fine with me.

Let me know if I can help.

Diane

Diane E. Griffin, MD PhD
Vice President, National Academy of Sciences
University Distinguished Service Professor
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Johns Hopkins Bloomberg School of Public Health
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Baltimore, MD 21205
410-955-3459
dgriffi6@jhu.edu

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Friday, January 29, 2021 2:11 AM
To: naoko-kojima@amed.go.jp <naoko-kojima@amed.go.jp>; Diane Griffin <dgriffi6@jhmi.edu>; kurane@niid.go.jp <kurane@niid.go.jp>; jinahgjomao-as@su.edu.ph <jinahgjomao-as@su.edu.ph>; Jaime Montoya (b) (6)
Cc: (b) (6); (b) (6); (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); yuriko-suzuki@amed.go.jp <yuriko-suzuki@amed.go.jp>; takuto-miyamoto@amed.go.jp <takuto-miyamoto@amed.go.jp>; shuhei-furukawa@amed.go.jp <shuhei-furukawa@amed.go.jp>
Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear All,

Based on the draft outline, attached is a draft agenda with a brief description of the workshop for your review and input. The US Panel Secretariats are still working on confirming some of the speakers (Krammer, Medema, and Daszak).

For the timing of the workshop, would it be possible to start at 7:00 PM Eastern Standard Time (8 AM in Manila, 9 AM in Tokyo) or no later than 8:00 PM Eastern Standard Time? There are a couple of speakers based in Europe, though there ’s no ideal time for them (it will be around 1:00 or 2:00 AM for them). Let us know if there are any particular concerns/issues with this proposed schedule.

For logistics planning and to help prepare for the virtual format, we would like to schedule a Zoom planning meeting to include NIAID MEET (the group that provides technical meeting support). This would be an opportunity to introduce you all to the team who will be running the Zoom platform and address any questions. They also provided suggestions on key roles for virtual meetings (see second attachment). Please provide a few potential dates/times that you are available for the Zoom planning meeting. They are flexible and willing to meet in the evening our time.

How widely should we publicize this workshop? If the intent is to provide opportunities for interaction and discussion through Q&A and chat, we might consider limiting the number of participants. According to NIAID MEET, if we want to have more options for discussion/interaction then the cap would be up to 500 participants. Beyond that they would consider it as a more formal webinar with limited options for discussion.

Thank you for your input and kind cooperation.

Kind regards,
Gayle

From: "Bernabe, Gayle (NIH/NIAID) [E]" (b) (6)
Date: Friday, January 22, 2021 at 1:14 AM
To: "naoko-kojima@amed.go.jp" <naoko-kojima@amed.go.jp>, "dgriffi6@jhmi.edu" <dgriffi6@jhmi.edu>, "kurane@niid.go.jp" <kurane@niid.go.jp>, "jinahgjomao-as@su.edu.ph" <jinahgjomao-as@su.edu.ph>, Jaime Montoya (b) (6)
Cc: (b) (6) (b) (6) (b) (6), Gray Handley (b) (6), "Dominique, Joyelle (NIH/NIAID) [E]" (b) (6), "yuriko-suzuki@amed.go.jp" <yuriko-suzuki@amed.go.jp>, "takuto-miyamoto@amed.go.jp" <takuto-miyamoto@amed.go.jp>, "shuhei-furukawa@amed.go.jp" <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Naoko-san,

Thank you for your email and for providing the updated draft outline.

If there are no additional changes at this time, the US Panel Secretariats/Chair will continue to confirm the availability of their nominated speakers.

Thank you all for your kind support. Also continue to stay safe and well.

Kind regards,
Gayle

From: 小島直子 <naoko-kojima@amed.go.jp>
Sent: Wednesday, January 20, 2021 2:38 AM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); dgriffi6@jhmi.edu; kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya <(b) (6)

Cc: (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Gayle-san,

I hope not that you are too busy responding any changes may have happened by the new Presidency in the US.

Attached, I have updated the Draft (Ver.2) of Web EID conference based on the discussions between Dr. Kurane and Dr. Montoya.
If there are no changes or opinions from NIAID and Dr. Griffin, could you kindly ask SPC for any opinion or approval as the next step ?

Once SPC confirms the Draft, we would like to start contact Japanese candidate speakers.

Thank you so much for your kind support. Keep staying safe and well.

With best wishes,
Naoko

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Thursday, January 14, 2021 11:24 AM
To: 小島直子 <naoko-kojima@amed.go.jp ; dgriffi6@jhmi edu; kurane@niid go jp; jinahgjomao a @ u edu ph; Jaime Montoya (b) (6)
Cc: (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Naoko-san,

We are able to work with NIAID MEET, a group that provides technical support for virtual (and other) meetings. For the COVID-19 workshop, they are available to help set-up and run the Zoom meeting. They can provide the link to all the registered participants. We can also schedule a test/practice run to help prepare for the virtual workshop.

Please do not hesitate to contact me if you have any further questions. It is no bother at all.

Thanks and kind regards,
Gayle

From: 小島直子 <naoko-kojima@amed.go.jp>
Sent: Wednesday, January 13, 2021 5:30 AM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); dgriffi6@jhmi.edu; kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya (b) (6)
Cc: (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp ; 宮本拓人 takuto miyamoto@amed go jp ; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Gayle-san and all,

I am sorry for bothering you again.

I was wondering if there are any ideas or plans on logistic support to hold the virtual workshop.
AMED can use Skype business as well as Webex as online meeting system. (Unfortunately, not Zoom.)
Please let AMED know if there are any supports that we can offer.

Once, dates and candidate speakers are confirmed by DOST-PCHRD, I would like to start contacting Japanese speakers for their availability.

Any ideas and thoughts will be highly appreciated.

Thank you and kind regards,
Naoko Kojima

From: 小島直子
Sent: Tuesday, January 12, 2021 7:27 PM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); dgriffi6@jhmi.edu; kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya (b) (6)
Cc: (b) (6)
Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Gayle-san,

Thank you so much for your reply and saving the dates for the entire last week of February for the Workshop.

Dear Drs. Buendia and Montoya,

I hope that February 24th to 26th would be an acceptable change for all members in Philippines. Could you please let us know of your availability ?

Thank you very much and warm regards,
Naoko

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Friday, January 8, 2021 10:07 PM
To: 小島直子 <naoko-kojima@amed.go.jp>; dgriffi6@jhmi.edu; kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya (b) (6)>
Cc: (b) (6)
Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Dr. Kojima,

Thank you for your email. It is good to know that you will also be working on the USJCMSP.

We have saved the dates for the entire last week of February, so it should be fine to convene the workshop based on the availability of speakers and not during Japan's national holiday. However, DOST should also confirm their availability and let us know if there are any issues with the one day change of the schedule to start on the morning (in Japan and Philippines time zones) of Feb. 24 and end on Feb. 26.

Thanks also to Dr. Kurane for sending the updated draft program.

Kind regards,
Gayle

From: 小島直子 <naoko-kojima@amed.go.jp>
Sent: Wednesday, January 6, 2021 4:07 AM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); dgriffi6@jhmi.edu; kurane@niid.go.jp; jinahgjomao-as@su.edu.ph; Jaime Montoya (b) (6)
Cc: (b) (6) Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Gayle,

Thank you so much for your new year greeting yesterday!
May 2021 be a happy and fruitful year for everyone.

Let me introduce myself that I am going to support EID conference by taking over Miwa's place from today.
It is my great pleasure to work with you here as well.

About preferred dates of the conference, since February 23rd is national holiday in Japan, we would like to suggest that the morning of February 24-26 instead for speakers from Japan side, if there is no problem with everyone.
Dr. Kurane will kindly send an updated program to Dr. Griffin in a few days.

Thank you and with best new year's wishes,
Naoko Kojima

****
KOJIMA Naoko (Ph.D.)

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Office of International Collaboration, Division of International Strategy
Department of International Strategy
Japan Agency for Medical Research and Development (AMED)
23F Yomiuri Shimbun Bldg. 1-7-1 Otemachi, Chiyoda-ku, Tokyo 100-0004 JAPAN
Phone: +81-3-6870-2210 Fax: +81-3-6870-2240
E-mail：naoko-kojima@amed.go.jp

From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Sent: Tuesday, January 5, 2021 7:55 AM
To: Diane Griffin <dgriffi6@jhmi.edu>; kurane@niid.go.jp; Jinah Ruth Jomao-as <jinahgjomao-as@su.edu.ph>; Jaime Montoya (b) (6); 古川修平 <shuhei-furukawa@amed.go.jp>
Cc: leah buendia (b) (6); Rogelio Guaring (b) (6); Ruth Jomao-as (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; Paul Ernest De Leon (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Dominique, Joyelle (NIH/NIAID) [E] (b) (6)
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Happy New Year greetings to all!

Thanks for the initial feedback regarding the proposed speakers for the COVID-19 workshop.

This is to follow-up if there are any updates with the speakers to be invited and the tentative agenda. Please provide any updated information.

Also, if I recall, the preferred dates are the morning of February 23-25 in Japan and the Philippines (evening of February 22-24 in the US). Please confirm or let me know if there are any changes.

Then we can work on the invitations to the speakers and the registration information.

Thank you very much for your time and input.

Kind regards,
Gayle

Gayle Bernabe, MPH
Regional Program Officer-East/SE Asia and the Pacific
Office of Global Research (OGR)
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Department of Health and Human Services
5601 Fishers Ln Rm 1E MSC 9802
Bethesda, MD 20892-9802 [For courier deliveries: 20852]
Phone: (b) (6)
Fax: (301) 480-2954
Email: (b) (6)

From: Diane Griffin <dgriffi6@jhmi.edu>
Sent: Monday, December 21, 2020 7:19 AM
To: 園田美和 <miwa-sonoda@amed.go.jp>; kurane@niid.go.jp; Jinah Ruth Jomao-as <jinahgjomao-as@su.edu.ph>; Jaime Montoya (b) (6)
Cc: leah buendia (b) (6); Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Rogelio Guaring (b) (6); Ruth Jomao-as (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; Paul Ernest De Leon (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6)
Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Thanks Ichiro and Miwa We will await word on Philippine speakers and good luck to you Miwa in your new job. We will miss you!

Diane

Diane E. Griffin, MD PhD
Vice President, National Academy of Sciences
University Distinguished Service Professor
W. Harry Feinstone Department of Molecular Microbiology and Immunology
Johns Hopkins Bloomberg School of Public Health
615 N. Wolfe St, Rm E5636
Baltimore, MD 21205
410-955-3459
dgriffi6@jhu.edu

From: 園田美和 <miwa-sonoda@amed.go.jp>
Sent: Monday, December 21, 2020 2:09 AM
To: kurane@niid.go.jp <kurane@niid.go.jp>; Diane Griffin <dgriffi6@jhmi.edu>; Jinah Ruth Jomao-as <jinahgjomao-as@su.edu.ph>; Jaime Montoya (b) (6)
Cc: leah buendia (b) (6); Gayle (NIH/NIAID) [E] (b) (6); Rogelio Guaring (b) (6); Ruth Jomao-as (b) (6); 鈴木友理子 <yuriko-suzuki@amed.go.jp>;

古川修平 <shuhei-furukawa@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; Paul Ernest De Leon [redacted]; [redacted]
Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

External Email - Use Caution

Dear Dr. Montoya

Thank you very much for proposing the following four lectures.

1) Interaction between SARS COV2/COVID19 and other organisms/diseases for COVID19 (Speaker to be identified)
2) Updates on Diagnostics (Tests for neutralizing and protective antibodies) (Speaker to be identified)
3) Immune response to SARS COV2 (Through natural infection and through vaccination) (Speaker to be identified)
4) Factors affecting COVID19 infection outcome: Host Factors and characteristics of the virus (Speaker to be identified)

The talks from the Philippines are very valuable and all of them will be included in the agenda.
Could you please recommend speakers for each theme too?
We are trying to have a balance of male and female speakers, but since we are currently predominantly male, we hope to include female speakers.

>Dear Dr. Diane and Dr Kurane

Thank you very much for all your hard work.
Please continue the discussion to draft the agenda, incorporating the speakers suggested by Mr. Montoya.
I really apologize for not being able to continue the work.

I also am writing to let you know that I will be moving on from the AMED in the end of December.
Shuhei Furukawa has also been helpful in taking on the point-person role for the program, and Yuriko Suzuki and Takuto Miyamoto will continue to engage with the program to the extent they are available, too.

It was regrettable for me that I couldn't have an opportunity to say farewell in person, but for now I wanted to share this with you.
I've had an exciting time here at the AMED and have learned a tremendous amount from each of you.
We couldn't realize the program related activities without your corporation!

Thanks again for your tremendous support and engagement.

PS: I will start to work at the Center for Clinical Trial, National Center for Global Health and Medicine Japan from upcoming January. I wish to work with you again future!

Sincerely yours

Miwa
-----Original Message-----
From: kurane@niid.go.jp <kurane@niid.go.jp>
Sent: Monday, December 21, 2020 2:11 PM
To: Diane Griffin <dgriffi6@jhmi.edu>
Cc: 園田美和 <miwa-sonoda@amed.go.jp>; leah buendia [redacted]; Gayle (NIH/NIAID) [E] [redacted] Rogelio Guaring [redacted] Ruth Jomao-as [redacted] Jinah Ruth Jomao-as <jinahgjomao-as@su.edu.ph>; 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>; 宮本拓人 <takuto-miyamoto@amed.go.jp>; Jaime Montoya

[redacted] Paul Ernest De Leon [redacted];

Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)

Dear Diane
Thank you for the comments.
1) My understanding is that Philippine speakers will be suggested later by Dr. Montoya. I will confirm this.
2) The male/female balance is an important point to be considered. Thank you for your suggestion.
3) We could have 6 more speakers if we accept 3 speakers/hour. This will makes program arrangement easier. I will make a tentative program based on this option, and have you check later.
Best regards,
Ichiro

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

> Thanks Ichiro. I agree with your overall plan.
>
> A couple of comments:
>
> 1. It wasn't clear to me that the suggestions from the Philippines were for topics or for speakers as no speaker suggestions for those topics were listed. For the most part, it looked like the topics were covered by other suggested speakers. Maybe that group could clarify.
> 2. By my count, for speakers we currently have 7 males and 1 female and 3 that I am unsure of plus the 4 TBD (? from the Philippines). We will need to pay attention to balance in filling out the roster. We could also consider 3 speakers/h (15 min + 5 min) to have more slots.
>
> Diane
>
> Diane E. Griffin, MD PhD
> Vice President, National Academy of Sciences
> University Distinguished Service Professor
> W. Harry Feinstone Department of Molecular Microbiology and Immunology
> Johns Hopkins Bloomberg School of Public Health
> 615 N. Wolfe St, Rm E5636
> Baltimore, MD 21205
> 410-955-3459
> dgriffi6@jhu.edu
> _____
> From: kurane@niid.go.jp <kurane@niid.go.jp>
> Sent: Saturday, December 19, 2020 2:24 AM
> To: Diane Griffin <dgriffi6@jhmi.edu>
> Cc: 園田美和 <miwa-sonoda@amed.go.jp>; leah buendia <leahbuendia@yahoo.com>; Gayle (NIH/NIAID) [E] [redacted] Rogelio Guaring <[redacted] Ruth Jomao-as [redacted]

Jinah Ruth Jomao-as <jinahgjomao-as@su.edu.ph>; 鈴木友理子 <yuriko-suzuki@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>; 宮本拓人 <takuto miyamoto@amed go jp>; Jaime Montoya [redacted]; Paul Ernest De Leon [redacted]

> Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom & Agenda)
>
>
> External Email - Use Caution
>
>
>
> Dear all
> I have attached a draft program prepared from Miwa's list for next
> discussion. I thought it easier to start discussion with a draft.
> Best regards,
> Ichiro Kurane
>
> ----- Original Message -----
> > Let me look at it and I'll get back to you.
> >
> > Diane E. Griffin, MD PhD
> > Vice President, National Academy of Sciences
> > University Distinguished Service Professor
> > W. Harry Feinstone Department of Molecular Microbiology and Immunology
> > Johns Hopkins Bloomberg School of Public Health
> > 615 N. Wolfe St, Rm E5636
> > Baltimore, MD 21205
> > 410-955-3459
> > dgriffi6@jhu.edu
> > _____
> > From: 園田美和 <miwa-sonoda@amed.go.jp>
> > Sent: Wednesday, December 16, 2020 8:52 PM
> > To: leah buendia [redacted] kurane@niid.go.jp <kurane@
> niid.go.jp>; Gayle (NIH/NIAID) [E] [redacted]; Rogelio
> Guaring [redacted]
> > Cc: Ruth Jomao-as [redacted] Jinah Ruth Jomao-as <
> jinahgjomao-as@su.edu.ph>; Diane Griffin <dgriffi6@jhmi.edu>; 鈴木友理子
> <yuriko-suzuki@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>; 宮本
> 拓人 <takuto-miyamoto@amed.go.jp>; Jaime Montoya <jmontoya204@gmail.com>;

> Paul Ernest De Leon [redacted]; [redacted]
> gov [redacted]
> > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom &
> Agenda)
> >
> >
> > External Email - Use Caution
> >
> >
> >
> > Dear Dr. Buendia and Dr. Montoya
> >
> >
> >
> > I really appreciate your suggestions.
> >
> > We have included your COVID-19 topics in the list.
> >
> > Moreover, please let us know if you have any suggestions for the
date
> of the workshop.
> >
> >
> >
> >
> >
> > >Dr. Kurane and Dr. Diane
> >
> >
> >
> > We finally received 27 topics from the US, Japan and the Philippines.
> >
> > If we will organize a 2hours/day* 3days workshop, we should narrow
> down the numbers of topics to around 18-24
> >
> > Please let us know what we will do for next steps.
> >
> > Should we circulate the list to ask for SPC's opinion?, Or should we
> need to convene a SPC conference call to discuss them?
> >
> >
> >
> > Sincerely
> >

> >
> >
> > PS: The password of the list is eid
> >
> >
> >
> > Miwa
> >
> >
> >
> > From: leah buendia (b) (6)
> > Sent: Wednesday, December 16, 2020 4:46 PM
> > To: kurane@niid.go.jp; 園田美和 <miwa onoda@amed go jp>; Gayle (NIH
/
> NIAID) [E] (b) (6) (b) (6)
> > Cc: Ruth Jomao-as (b) (6) Jinah Ruth Jomao-as <
> jinahgjomao-as@su.edu.ph>; Diane Griffin <dgriffi6@jhmi.edu>; 鈴木友理
子
> <yuriko-suzuki@amed.go.jp>; 古川修平 <shuhei-furukawa@amed.go.jp>; 宮
本
> 拓人 <takuto-miyamoto@amed.go.jp>; Jaime Montoya (b) (6)
com>;
> Paul Ernest De Leon (b) (6) Rogelio Guaring <
> (b) (6)
> > Subject: Fw: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom &
> Agenda)
> >
> >
> >
> >
> >
> > May I forward to the team the response of Dr. Montoya from the DOST-
> Philippine Council for Health Research and Development
> >
> >
> >
> > Regards
> >
> > Leah Buendia
> >
> >
> >
> >
> >

> >
> >
> > ----- Forwarded Message -----
> >
> > From: Jaime Montoya [redacted](b) (6)
> com>>
> >
> > To: leah buendia [redacted](b) (6)
>>
> >
> > Sent: Wednesday, December 16, 2020, 03:27:52 PM GMT+8
> >
> > Subject: Re: Fw: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom &
> Agenda)
> >
> >
> >
> >
> >
> > Hello Asec Leah:
> >
> >
> >
> > These are my proposed topics but some of the topics are better
> discussed by our US or Japanese colleagues. Thank you.
> >
> >
> >
> > Proposed Topics on the USJCM Meeting:
> >
> > COVID19 topic:
> >
> > 1) Interaction between SARS COV2/COVID19 and other organisms/
dis
> >
> >
> >
> > eases for COVID19
> >
> > (Speaker to be identified)
> >
> > 2) Updates on Diagnostics (Tests for neutralizing and
protective
> antibodies)
> >

> > (Speaker to be identified)
> >
> > 3) Immune response to SARS COV2 (Through natural infection and
> through vaccination)
> >
> > (Speaker to be identified)
> >
> > 4) Factors affecting COVID19 infection outcome: Host Factors
and
> characteristics of the virus
> >
> > (Speaker to be identified)
> >
> >
> >
> > Neglected Tropical Diseases:
> >
> >
> >
> > 1) Schistosomiasis: Dr Lydia Leonardo
> >
> > 2) Leptospirosis: Dr Nina Gloriani
> >
> > 3) Helminthiasis: Dr Vicente Belizario
> >
> > 4) Tuberculosis: Dr. Camilo Roa
> >
> >
> >
> >
> >
> > ---------- Forwarded message ---------
> > From: <kurane@niid.go.jp<mailto:kurane@niid.go.jp>>
> > Date: Tue, Dec 15, 2020 at 8:54 AM
> > Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom &
> Agenda)
> > To: 園田美和 <miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.jp>>
> > Cc: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
> (b) (6) >, (b) (6)
> (b) (6), Jinah Ruth Jomao-as <jinahgjomao-as@su.edu.ph<mailto:
> jinahgjomao-as@su.edu.ph>>, Diane Griffin <dgriffi6@jhmi.edu<mailto:
> dgriffi6@jhmi.edu>>, 鈴木友理子 <yuriko-suzuki@amed.go.jp<mailto:
yuriko-
> suzuki@amed.go.jp>>, 古川修平 <shuhei-furukawa@amed.go.jp<mailto:
shuhei-

> furukawa@amed.go.jp>>, 宮本拓人 <takuto-miyamoto@amed.go.jp<mailto:
> takuto-miyamoto@amed.go.jp>>
> >
> >
> >
> > Dear all
> > I have 2 comments.
> > 1) I think we should have talks from the Philippine side. Miwa and
> Gayle,
> > could you contact the Philippine SPC member an ask nominations?
> > 2) Presentation on the clinical trial study of Avigan would be
> > interesting. Dr. Yohei Doi has lead this study. I believe that it is
> in
> > the process of judging in MHLW, and I just wonder if he can present
> the
> > results before the final conclusion.
> > Best regards,
> > Ichiro
> >
> > ----- Original Message -----
> > > Dear Gayle, Diane and Kurane
> > >
> > > I compiled 17 session titles and speakers, suggested by SPC
members,
> > on the excel sheet. (Password is eid)
> > > I roughly sorted out topics in same categories (some may not be
> > appropriately categorized).
> > > Please check, recategorize as appropriate and give your thoughts.
> > > It will be a base of the agenda.
> > >
> > > >Gayle
> > > I merged all ideas from Edward Ryan, Richard Kuhn, Paula Cannon,
> > Kristina Lu, Ken Ishii, Yohei Doi and Akira Nishizono.
> > > If you have received other comments from U.S. side, please include.
> > >
> > >
> > > >Ruth
> > > Do you have any suggestion about Philippine or international
> speakers
> > and workshop dates?
> > >
> > >
> > > Best regards
> > >

> > > Miwa
> > >
> > > _____
> > > From: 園田美和
> > > Sent: Thursday, December 3, 2020 11:52 AM
> > > To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
> (b) (6) Jinah
> > Ruth Jomao-as <jinahgjomao-as@su.edu.ph<mailto:jinahgjomao-as@su.edu.
> ph>>; Diane Griffin <dgriffi6@jhmi.
> > edu<mailto:dgriffi6@jhmi.%0bedu>>; kurane@niid.go.jp<mailto:kurane@
> niid.go.jp>; yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp>;
> kenishii@ims.u-tokyo<mailto:kenishii@ims.u-tokyo>.
> >
ac.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fac.jp%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357574695%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=fhUBm8%2BLav9Zrbe2xN%2FcObTAM%2FSwH4NC2nCdKBV1LuE%3D&reserved=0>;

> 'Akira Nishizono' <a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.
> ac.jp>>; Handley, Gray (NIH/
> > NIAID) [E] (b) (6)
> Dominique, Joyelle (NIH/NIAID) [E]
> > (b) (6); Lu,
> Kristina (NIH/NIAID) [E] (b) (6)
> > (b) (6) McDonald, David (NIH/NIAID) [E] <
> (b) (6); Thomas J.
> > Hope <thope@northwestern.edu<mailto:thope@northwestern.edu>>; Paula
> Cannon <pcannon@usc.edu<mailto:pcannon@usc.edu>>; Hall,
> > Robert (NIH/NIAID) [E] (b) (6)
gov
> >>; 'etryan@mgh.harvard.edu<mailto:etryan@mgh.harvard.edu>' <
> > etryan@mgh.harvard.edu<mailto:etryan@mgh.harvard.edu>>; Park, Eun-
> Chung (NIH/NIAID) [E] (b) (6)
> >
nih.gov<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnih.gov%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=H60s23kPQwmpuX%2FT9LF5JbIa9jyoCB48KkmbrtTh8K4%3D&reserved=0>>;

> Kuhn, Richard J <kuhnr@purdue.edu<mailto:kuhnr@purdue.edu>>; Williams,
> Nekisha (NIH/
> > NIAID) [C] (b) (6)
>>;
> Montoya Jaime C (b) (6)
> >

(b) (6)<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fdost.gov.ph%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=ZCJAPr88K2lGbpAHBKSsmu%2Fo2zB9%2BRAX2zoOlsA%2Fgns%3D&reserved=0>>;

> leah buendia (b) (6)
> > > Cc: 野田正彦 <masahiko-noda@amed.go.jp<mailto:masahiko-noda@amed.go.
> jp>>; 鈴木友理子 <yuriko-suzuki@
> >
amed.go.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Famed.go.jp%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=x9tpbOSClG1vykKCPCyCzyGpzib4rHT7VXrLcIOY9qk%3D&reserved=0>>;

> 古川修平 <shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp>
> >; Takiko Sano <t.sano@
> > amedjp-us.org<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Famedjp-us.org%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=pROWyVnAC98R2jhf%2FLpAtC4rC6bWjPNc9AcofWhBEfo%3D&reserved=0>>;

> 宮本拓人 <takuto-miyamoto@amed.go.jp<mailto:takuto-miyamoto@amed.go.jp>
> >
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom &
> > Agenda)
> > >
> > >
> > > Dear all
> > >
> > > Thanks for your participation and active discussion in the last SPC
> > meeting.
> > > Please find the draft discussion memo for your reference. (The
> > password is eid).
> > >
> > > To do
> > > • Please send to me and Gayle your idea on two or three talks
> > and speakers in the region regarding your areas of interest, in
> > consideration of how COVID-19 has impacted your research field and
> your

> > research question.
> > > • Please also let us know about your preference for the
> > conference date and time, if you have.
> > >
> > >
> > > >Ruth
> > > Please let us know about the suitable date and time for Philippine
> > side for the workshop. We are planning to organize it for three
> > consecutive days, 2 hours/day, in the last week of February.
> > >
> > > Best
> > >
> > > Miwa
> > > << File: SPC Meeting memo 01122020.docx >>
> > > _____
> > > From: 園田美和
> > > Sent: Wednesday, November 25, 2020 6:08 PM
> > > To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
> (b) (6) Jinah
> > Ruth Jomao-as <jinahgjomao-as@su.edu.ph<mailto:jinahgjomao-as@su.edu.
> ph>>; Diane Griffin <dgriffi6@jhmi.
> > edu<mailto:dgriffi6@jhmi.%0bedu>>; kurane@niid.go.jp<mailto:kurane@
> niid go jp>; yoheidoi@fujita hu ac jp<mailto yoheidoi@fujita hu ac jp>;
> kenishii@ims.u-tokyo<mailto:kenishii@ims.u-tokyo>.
> >
ac.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fac.jp%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=yQiEIFOYogXlizsjhJQJ4MZd%2FM%2BAly0vvSALjAPT1vM%3D&reserved=0>;

> 'Akira Nishizono' <a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.
> ac.jp>>; Handley, Gray (NIH/
> > NIAID) [E] (b) (6)
> Dominique, Joyelle (NIH/NIAID) [E]
> > (b) (6) Lu,
> Kristina (NIH/NIAID) [E] (b) (6)
> > (b) (6) McDonald, David (NIH/NIAID) [E] <
> (b) (6) Thomas J.
> > Hope <thope@northwestern.edu<mailto:thope@northwestern.edu>>; Paula
> Cannon <pcannon@usc.edu<mailto:pcannon@usc.edu>>; Hall,
> > Robert (NIH/NIAID) [E] <rhall@niaid.nih.gov<mailto:rhall@niaid.nih.
gov
> >>; 'etryan@mgh.harvard.edu<mailto:etryan@mgh.harvard.edu>' <
> > etryan@mgh.harvard.edu<mailto:etryan@mgh.harvard.edu>>; Park, Eun-
> Chung (NIH/NIAID) [E] <epark@niaid.

> >
nih.gov<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnih.gov%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=H60s23kPQwmpuX%2FT9LF5JbIa9jyoCB48KkmbrtTh8K4%3D&reserved=0>>;

> Kuhn, Richard J <kuhnr@purdue.edu<mailto:kuhnr@purdue.edu>>; Williams,
> Nekisha (NIH/
> > NIAID) [C] (b) (6)
>>
> > > Cc: 野田正彦 <masahiko-noda@amed.go.jp<mailto:masahiko-noda@amed.go.
> jp>>; 鈴木友理子 <yuriko-suzuki@
> >
amed.go.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Famed.go.jp%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357584643%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=x9tpbOSClG1vykKCPCyCzyGpzib4rHT7VXrLcIOY9qk%3D&reserved=0>>;

> 古川修平 <shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp>
> >; Takiko Sano <t.sano@
> > amedjp-us.org<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Famedjp-us.org%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357594602%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=Re4vBb9s%2FN7NFmhgTcBiEHj0x1w6okGd5cUuw%2FqTqkg%3D&reserved=0>>;

> 宮本拓人 <takuto-miyamoto@amed.go.jp<mailto:takuto-miyamoto@amed.go.jp>
> >
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Zoom &
> > Agenda)
> > >
> > >
> > > Dear all
> > >
> > > We will convene SPC meeting next week.
> > >
> > > November 30 (Mon) 7:00-8:00 pm in New York
> > > December 1 (Tue) 8:00-9:00 am in Manila.
> > > December 1 (Tue) 9:00-10:00 am in Tokyo
> > >
> > > Kindly share with the SPC members and other attendees.
> > > See below for Zoom Meeting details.
> > > Attached are proposed agenda items for SPC meeting. (The password

to
> > open the file is (b) (6)).
> > >
> > > Thanks!
> > >
> > > Topic: USJCMSP: Virtual COVID-19 Workshop Planning
> > >
> > > Join Zoom Meeting
https://jpn01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fus02web.zoom.us%2Fj%2F9816076244%3Fpwd%3DYmFCZ1hGeUk2ODh6VG4rRHpjRmEvQT09&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357594602%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=wkr%2BlQAxyeas7SL9PsIYZxhDhbyD%2F5YpOFOGW0ybF%2F8%3D&reserved=0<https://jpn01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fus02web.zoom.us%2Fj%2F9816076244%3Fpwd%3DYmFCZ1hGeUk2ODh6VG4rRHpjRmEvQT09&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357594602%7CUnknown%7CTWFpbGZ_b3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=wkr%2BlQAxyeas7SL9PsIYZxhDhbyD%2F5YpOFOGW0ybF%2F8%3D&reserved=0><https://jpn01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fus02web.zoom.us%2Fj%2F9816076244%3Fpwd%3DYmFCZ1hGeUk2ODh6VG4rRHpjRmEvQT09%26fbclid%3DIwAR2_Br5y36iv_ryHjNrZPujhDtkShv9fMM6ac-bT0qz5d00MMcvLwTKhJ0Q&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357594602%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=S1kuEmfLH8Aj9NIatcTCUXtBYZ2HcuG0t_XvYS%2FX_R4%3D&re_erved_0<http_//jpn01_afelink_protection outlook com/?url_http_%3A%2F%2Fu_02web.zoom.us%2Fj%2F9816076244%3Fpwd%3DYmFCZ1hGeUk2ODh6VG4rRHpjRmEvQT09%26fbclid%3DIwAR2_Br5y36iv_ryHjNrZPujhDtkShv9fMM6ac-bT0qz5d00MMcvLwTKhJ0Q&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357594602%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=S1kuEmfLH8Aj9NIatcTCUXtBYZ2HcuG0tsXvYS%2FXxR4%3D&reserved=0>>

>
> >
> > > Meeting ID: (b) (6) Passcode: (b) (6)
> > >
> > > One tap mobile
> > > +16699006833, (b) (6) US (San Jose)
> > > +19292056099, (b) (6) US (New York)
> > >
> > > Dial by your location
> > > +1 669 900 6833 US (San Jose)
> > > +1 929 205 6099 US (New York)
> > > +1 253 215 8782 US (Tacoma)
> > > +1 301 715 8592 US (Washington D.C)
> > > +1 312 626 6799 US (Chicago)
> > > +1 346 248 7799 US (Houston)
> > > +81 3 4578 1488（Tokyo）

> > > Meeting ID: (b) (6) Passcode: (b) (6)

> > > Find your local number:

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>

> >

> > >

> > > Best

> > >

> > > Miwa

> > >

> > > << File: Kurane-modified Draft_ COVID-19 Virtual WS_SPC Agenda

> Items.

> > docx >>

> > > _____

> > > From: 園田美和

> > > Sent: Thursday, November 19, 2020 3:30 PM

> > > To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)

> (b) (6) Jinah

> > Ruth Jomao-as <jinahgjomao-as@su.edu.ph<mailto:jinahgjomao-as@su.edu.

> ph>>; Diane Griffin <dgriffi6@jhmi.

> > edu<mailto:dgriffi6@jhmi.%0bedu>>; kurane@niid go jp<mailto kurane@

> niid.go.jp>; yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp>;

> kenishii@ims.u-tokyo<mailto:kenishii@ims.u-tokyo>.

> >

ac.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fac.jp%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357594602%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=bUSVgrjVuxBVddlZy%2BqQa5RELq91LEN1rVt5aI5ra5k%3D&reserved=0>;

> 'Akira Nishizono' <a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.
> ac.jp>>; Handley, Gray (NIH/
> > NIAID) [E] (b) (6)
> Dominique, Joyelle (NIH/NIAID) [E]
> > (b) (6)
> > > Cc: 鈴木友理子 <yuriko-suzuki@amed.go.jp<mailto:yuriko-suzuki@amed.
> go.jp>>; 古川修平 <shuhei-furukawa@
> >
amed.go.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Famed.go.jp%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357604544%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=pTYhPgE9b8FWuFxTNvsBsmIF%2FbZKvKYHFBArJUtgg68%3D&reserved=0>>;

> Takiko Sano <t.sano@amedjp-us.org<mailto:t.sano@amedjp-us.org>>; 宮本
拓
> 人 <takuto-
> > miyamoto@amed.go.jp<mailto:miyamoto@amed.go.jp>>
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop (Doodle
> Poll)
> > >
> > >
> > > Dear all
> > >
> > > Please vote your available date & time through the Doodle poll for
> > scheduling the SPC (Science Planning Committee) web meeting.
> > > I hope it will be held within three weeks before winter holidays.
> > >
https://jpn01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdoodle.com%2Fpoll%2F25gzdx83g9m53n8k&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357604544%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&_data_XkakjmL8rTtviPd8J%2ByUVM8FW1aaAzjCpCCfkhHm%2FAk%3D&reserved=0<https://jpn01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fdoodle.com%2Fpoll%2F25gzdx83g9m53n8k&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357604544%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=XkakjmL8rTtviPd8J%2ByUVM8FW1aaAzjCpCCfkhHm%2FAk%3D&reserved=0>

>
> > >
> > >
> > > >Dear Gayle
> > >
> > > Thank you very much for nominating the SPC members!
> > > Please forward the doodle pole to U.S. members.
> > >

> > > >Dear Ruth
> > >
> > > To plan a Virtual COVID-19 Workshop, we are organizing the SPC.
> > > Please invite Dr. Buendia, Dr. Montoya and/or any other Philippines
> > members for the SPC meeting.
> > >
> > > For your reference; SPC members from the U.S. and Japan
> > >
> > > Prof. Diane Griffin (Johns Hopkins University)
> > > Prof. Richard Kuhn (Purdue Institute of Inflammation, Immunology
> and
> > Infectious Disease)
> > > Prof. Edward Ryan (Harvard Medical School)
> > > Dr. Kristina Lu (NIAID)
> > > Dr. Eun-Chung Park (NIAID)
> > > (TBD: Prof. Florian Krammer (Icahn School of Medicine at Mount Sinai)
>)
> > > (TBD: David McDonald(NIAID))
> > >
> > > Dr. Ichiro Kurane (NIID)
> > > Prof. Yohei Doi (Fujita Health University)
> > > Prof. Akira Nishizono (Oita University)
> > > Prof. Ken Ishii (The University of Tokyo)
> > >
> > > Best
> > >
> > > Miwa
> > > From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
mailto:
> (b) (6)
> > > Sent: Wednesday, November 18, 2020 7:42 AM
> > > To: 園田美和 <miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.jp
>>;
> Diane Griffin <dgriffi6@jhmi.
> > edu<mailto:dgriffi6@jhmi.%0bedu>>; kurane@niid.go.jp<mailto:kurane@
> niid.go.jp>
> > > Cc: yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp>;
> kenishii@ims.u-tokyo.ac.jp<mailto:kenishii@ims.u-tokyo.ac.jp>; 'Akira
> > Nishizono' <a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.ac.jp
>>;
> 鈴木友理子 <yuriko-suzuki@amed.go.
> > jp<mailto:yuriko-suzuki@amed.go.%0bjp>>; Takiko Sano <t.sano@amedjp-
us.

> org<mailto:t.sano@amedjp-us.org>>; 古川修平 <shuhei-furukawa@amed.
> >
go.jp<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fgo.jp%2F&data_04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357604544%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=so7h9qudOygIRpNlggnPP23BVla8Vi3oYwD%2FmobDNRA%3D&reserved=0>>;

> Handley, Gray (NIH/NIAID) [E] (b) (6) (b) (6)
> > Dominique, Joyelle (NIH/NIAID) [E] (b) (6)
> (b) (6)
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop
> > >
> > > Dear Miwa and All,
> > >
> > > This is to provide an update of additional US SPC members.
> > >
> > > The following people also agreed to be part of the SPC:
> > > - Viral Diseases Panel: Richard Kuhn and Eun-Chung Park
> > > - Cholera Panel: Edward Ryan
> > >
> > > David McDonald from the AIDS Panel also offered to help out as
> needed,
> > and Kristina Lu reached out to Florian Krammer. If I receive
> additional
> > information, I will let you know.
> > >
> > > Thanks for letting us know about the upcoming holiday in Japan and
> for
> > creating a doodle poll.
> > >
> > > Kind regards,
> > > Gayle
> > >
> > > From: 園田美和 <miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.
jp
> ><mailto:miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.jp>>>
> > > Sent: Friday, November 13, 2020 4:17 AM
> > > To: Bernabe, Gayle (NIH/NIAID) [E] <gbernabe@niaid.nih.gov<mailto:
> (b) (6)
> > (b) (6) Diane
Griffin
> <dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu><mailto:
> > dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu>>>; kurane@niid.go.jp<

> mailto:kurane@niid.go.jp><mailto:kurane@niid.go.jp<mailto:kurane@niid.
go.
> jp>>
> > > Cc: yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp><
mailto:
> yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp>>;
> > kenishii@ims.u-tokyo.ac.jp<mailto:kenishii@ims.u-tokyo.ac.jp><mailto:
> kenishii@ims.u-tokyo.ac.jp<mailto:kenishii@ims.u-tokyo.ac.jp>>; 'Akira
> > Nishizono' <a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.ac.jp
><
> mailto:a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.ac.jp>>>;
> > 鈴木友理子 <yuriko-suzuki@amed.go.jp<mailto:yuriko-suzuki@amed.go.jp
><
> mailto:yuriko-suzuki@amed.go.jp<mailto:yuriko-suzuki@amed.go.jp>>>;
> > Takiko Sano <t.sano@amedjp-us.org<mailto:t.sano@amedjp-us.org><
mailto:
> t.sano@amedjp-us.org<mailto:t.sano@amedjp-us.org>>>; 古川修
> > 平 <shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp><
> mailto:shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp>>>;
> > Handley, Gray (NIH/NIAID) [E] (b) (6)
> (b) (6)
> >
niaid.nih.gov<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fniaid.nih.gov%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357604544%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=yjgP7mdYk1TOB9Uy2XbOP3y%2FAfJ%2F1QQmwLU9mcOu7f0%3D&reserved=0
>>>;

> Dominique, Joyelle (NIH/NIAID) [E] (b) (6)
> >
(b) (6)<https://jpn01.safelinks.protection.outlook.com/?url=http%3A%2F%2Fnih.gov%2F&data=04%7C01%7C%7C1f6ba5f8f6d841b63e1f08d8a56ebefe%7C5e0eea4bc93d43069f2b7891b51e4fd2%7C0%7C0%7C637441242357604544%7CUnknown%7CTWFpbGZsb3d8eyJWIjoiMC4wLjAwMDAiLCJQIjoiV2luMzIiLCJBTiI6Ik1haWwiLCJXVCI6Mn0%3D%7C1000&sdata=H%2BCnxJS9wn6O%2FgTFWmanmuW2QmXJH%2F3guQ8gyfJO1Qc%3D&reserved=0><mailto (b) (6)

>
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop
> > >
> > > Dear Gayle
> > >
> > > November 23 is the Labor Thanksgiving Day in Japan. Except that,
we
> > are basically available.
> > > I′ll create a doodle poll once members are nominated.
> > >

> > > Best

> > >

> > > Miwa

> > >

> > > From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
mailto:
> (b) (6)
> > (b) (6)

> > > Sent: Friday, November 13, 2020 1:59 PM

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> mailto:miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.jp>>>;

> > Diane Griffin <dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu><mailto:
> dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu>>>; kurane@niid.

> >

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>

> > > Cc: yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp><
mailto:
> yoheidoi@fujita-hu.ac.jp<mailto:yoheidoi@fujita-hu.ac.jp>>;

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> > Nishizono' <a24zono@med.oita-u.ac.jp<mailto:a24zono@med.oita-u.ac.jp
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> mailto:shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp>>>;

> > Handley, Gray (NIH/NIAID) [E] (b) (6)
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> Dominique, Joyelle (NIH/NIAID) [E] (b) (6)

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>

> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop

> > >

> > > Dear Miwa, Diane, and All,

> > >

> > > Thank you for your input and for all the suggestions.

> > >

> > > I have shared the information with the U.S. Panel/Board Secretariats,

> > and hope to be able to provide an update regarding U.S. members of the

> > SPC by next week.

> > >

> > > In the meantime, if you would like to consider potential dates/ times

> > for the SPC meeting call, that would also be helpful with the planning.

> > Please note the Thanksgiving holiday in the U.S. is on November 26.

> > >

> > > Many thanks again and kind regards,

> > > Gayle

> > >

> > >

> > > From: 園田美和 <miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.jp

> ><mailto:miwa-sonoda@amed.go.jp<mailto:miwa-sonoda@amed.go.jp>>>

> > > Sent: Wednesday, November 11, 2020 4:38 AM

> > > To: Diane Griffin <dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu><

> mailto:dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu>>>;

> > Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
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> Handley, Gray (NIH/NIAID) [E] (b) (6)
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> Dominique, Joyelle (NIH/NIAID) [E] <
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> > > Cc: kurane@niid.go.jp<mailto:kurane@niid.go.jp><mailto:kurane@niid.
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> shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp><
> > mailto:shuhei-furukawa@amed.go.jp<mailto:shuhei-furukawa@amed.go.jp>
>>
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop
> > >
> > > Dear Gayle and all
> > >
> > >
> > > • SPC members
> > > Dr. Kurane and Dr. Yohei Doi (ARI), Dr. Akira Nishizono (Viral
> > Diseases) and Dr. Ken Ishii (Immunology) have agreed to be SPC
members.
> > > Dr. Yohei suggested participation of Dr. Florian Krammer who was
the
> > co-chair of the last ARI panel meeting.
> > > We really welcome DOST to join the SPC too!
> > >
> > > Soon after we decide the member, shall we have a SPC meeting call
> for
> > planning.
> > >
> > > • Potential topics

> > >
> > > Followings are ideas of Japan members. (Sorry for some duplication)
.
> > We have variety of interests at this moment and we expect to narrow
> the
> > focus through further discussion.
> > > ・ Vaccines/antivirals and New treatments
> > > ・ Innovations in COVID testing
> > > ・ Issues and measures for COVID-19 vaccine; Efficacy,
> > effectiveness and safety, Policy for the vaccine administration and
> > distribution
> > > ・ Verification of the efficacy, effectiveness and
> safety
> > of therapeutic drugs
> > > ・ Environmental virology (i.e. How the virus spread
in
> > the air, how the virus is maintained in environment)
> > > ・ Lessons learned: preparing for the next pandemic
> > > ・ Factors driving regional burden of disease
> > > ・ A new U.S. policy on COVID-19（including a new
policy
> > on the future relationship with WHO）
> > > ・ COVID-19 countermeasures in Japan; Public health
> > measures (Countermeasures against clusters and avoid the "Three Cs ;
> > Closed spaces with poor ventilation, Crowded places with many people,
> > Close-contact setting such as close-range conversations"),
Therapeutic
> > drugs (Favipiravir and Nafamostat), Vaccines (mRNA, DNA, etc.)
> > >
> > > • Date and Time
> > > We prefer to organize the workshop during the weekdays in the last
> > week of February 2021.
> > > We fully agree with 2-3 days for about 2-3 hours that would work
for
> > Asia and the U.S.
> > >
> > >
> > > Best
> > >
> > > Miwa
> > > _____
> > > From: 園田美和
> > > Sent: Wednesday, November 11, 2020 2:34 PM
> > > To: 'Diane Griffin' <dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu><
> > mailto:dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu>>>;

> > Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
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>>>;

> kurane@niid.go.jp<mailto:kurane@niid.go.jp><mailto:kurane@niid.go.jp<
> mailto:kurane@niid.go.jp>>
> > > Cc: Handley, Gray (NIH/NIAID) [E] (b) (6)
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> (b) (6)>>>; Dominique,
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> @amed.go.jp<mailto:shuhei-furukawa@amed.go.jp>>>
> > > Subject: RE: USJCMSP: Planning Virtual COVID-19 Workshop
> > >
> > >
> > > Dear Gayle and all
> > >
> > >
> > > Thank you very much for your suggestion.
> > >
> > > From the Japanese side, in addition to Dr. Kurane and Dr. Yohei Doi,
> > we would like to recommend Dr. Akira Nishizono (Viral Diseases Panel)
> > and Dr. Ken Ishii (Immunology Board) for the SPC.
> > > We are confirming their willingness and availability.
> > >
> > > We will let you know about our ideas for topics and preferred date
> as
> > soon as possible.
> > >

> > > Sincerely
> > >
> > > Miwa
> > >
> > > From: Diane Griffin <dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu><
> mailto:dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu>>>
> > > Sent: Tuesday, November 10, 2020 9:53 PM
> > > To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
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> > (b) (6) >>>; kurane@niid.
> go.jp<mailto:kurane@niid.go.jp><mailto:kurane@niid.go.jp<mailto:kurane
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> > > Cc: Handley, Gray (NIH/NIAID) [E] <handleygr@niaid.nih.gov<mailto:
> (b) (6)
> > (b) (6) Dominique,
> Joyelle (NIH/NIAID) [E] <joyelle.
> > (b) (6)
@
> (b) (6)
> > > Subject: Re: USJCMSP: Planning Virtual COVID-19 Workshop
> > >
> > > Gayle et al - I agree with the overall plans including the dates
and
> > organization of an SPC meeting in the next few weeks. Maybe SPC
could
> > include chairs of the other panels that would have participated in
> this
> > EID meeting. At that SPC meeting we should get more specific about
> > topics and speakers. BCG is a good one, effect of COVID on
> vaccination
> > and control of other infectious diseases and COVID vaccine updates
> > should probably be included as well as what is new and interesting
in
> > each of the non-COVID areas usually covered. Maybe SPC members could
> be
> > surveyed for those specific ideas and potential speakers ahead of
time.
> > >
> > > Diane
> > >
> > > Diane E. Griffin, MD PhD
> > > Vice President, National Academy of Sciences

> > > University Distinguished Service Professor
> > > W. Harry Feinstone Department of Molecular Microbiology and
> Immunology
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> > > << OLE Object: Picture (Device Independent Bitmap) >>
> > > From: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
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> > > Sent: Monday, November 9, 2020 7:19 PM
> > > To: Diane Griffin <dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu><
> mailto:dgriffi6@jhmi.edu<mailto:dgriffi6@jhmi.edu>>>;
> > kurane@niid.go.jp<mailto:kurane@niid.go.jp><mailto:kurane@niid.go.jp
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> > > Cc: Handley, Gray (NIH/NIAID) [E] (b) (6)
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> > (b) (6) Dominique,
> Joyelle (NIH/NIAID) [E] <joyelle.
> > (b) (6)
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> (b) (6)
> > > Subject: USJCMSP: Planning Virtual COVID-19 Workshop
> > >
> > >
> > > External Email - Use Caution
> > >
> > >
> > > Dear Drs. Griffin and Kurane and Miwa,
> > >
> > > This is to seek your advice and input on the planning of the COVID

-
> 19
> > virtual workshop/meeting.
> > >
> > > As we had previously discussed, the virtual workshop would be for
> > about 2-3 days for about 2-3 hours that would work for Asia and the
U.
> S.
> > There would be about 4-6 speakers for each day, depending on the
> length
> > of each talk and time for discussion.
> > >
> > > We asked the NIH Secretariats for their ideas of potential topics,
> and
> > here are some of their suggestions:
> > > - COVID-19 BCG trials
> > > - clinical and research experiences/practices
> > > - emerging new techniques/technologies
> > > - intersection/impact on other disease areas
> > > - follow-up from Bangkok meeting
> > > - well-rounded story of the big picture/broader impact of
> > COVID-19 that includes U.S.-Japan-regional interaction (e.g., Linfa
> Wang
> > ′s talk at Bangkok EID)
> > > - COVID-19 and cancer (e.g., cytokine storm)
> > >
> > > The ARI Panel, Drs. Yohei Doi and Kristina Lu, volunteered to be
> part
> > of the Scientific Planning Committee (SPC). Who else should be part
of
> > the SPC? A large group might not be necessary, but the SPC could
also
> > include DOST and others who might be interested. Of course, Drs.
> Kurane
> > and Griffin you would co-chair the SPC if this is alright with you
> both.
> > >
> > > In terms of the dates for the virtual workshop, we could hold this
> > during the last week of February 2021 because we had initially saved
> > those dates for the EID (if this still works for the group).
> > >
> > > I am mindful of the upcoming holidays. If it would be helpful we
> could
> > schedule a call to further discuss and also plan to have a SPC
meeting

> > as soon as possible.
> > >
> > > Your thoughts and input are appreciated.
> > >
> > > Thank you and kind regards,
> > > Gayle
> > >
> > >
> > > Gayle Bernabe, MPH
> > > Regional Program Officer-East/SE Asia and the Pacific
> > > Office of Global Research (OGR)
> > > National Institute of Allergy and Infectious Diseases
> > > National Institutes of Health
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> > > Bethesda, MD 20892-9802 [For courier deliveries: 20852]
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Virtual Workshop on COVID-19

February 24-26 Morning in Asia-Pacific (February 23-25 Evening in U.S.)

Or February 24-26 Morning in USA and Evening in Asia

DESCRIPTION

The focus of the COVID-19 workshop is to discuss and provide an update on the current situation, recent scientific advances, and emerging techniques/technologies, as well as the intersection and impact on other infectious diseases, particularly in the Asia-Pacific region. The objectives of this virtual workshop are to share current research findings and foster existing and potential international research collaborations that engage scientists in the Asia-Pacific region and the United States. The target audience include scientists, public health practitioners/officials, and other stakeholders from the region interested in collaborative research.

The workshop is organized by the Scientific Planning Committee of the U.S.-Japan Cooperative Medical Sciences Program and the Philippines Department of Science and Technology.

Format: 20 minutes/talk (15 minutes presentation + 5 minutes discussion)

DRAFT AGENDA

Day 1 - Clinical/Epidemiology

- Brief Opening remarks:
    - Dr. Diane Griffin and Dr. Ichiro Kurane – Co-Chairs of U.S.-Japan Cooperative Medical Sciences Program
- Special Lecture: Global and regional situation of COVID-19
    - Dr. Takeshi Kasai, Director of Programme Management and Deputy Regional Director, Regional Office for the Western Pacific World Health Organization Region (WPRO), Manila, *PHILIPPINES*
- Transmission and epidemiology of SARS-CoV-2 in Hong Kong
    - Prof. Benjamin John Cowling, Professor and Division Head, Division of Epidemiology and Biostatistics, The University of Hong Kong, *HONG KONG, SAR CHINA*
- Antibody responses after COVID-19 infection in patients who are mildly symptomatic or asymptomatic in Bangladesh, perspective of impact of COVID on cholera issues
    - Dr. Firdausi Qadri, Director, Centre for Vaccine Sciences at the International Centre for Diarrhoeal Disease Research (icddr,b), *BANGLADESH*
- Persistence and decay of human antibody responses to the receptor binding domain of SARS-CoV-2 spike protein in COVID-19 patients
    - Dr. Andrew S. Azman, Associate Scientist, Department of Epidemiology, Johns Hopkins Bloomberg School of Public Health, *USA* [based in Geneva]
- Factors affecting COVID-19 infection outcome: Host Factors and characteristics of the virus
    - Prof. Marissa Alejandria, President, Philippine Society for Microbiology and Infectious Diseases, *PHILIPPINES*
- Antibody against SARS-CoV2 for its diagnosis, therapeutics and epidemiological analysis

    - Prof. Akihide Ryo, Department of Microbiology, Yokohama City University School of Medicine, *JAPAN*
- Preparing for the influenza pandemic-What can be learned from SARS-CoV-2 serosurvey
    - Dr. Florian Krammer, Professor, Department of Microbiology, Icahn School of Medicine at Mount Sinai, *USA*

Day 2 - Vaccine/Immunology/Therapeutics/Diagnostics

- Adjuvant for COVID-19 vaccine development
    - Prof. Ken Ishii, The Institute of Medical Science, The University of Tokyo, *JAPAN*
- Immune response to SAR- CoV-2 (Through natural infection and through vaccination)
    - Prof. Nina Gloriani, Professor, College of Public Health, University of the Philippines/Vaccine Expert Panel for COVID19, Department of Science and Technology, *PHILIPPINES*
- Updates on Diagnostics (Tests for neutralizing and protective antibodies)
    - Dr. Mario Antonio Jiz, Head, Immunology Department, Research Institute for Tropical Medicine, *PHILIPPINES*
- Clinical trial study of Avigan (favipiravir)
    - Prof. Yohei Doi, Professor, Fujita Health University School of Medicine, Department of Infectious Diseases, *JAPAN*
- COVID-19 vaccine tracker
    - Dr. Nicole Basta, Associate Professor, Department of Epidemiology, Biostatistics and Occupational Health, McGill University, *CANADA*
- Genetic detection for SARS-CoV-2 by LAMP method
    - Prof. Jiro Yasuda, Professor, Institute of Tropical Medicine Professor, Nagasaki University, *JAPAN*

Day 3 – Virology/ Zoonosis/One-Health

- Interaction between SARS-CoV-2/COVID-19 and other organisms/diseases
    - Dr. Mediadora C. Saniel, Infectious Disease Specialist, The Medical City, *PHILIPPINES*
- Pathobiology of SARS-CoV-2, and animal model
    - Prof. Yoshihiro Kawaoka, Professor, Division of Virology, Department of Microbiology and Immunology, The Institute of Medical Science, The University of Tokyo, *JAPAN*
    or
    - Dr. Masaki Imai, Associate Professor, Institute of Medical Science, The University of Tokyo, *JAPAN*
- Compromised humoral functional evolution tracks with SARS-CoV-2 mortality
    - Dr. Galit Alter, Professor, Harvard University, *USA*
- Zoonosis/One health
    - Prof. Ling Fa WANG, Professor, the Programme in Emerging Infectious Diseases at Duke-NUS Medical School, *SINGAPORE*
- Zoonosis/One health
    - Dr. Peter Daszak, President, EcoHealth Alliance, *USA*
- Environmental surveillance for viruses
    - Prof. Gertjan Medema, KWR Water Research Institute, *NETHERLANDS*

To: Hudgings, Carole (NIH/NIAID) [E] (b) (6)
Cc: Salmon, Logan (NIH/NIAID) [E] (b) (6); Meegan, James (NIH/NIAID) [E] (b) (6); Handley, Gray (NIH/NIAID) [E] (b) (6); Western, Karl (NIH/NIAID) [C] (b) (6); NIAID OGR Ops Team[NIAIDOGROpsTeam@mail.nih.gov]
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Fri 9/15/2017 4:30:07 PM (UTC-04:00)
Subject: Briefing Package - Thai MOST Delegation's Visit (September 19., 2017)
1_Briefing_Thailand MOST_September 2017.doc
2_CV Soranit 2015 Eng short.pdf
3_Thai meeting agenda--9-19-17.docx
4_Thailand page 9 2017.docx

Dear Carole:

Here is the briefing package for Dr. Auchincloss' meeting with the Thailand Ministry of Science and Technology (MOST). Attached are the 1) briefing memo 2) CV of Dr. Soranit Siltharm – Permanent Secretary, 3) meeting agenda, and 4) Thailand Country Page.

Thank you and kind regards,
Gayle

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

National Institute of Allergy
and Infectious Diseases
National Institutes of Health
Bethesda, MD 20892

September 15, 2017

Briefing Memorandum

To: Principal Deputy Director, NIAID

From: Director, Office of Global Research, NIAID

Subject: Meeting with the Permanent Secretary of the Thailand Ministry of Science and Technology; Tuesday, September 19, 2017; 2-3 p.m.; 31A/Room 7A-18

Purpose

At the request of the Royal Thai Embassy, the Thailand Ministry of Science and Technology (MOST) delegation led by their Permanent Secretary, Dr. Soranit Siltharm (So-RAH-neet SEEL-tharm), is interested in learning about NIAID/NIH. He would like to discuss opportunities for collaboration. While in the DC area, the delegation plans to meet with the National Science Foundation, State Department, Office of Space and Advanced Technology, and CDC.

Visiting Delegation

- Dr. Soranit Siltharm - Permanent Secretary, Thai MOST
- Dr. Sethapan Krajangwongs - Division Director, Thai MOST
- Mr. Kritsadakorn Pinthong - Foreign Relations Officer, Thai MOST
- Dr. Chanwit Tribuddharat - Acting Vice President, National Science &Technology Development Agency
- Ms. Chanida Sansaard - Policy Developer, National Science, Technology, and Innovation Policy Office (STI), Geo-Informatics and Space Technology Development Agency (GISTDA)
- Ms. Kandasri Limpakorn. Director of Business and Alliance Development Office, GISTDA
- Ms. Urawan Oengaew - Director, Bureau of Community Technology, Department of Science Service
- Mr. Parntap Rattanakorn - Dean, Faculty of Veterinary Science, Mahidol University
- Mr. Krisada Tharasook - Minister Counselor (Science and Technology), Royal Thai Embassy
- Ms. Bunyakiat Petri, Project Consultant, Royal Thai Embassy
- Ms. Duangkamol Permpoontaweesup, Project Consultant, Royal Thai Embassy

Scenario

The delegation will meet with you from 2:00-3:00 p.m. You will welcome them and start with introductions. Steve Holland can only attend from 2:00-2:15 p.m. to discuss DIR's activities. Afterwards, you will provide a 15-minute overview of NIAID (slides have been prepared) and our collaborations with Thailand. Then, Lee Hall will discuss DMID's activities with Thailand (using slides).

We anticipate the delegation will speak English fairly well. NIAID attendees may also include Malla Rao (PIPB/DMID) and James Meegan, Andrew Karasick, Susan Choi, and Ashley Littleton (OGR), who will be escorting the delegation.

Background

The Thai MOST is tasked with implementing policy and the strategic plan for science, technology, and innovation, in terms of research and development (R&D) and in creating cooperative mechanisms between all sectors of society. Under the Minister of MOST, the Office of the Permanent Secretary is responsible for developing strategies and adapting policies on science, technology and innovation into an action plan and allocating resources. Though NIAID primarily collaborates with the Thai Ministry of Public Health (MOPH), the National Science and Technology Development Agency (NSTDA) under MOST is one of the member organizations of the e-ASIA Joint Research Program, in which NIAID participates.

Dr. Soranit Siltharm also has administrative responsibilities as the Deputy Secretary General of the Office of Higher Education Commission at the Ministry of Education. He served as the Vice President of Policy and Planning at Mahidol University from 2007-2014. Dr. Soranit trained in the Department of Surgery at State University of New York at Syracuse and at University of North Carolina at Chapel Hill. He received his M.D. from Mahidol University, Faculty of Medicine Siriraj Hospital.

Dr. Fauci received the prestigious Prince Mahidol Award in January 2014.

NIAID currently supports over 60 projects (including 5 direct awards) with Thailand, including HIV, malaria and other local parasitic infections, dengue, influenza, and other emerging and re-emerging infectious diseases. The Global Vaccine & Immunization Research Forum (GVIRF), jointly supported by NIAID, Gates Foundation, and WHO will be held in Bangkok in March, 2018.

Potential Talking Points

- NIAID/NIH has a long and productive history of research collaboration with Thailand. We highly value the robust extramural and intramural research collaborations with Thai scientists.
- We appreciate you taking the time to visit NIAID/NIH, and we look forward to continuing to support important collaborative research that engages Thai scientists and institutions.
- NIAID has active collaborative activities with the Thai MOPH, particularly on HIV clinical trials. How does MOST interact/engage with MOPH?
- You may want to mention the RV144 study conducted in Thailand and the vaccine trials in South Africa, which are building on the RV144 results.

Enclosures

- CV of Soranit Siltharm**,** MD
- Meeting Agenda
- Thailand Country Page

CC

Dr. Hudgings
Dr. Holland
Dr. Hall
Dr. Rao

Drafted by: G. Bernabe
Cleared by: J. Meegan, N. Touchette K. Western, and J. Dominique

Curriculum Vitae, October 2016

SORANIT SILTHARM, MD

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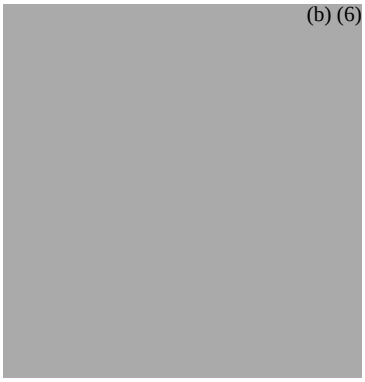

Title

- Associated Professor

Administration Responsibilities

1. Permanent Secretary, Office of the Permanent Secretary, Ministry of Science and Technology
2. Deputy Secretary General, Office of Higher Education Commission, Ministry of Education
3. Vice President, Policy and Plan, Mahidol University (December 2007-December 2014)
4. Director of Golden Jubilee Medical Center, Mahidol University (December 2007-December 2014)
5. Director of PENSA center (2011-present)
6. President of SPENT (Society of Parenteral and Enteral Nutrition of Thailand (2013-present)
7. Deputy Dean, Policy and Informatics, Faculty of Medicine Siriraj Hospital (October 2004-December 2007)
8. Deputy Dean, Administration, Faculty of Medicine Siriraj Hospital (October 2002-September 2004)
9. Deputy Dean, Policy and Plan, Faculty of Medicine Siriraj Hospital (October 2000-September 2002)

Medical Center Responsibilities

1 Consultant, Consortium of Thai Medical School
2. Consultant, Pattana Medical Center Clinic

Education

2008 Diploma from National Defend College of Thailand
2002 Diploma of Family Medicine
2002 Diploma of Critical Care Medicine
2000 Chulalongkorn University, Certificate in Administrative Course for Medical School Executive (MSE)
1990 Mahidol University, Faculty of Medicine Siriraj hospital
- The diplomat of Thai board of surgery
1988 Mahidol University, Faculty of Medicine Siriraj hospital
- The graduate diploma in clinical science (Surgery)
1984 Mahidol University, Faculty of Medicine Siriraj Hospital
- The degree of doctor of medicine (MD)

Training

1995 Department of Surgery, State University of New York at Syracuse, New York, USA
- Certificate in Clinical Fellow in Surgical Nutrition

1994-95 Jaycee Burn Center, Department of Surgery, University of North Carolina at Chapel Hill, North Carolina, USA
- Certificate in Research Fellow in Burn and Trauma

Contact:

1. Office of the Permanent Secretary 75/47 Thanon Rama VI Ratchathewi Bangkok 10400
2. Mobile (b) (6)
3. Line ID ; (b) (6)
4. Email; (b) (6), soranit.s@most.go.th

Membership in Professional Societies

1. International College of Surgeons, Thailand Section (ICS)
2. Royal College of Surgeons, Thailand (RCST)
3. Society of parenteral and enteral nutrition of Thailand (SPENT)
4. Thai Association of Trauma Surgeon
5. Parenteral and enteral nutrition society of Asia (PENSA)
6. The European Society for Clinical Nutrition and Metabolism (ESPEN)
7. American Society of Parenteral and Enteral Nutrition (ASPEN)

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Ministry of Science and Technology, Thailand
Visit to NIH, Tuesday, September 19, 2017

Visitors
SORANIT SILTHARM, M.D., Permanent Secretary of the Ministry of Science and Technology (MOST)
Other distinguished guests of Thailand delegation

Meeting with National Institute of Allergy and Infectious Diseases (NIAID), NIH

2:00 PM – 3:00 PM: NIH Bldg. 31, Conference Room 7A-18, Bethesda, MD

Agenda

2:00 PM-2:15 PM	**Welcome and Introductions** Hugh Auchincloss, M.D., NIAID Principal Deputy Director **Division of Intramural Research Program** Steven Holland, M.D., Director of the Division of Intramural Research, NIAID
2:15 PM-2:30 PM	**NIAID Overview** Hugh Auchincloss, M.D., NIAID Principal Deputy Director
2:30 PM-2:50 PM	**Extramural Research Program: Parasitology** Lee Hall, M.D., Ph.D., Chief, Parasitology and International Programs Branch, Division of Microbiology and Infectious Diseases, NIAID
2:50 PM-3:00 PM	***General Discussion***
3:00 PM	*Adjourn*

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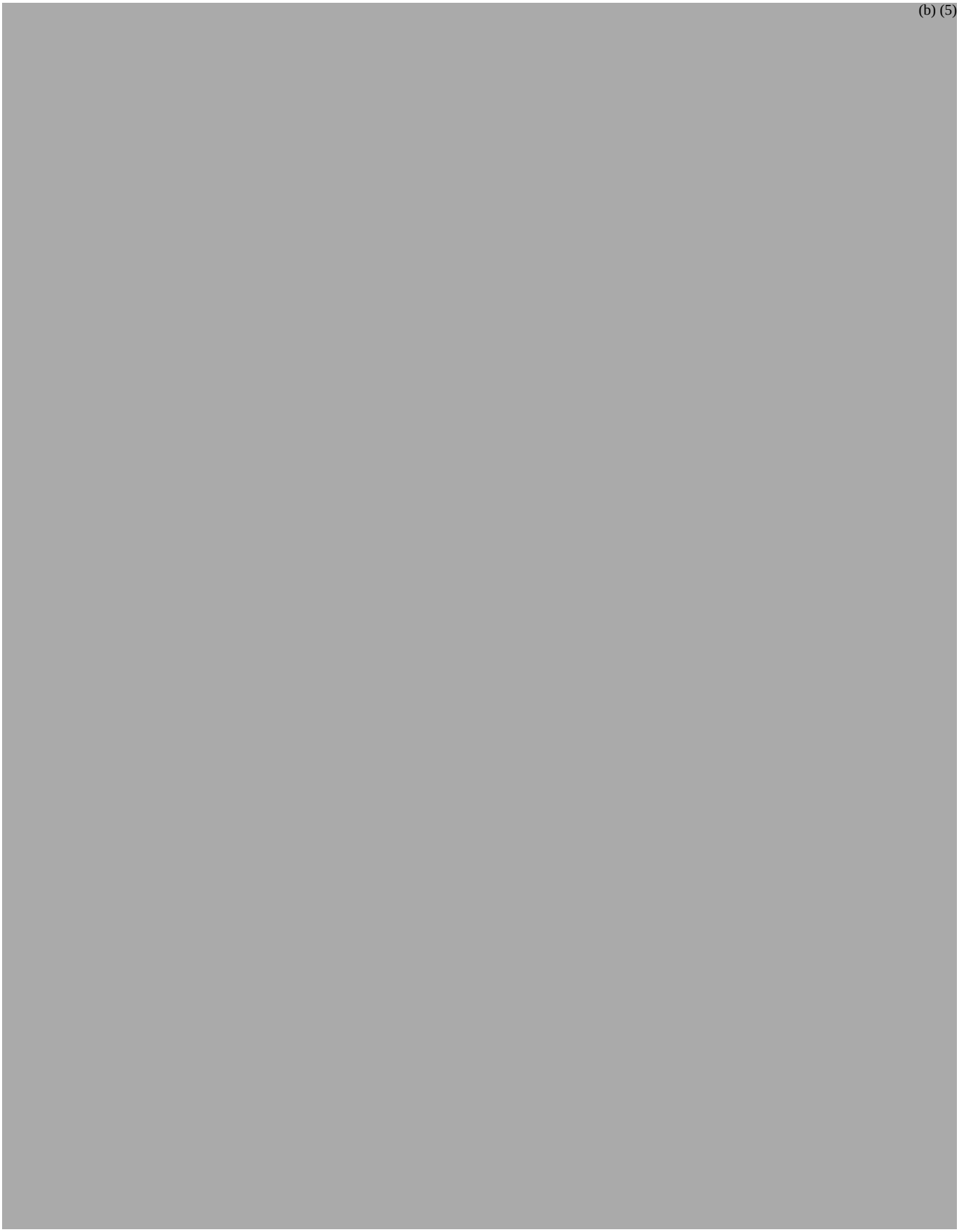

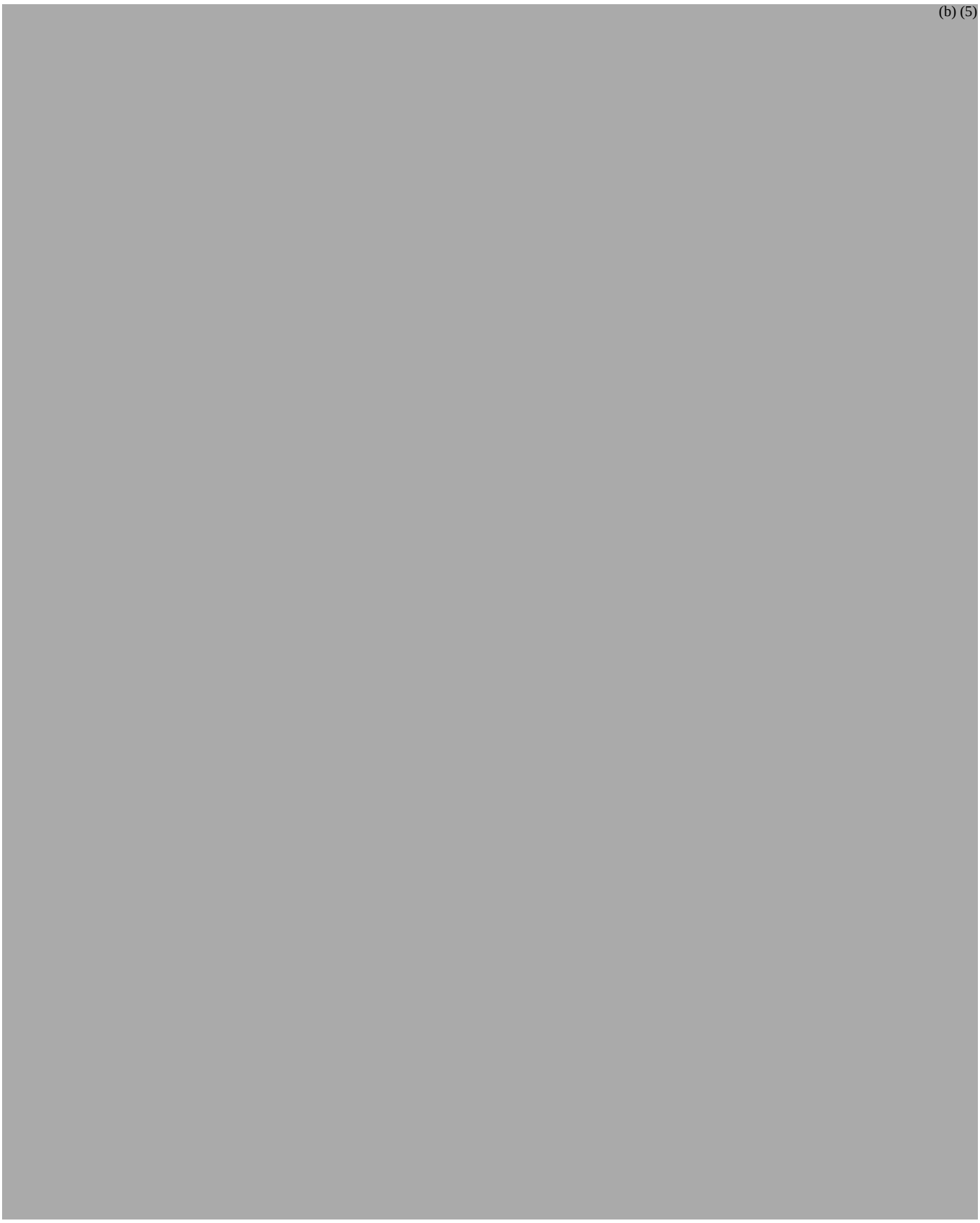
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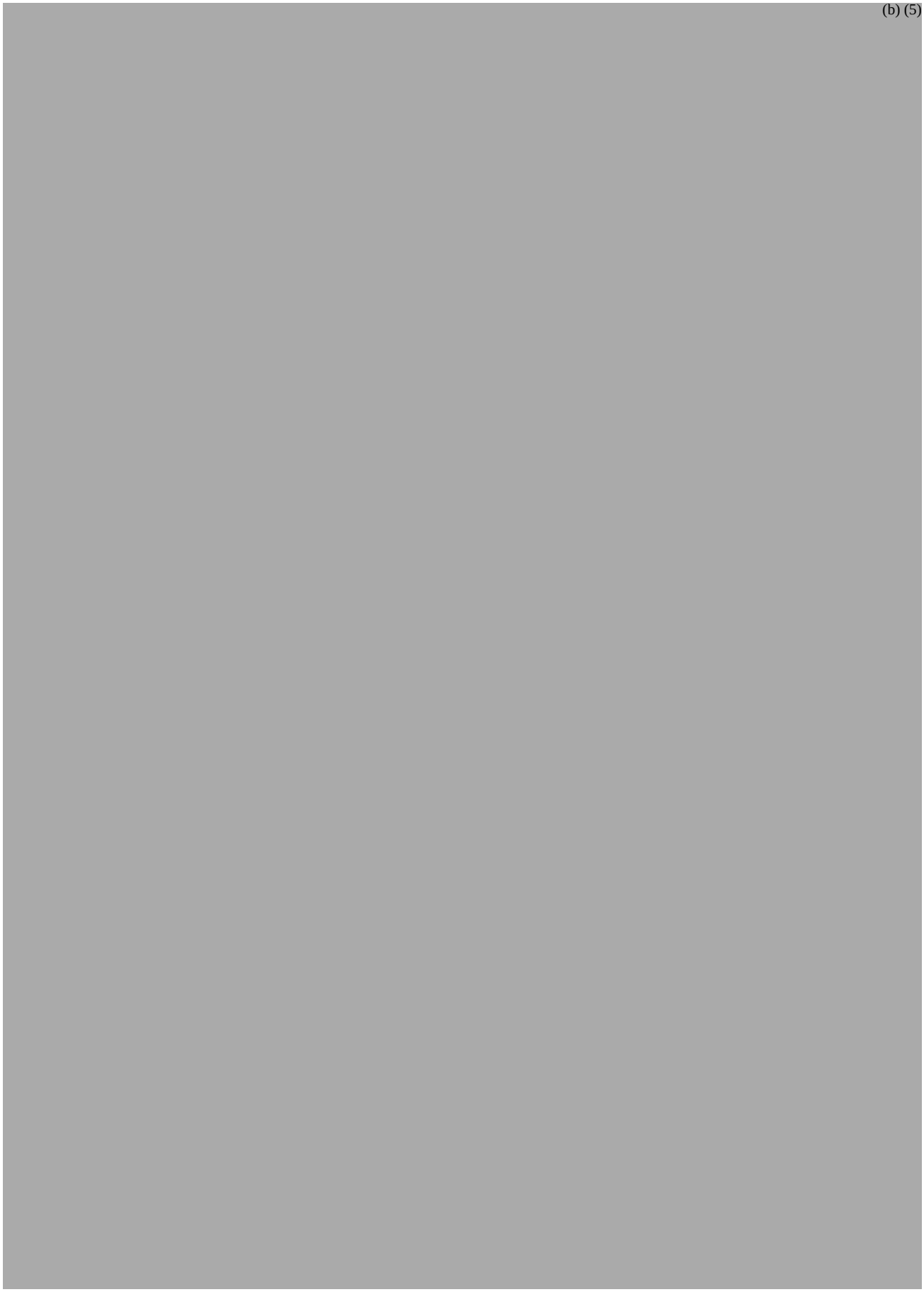

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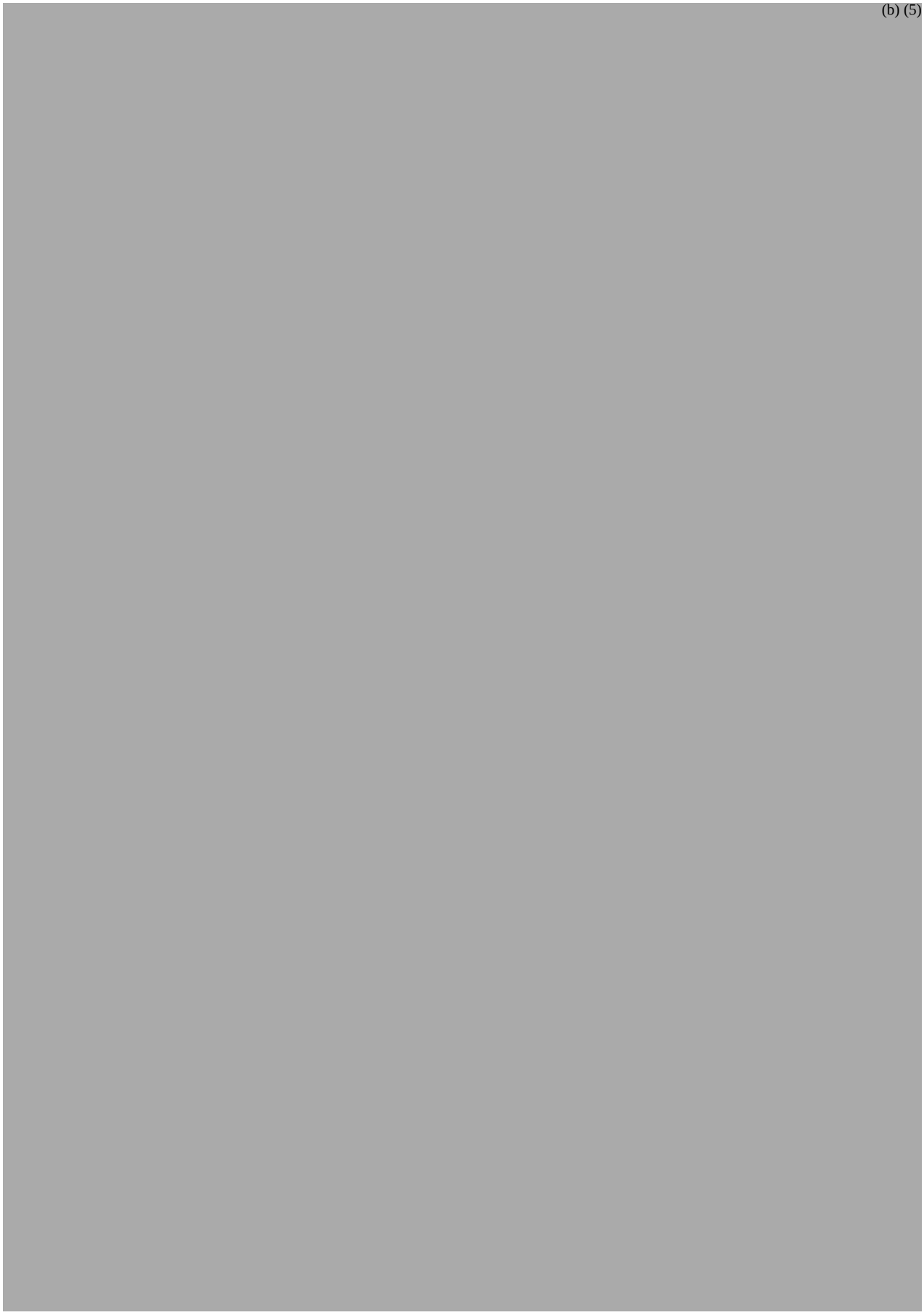

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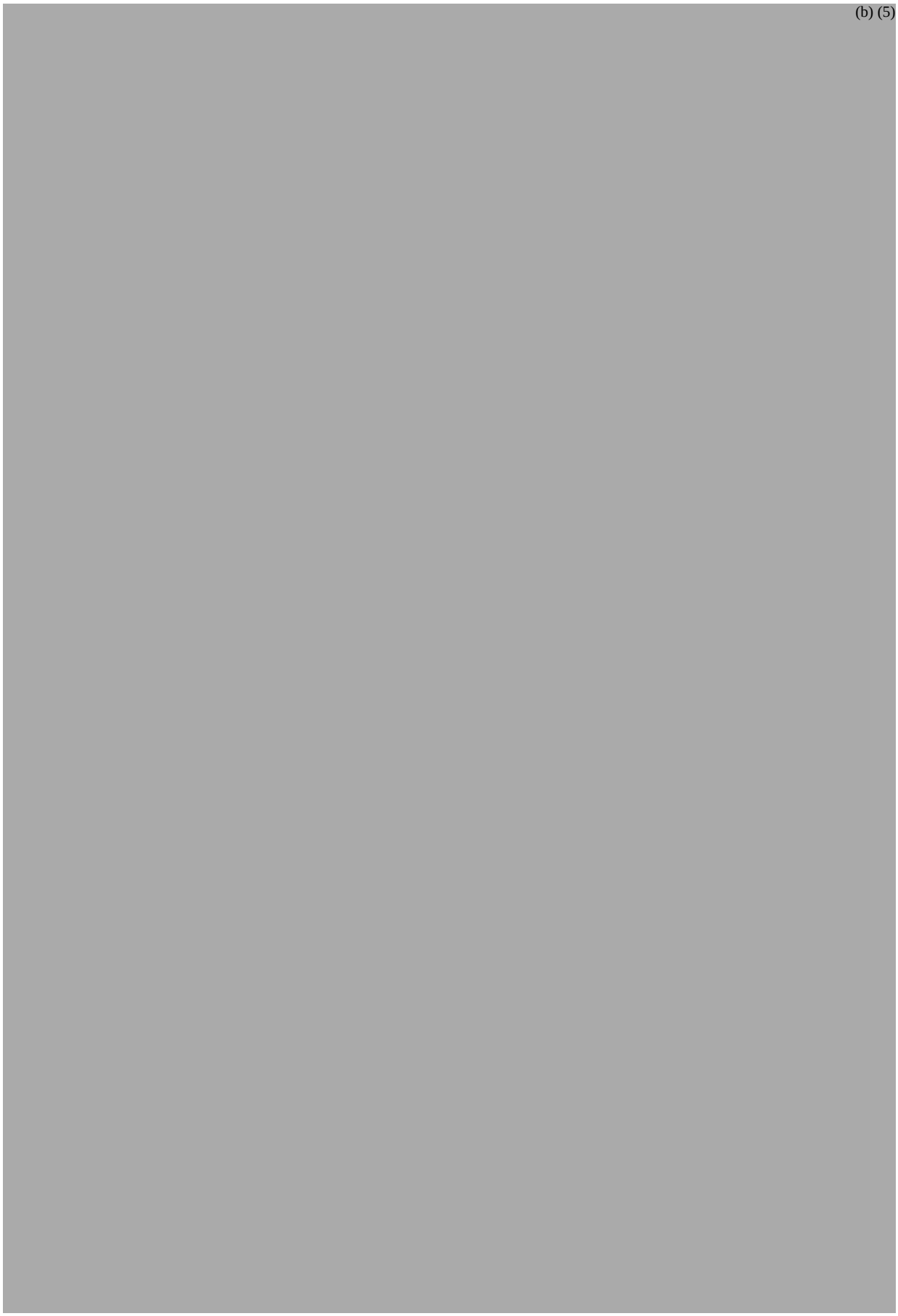

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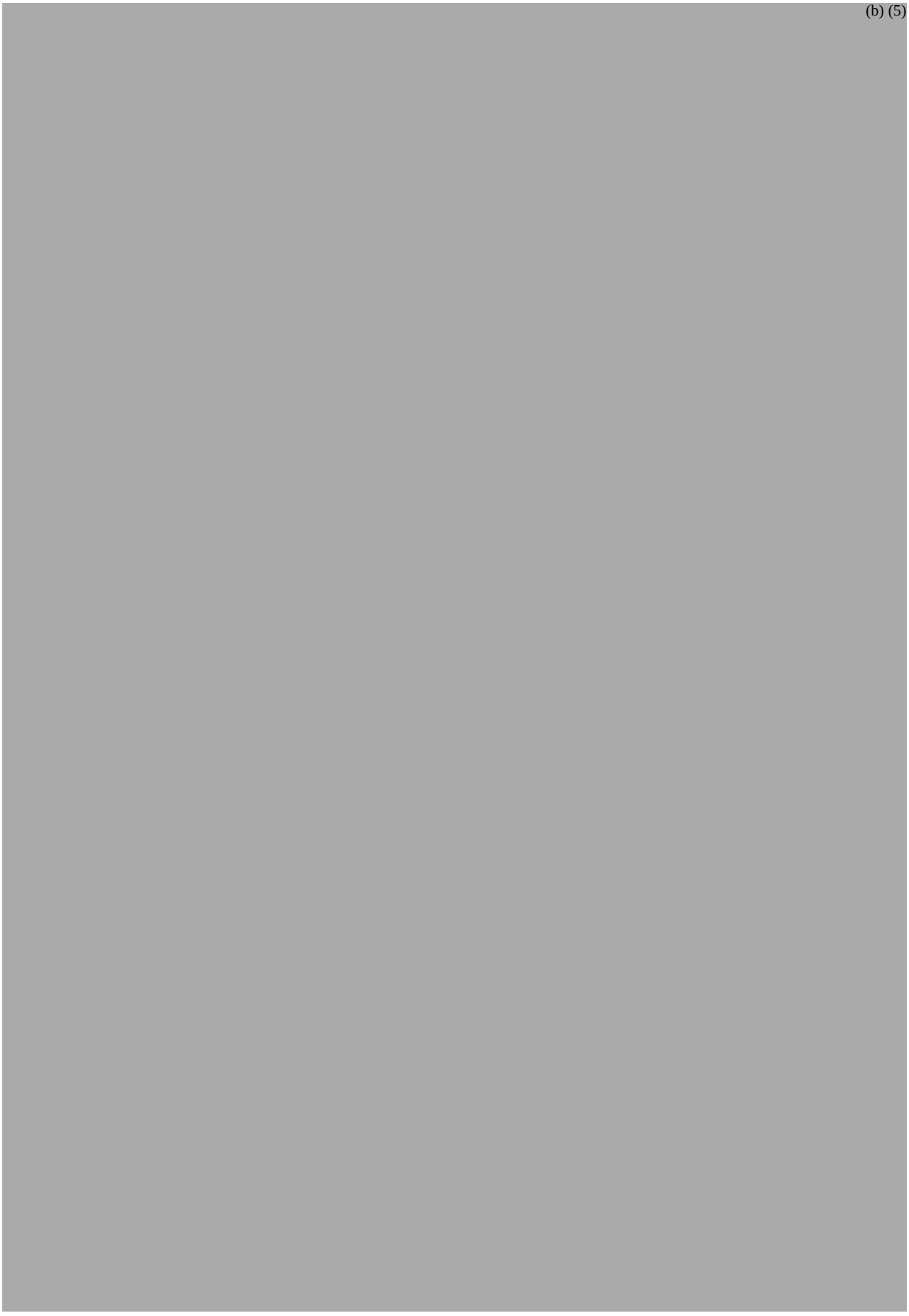

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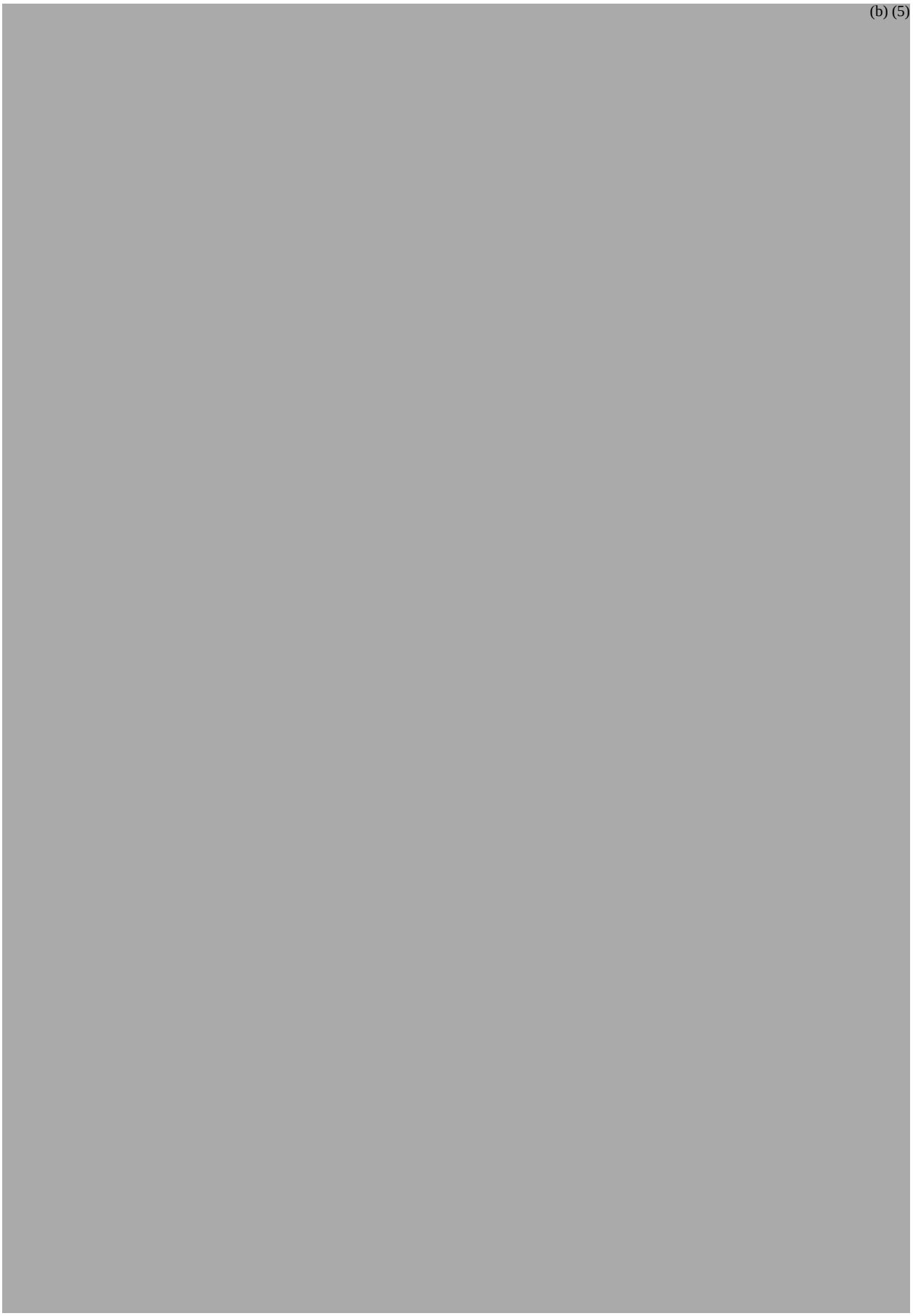

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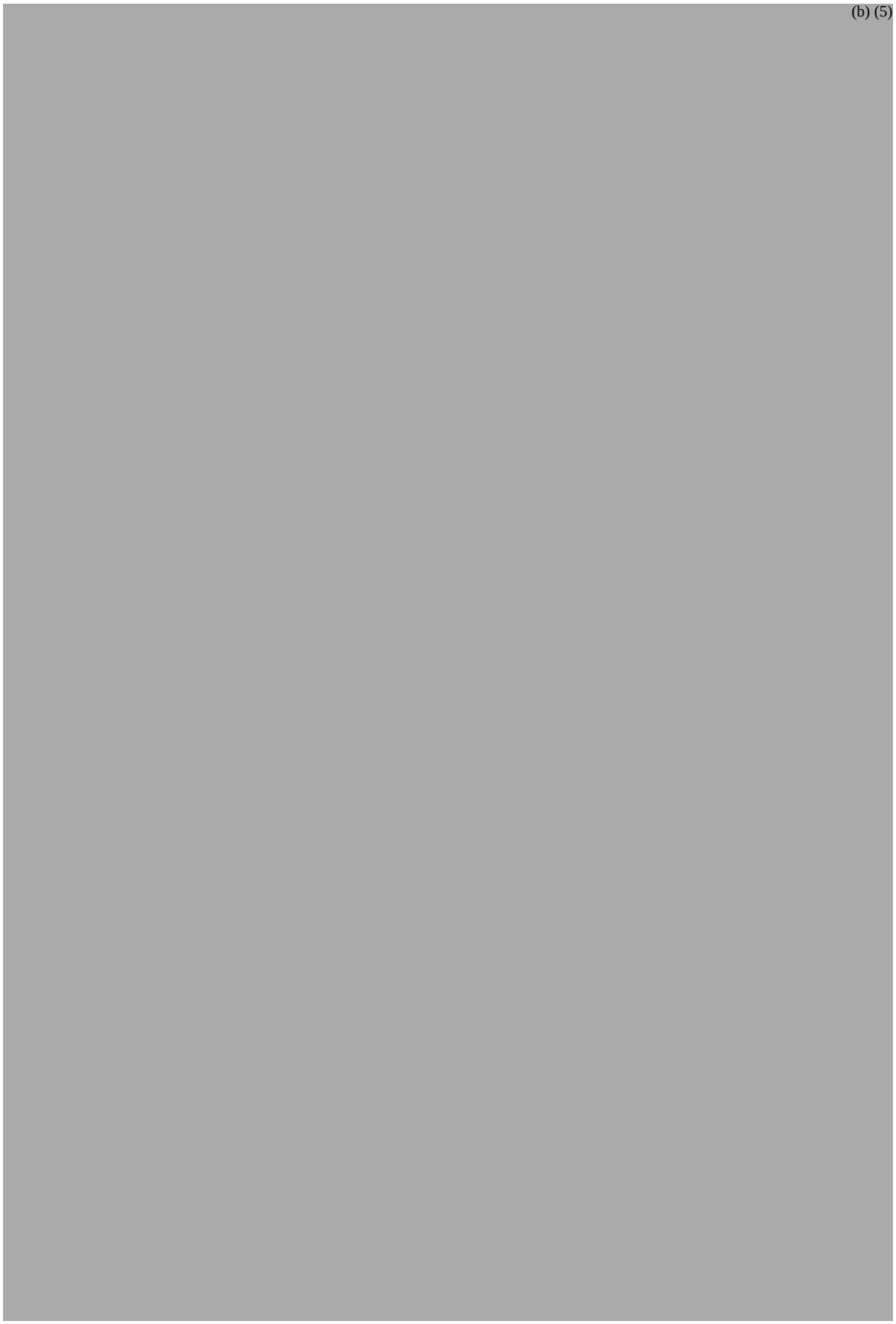

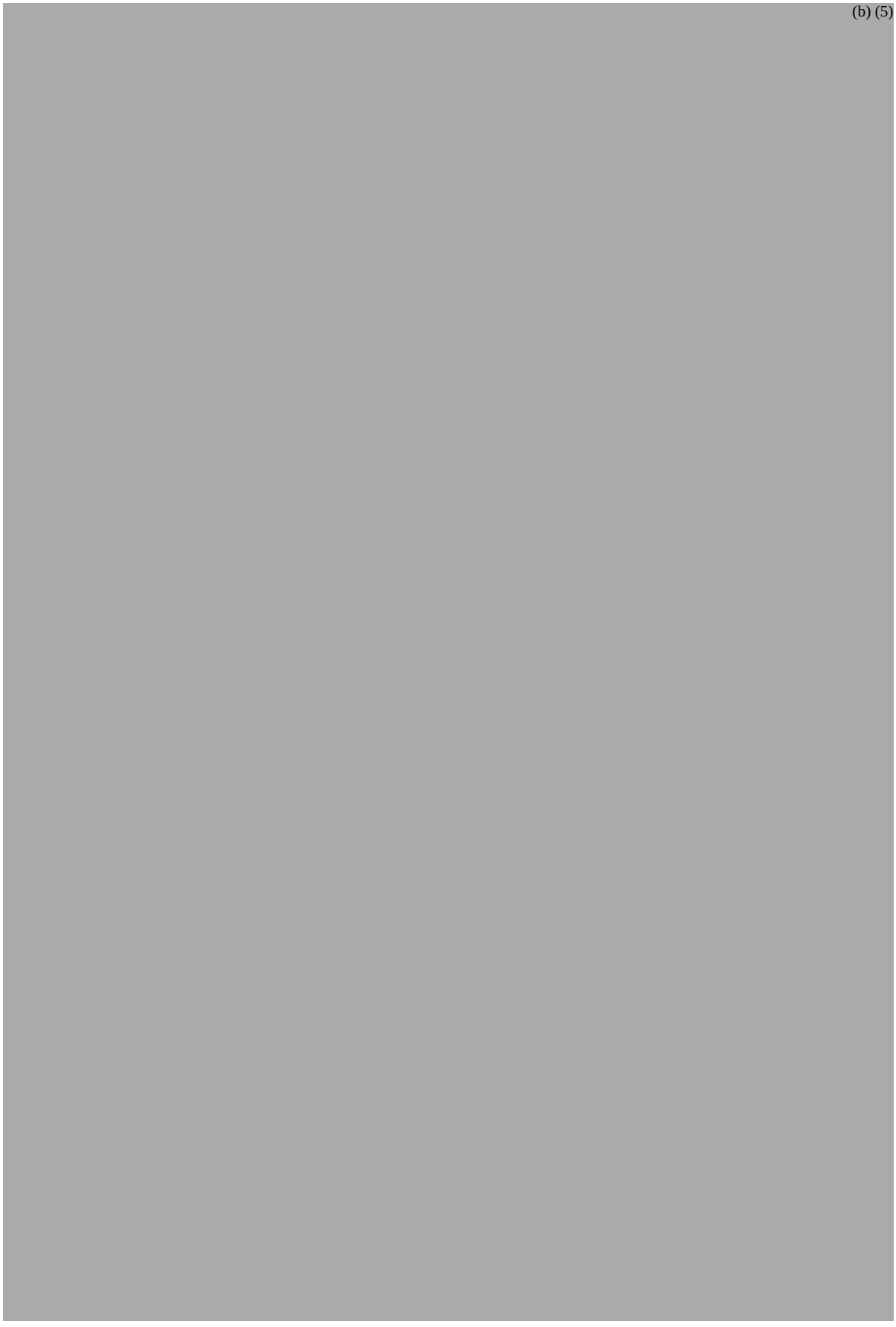
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To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Cc: Dominique, Joyelle (NIH/NIAID) [E] (b) (6) Rosa, William (NIH/NIAID) [E] (b) (6)
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Mon 4/29/2019 6:59:58 PM (UTC-04:00)
Subject: For Gray's Review: Indonesia MOH Visit - Draft Briefing Memo
1_Indonesian Delegation Visitor List and Itinerary April-May 2019.docx
2_Bio of Dr Siswanto.docx
3A_FINAL 2017 INA Accomplishments - one page - March20183.pdf
3B_Final 2018 INA-RESPOND Accomplishments.docx
0_Draft MOH 5-2-2019 Visit Briefing Memo_updated.doc
4_Indonesia 4 2019.docx

Gray:

For your review, attached are the updated draft briefing memo (that includes the input from Sophia/DCR and OGR) and the other enclosures.

Thank you,
Gayle


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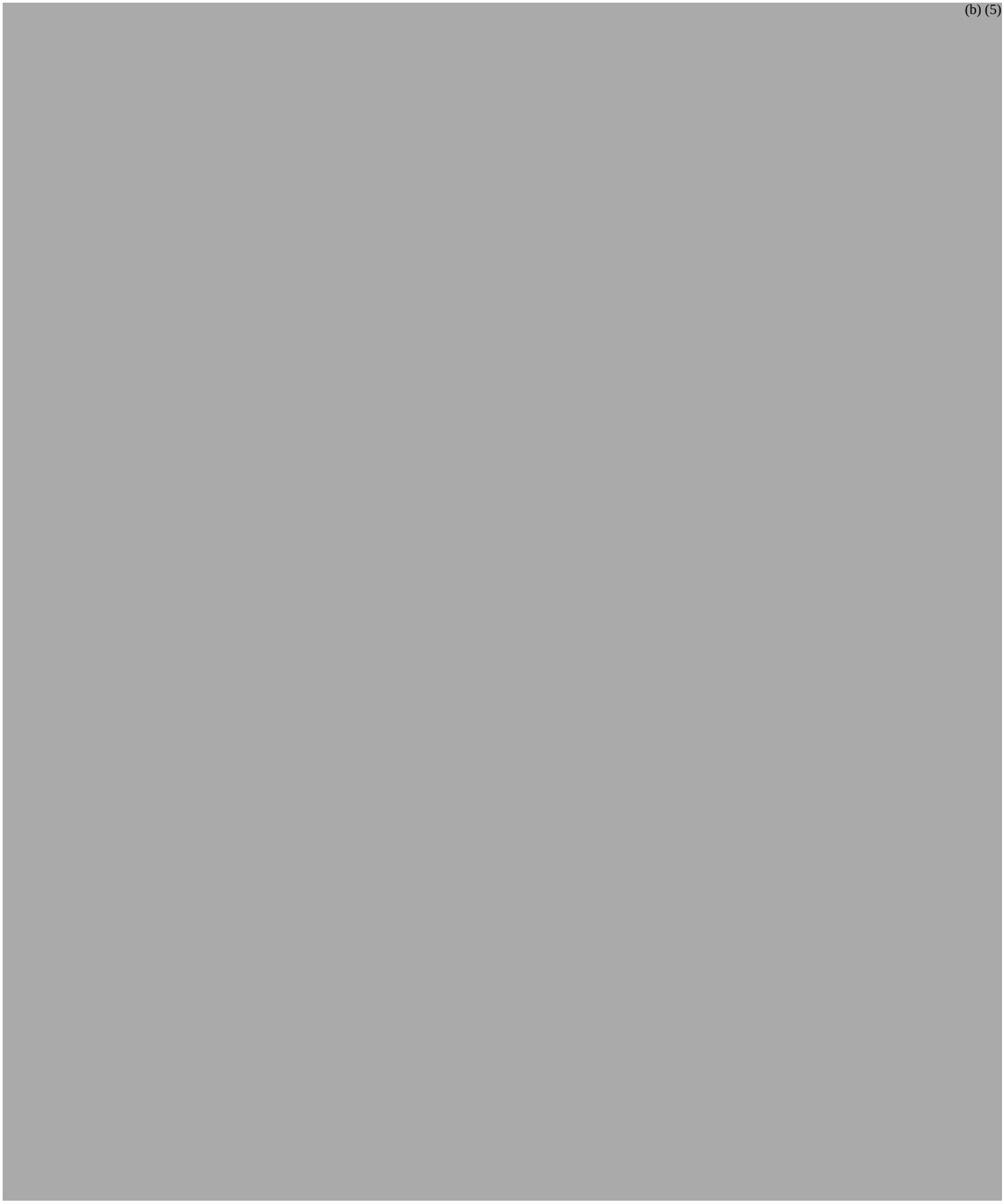

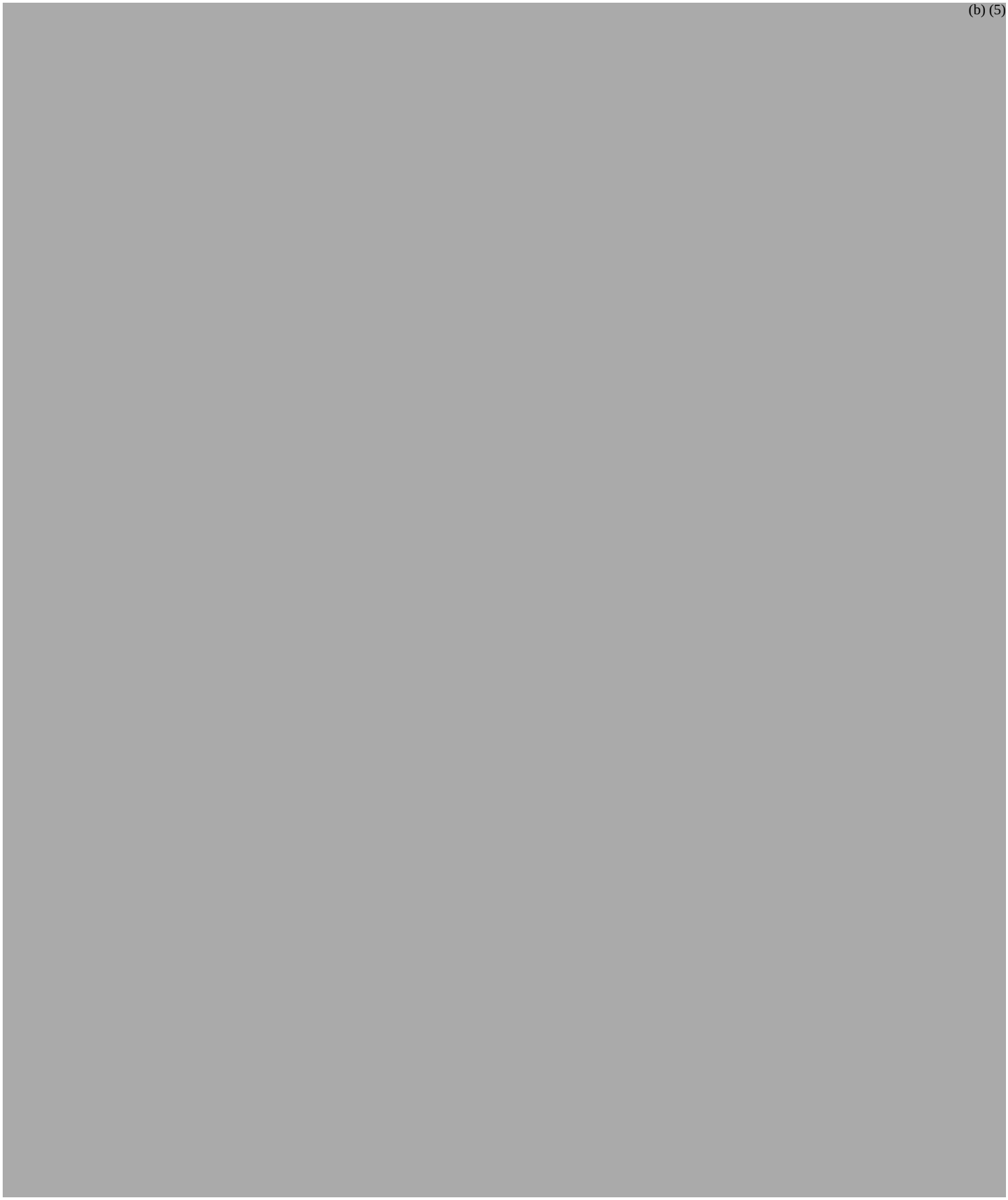


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Dr. Siswanto

Dr. Siswanto is the Director General of the National Institute for Health Research and Development (NIHRD) of the Ministry of Health in the Republic of Indonesia. His previous positions held include Director of the R&D Center of Food and Nutrition in NIHRD, Director of the R&D Center of Applied Health Technology and Clinical Epidemiology in NIHRD, and Chair of the National Committee of Jamu Scientification. Dr. Siswanto has written publications on topics such as political approach as strategy in health development advocacy, and the development of medicinal plant and traditional medicine. His educational background includes a diploma of tropical medicine from Nagasaki University in Japan, Master of Health Planning from the University of New South Wales in Sydney, and Dr. Siswanto is also a practicing medical doctor at Airlangga University in Surabaya, Indonesia.

INA RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

NSC Meeting

2017 ACCOMPLISHMENTS

AFIRE Study: *Completed 2016; 1,492 subjects enrolled (864 adults and 628 pediatrics).* ***2017****: INA-RESPOND tested specimens from 1,464 subjects for approx.60 pathogens; Main findings included identification of previously undiagnosed infections with Rickettsia, Chikungunya, Influenza, RSV, HHV-6 Seoul virus and HIV (including acute fatal HIV infection).*

GOAL 1: Generate knowledge, disseminate results, and promote utilization of research findings

Publications

* **"Multiple Viral Infection Detected from Influenza-like Illness in Indonesia",** Biomed Res, January 2017.
* **"Causes and Outcomes of Sepsis in Southeast Asia: A Multinational Multicenter Cross-sectional Study",** Lancet Global Health, February 2017.

Abstracts

* 6th International Eijkman Conference, August 2017:
  - **"The Identification of Seoul Virus in Patients with Fever and Liver Involvement"**
  - **"The Challenges of Diagnosing Typhoid in Indonesia"**
* **"Rodent-Borne Diseases in Patients Hospitalized with Acute Fever in Indonesia",** IMERI Conference, August 2017.
* **"The Etiologies and Characteristics of Patients Hospitalized with an Acute Febrile Illness and Central Nervous System Syndromes in Indonesia"**, IDWeek Meeting, October 2017.
* **"Clinical manifestations, hematology, and chemistry profiles of the six most common etiologies from an observational study of acute febrile illness in Indonesia",** IDWeek Meeting, October 2017.
* ASTMH 66th Annual Meeting, November 2017:
  - **"The dynamics of dengue virus infection in Indonesia: Observations from a national multicenter study of acute febrile illness among hospitalized patients"**
  - **"Clinical, serological and molecular diagnosis of typhoid fever, a significant cause of acute febrile illness among hospitalized patients in Indonesia from 2013-2016"**
  - **"Rickettsia Infection: An unexpected cause of fever in patients hospitalized with acute febrile illness in Indonesia"**
  - **"The demography, clinical characteristics and diagnoses of acute febrile illness requiring hospitalization in Indonesia"**
  - **"Building the Infectious Disease Diagnostic Capacity of a Developing Nation: Experience from the Indonesia Research Partnership on Infectious Diseases (INA-RESPOND)"**

Poster Presentations

* **Implementing a Combination of Clinical Parameters (Rapid Diagnostic Tests, Biomarkers and SoC Procedures) for the Etiology Diagnoses of Pneumonia in Pediatric Patient to Improve Clinical Management in Indonesia,** at PEER Indonesia Forum, Jakarta, August 1-3, 2017.
* **Establishment of a Human Herpesvirus 6 (HHV-6) Quantification Assay for Diagnosis of HHV-6 Acute Infection in Febrile Cases in Indonesia** at IMERI Conference on Global Health, Jakarta, August 14-16, 2017.
* **Assessment of Hospital Readiness for a Prospective Observational Cohort Study on HIV Infection and Related Coinfections/Comorbidities in Indonesia** at IMERI Conference on Global Health, Jakarta, August 14-16, 2017.

Studies

* **TRIPOD**
  Total enrolled: 165
  5 hospitals study sites
* **PEER**
  Total enrolled: 19
  2 hospitals study sites
* **PROACTIVE**
  Study protocol submitted to the IRB
* **SCHISTO**
  Study protocol in development.

  Recommendation to support Schistosomiasis Eradication Program in Indonesia was submitted to the Ministry of Health.

GOAL 2: Build INA-RESPOND as a sustainable research network capable of conducting excellent clinical research

Partnerships

* SubDit HIV/AIDS
* SubDit Tuberculosis (TB)
* SubDit Vector and Zoonosis
* US-CDC
* National Cancer Institute (NCI/NIH)
* RePORT
* TB Alliance
* USAID/PEER Health
* TREAT Asia

Trainings

* GCP and GCLP Training
* Data Management Training
* Laboratory Training
* Manuscript Writing Workshop
* Malaria Training of Trainers
* US Regulation Refresher Training
* Basic Cell Culture & High-Quality Imaging for International Publication
* Association of Clinical Research Professionals (ACRP) online Training
* NIAID Grantsmanship Workshop and NIAID Symposium
* IT Training
* INA-RESPOND SOPs Training
* TRIPOD Study SOPs
* IT SOPs
* NIH Information & Security Privacy Awareness Training for new hires
* Orientation and Training for new hires

Conferences / Meetings

* INA-RESPOND Mini Symposium 2017
* The Indonesian Society of Internal Medicine Congress
* The 17th Indonesian Congress of Pediatrics
* Indonesian Medical Education & Research Institute Conference on Global Health
* International AIDS Society Conference
* Emerging and Re-emerging Infectious Disease Workshop
* Annual RePORT meeting
* IDWeek Meeting
* TREAT Asia HIV Observational Database Meeting
* Indonesian Clinical Pathologists Annual Meeting
* ASTMH 66th Annual Meeting
* Union World Conference on Lung Health
* Biological Safety Conference
* Indonesian Tropical and Infectious Disease Research Association Congress

GOAL 3: Develop, implement, and maintain internal management and operations practices

Operations established

* INA RESPOND Reference Laboratory
* Data Management system improved
* IT operations infrastructure improved
* Scientific Manuscript Writing Guidebook finalized
* Distribute monthly newsletter
* Finalized 2 guidelines and updated 7 policies

INA RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

Vision

Become the premier research network in the region providing evidence to inform policy making, minimize the impact of infectious diseases, and improve human well-being.

Mission

Improve the health of the people of Indonesia and benefit the international community, by conducting high-quality infectious disease research through a collaborative, sustainable, and well-recognized research network.

Values

* Beneficial and Responsive to the research needs of Indonesia and the international community
* Innovative in designing, implementing, and integrating research in a healthcare setting
* Goal-Oriented to achieve the mission of the network
* High-Quality in conducting scientifically sound and ethical infectious disease research
* Trust and Teamwork with respect, transparency, communication, collaboration, and shared responsibility

INA RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE


NSC Meeting, 3-4 Dec 2018

2018 ACCOMPLISHMENTS

THREE STUDIES are ongoing: *1) Tuberculosis Research of INA-RESPOND on Drug Resistance (TRIPOD Study); 2) A Prospective Observational Cohort Study of HIV Infection and Risk Related Coinfections / Comorbidities in Indonesia (INA-PROACTIVE Study); and 3) Implementing a combination of clinical parameters for the etiology diagnoses of pneumonia in pediatric patients to improve clinical management in Indonesia (PEER Study).*

knowledge, disseminate results, and promote utilization of research findings

PUBLICATION

- **Case Report - Two Confirmed Cases of Human Seoul Virus Infections in Indonesia,** BMC Infectious Diseases Journal, November 2018.

POSTER PRESENTATIONS

- Global Vaccine & Immunization Research Forum, March 2018:
  - **A National Immunization Program Recommendations: Seasonal Influenza Vaccine Administration for Hospital Health Care Workers in Indonesia;**
  - **The Epidemiology of Dengue in Indonesia Pediatrics: The Need of Safe and Effective Vaccine;**
  - **The Findings of Measles in Hospitalized Patients: Better Strategy for Vaccination Program is Needed;**
  - **Neglected Vaccine-Preventable Diseases: Lesson from a 3-month cough caused by Bordetella Pertussis in HIV-infected girl**

- The 4th Annual Regional RePORT Meeting, September 2018:
  Factor related to BMI Changes in Intensive Phase among DS TB Patients in Indonesia.

- The 3rd INA-RESPOND Annual Meeting in conjunction with the Scientific Meeting of the Indonesia Society of Tropical and Infectious Diseases, October 2018:
  - **New Onset of Lymphadenitis in 2nd Month of Shorter MDR-TB Regimen in an Immunocompetent Primary Ca e MDR TB Patient;**
  - **Profile of Drug Resistance TB Cases in Indonesia: A Preliminary Results from an ongoing multicenter prospective cohort study of presumptive pulmonary TB patients**.

- The 49th Union World Conference on Lung Health, October 2018:
  The Association of Diabetes Status and Pre-Treatment Bacillary Load among Pulmonary TB Patients in Indonesia.

ORAL PRESENTATION

- The 34th World Congress of Internal Medicine, October 2018:
  Hospitalized Dengue Cases from Eight Major Hospitals in Indonesia.

POSTER PRESENTATIONS

- IDWeek Meeting, October 2018
  - **Drug Resistant Tuberculosis, Comorbidities and Risk Factors Identified in a Prospective Multicenter Cohort Study in Indonesia;**
  - **Biomarker in Different Etiology of Pneumonia in Pediatrics in Indonesia**.

- ASTMH 67th Annual Meeting, October 2018:
  - **Underdiagnosed of Rodent-Borne Diseases in Patients Hospitalized with Acute Fever in Indonesia;**
  - **Geographical Assessment of 6 Most Common Infectious Diseases in 7 Large Cities in Indonesia Using Geographical Information Systems.**

STUDIES

- **TRIPOD**
  Total enrolled: 490
  7 hospitals study sites
- **PEER**
  Total enrolled: 79
  3 hospitals study sites
- **PROACTIVE**
  Total enrolled: 1,212
  12 hospital study sites
- **SCHISTO**
  Study protocol submitted to the NIHRD IRB. Recommendation to support Schistosomiasis Eradication Program in Indonesia was submitted to the Ministry of Health
- **REPOSITORY PROTOCOL**
  Research Use of Repository Human Specimens/Data approved December 2018
- **D²EFT**
  Dolutegravir and Darunavir Evaluation in adults Failing Therapy in preparation to star in 2019
  .

GOAL 2: Build INA-RESPOND as a sustainable research network capable of conducting excellent clinical research

Partnerships

- SubDit HIV/AIDS
- SubDit Tuberculosis (TB)
- SubDit Vector and Zoonosis
- NIAID/NIH
- NCI/NIH
- US-CDC
- USAID/PEER Health
- RePORT
- The Kirby Institute/UNSW
- Columbia University

Trainings

- GCP Training
- Data Management Training
- Laboratory Training
- BioBankPro Training
- OpenClinica Training
- OpenClinica Data Entry Training for Sites Research Assistants
- MDR TB Training
- Research Bioethics Workshop
- NIAID HIV Lecture Series
- Mini Manuscript Writing Workshop
- Scientific Writing Support for Sites
- INA-RESPOND SOPs Training
- PROACTIVE Study SOPs Training
- Association of Clinical Research Professionals (ACRP) Training
- NIH Information & Security Privacy Awareness Refresh Training
- Orientation and Training for new hires

Conferences / Meetings

- INA-RESPOND Annual Meeting 2018
- INA-RESPOND HIV/AIDS Workshop
- Global Vaccine & Immunization Research Forum
- Conference on Retroviruses & Opportunistic Infections
- European Congress of Clinical Microbiology & Infectious Diseases
- The 58th Annual Meeting of the Japanese Respiratory Society
- Associations of Clinical Research Professionals
- The 4th Annual RePORT meeting
- The Indonesian Society of Internal Medicine Congress
- Antibiotic Resistance Seminar
- The 22nd International AIDS Conference
- International Conference on Emerging Infectious Diseases
- Taiwan ICDF Workshop
- IDWeek Meeting
- China Biocapital Reference Laboratory Meeting
- Indonesian Society of Tropical and Infectious Diseases Annual Meeting
- The 34th World Congress of Internal Medicine
- ASTMH 67th Annual Meeting
- Union World Conference on Lung Health
- Asia Pacific Society of Respiratory Congress
- Bioinformatics for NGS Seminar

Twenty-one authors were mentored by INA-RESPOND and NIH to enhance their scientific writing skills

GOAL 3: Achieve organizational excellence

Operations established

- Nine Core Sites and Six Study Specific Sites
- INA-RESPOND Policies and SOPs
- Data Management Center
- INA-RESPOND Reference Laboratory
- Annual Proficiency Testing for INA-RESPOND Reference Laboratory
- IT operations infrastructure and network improved
- Scientific Manuscript Writing Guidebook distributed
- INA-RESPOND Website and Monthly Newsletter

INA RESPOND
INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

Vision

Become the premier research network in the region providing evidence to inform policy making, minimize the impact of infectious diseases and improve human well-being.

Mission

Improve the health of the people of Indonesia and benefit the international community, by conducting high-quality infectious disease research through a collaborative, sustainable, and well-recognized research network.

Values

- Beneficial and Responsive to the research needs of Indonesia and the international community
- Innovative in designing, implementing, and integrating research in a healthcare setting
- Goal-Oriented to achieve the mission of the network
- High-Quality in conducting scientifically sound and ethical infectious disease research
- Trust and Teamwork with respect, transparency, communication, collaboration, and shared responsibility

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

National Institute of Allergy
and Infectious Diseases
National Institutes of Health
Bethesda, MD 20892

April 25, 2019

Briefing Memorandum

To: Director, NIAID

Through: Principal Deputy Director, NIAID

From: Associate Director for International Research Affairs, NIAID

Subject: Meeting with a Delegation from the Indonesian Ministry of Health; Thursday, May 2, 2019; 2-3 p.m.; 31A/Room 7A-18

Purpose

You will meet with Dr. Siswanto (Sis-WAHN-toh), director general of the Indonesian National Institute for Health Research and Development (NIHRD), Ministry of Health (MOH), and his accompanying delegation to present a brief overview of NIAID/NIH, discuss matters related to the Indonesia Research Partnership on Infectious Disease (INA-RESPOND), and emphasize the importance of collaborative research. The visitor list is attached.

Scenario

You will welcome the delegation and present a brief NIAID/NIH overview (slides prepared by Greg/Laurie). A general discussion will follow. The visitors speak English.

NIAID attendees: Cliff Lane, Sophia Siddiqui, Alan Embry, Gray Handley, and Gayle Bernabe (OGR).

Before your meeting, the delegation will meet with Dr. Lane and they are tentatively scheduled to meet with Dr. Collins or his designee. While in DC (April 30- May 1), they will attend meetings at the World Bank focused on the Global Health Security Agenda. On May 3, they will travel to CDC in Atlanta.

The film crew following you that week will be asked to film only the first 15 minutes of the meeting.

Background

Siswanto, M.D., M.H.P., D.T.M., is the director general of NIHRD, which is under the MOH in Indonesia. Dr. Siswanto has a diploma of tropical medicine from Nagasaki University, master of health planning from the University of New South Wales in Sydney, and a medical degree from Airlangga University in Indonesia.

You have met Drs. Siswanto and Karyana (in 2017) and they are long time collaborators with Dr. Lane and DCR. Other MOH delegation members, who are more politically oriented and are not scientists, are visiting for the first time

Priority areas identified by the MOH include malaria, avian influenza, dengue, AIDS/HIV, tuberculosis (which they refer to as MADAT), and neglected infectious diseases.

INA-RESPOND, established by DCR and NIHRD in 2010, developed a clinical research network within Indonesia to study infectious diseases and to enable response readiness in a disease outbreak. The implementing arrangement (IA) between NIHRD and NIAID/NIH was signed in December 2016. The IA has been renewed through an exchange of letters signed by Dr. Collins and MOH Secretary General. Although NIH proposed to renew the IA for another five years, the MOH has only agreed to a two-year extension.

Key INA-RESPOND studies include:

- Acute Febrile Illness in Hospitalized Patients (AFIRE): Completed in 2016, enrolled 1,492 subjects; main findings included identification of previously undiagnosed infections with rickettsia, chikungunya, influenza, RSV, HHV-6 Seoul virus and HIV (including acute fatal HIV infection). AFIRE, the largest study in Indonesia focused on febrile illness, established a model for research cooperation in Indonesia and a specimen repository.
- Tuberculosis Research of INA-RESPOND on Drug Resistant TB (TRIPOD): The TRIPOD objective is to estimate the proportion of MDR TB in new and previously treated cases. Secondary objectives are to follow patient outcomes. Within TRIPOD, Indonesian scientists also are implementing the RePORT Common Protocol, which primarily studies active TB disease. As of June 3, 2018, 348 subjects enrolled in the seven hospital sites. Study completed and closed to new enrollment.
- Prospective Observational Cohort Study of HIV Infection and Risk related to Coinfections/Comorbidities in Indonesia (PROACTIVE): It will be the largest study on HIV/AIDS conducted in Indonesia, with 18 sites planned. A major component of the study is the introduction of viral load testing using the gene expert platform. As of June 2018, 219 subjects enrolled.
- Schistosomiasis diagnostic study: The study was designed to complement ongoing efforts to eradicate Schistosomiasis from central Sulawesi (0.4% prevalence), working in collaboration with the Schistosomiasis control program. Please note: Dr. Siti Nadia Tarmizi, one of the visitors, is head of the program. The study will evaluate a point-of-care diagnostic that has been evaluated for *S. mansoni* and *S. haematobium*. Data are needed for *S. japonicum* and low prevalence settings.

In addition to INA-RESPOND, NIAID currently supports six grants with Indonesian collaborators focused on HIV/AIDS (including Treat Asia, a regional component of NIAID-funded IeDEA), coronaviruses, malaria, and tuberculosis. In FY 2018, NIAID research funding in Indonesia totaled ~$4.29M. The Indonesian Ministry of Research, Technology and Higher Education (RISTEK) is an e-ASIA member organization, as are NIAID and NCI.

Potential Talking Points

- NIAID highly values the ongoing and long-standing scientific cooperation with Indonesia, through INA-RESPOND, the partnership with the MOH, NIHRD, and universities and hospitals in Indonesia to study infectious diseases of significance to Indonesia and the region.
- NIAID continues to be supportive and committed to INA-RESPOND and all its associated studies, as well as other biomedical research projects and activities with Indonesia.
- Collaborating with Indonesia provides a unique opportunity for research on emerging and re-emerging diseases of mutual interest; we are open to further enhancing research cooperation with the MOH, NIHRD, and other institutions in Indonesia.
- Government support and long-term commitment to this beneficial collaboration allow both countries to partner in research and study infectious diseases that impact the region and the global community.

Enclosures

- Indonesian Delegation Visitor List and Itinerary
- Dr. Siswanto's Bio
- INA-RESPOND 2017 and 2018 Accomplishments
- Indonesia Country Page

CC

Dr. Lane
Dr. Siddiqui
Mr. Folkers
Ms. Conrad

Drafted by: G. Bernabe, 4/25/19
Cleared by: N. Touchette, J. Dominique, S. Siddiqui, 4/29/19

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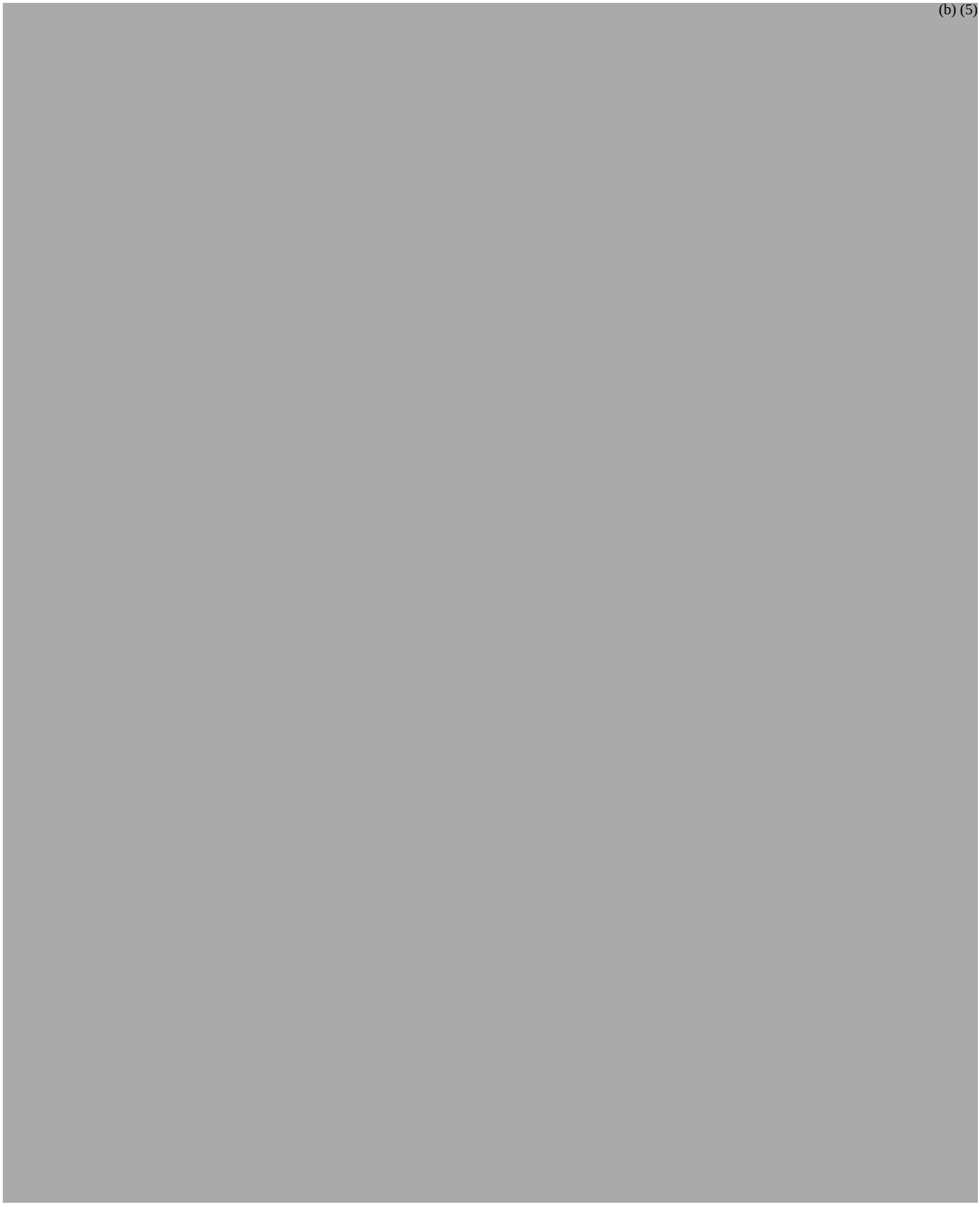

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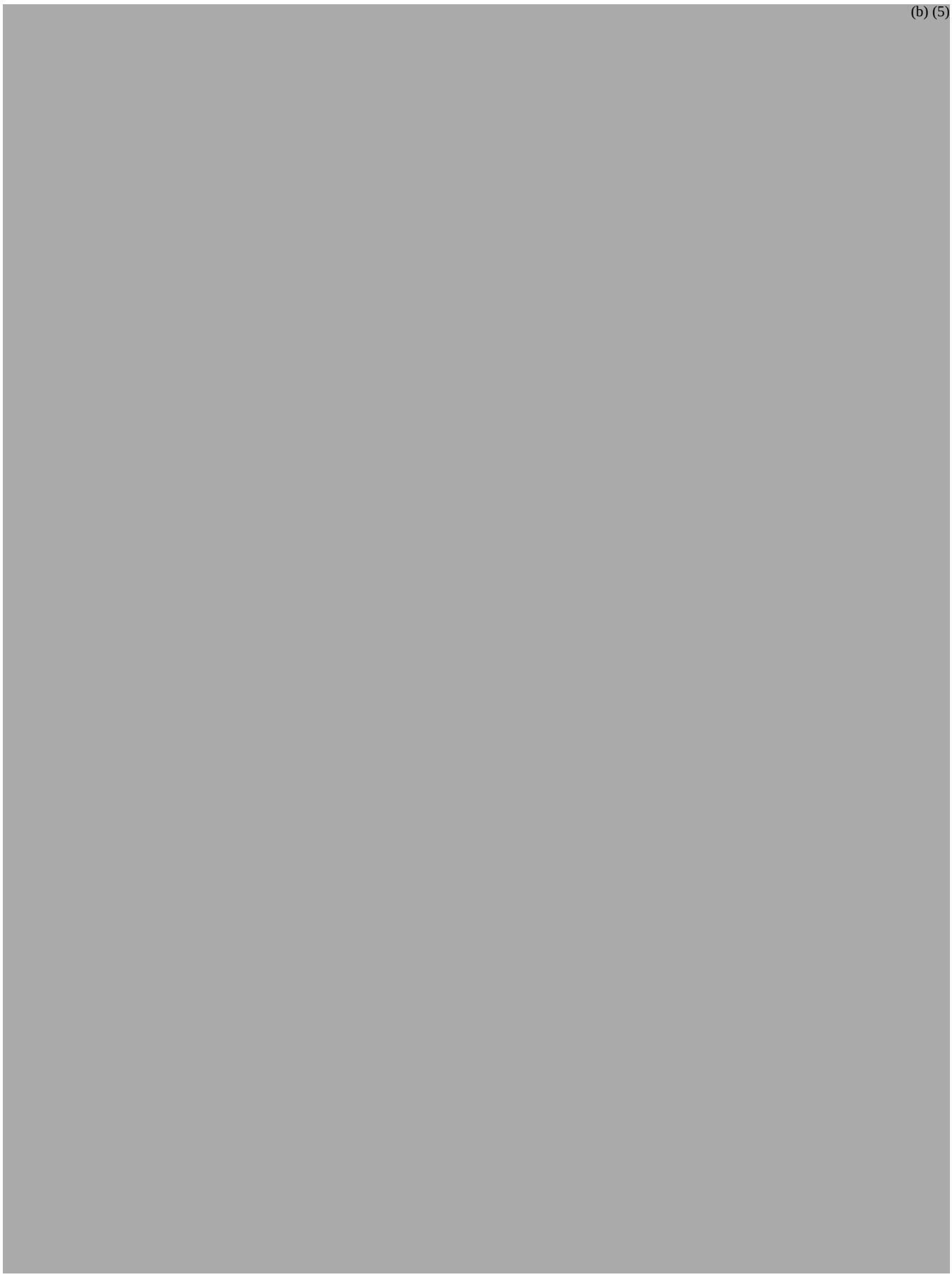

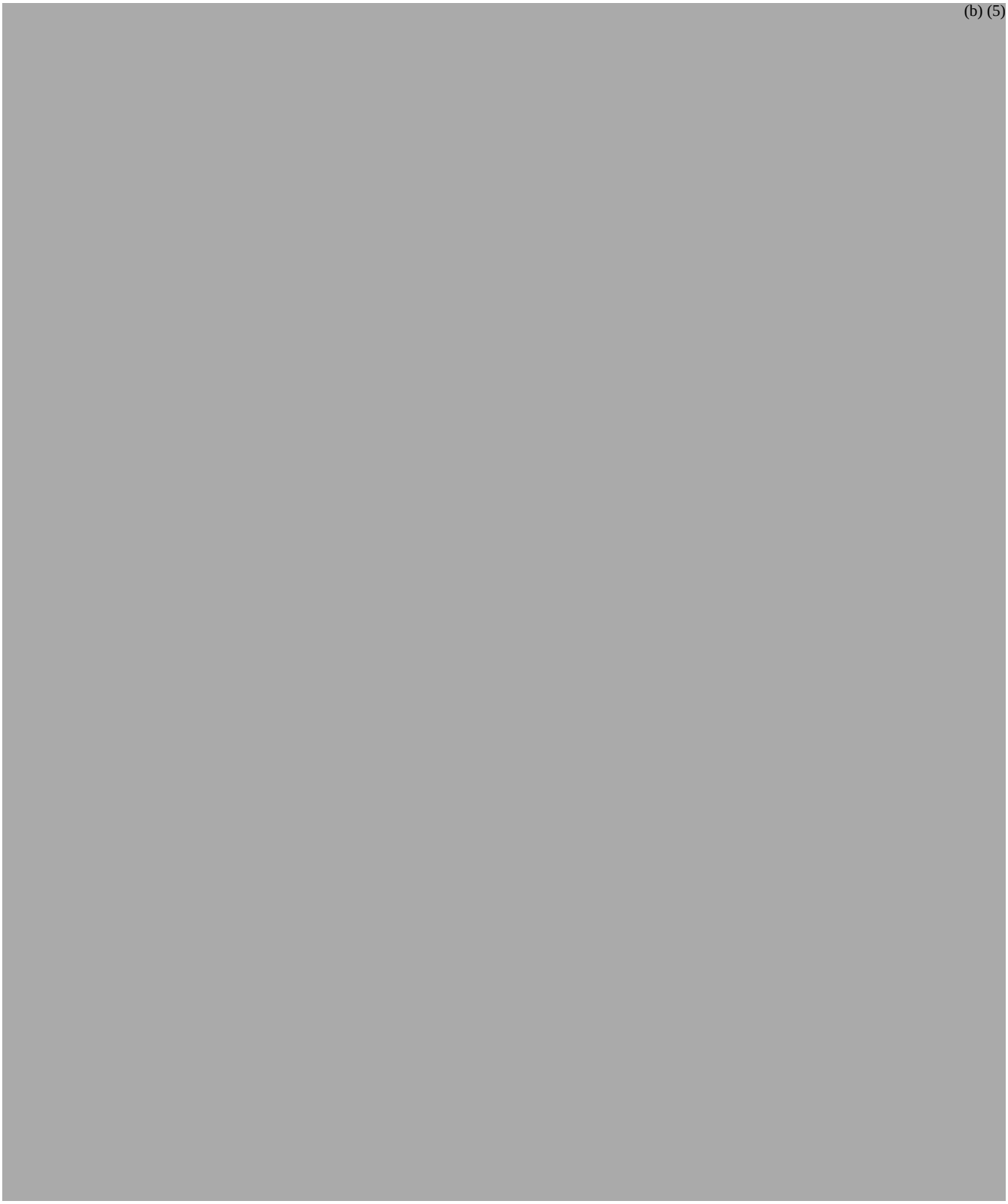
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To: Handley, Gray (NIH/NIAID) [E] (b) (6)
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Tue 4/30/2019 10:40:11 AM (UTC-04:00)
Subject: Please use this version: Indonesia MOH Visit (5/2/2019) - Final Briefing Materials
0_Indonesia MOH 5-2-2019 Visit Briefing Memo_final.doc
1_Indonesian Delegation Visitor List and Itinerary April-May 2019.docx
2_Bio of Dr Siswanto.docx
3A_FINAL 2017 INA Accomplishments - one page - March20183.pdf
3B_Final 2018 INA-RESPOND Accomplishments.docx
4_Indonesia 4 2019.docx

Gray:

Please use this version. Sorry for the change. I spoke with Laurie and she wanted to be included in the cc list in the briefing memo.

Also I've contacted FIC to try to schedule a meeting with NHLBI for the Indonesians. We'll see if it can be done.

Thanks again,
Gayle

From: Bernabe, Gayle (NIH/NIAID) [E]
Sent: Tuesday, April 30, 2019 10:26 AM
To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Subject: Indonesia MOH Visit (5/2/2019) - Final Briefing Materials

Gray:

Attached is the whole package (6 attachments).

Thank you very much,
Gayle

From: Handley, Gray (NIH/NIAID) [E] (b) (6)
Sent: Tuesday, April 30, 2019 9:19 AM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Subject: 0_Draft MOH 5-2-2019 Visit Briefing Memo_updated

My edits for your further review. Once done, please send me back the whole package and I will forward to FO. Thanks. g

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

National Institute of Allergy
and Infectious Diseases
National Institutes of Health
Bethesda, MD 20892

April 30, 2019

Briefing Memorandum

To: Director, NIAID

Through: Principal Deputy Director, NIAID

From: Associate Director for International Research Affairs, NIAID

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NIAID attendees: Hugh Auchincloss, Cliff Lane, Gray Handley, Sophia Siddiqui, Alan Embry, and Gayle Bernabe (OGR).

Before your meeting, the delegation will meet with Dr. Lane. While in DC (April 30- May 1), they will attend meetings at the World Bank focused on the Global Health Security Agenda. On May 3, they will travel to CDC in Atlanta.

The film crew following you that week will be asked to film only the first 15 minutes of the meeting.

Background

Siswanto, M.D. received his medical training at Airlangga University in Indonesia, He has a diploma in tropical medicine from Nagasaki University, and a Master of Health Planning from the University of New South Wales in Sydney.

You met Drs. Siswanto and Karyana in 2017. They are long time collaborators with Dr. Lane and DCR. Other MOH delegation members, who are more politically oriented and are not scientists, are visiting for the first time – hence the need for a background briefing that emphasizes the value of international collaboration.

Priority areas identified by the MOH include malaria, avian influenza, dengue, AIDS/HIV, tuberculosis (a disease grouping they refer to as “MADAT”) and neglected infectious diseases.

INA-RESPOND, established by DCR and NIHRD in 2010, includes a clinical research network within Indonesia to study infectious diseases and to enable disease outbreak response readiness. The implementing arrangement (IA) between NIHRD and NIAID/NIH was signed in December 2016. The IA has been renewed through an exchange of letters signed by Dr. Collins and MOH Secretary General. Although NIH proposed to renew the IA for another five years, the MOH has only agreed to a two-year extension.

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Potential Talking Points

- NIAID highly values the ongoing and long-standing scientific cooperation with Indonesia, through INA-RESPOND, the partnership with the MOH, NIHRD, and universities and hospitals in Indonesia to study infectious diseases of significance to Indonesia and the region.
- NIAID continues to be supportive and committed to INA-RESPOND and all its associated studies, as well as other biomedical research projects and activities with Indonesia.
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Enclosures

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- Indonesia Country Page

CC

Dr. Lane
Dr. Siddiqui
Mr. Folkers
Ms. Conrad
Ms. Doepel

Drafted by: G. Bernabe, 4/25/19
Cleared by: N. Touchette, J. Dominique, S. Siddiqui, 4/29/19


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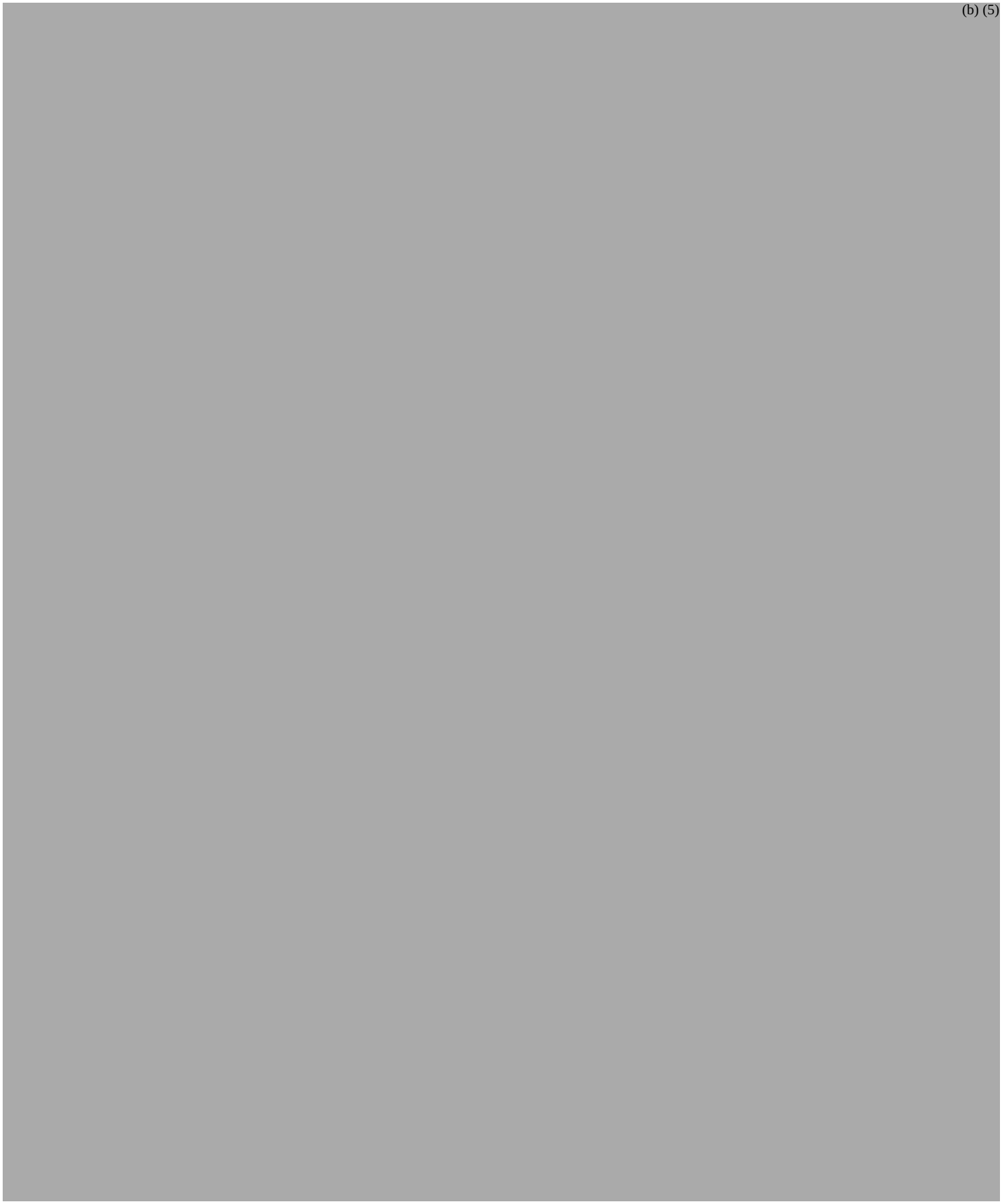

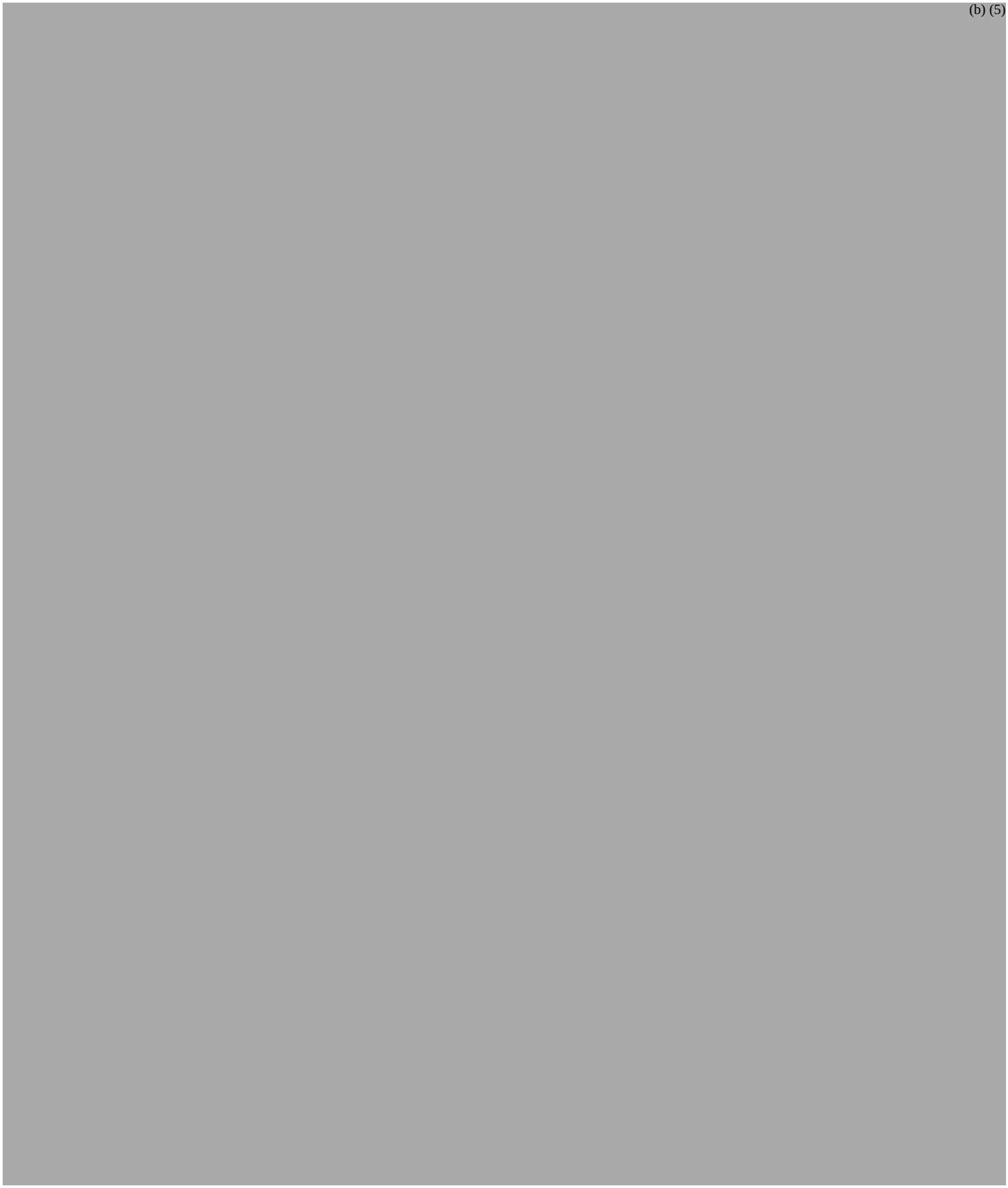


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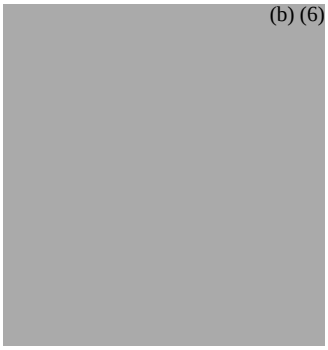
Dr. Siswanto



Dr. Siswanto is the Director General of the National Institute for Health Research and Development (NIHRD) of the Ministry of Health in the Republic of Indonesia. His previous positions held include Director of the R&D Center of Food and Nutrition in NIHRD, Director of the R&D Center of Applied Health Technology and Clinical Epidemiology in NIHRD, and Chair of the National Committee of Jamu Scientification. Dr. Siswanto has written publications on topics such as political approach as strategy in health development advocacy, and the development of medicinal plant and traditional medicine. His educational background includes a diploma of tropical medicine from Nagasaki University in Japan, Master of Health Planning from the University of New South Wales in Sydney, and Dr. Siswanto is also a practicing medical doctor at Airlangga University in Surabaya, Indonesia.

INA RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

NSC Meeting

2017 ACCOMPLISHMENTS

AFIRE Study: *Completed 2016; 1,492 subjects enrolled (864 adults and 628 pediatrics).* ***2017****: INA-RESPOND tested specimens from 1,464 subjects for approx.60 pathogens; Main findings included identification of previously undiagnosed infections with Rickettsia, Chikungunya, Influenza, RSV, HHV-6 Seoul virus and HIV (including acute fatal HIV infection).*

GOAL 1: Generate knowledge, disseminate results, and promote utilization of research findings

Publications

* **"Multiple Viral Infection Detected from Influenza-like Illness in Indonesia",** Biomed Res, January 2017.
* **"Causes and Outcomes of Sepsis in Southeast Asia: A Multinational Multicenter Cross-sectional Study",** Lancet Global Health, February 2017.

Abstracts

* 6th International Eijkman Conference, August 2017:
  - **"The Identification of Seoul Virus in Patients with Fever and Liver Involvement"**
  - **"The Challenges of Diagnosing Typhoid in Indonesia"**
* **"Rodent-Borne Diseases in Patients Hospitalized with Acute Fever in Indonesia",** IMERI Conference, August 2017.
* **"The Etiologies and Characteristics of Patients Hospitalized with an Acute Febrile Illness and Central Nervous System Syndromes in Indonesia"**, IDWeek Meeting, October 2017.
* **"Clinical manifestations, hematology, and chemistry profiles of the six most common etiologies from an observational study of acute febrile illness in Indonesia",** IDWeek Meeting, October 2017.
* ASTMH 66th Annual Meeting, November 2017:
  - **"The dynamics of dengue virus infection in Indonesia: Observations from a national multicenter study of acute febrile illness among hospitalized patients"**
  - **"Clinical, serological and molecular diagnosis of typhoid fever, a significant cause of acute febrile illness among hospitalized patients in Indonesia from 2013-2016"**
  - **"Rickettsia Infection: An unexpected cause of fever in patients hospitalized with acute febrile illness in Indonesia"**
  - **"The demography, clinical characteristics and diagnoses of acute febrile illness requiring hospitalization in Indonesia"**
  - **"Building the Infectious Disease Diagnostic Capacity of a Developing Nation: Experience from the Indonesia Research Partnership on Infectious Diseases (INA-RESPOND)"**

Poster Presentations

* **Implementing a Combination of Clinical Parameters (Rapid Diagnostic Tests, Biomarkers and SoC Procedures) for the Etiology Diagnoses of Pneumonia in Pediatric Patient to Improve Clinical Management in Indonesia,** at PEER Indonesia Forum, Jakarta, August 1-3, 2017.
* **Establishment of a Human Herpesvirus 6 (HHV-6) Quantification Assay for Diagnosis of HHV-6 Acute Infection in Febrile Cases in Indonesia** at IMERI Conference on Global Health, Jakarta, August 14-16, 2017.
* **Assessment of Hospital Readiness for a Prospective Observational Cohort Study on HIV Infection and Related Coinfections/Comorbidities in Indonesia** at IMERI Conference on Global Health, Jakarta, August 14-16, 2017.

Studies

* **TRIPOD**
  Total enrolled: 165
  5 hospitals study sites
* **PEER**
  Total enrolled: 19
  2 hospitals study sites
* **PROACTIVE**
  Study protocol submitted to the IRB
* **SCHISTO**
  Study protocol in development.

  Recommendation to support Schistosomiasis Eradication Program in Indonesia was submitted to the Ministry of Health.

GOAL 2: Build INA-RESPOND as a sustainable research network capable of conducting excellent clinical research

Partnerships

* SubDit HIV/AIDS
* SubDit Tuberculosis (TB)
* SubDit Vector and Zoonosis
* US-CDC
* National Cancer Institute (NCI/NIH)
* RePORT
* TB Alliance
* USAID/PEER Health
* TREAT Asia

Trainings

* GCP and GCLP Training
* Data Management Training
* Laboratory Training
* Manuscript Writing Workshop
* Malaria Training of Trainers
* US Regulation Refresher Training
* Basic Cell Culture & High-Quality Imaging for International Publication
* Association of Clinical Research Professionals (ACRP) online Training
* NIAID Grantsmanship Workshop and NIAID Symposium
* IT Training
* INA-RESPOND SOPs Training
* TRIPOD Study SOPs
* IT SOPs
* NIH Information & Security Privacy Awareness Training for new hires
* Orientation and Training for new hires

Conferences / Meetings

* INA-RESPOND Mini Symposium 2017
* The Indonesian Society of Internal Medicine Congress
* The 17th Indonesian Congress of Pediatrics
* Indonesian Medical Education & Research Institute Conference on Global Health
* International AIDS Society Conference
* Emerging and Re-emerging Infectious Disease Workshop
* Annual RePORT meeting
* IDWeek Meeting
* TREAT Asia HIV Observational Database Meeting
* Indonesian Clinical Pathologists Annual Meeting
* ASTMH 66th Annual Meeting
* Union World Conference on Lung Health
* Biological Safety Conference
* Indonesian Tropical and Infectious Disease Research Association Congress

GOAL 3: Develop, implement, and maintain internal management and operations practices

Operations established

* INA RESPOND Reference Laboratory
* Data Management system improved
* IT operations infrastructure improved
* Scientific Manuscript Writing Guidebook finalized
* Distribute monthly newsletter
* Finalized 2 guidelines and updated 7 policies

INA RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

Vision

Become the premier research network in the region providing evidence to inform policy making, minimize the impact of infectious diseases, and improve human well-being.

Mission

Improve the health of the people of Indonesia and benefit the international community, by conducting high-quality infectious disease research through a collaborative, sustainable, and well-recognized research network.

Values

* Beneficial and Responsive to the research needs of Indonesia and the international community
* Innovative in designing, implementing, and integrating research in a healthcare setting
* Goal-Oriented to achieve the mission of the network
* High-Quality in conducting scientifically sound and ethical infectious disease research
* Trust and Teamwork with respect, transparency, communication, collaboration, and shared responsibility

INA RESPOND

INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE


NSC Meeting, 3-4 Dec 2018

2018 ACCOMPLISHMENTS

THREE STUDIES are ongoing: *1) Tuberculosis Research of INA-RESPOND on Drug Resistance (TRIPOD Study); 2) A Prospective Observational Cohort Study of HIV Infection and Risk Related Coinfections / Comorbidities in Indonesia (INA-PROACTIVE Study); and 3) Implementing a combination of clinical parameters for the etiology diagnoses of pneumonia in pediatric patients to improve clinical management in Indonesia (PEER Study).*

knowledge, disseminate results, and promote utilization of research findings

PUBLICATION

- **Case Report - Two Confirmed Cases of Human Seoul Virus Infections in Indonesia,** BMC Infectious Diseases Journal, November 2018.

POSTER PRESENTATIONS

- Global Vaccine & Immunization Research Forum, March 2018:
  - **A National Immunization Program Recommendations: Seasonal Influenza Vaccine Administration for Hospital Health Care Workers in Indonesia;**
  - **The Epidemiology of Dengue in Indonesia Pediatrics: The Need of Safe and Effective Vaccine;**
  - **The Findings of Measles in Hospitalized Patients: Better Strategy for Vaccination Program is Needed;**
  - **Neglected Vaccine-Preventable Diseases: Lesson from a 3-month cough caused by Bordetella Pertussis in HIV-infected girl**

- The 4th Annual Regional RePORT Meeting, September 2018:
  Factor related to BMI Changes in Intensive Phase among DS TB Patients in Indonesia.

- The 3rd INA-RESPOND Annual Meeting in conjunction with the Scientific Meeting of the Indonesia Society of Tropical and Infectious Diseases, October 2018:
  - **New Onset of Lymphadenitis in 2nd Month of Shorter MDR-TB Regimen in an Immunocompetent Primary Ca e MDR TB Patient;**
  - **Profile of Drug Resistance TB Cases in Indonesia: A Preliminary Results from an ongoing multicenter prospective cohort study of presumptive pulmonary TB patients**.

- The 49th Union World Conference on Lung Health, October 2018:
  The Association of Diabetes Status and Pre-Treatment Bacillary Load among Pulmonary TB Patients in Indonesia.

ORAL PRESENTATION

- The 34th World Congress of Internal Medicine, October 2018:
  Hospitalized Dengue Cases from Eight Major Hospitals in Indonesia.

POSTER PRESENTATIONS

- IDWeek Meeting, October 2018
  - **Drug Resistant Tuberculosis, Comorbidities and Risk Factors Identified in a Prospective Multicenter Cohort Study in Indonesia;**
  - **Biomarker in Different Etiology of Pneumonia in Pediatrics in Indonesia**.

- ASTMH 67th Annual Meeting, October 2018:
  - **Underdiagnosed of Rodent-Borne Diseases in Patients Hospitalized with Acute Fever in Indonesia;**
  - **Geographical Assessment of 6 Most Common Infectious Diseases in 7 Large Cities in Indonesia Using Geographical Information Systems.**

STUDIES

- **TRIPOD**
  Total enrolled: 490
  7 hospitals study sites
- **PEER**
  Total enrolled: 79
  3 hospitals study sites
- **PROACTIVE**
  Total enrolled: 1,212
  12 hospital study sites
- **SCHISTO**
  Study protocol submitted to the NIHRD IRB. Recommendation to support Schistosomiasis Eradication Program in Indonesia was submitted to the Ministry of Health
- **REPOSITORY PROTOCOL**
  Research Use of Repository Human Specimens/Data approved December 2018
- **D²EFT**
  Dolutegravir and Darunavir Evaluation in adults Failing Therapy in preparation to star in 2019
  .

GOAL 2: Build INA-RESPOND as a sustainable research network capable of conducting excellent clinical research

Partnerships

- SubDit HIV/AIDS
- SubDit Tuberculosis (TB)
- SubDit Vector and Zoonosis
- NIAID/NIH
- NCI/NIH
- US-CDC
- USAID/PEER Health
- RePORT
- The Kirby Institute/UNSW
- Columbia University

Trainings

- GCP Training
- Data Management Training
- Laboratory Training
- BioBankPro Training
- OpenClinica Training
- OpenClinica Data Entry Training for Sites Research Assistants
- MDR TB Training
- Research Bioethics Workshop
- NIAID HIV Lecture Series
- Mini Manuscript Writing Workshop
- Scientific Writing Support for Sites
- INA-RESPOND SOPs Training
- PROACTIVE Study SOPs Training
- Association of Clinical Research Professionals (ACRP) Training
- NIH Information & Security Privacy Awareness Refresh Training
- Orientation and Training for new hires

Conferences / Meetings

- INA-RESPOND Annual Meeting 2018
- INA-RESPOND HIV/AIDS Workshop
- Global Vaccine & Immunization Research Forum
- Conference on Retroviruses & Opportunistic Infections
- European Congress of Clinical Microbiology & Infectious Diseases
- The 58th Annual Meeting of the Japanese Respiratory Society
- Associations of Clinical Research Professionals
- The 4th Annual RePORT meeting
- The Indonesian Society of Internal Medicine Congress
- Antibiotic Resistance Seminar
- The 22nd International AIDS Conference
- International Conference on Emerging Infectious Diseases
- Taiwan ICDF Workshop
- IDWeek Meeting
- China Biocapital Reference Laboratory Meeting
- Indonesian Society of Tropical and Infectious Diseases Annual Meeting
- The 34th World Congress of Internal Medicine
- ASTMH 67th Annual Meeting
- Union World Conference on Lung Health
- Asia Pacific Society of Respiratory Congress
- Bioinformatics for NGS Seminar

Twenty-one authors were mentored by INA-RESPOND and NIH to enhance their scientific writing skills

GOAL 3: Achieve organizational excellence

Operations established

- Nine Core Sites and Six Study Specific Sites
- INA-RESPOND Policies and SOPs
- Data Management Center
- INA-RESPOND Reference Laboratory
- Annual Proficiency Testing for INA-RESPOND Reference Laboratory
- IT operations infrastructure and network improved
- Scientific Manuscript Writing Guidebook distributed
- INA-RESPOND Website and Monthly Newsletter

INA RESPOND
INDONESIA RESEARCH PARTNERSHIP ON INFECTIOUS DISEASE

Vision

Become the premier research network in the region providing evidence to inform policy making, minimize the impact of infectious diseases and improve human well-being.

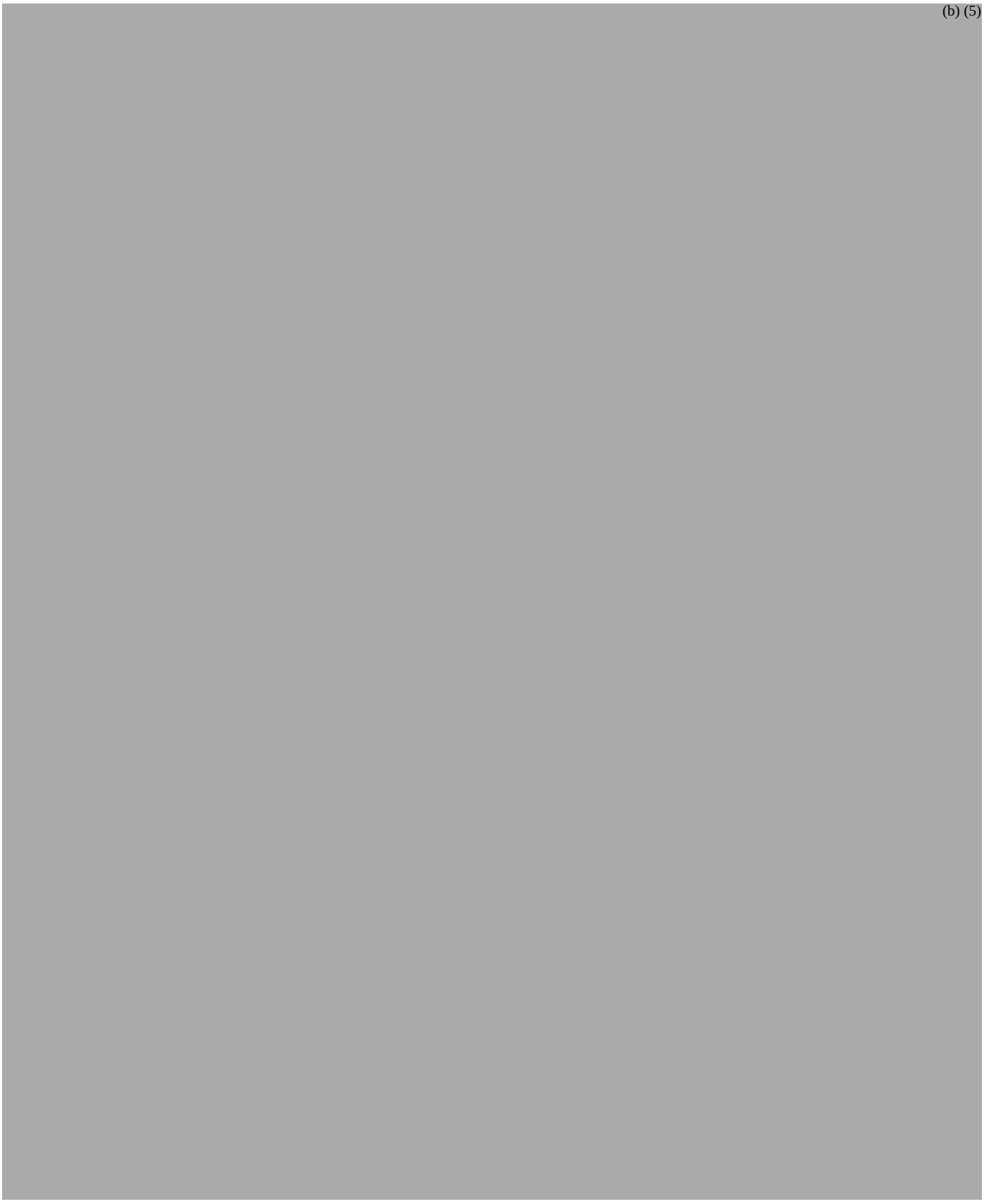
Mission

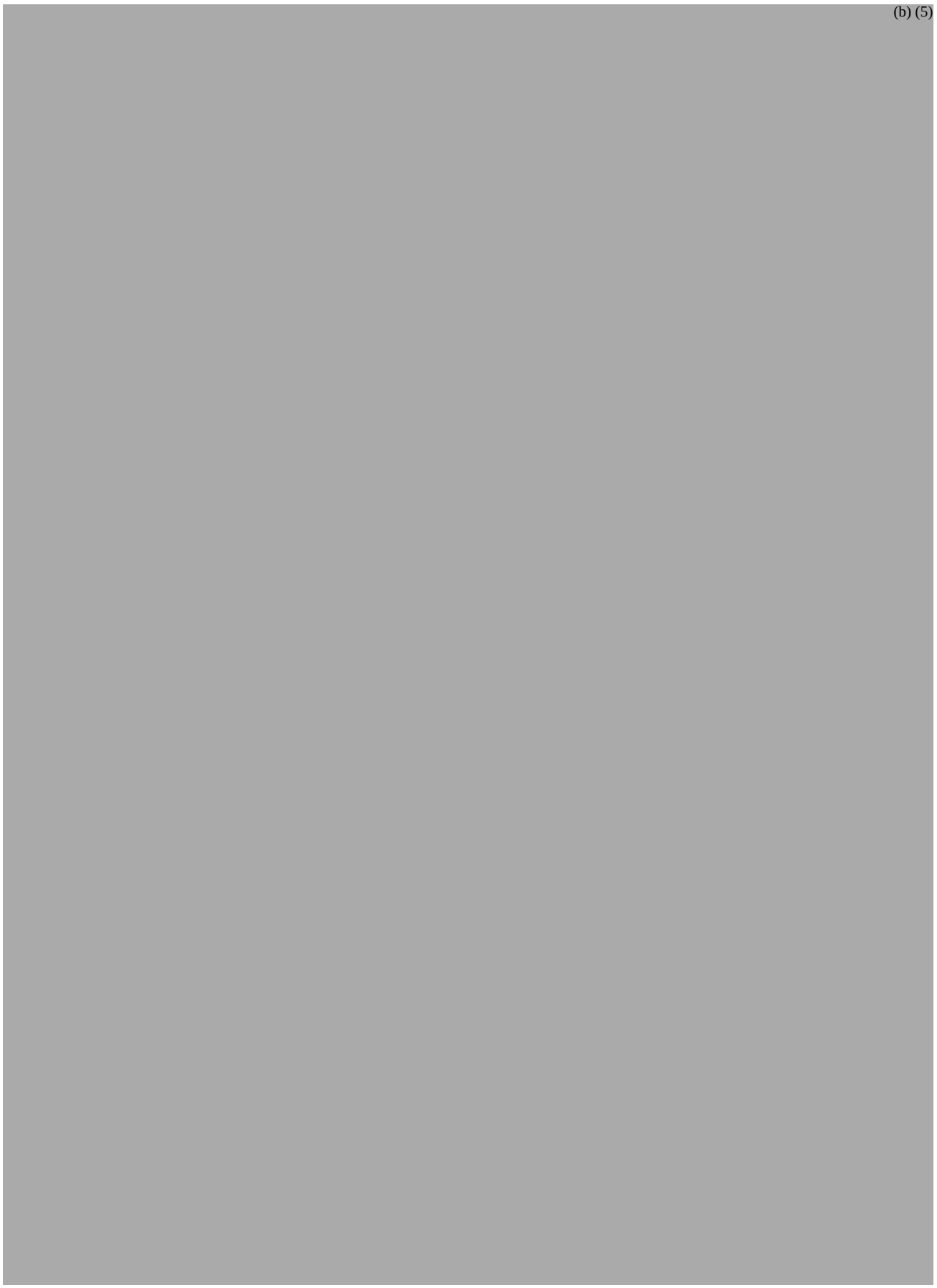
Improve the health of the people of Indonesia and benefit the international community, by conducting high-quality infectious disease research through a collaborative, sustainable, and well-recognized research network.

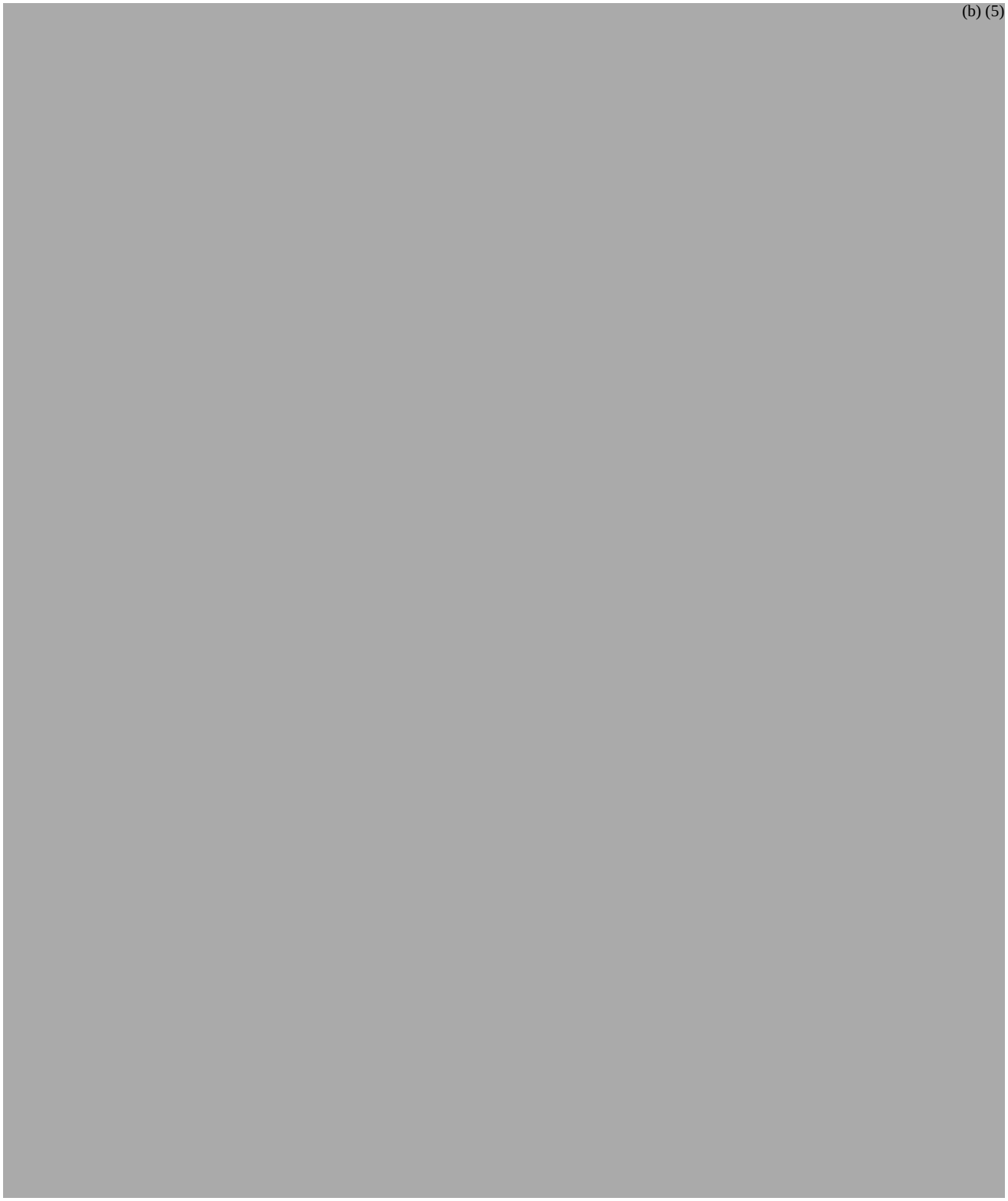
Values

- Beneficial and Responsive to the research needs of Indonesia and the international community
- Innovative in designing, implementing, and integrating research in a healthcare setting
- Goal-Oriented to achieve the mission of the network
- High-Quality in conducting scientifically sound and ethical infectious disease research
- Trust and Teamwork with respect, transparency, communication, collaboration, and shared responsibility

(b) (5)




(b) (5)


(b) (5)

To: Handley, Gray (NIH/NIAID) [E] (b) (6)
From: Bernabe, Gayle (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: Wed 4/15/2020 6:00:32 PM (UTC-04:00)
Subject: RE: Wuhan Lab
Re: trip report

Attached is Ping's trip report. I'll keep looking for more info.

From: Bernabe, Gayle (NIH/NIAID) [E]
Sent: Wednesday, April 15, 2020 5:48 PM
To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Subject: RE: Wuhan Lab

Will do.

From: Handley, Gray (NIH/NIAID) [E] (b) (6)
Sent: Wednesday, April 15, 2020 5:26 PM
To: Bernabe, Gayle (NIH/NIAID) [E] (b) (6)
Subject: Wuhan Lab

Gayle, please check your files for messages from Ping back in October 2017 when she visited the Wuhan lab and sent us by e-mail information on it. Basically anything we can find on that grant and that lab.

Thanks much.

Gray

To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Cc: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Meegan, James (NIH/NIAID) [E] (b) (6); Rosa, William (NIH/NIAID) [E] (b) (6)
From: Chen, Ping (NIH/NIAID) [E][/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=E86E86EEEEF44552B2918975F5001D13-CHENPI]
Sent: Wed 11/22/2017 2:03:29 AM (UTC-05:00)
Subject: Re: trip report
WIV P4 lab Summary.docx

I drafted the following report for my visit to the P4 lab as you requested. ESTH has been working with the health group in the embassy for cables. (b) (5)

Anyway I want to get it out before the holiday starts now in the embassy (early release).

Have a nice Thanksgiving! I won't eat any turkeys but will try to find chicken in Gulangyu Island.

Ping

Ping Chen, PhD
Director of NIAID Office in China
Office of Global Research, NIAID, NIH
Bethesda Office: (b) (6)
BB: (b) (6)6
Beijing Office: (b) (6)
Cell: (b) (6)
U.S. Cell: (b) (6)
U.S. Embassy Beijing
#55 An Jia Lou Road
ChaoYang District, 100600
Beijing, China
(b) (6)(
b

From: Chen, Ping (NIH/NIAID) [E]
Sent: Monday, November 6, 2017 21:24
To: Handley, Gray (NIH/NIAID) [E]
Cc: Bernabe, Gayle (NIH/NIAID) [E]; Meegan, James (NIH/NIAID) [E]; Rosa, William (NIH/NIAID) [E]
Subject: Re: trip report
OK.

Sent from my iPhone

On Nov 6, 2017, at 9:21 PM, Handley, Gray (NIH/NIAID) [E] (b) (6) wrote:

> Please send us by e-mail your full report on the visit (b) (5) . Gray
>
> **From:** Chen, Ping (NIH/NIAID) [E]
> **Sent:** Thursday, October 26, 2017 11:28 PM

To: Handley, Gray (NIH/NIAID) [E] (b) (6)
Cc: Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Meegan, James (NIH/NIAID) [E] (b) (6); Rosa, William (NIH/NIAID) [E] (b) (6)
Subject: Re: trip report

(b) (5)

Let me know what you would like me to do.

Ping

Ping Chen, PhD

Director of NIAID Office in China

Office of Global Research, NIAID, NIH

Bethesda Office: 3 (b) (6)

BB: (b) (6)

Beijing Office: (b) (6)

Cell: (b) (6)

U.S. Cell: (b) (6)

U.S. Embassy Beijing

#55 An Jia Lou Road

ChaoYang District, 100600

Beijing, China

(b) (6)

(b) (6)

From: Handley, Gray (NIH/NIAID) [E]
Sent: Friday, October 27, 2017 1:40:04 AM
To: Chen, Ping (NIH/NIAID) [E]
Cc: Bernabe, Gayle (NIH/NIAID) [E]; Meegan, James (NIH/NIAID) [E]; Rosa, William (NIH/NIAID) [E]
Subject: RE: trip report

Thanks for this report, Ping. (b) (5) This is a sensitive subject and will be of interest to others.

It is good they welcomed your visit and will be good to keep in touch so we are aware of what they are doing in the future.

(b) (5)

Gray

From: Chen, Ping (NIH/NIAID) [E]
Sent: Thursday, October 26, 2017 5:01 AM
To: Handley, Gray (NIH/NIAID) [E] (b) (6); Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Meegan, James (NIH/NIAID) [E] (b) (6); Rosa, William (NIH/NIAID) [E] (b) (6)
Subject: trip report

Hi,

This week I went to Wuhan to visit the Bio safety lab 4 in Wuhan Institute of Virology (WIV), an institute under the Chinese Academy of Sciences (CAS). My contact who helped arrange the visit is Dr. Zhengli Shi, who is a Chinese collaborator on a NIAID grant to EcoHealth for SARS like corona virus project.

The P4 lab is located in a new developing zone about one hour car ride from the current institute location in central Wuhan city. The location will be the new campus for the entire institute in the near future (a lot of construction is going on right now). Since we are not allowed to take photos so only the photo from the outside is attached.

(b) (5)

I am getting a lot of detailed questions from Janette on the EID planning. We are getting good responses from our contacts.

I am working with CAMS for a couple of follow ups following the AMR meeting.

Please let me know if you have any questions.

Thanks

Ping

Ping Chen, PhD

Director of NIAID Office in China

Office of Global Research, NIAID, NIH

Bethesda Office: (b) (6)

BB: (b) (6)

Beijing Office: (b) (6)

Cell: (b) (6)

U.S. Cell: (b) (6)

U.S. Embassy Beijing

#55 An Jia Lou Road

ChaoYang District, 100600

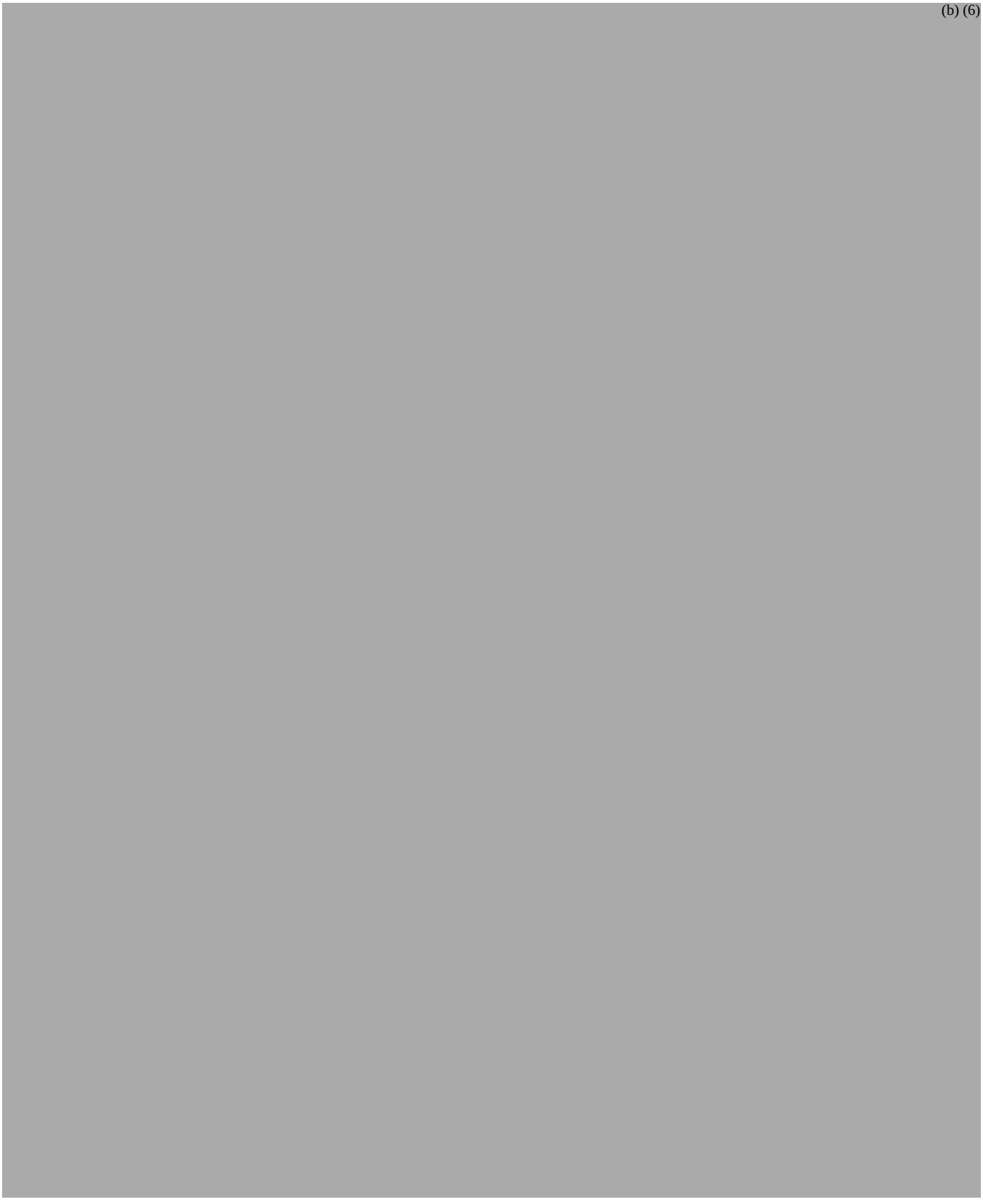
Beijing, China

(b) (6)

(b) (6)

Summary on China's Bio-safety Protection Level 4 (P4) laboratory, Wuhan Institute of Virology

(b) (6)




(b) (5)

From: Bernabe, Gayle (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: 5/21/2020 8:11:36 PM
To: Yoshihide Kobayashi [y5kobaya@jst.go.jp]; easiasecretariat JST [easia_secretariat@jst.go.jp]
CC: Handley, Gray (NIH/NIAID) [E] (b) (6) Dominique, Joyelle (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5c55f75b58f14ab2b2ccbac0a881ccae-dominiquejk]; Rosa, William (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6ad94c8f809d41ad91b1f78754f60c54-rosawi]; Lu, Tami (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=683d9f298f344f53b273ce527aa15d9a-lutt]
Subject: For e-ASIA Secretariat: Preliminary Draft Agenda - Climate Change Seminar
Attachments: easia_seminar_draft1.docx

Dear Yoshi-san,

Please find attached the preliminary draft agenda for the e-ASIA Climate Change Seminar. This was drafted by Dr. Sumeet Saksena/East-West Center. It includes some references/background information put together by one of our fellows who has an interest in climate change.

After the e-ASIA Secretariat's review and if you are comfortable with this initial draft, then it can be shared with other interested MOs and proceed with forming a Scientific Planning Committee by early June (if possible identify names by the first week of June).

Sorry it took longer to get this to you. Please let me know if you have any questions.

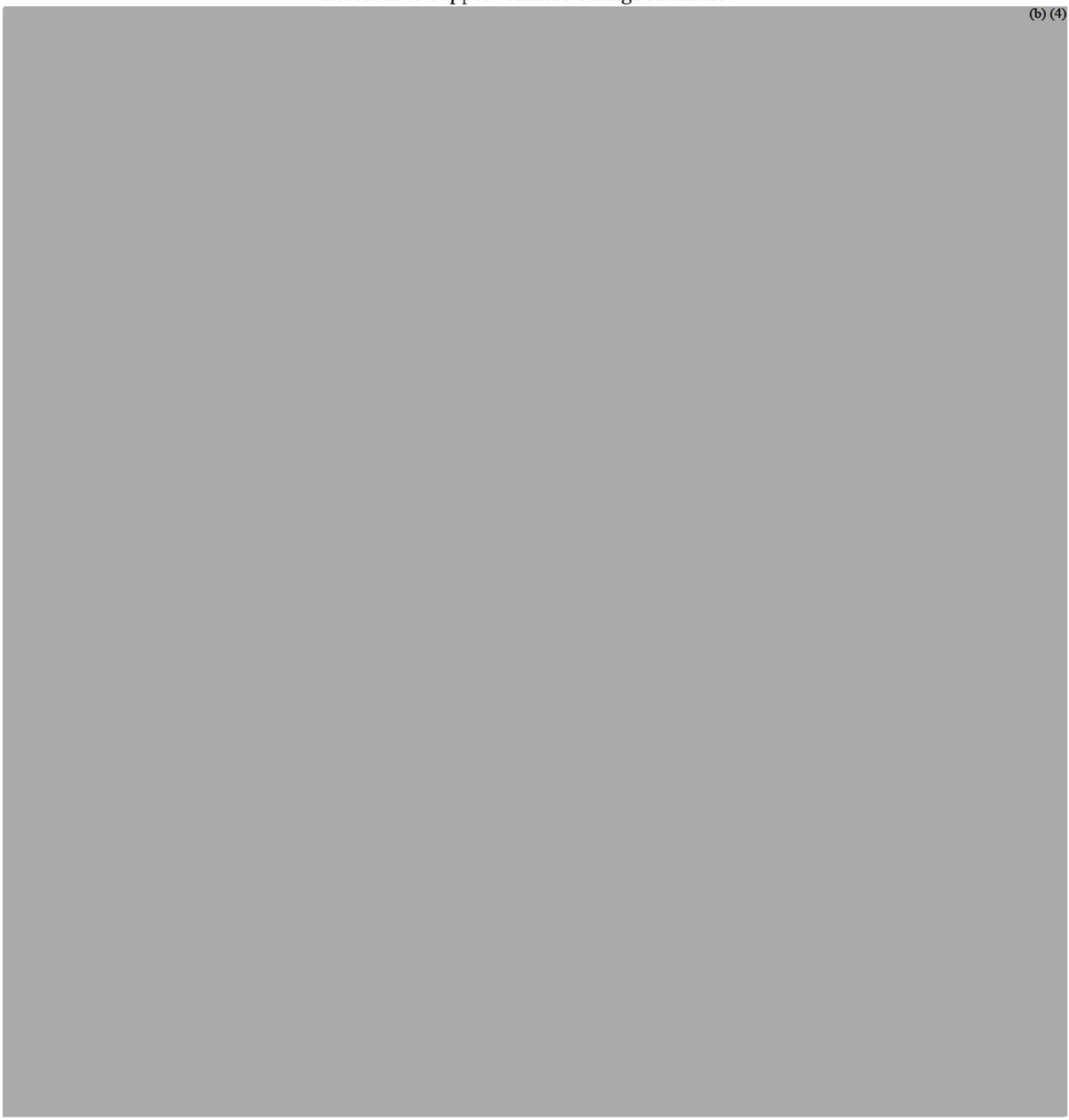
I hope you are all doing well.

Kind regards,
Gayle

Gayle Bernabe, MPH
Regional Program Officer-East/SE Asia and the Pacific
Office of Global Research (OGR)
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Department of Health and Human Services
5601 Fishers Ln Rm 1E MSC 9802
Bethesda, MD 20892-9802 [For courier deliveries: 20852]
Phone: (b) (6)
Fax: (301) 480-2950
Email: (b) (6)

Seminar on

Research to Support Climate Change Resilience




(b) (4)

From: Bernabe, Gayle (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: 6/16/2020 4:27:51 AM
To: Chapman, Adam (b) (6); (b) (6); Saksena, Sumeet [SaksenaS@EastWestCenter.org]; easiajrp@jst.go.jp; easiasecretariat JST [easia_secretariat@jst.go.jp]
CC: Handley, Gray (NIH/NIAID) [E] (b) (6) Dominique, Joyelle (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=5c55f75b58f14ab2b2ccbac0a881ccae-dominiquejk]; Rosa, William (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=6ad94c8f809d41ad91b1f78754f60c54-rosawi]; Lu, Tami (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=683d9f298f344f53b273ce527aa15d9a-lutt]; Williams, Nekisha (NIH/NIAID) [C] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e9e7bc0290504cebb3bb2f69854562d7-williamsna]
Subject: e-ASIA Climate Change Seminar - Scientific Planning Committee
Attachments: easia_seminar_updated draft1.docx

Greetings,

I hope you are all doing well.

Thank you for expressing interest with the planning of the e-ASIA Seminar on Climate Change. This email serves as an introduction to the various points of contact copied in this email who reached out to the e-ASIA Secretariat and/or me:

- For Australia – National Health and Medical Research Center (NHMRC):
  - Dr. Adam Chapman - Director, Priorities and International Engagement, Research Quality and Priorities
- For the Philippines – Department of Science and Technology (DOST):
  - Dr. Enrico Paringit - Executive Director, Philippine Council for Industry, Energy, and Emerging Technology Research and Development (PCIEERD)
- For the U.S., the scientific lead from the East-West Center (EWC) in Hawaii:
  - Dr. Sumeet Saksena - Senior Fellow, Research Program

It is my understanding that the Japan Science & Technology Agency (JST) and possibly Member Organizations from Thailand have also expressed interest in being part of the SPC. Perhaps, Yoshi-san can provide an update if they have identified a point of contact for the SPC.

Attached is a slightly updated draft seminar agenda. We will try to set up a SPC conference call soon and will ask for your availability. In the meantime, please review the draft agenda and consider potential talks/speakers.

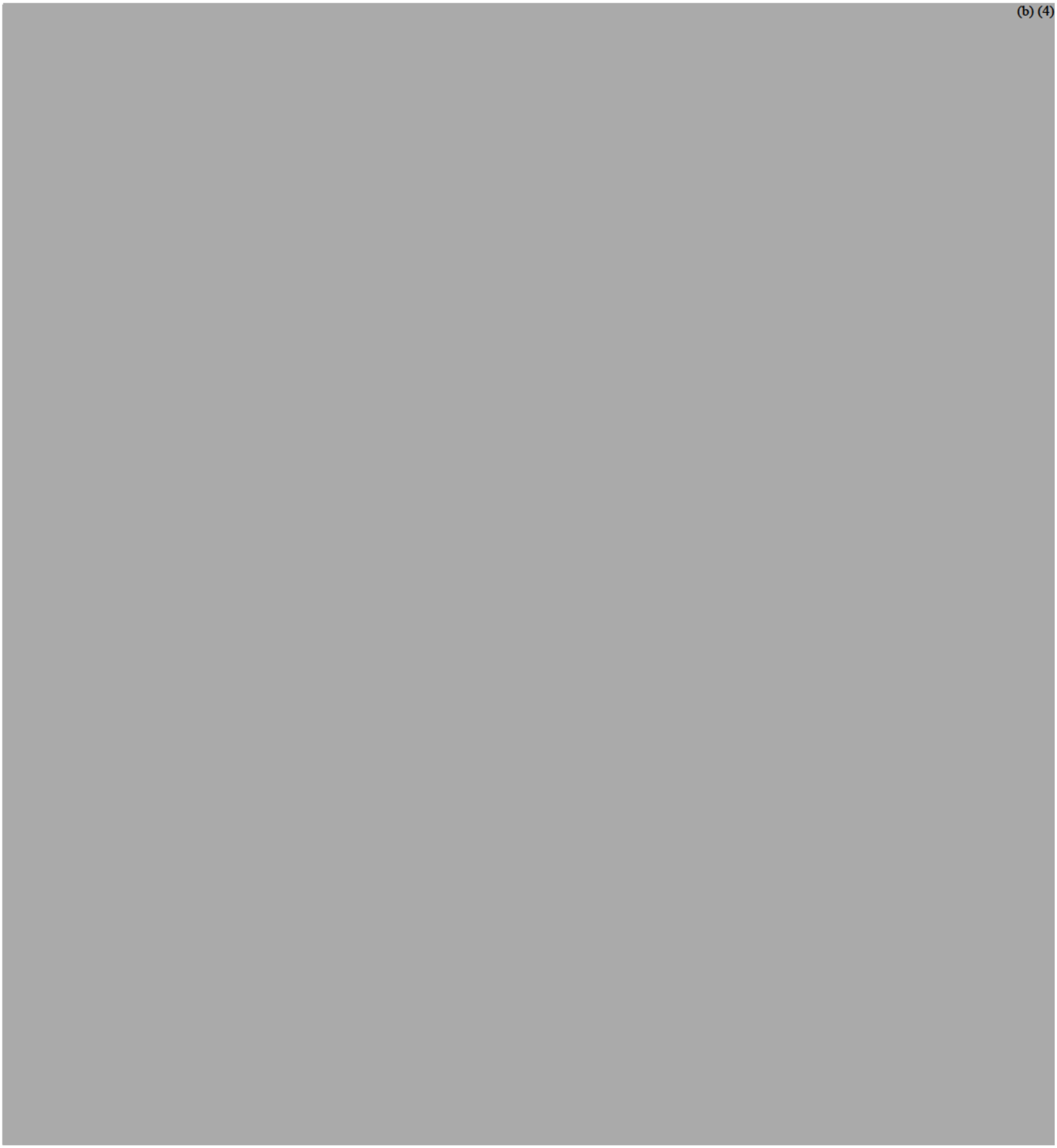
Please let me know if you have any questions. Thank you for your support and cooperation.

Kind regards,
Gayle

Gayle Bernabe, MPH
Regional Program Officer-East/SE Asia and the Pacific
Office of Global Research (OGR)
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Department of Health and Human Services
5601 Fishers Ln Rm 1E MSC 9802
Bethesda, MD 20892-9802 (For courier deliveries: 20852)
Phone: (b) (6)
Fax: (301) 480-2954
Email: (b) (6)

Seminar on

Research to Support Climate Change Resilience




(b) (4)

From: Bernabe, Gayle (NIH/NIAID) [E] [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=C78E95B3DB24482BA3DCBDEDC2D3A003-GBERNABE]
Sent: 6/18/2018 2:15:58 PM
To: Handley, Gray (NIH/NIAID) [E] (b) (6); Chen, Ping (NIH/NIAID) [E] [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=e86e86eeeef44552b2918975f5001d13-chenpi]
Subject: FW: NIAID-CAMS Planning WG meeting
Attachments: Draft CAMS-NIH Workshop Strawman Agenda 06132018v2.docx

-----Original Message-----
From: Gordon, Jennifer (NIH/NIAID) [E]
Sent: Wednesday, June 13, 2018 4:27 PM
To: Chen, Ping (NIH/NIAID) [E] (b) (6)
Cc: Handley, Gray (NIH/NIAID) [E] (b) (6); Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Deckhut, Alison (NIH/NIAID) [E] (b) (6); Ferguson, Stacy (NIH/NIAID) [E] (b) (6); Leitner, Wolfgang (NIH/NIAID) [E] (b) (6); Singleton, Kentner (NIH/NIAID) [E] (b) (6); Bok, Karin (NIH/VRC) [V] (b) (6)
Subject: RE: NIAID-CAMS Planning WG meeting

Dear Ping,

I am so sorry! The system did not indicate you were trying to access. Please find attached the agenda updates we discussed. We await further guidance on confirmed dates.

Sincerely,
Jenny

Jennifer L. Gordon, PhD [CTR]
Scientific Program Manager
Respiratory Diseases Branch
Division of Microbiology and Infectious Diseases NIAID/NIH/DHHS
5601 Fishers Lane, Room 8E17, Rockville, MD 20852
Phone: (b) (6)
Click to link to A Universal Influenza Vaccine: The Strategic Plan for the National Institute of Allergy and Infectious Diseases

-----Original Message-----
From: Chen, Ping (NIH/NIAID) [E]
Sent: Wednesday, June 13, 2018 4:05 PM
To: Gordon, Jennifer (NIH/NIAID) [E] (b) (6)
Cc: Handley, Gray (NIH/NIAID) [E] (b) (6); Bernabe, Gayle (NIH/NIAID) [E] (b) (6); Deckhut, Alison (NIH/NIAID) [E] (b) (6); Ferguson, Stacy (NIH/NIAID) [E] (b) (6); Leitner, Wolfgang (NIH/NIAID) [E] (b) (6); Singleton, Kentner (NIH/NIAID) [E] (b) (6); Bok, Karin (NIH/VRC) [V] (b) (6)
Subject: Re: NIAID-CAMS Planning WG meeting

I am on the phone trying to be admitted. Can someone let me in?

Sent from my iPhone

> On Jun 13, 2018, at 3:57 PM, Gordon, Jennifer (NIH/NIAID) [E] (b) (6) wrote:
>
>
>
> --> Join Skype
> --> Meeting<https://meet.niaid.nih.gov/jennifer.gordon/5488RCVQ>
> Trouble Joining? Try Skype Web
> App<https://meet.niaid.nih.gov/jennifer.gordon/5488RCVQ?sl=1>
> Join by phone
>
> (301) 761-5000,, (b) (6) (NIAID) English (United States)
> (406) 802-6000,, (b) (6) (NIAID) English (United States)
>
> Find a local number<https://dialin.nih.gov?id= (b) (6)

>
> Conference ID: (b) (6)
> Forgot your dial-in PIN?<https://dialin.nih.gov>
> |Help<https://o15.officeredir.microsoft.com/r/rlidLync15?clid=1033&p1=
> 5&p2=2009>
>
> [!OC([1033])!]
>
.....
.....
> UPDATED AGENDA ATTACHED
>
> Suggested topics for discussion:
>
> * Possible updates on responses?
> * Participants interested in speaker consideration
> * Secondary contacts
> * Date preferences of speakers (Sept 11-12 vs Sept 6-7)
> * AOB
>
>
> -----
>
> Please let me know if this time does not work for people.
>
> I will update with a list of confirmed/ unable to attend/ and suggested speakers based on your input for our discussion.
>
> Thank you,
> Jenny
> <Draft CAMS-NIH Workshop Strawman Agenda 06122018.docx> <meeting.ics>

CAMS-NIH Respiratory Diseases Workshop [Placeholder]

(b) (5)


(b) (5)


(b) (5)


(b) (5)

From: Bernabe, Gayle (NIH/NIAID) [E]
To: Curtis, Holly (NIH/NIAID) [E]
Subject: RE: For Review: Fuzzy Mapping - due 2/10
Date: Wednesday, February 10, 2021 5:21:00 PM
Attachments: Copy of Copy of Fuzzy Mapping - 2-1-2021_gb.xlsx

Hi Holly,

Attached is the spreadsheet with the revisions highlighted in blue. There were a few institutions that I highlighted in green because they were not specific without the address or more information (e.g., (b) (5)), but I did not make any changes to them.

(b) (5)

Thanks for all your work and the GRADS team, including the fellows!

With much appreciation and deeper respect,
Gayle

From: Curtis, Holly (NIH/NIAID) [E] (b) (6)
Sent: Wednesday, February 10, 2021 12:23 PM
To: NIAID OGR RO <NIAIDOGRRO@niaid.nih.gov>
Subject: RE: For Review: Fuzzy Mapping - due 2/10

Hi all,

Just wanted to send a reminder that the fuzzy mapping edits are due by COB today.

Thanks!
Holly

From: Curtis, Holly (NIH/NIAID) [E] (b) (6)
Sent: Tuesday, February 2, 2021 10:31 AM
To: NIAID OGR RO <NIAIDOGRRO@niaid.nih.gov>
Subject: For Review: Fuzzy Mapping - due 2/10

Hi ROs,

The fuzzy mapping sites are ready for your final review before we have OCICB add the name changes

to the GRADS dashboard. There are so many sites that we thought it would benefit one final review to make sure we didn't miss anything.

As a reminder, this is how the spreadsheet works:

- Column C (site) is the original site name from the data source
- OCICB did fuzzy mapping to guess which sites could be consolidated/corrected and provided the computer-generated name in column D (group name)
- If column D looked incorrect, we put our edited site name in column B (suggested group name)
- When making the changes for GRADS, OCICB will assume column D is correct unless we provide a revised name in column B

How to review your region:

1. Narrow down the sites by selecting your region in column H (regions)
2. If there is an entry in column B:
    a. If it is correct, yay! Nothing needs to be done.
    b. If it needs an edit, make the change and highlight the row blue so I can track the changes
3. If there is no entry in column B, look at column D:
    a. If it is correct, yay! Nothing needs to be done.
    b. If it needs an edit, add the revised name to column B and highlight the row blue so I can track the changes
4. Ignore any rows that are orange. These were weird sites that we couldn't reconcile and will require further investigation in the future.

Also attached is the list of rules used for revising the site names. It would be greatly appreciated if you can provide edits or confirm that everything looks good by COB next Weds 2/10. Please reach out to me if you have any questions about the spreadsheet or the review process.

Thanks!
Holly

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not expressly made on behalf of the NIAID by one of its representatives.

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