

Filed on behalf of Junior Party

Paper No. \_\_\_\_

THE REGENTS OF THE UNIVERSITY OF CALIFORNIA,  
UNIVERSITY OF VIENNA, AND EMMANUELLE CHARPENTIER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

**THE REGENTS OF THE UNIVERSITY OF CALIFORNIA, UNIVERSITY  
OF VIENNA, AND EMMANUELLE CHARPENTIER**

Junior Party

(Applications 15/947,680; 15/947,700; 15/947,718; 15/981,807; 15/981,808; 15/981,809;  
16/136,159; 16/136,165; 16/136,168; 16/136,175; 16/276,361; 16/276,365; 16/276,368; and  
16/276,374),

v.

**THE BROAD INSTITUTE, INC., MASSACHUSETTS INSTITUTE OF  
TECHNOLOGY, and PRESIDENT AND FELLOWS OF HARVARD COLLEGE**

Senior Party

(Patents 8,697,359; 8,771,945; 8,795,965; 8,865,406; 8,871,445; 8,889,356;  
8,895,308; 8,906,616; 8,932,814; 8,945,839; 8,993,233; 8,999,641; 9,840,713; and  
Application 14/704,551).

Patent Interference No. 106,115 (DK)  
(Technology Center 1600)

**CVC'S REPLY TO BROAD'S OPPOSITION TO SUBSTANTIVE MOTION 3  
(for improper inventorship)**

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1 **I. INTRODUCTION**

2 Broad's Opposition does not rebut CVC's prima facie showing that the involved Broad  
3 patents and application are invalid for not identifying as inventors individuals who Broad's  
4 attorney identified as having made inventive contributions. The PTAB should therefore grant  
5 CVC's Substantive Motion 3.

6 **II. ARGUMENT**

7 Broad's attorney, Mr. Kowalski, acting on Broad's behalf, made factual assertions under  
8 penalty of perjury that certain individuals made specific technical contributions to the inventions  
9 in Broad's PCT applications. As a result, Broad listed those individuals as inventors on the PCT  
10 applications. CVC presented the—now unrebutted—testimony of its scientific expert, Dr. Bailey,  
11 that those same technical contributions Kowalski identified are recited in the claims of the  
12 Broad's involved patents and application. Logically, Broad's involved patents and application  
13 must identify those individuals as inventors. But they do not; so they are invalid and  
14 unpatentable under pre-AIA 35 U.S.C. § 102(f) or, alternatively, post-AIA 35 U.S.C. § 115(a).

15 Broad's Opposition does not address the substantive merits of CVC's Motion. Instead, it  
16 merely lobs meritless procedural complaints, each of which is addressed below. Specifically,  
17 Broad alleges that Bailey is not a patent-law expert, that CVC failed to conduct a claim  
18 construction analysis, that CVC failed to analyze certain PCT applications, and that Broad's own  
19 attorney's statements under oath are not judicial admissions. Broad doesn't explain why any of  
20 this matters. Moreover, Broad's arguments are factually and legally incorrect.

21 Notably, Broad's Opposition relies entirely on attorney argument and *never* presents  
22 evidence or information substantively responding to CVC's argument. Broad neither reconciles  
23 its own counsel's inconsistent positions, nor explains why it did not identify as inventors the

1 scientists who said they invented certain subject matter at issue in the interference. Only Broad  
2 possesses evidence that could support such explanations, yet it offered no rebuttal evidence.  
3 Broad's silence is conspicuous given the duty of candor it owes the Patent Office.

4 **A. Bailey's Analysis Completely Supports CVC's Argument**

5 On page 4, line 13, through page 5, line 23, Broad argues that Bailey is not qualified to  
6 provide legal opinions regarding inventorship and did not conduct an independent inventorship  
7 investigation. The response is that Broad ignores the import of Bailey's analysis. Bailey relied on  
8 Broad's own attorney's (Kowalski's) statements and inventorship investigation to find that the  
9 same "inventive contributions"<sup>1</sup> Kowalski described as claimed in Broad's PCT applications are  
10 also claimed in the involved Broad patents and application. Ex. 4341, ¶¶ 6-8. In other words,  
11 Bailey concluded that, from the perspective of a skilled artisan: a) the claims of each PCT  
12 application cover the same inventions as the claims of a corresponding involved patent or  
13 application (*id.*, ¶¶ 35, 41, 47, 53) and b) the alleged inventive contributions that Kowalski  
14 identifies in the claims of the PCT applications are also found in the claims of the involved  
15 patents and application (*id.*, ¶¶ 30-34, 37-40, 43-46, 49-52). Logically, if Kowalski's analysis is  
16 correct, then those individuals who made the inventive contributions should have been (but were  
17 not) named as inventors of the involved patents and application. *Id.*, ¶¶ 36, 42, 48, 54, 56. Bailey  
18 relies on Kowalski's sworn statements and inventorship assessment and, thus, did not need to  
19 perform an independent assessment to support CVC's prima facie showing.

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<sup>1</sup> These contributions identified in the Kowalski Declaration include: the use of the CRISPR-Cas9 systems in eukaryotic cells, co-delivery to the nucleus, *in vivo* applications of CRISPR-Cas9 systems, and Cas9 ortholog design. Ex. 4295 at ¶ 16; Ex. 4341 at ¶ 27.

1           On page 5, line 24, through page 6, line 15, Broad impugns Bailey's qualifications,  
2 arguing that Bailey merely looked for "overlapping subject matter" or conducted a "word-search  
3 exercise," and did not "investigat[e] the underlying relevant facts." The response is that Bailey is  
4 qualified to offer his opinions and his Declaration presents his analysis and lists the materials he  
5 considered. Bailey considered the Kowalski Declaration, the relevant Broad PCT applications  
6 discussed therein, and the claims and specifications of Broad's involved patents and application.  
7 Based on Bailey's scientific expertise and considering the perspective of a skilled artisan, Bailey  
8 concluded that Broad's PCT applications and its involved patents and application include at least  
9 one claim to each of the same alleged inventions and "inventive contributions" that Kowalski  
10 assessed. For example, as to Cas9 "ortholog design," Bailey states:

- 11           • Kowalski declared Shalem made inventive contributions to Cas9 "ortholog design" and  
12           that Shalem was therefore named as inventor on PCT/US2013/074691, which includes  
13           claims covering Cas9 ortholog design. Ex. 4341, ¶¶ 49, 50.
- 14           • A POSA would have found this "inventive contribution," ortholog design, is also recited  
15           in claim 16 of Broad's involved '233 patent. *Id.*, ¶¶ 51, 52.
- 16           • A POSA would view claims of the '691 PCT application and claims of the '233 patent as  
17           covering the same invention such that Kowalski's conclusion that Shalem made an  
18           inventive contribution logically must apply to both sets of claims. *Id.*, ¶¶ 53, 54.

19 Bailey considered, from the perspective of a person having ordinary skill, the relevant  
20 specification and claim language, before concluding that certain claims of Broad's PCT  
21 applications and its involved patents and application cover the *same invention*. *Id.*, ¶ 53.

22           On page 6, lines 2 through 15, Broad argues that Bailey did not investigate "the  
23 underlying relevant facts" and simply made assumptions to conclude, for example, that an

1 inventor of a claim to one ortholog must also be an inventor of every other claim that included  
2 any ortholog. The response is that (1) Bailey addressed the facts discussed in Kowalski's  
3 inventorship analysis, (2) Broad has identified no further "underlying relevant facts" to address,  
4 and (3) Bailey's analysis contains no unsupported assumptions. Taking Broad's example of  
5 ortholog design, Bailey opined that the ordinarily-skilled artisan would have understood the  
6 relevant claim limitations the '691 PCT application and the '233 patent refer to Cas9 ortholog  
7 design, as commonly understood in the field. *Id.*, ¶¶ 50-53. The PTAB should reject Broad's  
8 mischaracterization of Bailey's testimony. Bailey's analysis is complete and supports the prima  
9 facie showing CVC's motion presents—a showing Broad has not rebutted.

#### 10 **B. CVC's Inventorship Analysis Is Not Flawed**

11 On page 6, line 17, through page 8, line 19, Broad argues that CVC's analysis is flawed  
12 for lack of claim construction. The response is that CVC's motion identifies relevant terms  
13 (pertinent to Kowalski's assessments *and* recited in Broad's involved claims) and offers  
14 comparisons sufficient to support the requested relief, all supported by Bailey's declaration. *See,*  
15 *e.g.*, Ex. 4341, ¶¶ 32-33, 38-39, 44-45, and 50-51 (opining how a skilled artisan would read  
16 terms such as "eukaryotes," "co-delivery to the nucleus," "[a] method of modifying an organism  
17 or a non-human organism," and "Cas9 ortholog" in the context of Broad's PCT applications and  
18 involved patents and application). Broad does not explain what further claim construction is  
19 necessary or why such analysis would matter given Kowalski's assessments. Broad also argues  
20 that CVC did not compare the contributions of the purported inventors with the subject matter of  
21 the claims. Broad's argument has no merit. The response is that CVC's Motion, at Sections III.A  
22 and IV.A and B, offers a comparison to support the requested relief, and that comparison is

1 supported by Bailey, who conducted a sufficiently detailed analysis of the same in view of  
2 Kowalski's inventorship assessment. *See* Section II.A, above.

3 **C. Broad's Argument that Only Claim-by-Claim Analysis Will Suffice Ignores Its**  
4 **Own Attorney's Inventorship Analysis**

5 On page 9, line 15, through page 10, line 8, Broad argues that only a claim-by-claim  
6 analysis of all of the involved patents and application will suffice to prove that there are missing  
7 inventors. The response is that CVC's Motion and Bailey's Declaration provide relevant claim  
8 language analysis for each involved patent and application. *See* CVC's Motion, at Section IV.A;  
9 Ex. 4341, ¶¶ 32-35, 38-41, 44-47, and 50-53 (analyzing at least one claim per relevant patent in  
10 detail and opining that various other claims are similarly directed to the same invention).  
11 Nothing more is required to establish that Broad failed to name the correct inventors than its  
12 attorney's sworn testimony that these individuals made inventive contributions. Moreover,  
13 Broad's *own attorney* provided his inventorship analysis based on subject matter—and not on a  
14 claim-by-claim basis, as Broad now contends is required. *See, e.g.,* Ex. 4295, ¶ 16 (noting that  
15 Cong made inventive contributions to “co-delivery to the nucleus...and the CRISPR-Cas9  
16 system adapted in [sic] for uses in eukaryotic cells”); Ex. 4341, ¶ 27. Broad previously relied on  
17 Kowalski's subject matter-based inventorship analysis to defend priority benefit to Broad's PCT  
18 applications in opposition proceedings in Europe, yet inexplicably now posits that this analysis is  
19 insufficient and does not bind Broad. *See* MF 1; Ex. 4313, 2. Broad's argument is inconsistent at  
20 best. More importantly, Broad ignores that Bailey already conducted claim language analysis  
21 sufficient to support CVC's motion.

22 **D. Broad's Criticisms of Analysis Not Conducted by CVC Are Inapposite**

23 On page 10, line 10, through page 12, line 5, Broad argues that CVC did not consider the  
24 Kowalski Declaration in its entirety because CVC only examined the inconsistencies—not the



1 potential consistencies—in inventorship between Broad's PCT applications and involved patents  
2 and application. The response is that the potential consistencies are not relevant. CVC focused on  
3 four “inventive contributions” Kowalski characterized as something “beyond merely providing  
4 obvious contributions or that which may be in the prior art,” and showed that these same  
5 contributions claimed in Broad's PCT applications were also claimed in Broad's involved  
6 patents and application. Ex. 4341, ¶¶ 6-8. Broad complains CVC offered no analysis as to  
7 Broad's '743 PCT application, even though the Kowalski Declaration did not identify the '743  
8 PCT application as claiming any of the four “inventive contributions” CVC analyzed. Plainly,  
9 there is no reason for CVC—or the PTAB—to consider the '743 PCT application.

10 Broad also complains that CVC did not compare PCT applications and involved patents  
11 that had direct priority relationships (Paper 2475, 11), but this too is neither required nor  
12 relevant. CVC's Motion, supported by Bailey's declaration, comparatively assessed the relevant  
13 PCT applications and involved patents and application based on claim language and specification  
14 disclosure, and Bailey's analysis did not rely on any priority relationship between the two.  
15 Although CVC observed that inventorship is inconsistent across Broad's CRISPR patent family  
16 (Mot. at 6), Bailey's claim language analysis was conducted separate and apart from this  
17 observation. *See* Ex. 4341, ¶¶ 30-35, 37-41, 43-47, and 49-53. Again, if any of the allegedly  
18 missing analysis would have shown that inventorship is correct, Broad could have provided that  
19 analysis, but it did not.

#### 20 **E. Broad's Attorney's Admissions May Be Used Against Broad**

21 On page 12, line 8, through page 13, line 15, Broad argues that the Kowalski Declaration  
22 cannot be used as a judicial admission. For several reasons, Broad is wrong. *First*, Broad's  
23 attorney's own statements—or admissions by a party-opponent—can be used against Broad in

1 this proceeding. *See* Fed. R. Evid. 801(d)(2); *see also*, 37 C.F.R. § 42.62 (stating the applicability  
2 of the Federal Rules of Evidence). Courts have long found that attorney statements concerning  
3 matters within the scope of his representation are admissible against the party engaging the  
4 attorney. *See Williams v. Union Carbide Corp.*, 790 F.2d 552, 555-556 (6th Cir. 1986) (noting  
5 that opening statements, administrative claims filed by attorney, and pleadings in a prior case  
6 may be used as evidentiary admissions). For example, the Supreme Court and subsequent lower  
7 court decisions have long recognized the “binding effect on a party of a clear and unambiguous  
8 admission of fact made by his or her attorney in an opening statement.” *U.S. v. McKeon*, 738  
9 F.2d 26, 30 (2d Cir. 1984) (citing *Oscanyan v. Arms Co.*, 103 U.S. 261, 263 (1880)). Any fact so  
10 admitted by counsel “may be the ground of the court’s procedure equally as if established by the  
11 clearest proof.” *Oscanyan*, 103 U.S. at 263-264. Pleadings in civil litigation also constitute  
12 admissions of a party-opponent and are admissible in any subsequent litigation involving that  
13 party. *See U.S. v. McKeon*, 738 F.2d at 31 (noting that “[a] pleading prepared by an attorney is an  
14 admission by one presumptively authorized to speak for his principal” and that “a statement once  
15 seriously made by an authorized agent...is competent evidence of the facts stated, though  
16 controvertible...”). *Id.* (internal citations omitted).

17 Broad does not dispute that Kowalski made factual statements in his sworn declaration,  
18 *with Broad’s authorization and as Broad’s agent*, within the scope of an attorney-client  
19 relationship. *See* Fed. R. Evid. 801(d)(2)(C) and (D). In fact, Broad submitted the Kowalski  
20 Declaration as evidence to defend priority benefit to Broad’s PCT applications in opposition  
21 proceedings in Europe. MF 1; Ex. 4313, 2. By relying on the Kowalski Declaration in front of  
22 the EPO, Broad “manifested that it adopted or believed [the Kowalski Declaration] to be true.”  
23 Fed. R. Evid. 801(d)(2)(B). Broad cannot use the Kowalski Declaration to support its European

1 opposition proceeding and in a later proceeding, like this interference, discount and abandon the  
2 same sworn testimony. *See Pfizer Inc. v. Teva Pharm. USA, Inc.*, 2006 WL 3041102 at \*4-5  
3 (D.N.J. 2006) (finding that Pfizer cannot use expert affidavits to support its European patent  
4 applications and then deny that it accepts the truth of the information contained therein). The  
5 PTAB should not countenance Broad's facially inconsistent inventorship positions before the  
6 EPO and here. *See Therasense, Inc. v. Becton Dickinson & Co.*, 864 F.Supp.2d 856 (N.D. Cal.  
7 2012) (on remand finding the '551 patent unenforceable for inequitable conduct due to Abbott's  
8 failure to disclose contrary representations in briefs submitted to the EPO regarding its  
9 interpretation of a prior art reference). Therefore, the statements in the Kowalski Declaration  
10 may be used against Broad.

11 *Second*, the Kowalski Declaration may also be used against Broad because it is a  
12 statement against interest. *See Garrido v. Holt*, 547 Fed. Appx. 974, n.3 (Fed. Cir. 2013) (finding  
13 appellant's concession that a reference was published in 1996 "credible as a statement against  
14 interest" despite appellant's protest that his statements were merely attorney argument); Fed. R.  
15 Evid. 804(b)(3). The Kowalski Declaration is a statement by Broad showing that it had erred in  
16 naming the correct individuals as inventors in prior-issued involved Broad patents. *See Exs.*  
17 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037, 3047 at 1. The *same* attorney (Kowalski) that  
18 submitted the inventorship declaration had, just months prior, prosecuted Broad's involved  
19 patents and application. *See Exs.* 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037, 3043, 3047,  
20 3050 at 1. The Kowalski Declaration is thus a contemporaneous statement against Broad's  
21 interest.

22 *Third*, the caselaw Broad cites is inapposite. In *MacDonald v. Gen. Motors Corp.*, the  
23 Sixth Circuit found that the plaintiff's attorney's "ambiguous" remarks regarding the defendant's

1 negligence during opening statement—replete with qualified language such as “probably” and  
2 contradicted by other comments in the same opening statement—did not amount to a deliberate  
3 voluntary waiver of the right to present evidence on negligence. 110 F.3d 337, 340-341 (6th Cir.  
4 1997). In contrast to *MacDonald*, however, Kowalski’s Declaration contains no ambiguity or  
5 contradictory statements and in fact was a *signed statement under oath* regarding the correct  
6 inventorship under U.S. law of certain Broad PCT applications. Broad also states that legal  
7 conclusions are rarely treated as binding judicial admissions (Paper 2475, 13). But Kowalski’s  
8 factual statements regarding who made “inventive contributions” stand as a party admission,  
9 *Pfizer*, 2006 WL 3041102 at \*4-5, and CVC’s Motion presents a prima facie showing that those  
10 contributions similarly recited in Broad’s involved patents and application claims warrants the  
11 requested relief.

12 Broad argues that the Kowalski Declaration has little applicability in this interference  
13 because it relates only to inventorship of the PCT applications, only some involved patents claim  
14 priority through PCT applications, and the involved patents and application may have different  
15 claim sets and claim scope. *See* Paper 2475, 8-9 and 13. These arguments lack merit. As  
16 explained above in Section II.D, Bailey’s analysis considered Kowalski’s statements, together  
17 with the claim language and specification disclosure of the relevant PCT applications and  
18 involved patents and application. *See* Ex. 4341, ¶¶ 30-35, 37-41, 43-47, and 49-53. It is  
19 irrelevant to Bailey’s analysis what priority relationship the PCT applications have to the  
20 involved patents and application because his analysis did not rely on those points. Broad’s  
21 argument that the involved patents and application may have different claim sets or claim scope  
22 than the PCT applications is also without merit because Bailey’s analysis already considered the  
23 relevant claims as a whole and determined they recite the same feature. *Id.*

1           **F. Correction of Inventorship Is Not the Appropriate Remedy if Incorrect**  
2           **Inventorship Is Found**

3           Broad pleads correction is appropriate if inventorship is wrong. Correction is not  
4 appropriate for the reasons CVC set forth in its Opposition to Broad's Contingent Responsive  
5 Motion 6. Broad has not met its burden of establishing which individuals should be correctly  
6 added as inventors and never obtained the consent of Lin to be added as an inventor, as required  
7 by 35 U.S.C. § 256. Broad's contingent request to correct inventorship is also equitably barred  
8 due to laches and because it is made in bad faith. Broad's contingent motion is further defective  
9 because only the Director may issue a certificate of correction naming the actual inventors, and  
10 Broad has not shown that the Director delegated this authority to the PTAB.

11           **III. CONCLUSION**

12           For the foregoing reasons and the prima facie showing presented in CVC's Motion, the  
13 PTAB should issue judgment that Broad's involved patents and application are invalid for failing  
14 to name the correct inventors.

15

16           Respectfully submitted,

17

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18

**APPENDIX 1 – LIST OF EXHIBITS**

<b>Exhibit No.</b>	<b>Description</b>
Exhibit 3011	U.S. Patent No. 8,697,359, issued on April 15, 2014, to Feng Zhang (“the 359 Patent”).
Exhibit 3013	U.S. Patent No. 8,895,308, issued on November 25, 2014, to Feng Zhang and Fei Ran (“the 308 Patent”)
Exhibit 3014	U.S. Patent No. 8,906,616, issued on December 9, 2014, to Feng Zhang et al. (“the 616 Patent”)
Exhibit 3015	U.S. Patent No. 8,771,945, issued on July 8, 2014, to Feng Zhang (“the 945 Patent”)
Exhibit 3016	U.S. Patent No. 8,889,356, issued on November 18, 2014, to Feng Zhang (“the 356 Patent”)
Exhibit 3017	U.S. Patent No. 8,865,406, issued on October 21, 2014, to Feng Zhang and Fei Ran (“the 406 Patent”)
Exhibit 3022	U.S. Patent No. 8,945,839, issued on February 3, 2015, to Feng Zhang (“the 839 Patent”)
Exhibit 3024	U.S. Patent No. 8,993,233, issued on March 31, 2015 to Feng Zhang et al. (“the 233 Patent”)
Exhibit 3027	U.S. Patent No. 8,795,965, issued on August 5, 2014, to Feng Zhang (“the 965 Patent”)
Exhibit 3029	U.S. Patent No. 8,871,445, issued on October 28, 2014, to Le Cong and Feng Zhang (“the 445 Patent”)
Exhibit 3037	U.S. Patent No. 8,932,814, issued on January 13, 2015, to Le Cong and Feng Zhang (“the 814 Patent”)
Exhibit 3040	International PCT Application PCT/US2013/74611, filed on December 12, 2013
Exhibit 3043	U.S. Patent 9,840,713, issued on December 12, 2017 to Feng Zhang (“the 713 Patent”)
Exhibit 3047	U.S. Patent No. 8,999,641, issued on April 7, 2015 to Feng Zhang et al. (“the ‘641 Patent”)
Exhibit 3050	U.S. Patent Application No. 14/704,551, filed on May 5, 2015 to Feng Zhang et al. (“the ‘551 Application”)
Exhibit 4295	Thomas Kowalski Declaration filed in Opposition of European Patent No. EP 2771468, executed on June 15, 2016, 16 pages
Exhibit 4313	The Broad Institute, Inc.; Massachusetts Institute of Technology; President and Fellow of Harvard College, Submission in opposition proceedings, Opposition of European Patent No. EP 2771468, filed June 30, 2016, 3 pages
Exhibit 4314	European Patent Office Decision Revoking European Patent No. EP 2771468, filed March 26, 2018, 40 pages
Exhibit 4323	File History for U.S. Pat. Appl. No. 14/324,960
Exhibit 4341	Declaration of Scott Bailey, Ph.D.

1                                   **APPENDIX 2 – STATEMENT OF MATERIAL FACTS**

2    **CVC's Facts 1-48 and Broad's Responses**

3    **1.** On June 30, 2016, Broad submitted a sworn declaration by its attorney, Thomas J. Kowalski,  
4       in opposition proceedings involving its European Patent No. EP 2771468. Ex. 4295 at ¶¶ 1,  
5       19; Ex. 4313, June 30, 2016 Broad Letter at 2.

6                                   **RESPONSE:** Admitted.

7    **2.** The Kowalski Declaration, executed on June 15, 2016, represents that Mr. Kowalski is a U.S.  
8       Registered Patent Attorney who filed: PCT/US2013/074611; PCT/US2013/074667;  
9       PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
10      PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
11      PCT/US2013/074825. Ex. 4295 at ¶¶ 1, 19.

12                                  **RESPONSE:** Admitted.

13   **3.** Mr. Kowalski states in his declaration that he was retained by Broad Institute of MIT and  
14      Harvard in 2012 and was asked by Ellen Law, Broad's in-house counsel, in mid-January  
15      2013 to "take over representation of certain CRISPR matters originating from Dr. Feng  
16      Zhang's laboratory." Ex. 4295 at ¶ 11.

17                                  **RESPONSE:** Admitted.

18   **4.** Mr. Kowalski states that his declaration "explain[s] the inventorship study [he] undertook to  
19      ensure that inventors and applicants were correctly named pursuant to US Law" on Broad's  
20      PCT applications that were filed with the USPTO as the Receiving Office. Ex. 4295 at ¶ 1.

21                                  **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
22      4295; otherwise, denied.

23   **5.** In his declaration, Mr. Kowalski identifies his duty of candor and good faith under 37 C.F.R.  
24      § 1.56 in making the statements contained in his declaration. Ex. 4295 at ¶ 4.

1           **RESPONSE:** Admitted.

2   **6.** Mr. Kowalski explains in his declaration that his assessment of inventorship of Broad's PCT  
3    applications reflects the inventorship standards under U.S. law. Ex. 4295 at ¶¶ 5-10, 15.

4           **RESPONSE:** Admitted.

5   **7.** Mr. Kowalski explains in his declaration that his inventorship study included interviewing  
6    the relevant individuals to determine his or her contributions to any subject matter or claim  
7    features. Ex. 4295 at ¶ 9.

8           **RESPONSE:** Admitted.

9   **8.** Mr. Kowalski states in his declaration that “[v]arious inventions were identified from the  
10   disclosures of the provisional applications,” including from BP1, to which Broad's PCT  
11   applications each claim a right of priority. Ex. 4295 at ¶¶ 13-14.

12           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
13   4295; otherwise, denied.

14   **9.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
15   that Dr. Feng Zhang “contributed in a not insubstantial manner to both general and specific  
16   aspects of claims of [Broad's PCT applications]” and “Dr. Zhang is therefore named as an  
17   inventor and applicant on all of [them].” Ex. 4295 at ¶ 16.

18           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
19   4295; otherwise, denied.

20   **10.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
21   that Dr. Le Cong “contributed in a not insubstantial manner to the following inventions” of  
22   “co-delivery to the nucleus...and the CRISPR-Cas9 system adapted in for uses in eukaryotic



1 cells [and] Dr. Cong was therefore named as an inventor and applicant on  
2 PCT/US2013/074790...and PCT/US2013/074611, respectively.” Ex. 4295 at ¶ 16.

3 **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
4 4295; otherwise, denied.

5 **11.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
6 that Dr. Patrick Hsu “contributed in a not insubstantial manner to the following inventions”  
7 of “the CRISPR-Cas9 system for certain uses in eukaryotic cells [and] Dr. Hsu was therefore  
8 named as an inventor and applicant on...PCT/US2013/074611.” Ex. 4295 at ¶ 16.

9 **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
10 4295; otherwise, denied.

11 **12.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
12 that Dr. Fei Ran “contributed in a not insubstantial manner to the following inventions” of  
13 “co-delivery to the nucleus, *in vivo* applications,...ortholog design, and the CRISPR-Cas9  
14 system for certain uses in eukaryotic cells [and] Dr. Ran was therefore named as an inventor  
15 and applicant on...PCT/US2013/074790, PCT/US2013/074667,... PCT/US2013/074691 and  
16 PCT/US2013/074611 respectively.” Ex. 4295 at ¶ 16.

17 **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
18 4295; otherwise, denied.

19 **13.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
20 that Mr. Shuailiang Lin “contributed in a not insubstantial manner to the following  
21 inventions” of “certain methods of using CRISPR-Cas9 systems in eukaryotic cells and was  
22 therefore named as an inventor and applicant on PCT/US2013/074611.” Ex. 4295 at ¶ 16.

1           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
2           4295; otherwise, denied.

3   **14.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
4           that Dr. Randall Platt “contributed in a not insubstantial manner to the following inventions”  
5           of “methods of using CRISPR-Cas9 systems in eukaryotic cells [and] was therefore named as  
6           an inventor and applicant on PCT/US2013/074611...” Ex. 4295 at ¶ 16.

7           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
8           4295; otherwise, denied.

9   **15.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
10           that Dr. Ophir Shalem “contributed in a not insubstantial manner to the following inventions”  
11           of “ortholog design [and] was therefore named as an inventor and applicant on  
12           PCT/US2013/074691...” Ex. 4295 at ¶ 16.

13           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
14           4295; otherwise, denied.

15   **16.** Mr. Kowalski states in his declaration that, based on his inventorship study, he concluded  
16           that Dr. Matthias Heidenreich and Dr. Lukasz Swiech “contributed in a not insubstantial  
17           manner to the following inventions” of “*in vivo* applications and were therefore both named  
18           as inventors and applicants on PCT/US2013/074667.” Ex. 4295 at ¶ 16.

19           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
20           4295; otherwise, denied.

21   **17.** Mr. Kowalski states in his declaration that Ran, Hsu, and Lin made inventive contributions to  
22           “certain” uses of or methods of using the CRISPR-Cas9 systems in eukaryotic cells, but Mr.  
23           Kowalski does not explain what “certain” means. Ex. 4295 at ¶ 16.

1           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
2           4295; otherwise, denied.

3   **18.** Mr. Kowalski states in his declaration that, pursuant to an inventorship study as described in  
4           his declaration, Broad named the appropriate inventors for each of its PCT applications and  
5           corresponding EP patent applications. Ex. 4295 at ¶ 17.

6           **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
7           4295; otherwise, denied.

8   **19.** Broad's PCT applications were filed on December 12, 2013. Ex. 3040 at 2; Ex. 4363 at 448;  
9           Ex. 4364 at 260; Ex. 4387 at 165; Ex. 4388 at 150; Ex. 4389 at 300; Ex. 4390 at 347; Ex.  
10          4391 at 181; Ex. 4392 at 164; Ex. 4393 at 167.

11          **RESPONSE:** Admitted that Ex. 3040 at 2; Ex. 4363 at 448; Ex. 4364 at 260; Ex.  
12          4387 at 165; Ex. 4388 at 150; Ex. 4389 at 300; Ex. 4390 at 347; Ex. 4391 at 181; Ex. 4392 at  
13          164; Ex. 4393 at 167 include an international filing date of December 12, 2013; otherwise,  
14          denied.

15   **20.** Ellen Law, in-house counsel for Broad, submitted a sworn declaration dated August 4, 2014  
16          in the file of U.S. Application No. 14/324,960 which states that "Broad TWICE conducted an  
17          inventorship study" in 2013 regarding the claims of the CRISPR portfolio, including those  
18          that claim a lineage back to U.S. provisional application BP1. Ex. 4323 at 335-36.

19          **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
20          4323; otherwise, denied.

21   **21.** Ms. Law, in her August 4, 2014 declaration, further explains: "[a]fter the filing of US  
22          Provisional applications 61/736,527 and 61/788,427 [sic, 61/748,427], I had Mr. Kowalski  
23          investigate inventorship of the claims of the CRISPR portfolio. I understand that the

1 inventorship investigation included reviewing all documents provided by all individuals  
2 involved in any aspect of the CRISPR portfolio, and also Mr. Kowalski interviewing each of  
3 these individuals.” Ex. 4323 at 335-36.

4 **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
5 4323; otherwise, denied.

6 **22.** U.S. Application No. 14/324,960 is a now-abandoned continuation of the applications that  
7 issued as Broad's involved '945 and '359 patents and, like those patents, claims priority to  
8 BP1. Ex. 4323 at 4. The '960 application was filed by Lucianno Marraffini and Rockefeller  
9 University to challenge Broad's assertion that only Feng Zheng is an inventor of the claims  
10 that issued in those patents. Broad identified Dr. Marraffini as an inventor when it filed BP1  
11 (MF 42), but removed him and all others except Zhang before the '945 and '359 patents  
12 issued. The '960 application went abandoned before the Patent Office could assess  
13 inventorship. Ex. 4323 at 1169.

14 **RESPONSE:** Admitted that U.S. Application No. 14/324,960 is a now-abandoned  
15 continuation of the applications that issued as Broad's involved '945 and '359 patents; U.S.  
16 Application No. 14/324,960 and Broad's involved '945 and '359 patents claim priority to  
17 BP1; the '960 application was filed by Lucianno Marraffini and Rockefeller University; Dr.  
18 Marraffini was named as an inventor on BP1; Dr. Marraffini is not an inventor on the '945  
19 and '359 patents; otherwise, denied.

20 **23.** Mr. Kowalski was the prosecuting attorney for the '713 patent until July 2018 and he was the  
21 prosecuting attorney for the remaining Broad involved patents and application until April  
22 2016. Exs. 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037, 3043, 3047, 3050 at 1.

23 **RESPONSE:** Denied.

1 **24.** A skilled artisan would have understood that the alleged inventive contribution of using  
2 CRISPR-Cas9 systems in eukaryotic cells, as identified in the Kowalski Declaration and  
3 claimed in PCT/US2013/074611, is also claimed in Broad's involved patents and application.  
4 Ex. 4341 at ¶¶ 30-35; Ex. 4295 at ¶ 16.

5 **RESPONSE:** Denied.

6 **25.** A skilled artisan would have understood that the alleged inventive contribution of “co-  
7 delivery to the nucleus,” as identified in the Kowalski Declaration and claimed in  
8 PCT/US2013/074790, is also claimed in U.S. Patent Nos. 8,697,359; 8,945,839; 8,865,406;  
9 8,895,308; and 9,840,713. Ex. 4341 at ¶¶ 37-41; Ex. 4295 at ¶ 16.

10 **RESPONSE:** Denied.

11 **26.** A skilled artisan would have understood that *in vivo* applications of CRISPR in organisms, as  
12 identified in the Kowalski Declaration and claimed in PCT/US2013/074667, is also claimed  
13 in U.S. Patent No. 9,840,713. Ex. 4341 at ¶¶ 43-47; Ex. 4295 at ¶ 16.

14 **RESPONSE:** Denied.

15 **27.** A skilled artisan would have understood that Cas9 “ortholog design,” as identified in the  
16 Kowalski Declaration and claimed in PCT/US2013/074691, is also claimed in U.S. Patent  
17 No. 8,993,233. Ex. 4341 at ¶¶ 49-53; Ex. 4295 at ¶ 16.

18 **RESPONSE:** Denied.

19 **28.** U.S. Patent No. 8,697,359 was filed on October 15, 2013, issued on April 15, 2014, and  
20 names only Zhang as an inventor. Ex. 3011 at 1.

21 **RESPONSE:** Admitted.

22 **29.** U.S. Patent No. 8,771,945 was filed on February 18, 2014, issued on July 8, 2014, and names  
23 only Zhang as an inventor. Ex. 3015 at 1.

1           **RESPONSE:** Admitted.

2   **30.** U.S. Patent No. 8,795,965 was filed on February 18, 2014, issued on August 5, 2014, and  
3       names only Zhang as an inventor. Ex. 3027 at 1.

4           **RESPONSE:** Admitted.

5   **31.** U.S. Patent No. 8,945,839 was filed on April 18, 2014, issued on February 3, 2015, and  
6       names only Zhang and Ran as inventors. Ex. 3022 at 1.

7           **RESPONSE:** Denied that Ran is an inventor on U.S. Patent No. 8,945,839;  
8       otherwise, admitted.

9   **32.** U.S. Patent No. 8,865,406 was filed on March 24, 2014, issued on October 21, 2014, and  
10       names only Zhang and Ran as inventors. Ex. 3017 at 1.

11          **RESPONSE:** Admitted.

12   **33.** U.S. Patent No. 8,895,308 was filed on June 2, 2014, issued on November 25, 2014, and  
13       names only Zhang and Ran as inventors. Ex. 3013 at 1.

14          **RESPONSE:** Admitted.

15   **34.** U.S. Patent No. 8,906,616 was filed on May 29, 2014, issued on December 9, 2014, and  
16       names only Zhang, Cong, Hsu, and Ran as inventors. Ex. 3014 at 1.

17          **RESPONSE:** Admitted.

18   **35.** U.S. Patent Application No. 14/704,551 was filed on May 5, 2015 and names only Zhang,  
19       Cong, Hsu, and Ran as inventors. Ex. 3050 at 156-159.

20          **RESPONSE:** Admitted.

21   **36.** U.S. Patent No. 9,840,713 was filed on October 24, 2014, issued on December 12, 2017, and  
22       names only Zhang as an inventor. Ex. 3043 at 1.

23          **RESPONSE:** Admitted.

1 **37.** U.S. Patent No. 8,993,233 was filed on December 12, 2013, issued on March 31, 2015, and  
2 names only Zhang, Cong, Platt, Sanjana, and Ran as inventors. Ex. 3024 at 1.

3 **RESPONSE:** Admitted.

4 **38.** U.S. Patent No. 8,871,445 was filed on April 23, 2014, issued on October 28, 2014, and  
5 names only Zhang and Cong as inventors. Ex. 3029 at 1.

6 **RESPONSE:** Admitted.

7 **39.** U.S. Patent No. 8,999,641 was filed on March 26, 2014, issued on April 7, 2015, and names  
8 only Zhang, Cong, Platt, and Sanjana as inventors. Ex. 3047 at 1.

9 **RESPONSE:** Admitted.

10 **40.** U.S. Patent No. 8,932,814 was filed on April 22, 2014, issued on January 13, 2015, and  
11 names only Zhang and Cong as inventors. Ex. 3037 at 1.

12 **RESPONSE:** Admitted.

13 **41.** U.S. Patent No. 8,889,356 was filed on February 18, 2014, issued on November 14, 2018,  
14 and names only Zhang as an inventor. Ex. 3016 at 1.

15 **RESPONSE:** Denied that U.S. Patent No. 8,889,356 issued on November 14, 2018;  
16 otherwise, admitted.

17 **42.** Broad's involved patents and application all claim priority to provisional application  
18 61/736,527 ("BP1"), which names Zhang, Cong, Ran, Hsu, Cox, Lin, Habib, and Marraffini  
19 as inventors. Ex. 3001 at 350; Exs. 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037, 3043,  
20 3047 at 1; Ex. 3050 at 3; Paper 269, Broad Substantive Motion 4 at 2-3; Paper 12, Broad's  
21 July 8, 2019 Notice of Related Proceedings.

22 **RESPONSE:** Admitted.

1 **43.** Broad's involved patents and application all claim priority to provisional application  
2 61/748,427, which names Zhang, Cong, Habib, Marraffini, Cox, Hsu, Lin, and Ran as  
3 inventors. Ex. 4309 at 364; Exs. 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037, 3043, 3047  
4 at 1; Ex. 3050 at 3.

5 **RESPONSE:** Admitted.

6 **44.** Broad's involved patents and application all claim priority to provisional application  
7 61/791,409, which names Zhang, Cong, Habib, Marraffini, Cox, Hsu, Lin, Ran, Bikard, and  
8 Jiang as inventors. Ex. 4310 at 433-34; Exs. 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037,  
9 3043, 3047 at 1; Ex. 3050 at 3.

10 **RESPONSE:** Denied.

11 **45.** Broad's involved patents and application all claim priority to provisional application  
12 61/835,931, which names Zhang, Marraffini, Cong, Cox, Hsu, Lin, Platt, Ran, and Sanjana as  
13 inventors. Ex. 4311 at 2; Exs. 3011, 3013-3017, 3022, 3024, 3027, 3029, 3037, 3043, 3047 at  
14 1; Ex. 3050 at 3.

15 **RESPONSE:** Denied.

16 **46.** Broad's provisional application 61/836,101 names Zhang, Ran, and Shalem as inventors. Ex.  
17 5127 at 1.

18 **RESPONSE:** Admitted.

19 **47.** Broad's provisional applications 61/836,123 and 61/847,537 both name Zhang, Ran,  
20 Heidenreich, and Swiech as inventors. Ex. 5137 at 2; Ex. 5138 at 2.

21 **RESPONSE:** Admitted.

22 **48.** On March 26, 2018, the European Patent Office Opposition Division revoked Broad's EP  
23 2771468, which claimed priority to the BP1 provisional application. Ex. 4314 at 40.



1           **RESPONSE:** Admitted.

2    **Broad's Additional Material Facts 49-80 and CVC's Responses**

3    **49.** Bailey is not a lawyer. Ex. 6208, Bailey Tr. 17:16-18:3; 28:15-17; 29:17-19; 30:19-21;  
4       32:18-21; 35:16; 36:21-37:1; 37:11-18; 40:15-19; 44:6-11; 45:10-13; 46:2-3; 47:9-12; 49:13-  
5       17; 55:11-16; 63:4-7; 66:20-67:1.

6           **RESPONSE:** Admitted.

7    **50.** Bailey has no legal training. Ex. 6208, Bailey Tr. 17:16-18:3; 28:15-17; 29:17-19; 30:19-21;  
8       32:18-21; 35:16; 36:21-37:1; 37:11-18; 40:15-19; 44:6-11; 45:10-13; 46:2-3; 47:9-12; 49:13-  
9       17; 55:11-16; 63:4-7; 66:20-67:1.

10          **RESPONSE:** Denied.

11   **51.** Bailey testified that his expertise lies in “[m]olecular biology and genetic engineering.” Ex.  
12       6208, Bailey Tr. 17:9-15.

13          **RESPONSE:** Admitted that the words in the partial, cropped quote appear in Exhibit  
14       6208; otherwise, denied.

15   **52.** Bailey has never conducted an inventorship analysis as he testified,  
16       Q. Have you ever conducted an inventorship analysis for purposes of patents or  
17       applications filed in the United States Patent and Trademark Office?

18       A. I have not.

19       Ex. 6208, Bailey Tr. 18:7-11.

20          **RESPONSE:** Admitted that the words in the quote appear in Exhibit 6208;  
21       otherwise, denied.

22   **53.** As he testified, Bailey did not perform his own inventorship analysis here. “I’m not a lawyer,  
23       so I’m not providing an inventive analysis.” Ex. 6208, Bailey Tr. at 46:3-4 “I didn’t myself  
24       perform an inventorship analysis.: *Id.* at 47:9-12; *see also* 50:2-7.

1           **RESPONSE:** Admitted.

2   **54.** Bailey did not assess inventorship on a claim-by-claim basis. Ex. 6208, Bailey Tr. 54:17-  
3   55:5.

4           **RESPONSE:** Denied.

5   **55.** Bailey did not know whether it mattered to inventorship that an individual was only  
6   contributing prior art concepts. Ex. 6208, Bailey Tr. 32:8-33:17.

7           **RESPONSE:** Denied.

8   **56.** When asked in his deposition, “[d]o you have any understanding, aside from what’s in that  
9   sentence [“Rather, inventorship generally equates to the conception of an idea to achieve the  
10   desired goal in sufficient detail so that all remains to bring the invention into physical  
11   existence is the application of ordinary skill.” Ex. 4341, Bailey Dec. at ¶18], of what the  
12   terminology ‘conception of an idea’ refers to,” Bailey responded, “[n]o, I’m not – I’m not  
13   familiar with that concept, but that doesn’t affect the analysis that I did for my declaration.”  
14   Ex. 6208, Bailey Tr. 41:13-42:6.

15           **RESPONSE:** Admitted that the words in the partial quote appear in Exhibit 6208;  
16   otherwise, denied.

17   **57.** Bailey didn’t know whether inventorship of two claims could be different when one claim  
18   contained a feature that made it separately patentable over another claim. Ex. 6208, Bailey  
19   Tr. 47:1-12.

20           **RESPONSE:** Denied.

21   **58.** When asked “[d]id the fact that the listing of organisms is not identical between the ’691  
22   PCT and the ’233 patent affect your opinion at all?” Bailey responded, “[i]t did not, again,

1 because a skilled artisan would have viewed both those -- the corresponding claims as  
2 ortholog design." Ex. 6208, Bailey Tr. 98:7-12.

3 **RESPONSE:** Admitted that the words in the partial quote appear in Exhibit 6208;  
4 otherwise, denied.

5 **59.** U.S. Patent No. 8,697,359 is neither a continuation of nor claims priority to any of the  
6 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
7 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
8 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
9 PCT/US2013/074825. Ex. 3011 at 1.

10 **RESPONSE:** Admitted.

11 **60.** U.S. Patent Application No. 14/054,414, that issued as U.S. Patent No. 8,697,359, was filed  
12 prior to the filing of any of the following PCT Applications: PCT/US2013/074611;  
13 PCT/US2013/074667; PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743;  
14 PCT/US2013/074790; PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819;  
15 and PCT/US2013/074825. Exs. 3011; 3040 at 2; 4363 at 448; 4364 at 260; 4387 at 165; 4388  
16 at 150; 4389 at 300; 4390 at 347; 4391 at 181; 4392 at 164; and 4393 at 167.

17 **RESPONSE:** Admitted.

18 **61.** PCT/US2013/074743 is a continuation of U.S. Patent Application No. 14/054,414, that  
19 issued as U.S. Patent No. 8,697,359. Ex. 4388 at 152.

20 **RESPONSE:** Admitted.

21 **62.** Feng Zhang is named as the sole inventor on both PCT/US2013/074743 and U.S. Patent No.  
22 8,697,359. Exs. 4388 at 151; 3011 at 1; 4295, Kowalski Dec. at ¶17(e).

23 **RESPONSE:** Admitted.

1 **63.** U.S. Patent No. 8,771,945 is neither a continuation of nor claims priority to any of the  
2 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
3 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
4 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
5 PCT/US2013/074825. Ex. 3015 at 1.

6 **RESPONSE:** Admitted.

7 **64.** U.S. Patent No. 8,795,965 is neither a continuation of nor claims priority to any of the  
8 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
9 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
10 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
11 PCT/US2013/074825. Ex. 3027 at 1.

12 **RESPONSE:** Admitted.

13 **65.** U.S. Patent No. 8,865,406 is neither a continuation of nor claims priority to any of the  
14 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
15 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
16 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
17 PCT/US2013/074825. Ex. 3017 at 1.

18 **RESPONSE:** Admitted.

19 **66.** U.S. Patent No. 8,871,445 is neither a continuation of nor claims priority to any of the  
20 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
21 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
22 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
23 PCT/US2013/074825. Ex. 3029 at 1.

1           **RESPONSE:** Admitted.

2   **67.** U.S. Patent No. 8,889,356 is neither a continuation of nor claims priority to any of the  
3       following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
4       PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
5       PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
6       PCT/US2013/074825. Ex. 3016 at 1.

7           **RESPONSE:** Admitted.

8   **68.** U.S. Patent No. 8,895,308 is neither a continuation of nor claims priority to any of the  
9       following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
10       PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
11       PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
12       PCT/US2013/074825. Ex. 3013 at 1.

13           **RESPONSE:** Admitted.

14   **69.** U.S. Patent No. 8,906,616 is neither a continuation of nor claims priority to any of the  
15       following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
16       PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
17       PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
18       PCT/US2013/074825. Ex. 3014 at 1.

19           **RESPONSE:** Admitted.

20   **70.** U.S. Patent No. 8,932,814 is neither a continuation of nor claims priority to any of the  
21       following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
22       PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;

1 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
2 PCT/US2013/074825. Ex. 3037 at 1.

3 **RESPONSE:** Admitted.

4 **71.** U.S. Patent No. 8,945,839 is neither a continuation of nor claims priority to any of the  
5 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
6 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
7 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
8 PCT/US2013/074825. Ex. 3022 at 1.

9 **RESPONSE:** Admitted.

10 **72.** U.S. Patent No. 8,993,233 is neither a continuation of nor claims priority to any of the  
11 following PCT Applications: PCT/US2013/074611; PCT/US2013/074667;  
12 PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743; PCT/US2013/074790;  
13 PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819; and  
14 PCT/US2013/074825. Ex. 3024 at 1.

15 **RESPONSE:** Admitted.

16 **73.** U.S. Application No. 14/704,551 is a continuation of PCT/US2013/074819. Ex. 3050 at 162.

17 **RESPONSE:** Admitted.

18 **74.** Both U.S. Application No. 14/704,551 and PCT/US2013/074819 name only Feng Zhang, Le  
19 Cong, Patrick Hsu, and Fei Ran as inventors. Exs. 3050 at 156-61; 4392 at 165-66.

20 **RESPONSE:** Admitted.

21 **75.** U.S. Patent No. 8,999,641 is a continuation of PCT/US2013/074736. Ex. 3047 at 1.

22 **RESPONSE:** Admitted.

1 **76.** The claim scope between U.S. Patent No. 8,999,641 and PCT/US2013/074736 is not the  
2 same, and therefore, the claims do not cover the same inventive concept(s). Exs. 3047 at 129-  
3 30; 4387 at 105-09.

4 **RESPONSE:** Admitted that the claims of U.S. Patent No. 8,999,641 are not the same  
5 as the claims of PCT/US2013/074736; otherwise denied.

6 **77.** U.S. Patent No. 9,840,713 is a continuation of PCT/US2013/074611. Ex. 3043 at 1.

7 **RESPONSE:** Admitted.

8 **78.** The scope of the claims between U.S. Patent No. 9,840,713 and PCT/US2013/074611 is not  
9 the same, and therefore, the claims do not cover the same inventive concept(s). Exs. 3043 at  
10 340-41; 3040 at 173-78.

11 **RESPONSE:** Admitted that the claims of U.S. Patent No. 9,840,713 are not the same  
12 as the claims of PCT/US2013/074611; otherwise denied.

13 **79.** CVC's List of Intended Motions did not include a request to exclude the testimony of  
14 "interested parties." Paper 19 at 11:3–15:14.

15 **RESPONSE:** Admitted that CVC's List of Intended Motions at 11:3-15:14 did not  
16 specifically mention "interested parties"; but otherwise denied.

17 **80.** Kowalski's declaration set out applicants in the 10 PCT filings (PCT/US2013/074611;  
18 PCT/US2013/074667; PCT/US2013/074691; PCT/US2013/074736; PCT/US2013/074743;  
19 PCT/US2013/074790; PCT/US2013/074800; PCT/US2013/074812; PCT/US2013/074819;  
20 and PCT/US2013/074825), but not for the involved patents and application in this  
21 proceeding. Ex. 4295 at ¶17.

22 **RESPONSE:** Admitted that Kowalski's Declaration did not specifically identify the  
23 applicants for the involved Broad patents and application; otherwise denied.

**CERTIFICATE OF SERVICE**

I hereby certify that the foregoing **CVC'S REPLY TO BROAD'S OPPOSITION TO SUBSTANTIVE MOTION 3 (for improper inventorship)** was filed via the Interference Web Portal by 8:00 PM Eastern Time on May 6, 2021, pursuant to an agreement between the parties, and thereby served on the attorney of record for the Senior Party pursuant to ¶ 105.3 of the Standing Order. Pursuant to the agreement between the parties, the foregoing were also served via email by 11:00 pm ET on counsel for the Senior Party at:

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