

UNITED STATES DISTRICT COURT
CENTRAL DISTRICT OF CALIFORNIA

HONORABLE DOLLY M. GEE, JUDGE PRESIDING

KIM ALLEN, et al.,)
)
)
)
Plaintiffs,)
) No. 12-1150DMG
VS)
)
HYLAND'S, INC., et al.,)
)
)
Defendants.)
_____)

Reporter's Transcript of Proceedings
JURY TRIAL - DAY SEVEN
MORNING SESSION
Los Angeles, California
THURSDAY, SEPTEMBER 10, 2015

ANNE KIELWASSER, CRR, RPR, CSR
Federal Official Court Reporter
312 North Spring Street, Room 432
Los Angeles, California 90012
Telephone: (213) 894-2969
anne.kielwasser@gmail.com
AKtranscripts.com

A P P E A R A N C E S

ON BEHALF OF THE PLAINTIFFS:

John H Gomez

Deborah S Dixon

Gomez Trial Attorneys

655 West Broadway Suite 1700

San Diego, CA 92101

Tel: 619-237-3490

Fax: 619-237-3496

e-mail: John@gomeztrialattorneys.com

Ronald A Marron

Law Offices of Ronald A. Marron

651 Arroyo Drive

San Diego, CA 92103

Tel: 619-696-9006

Fax: 619-564-6665

E-mail: Skye@consumersadvocates.com

ON BEHALF OF THE DEFENDANTS:

Jeffrey B Margulies

Spencer Persson

Norton Rose Fulbright US LLP

555 South Flower Street, 41st Floor

Los Angeles, CA 90071

213-892-9200

Fax: 213-892-9494

e-mail: Jeff.margulies@nortonrosefulbright.com

E-mail: Spencer.persson@nortonrosefulbright.com

Also Present: Mary Borneman, Corporate Representative

INDEX

(Exhibit Nos. 1308, 1309, 1310, 1311 and 1313 13
received in evidence.)

Deposition testimony of **NANCY RODRIGUEZ** played 11
Deposition testimony of **DANIELE XENOS** played 13
WITNESS, **IRIS BELL**, SWORN 18
DIRECT EXAMINATION 18
BY MR. MARGULIES:

Exhibit Nos. 172, 176, 179, 181, 190, 191 10
received into evidence
Exhibit No. 1312 received in evidence 14
Exhibit No. 1033 received in evidence 23

1 THURSDAY, SEPTEMBER 10, 2015

9:00 A.M.

2 ~ ~ ~

3 **JURY TRIAL - DAY SEVEN**

4 **MORNING SESSION**

5 ~ ~ ~

6 (Following proceedings held in open court outside
7 the presence of the jury.)

8 **COURT CLERK:** Item No. 2. CV 12-1150DMG, Kim
9 Allen, et cetera, et al., versus Hyland's, Inc., et al.

10 Counsel, your appearances, please.

11 **MR. GOMEZ:** John Gomez for the plaintiffs.

12 **MS. DIXON:** Good morning, Your Honor. Deborah
13 Dixon for the plaintiffs.

14 **MS. NELSON:** Good morning, Your Honor. Gretchen
15 Nelson on behalf of the plaintiffs.

16 **MR. MARRON:** Good morning, Your Honor. Ronald
17 Marron on behalf of defendants.

18 **MR. MARGULIES:** Good morning, Your Honor. Jeff
19 Margulies for the defendant.

20 **MR. PERSSON:** Good morning, Your Honor. Spencer
21 Persson on behalf the defendant.

22 **THE COURT:** Good morning.

23 All right. Is there a housekeeping item
24 before we begin?

25 **MR. MARGULIES:** Yes, thank you, Your Honor. We

1 have one issue with regard to Dr. Bell who's anticipated to
2 be our first witness after the plaintiffs rest this morning.

3 The issue pertains to the Teething Tablets
4 and a -- as the Court will recall, there has been some
5 testimony of a trial that Dr. Jacobs did on the Teething
6 Tablets, and Dr. Bell will talk about that. She will talk
7 about a subsequent study after that that was started and then
8 stopped because the Teething Tablets were withdrawn from the
9 market. There was a recall with FDA.

10 And I believe that going into the facts of
11 that recall would be both irrelevant under 401 and 403. I do
12 not intend to elicit testimony about it. I simply intend to
13 ask her why the -- why the subsequent study was stopped. She
14 will say the product was taken off the market, and I will ask
15 her was it later reintroduced in a similar format, and she
16 will say yes.

17 Counsel, I think, believes that it is
18 appropriate to cross-examine her on the recall. The recall
19 was due to the FDA's perception about the manufacturing of
20 the product that belladonna -- that there were -- there was a
21 perception that the belladonna was at a level that could cause
22 adverse effects in children. It was reformulated with a
23 higher potency, lower amount of belladonna in it.

24 **THE COURT:** When did that occur?

25 **MR. MARGULIES:** 2010.

1 **THE COURT:** The recall occurred in 2010?

2 **MS. BORNEMAN:** Yes, ma'am.

3 **MR. MARGULIES:** Yes.

4 **THE COURT:** All right.

5 Who wishes to respond to that?

6 **MR. GOMEZ:** John Gomez.

7 As I understand it, the defense intends to
8 elicit testimony affirmatively from Dr. Bell that a
9 subsequent study was begun and then stopped because the
10 product was taken off the market. And, unfortunately, you
11 know, that's not the whole story. But the whole story is
12 that the FDA opened an investigation into these Teething
13 Tablets because of perceived issues of safety with children.

14 Once the second trial began, Dr. Bell viewed
15 it as unethical with an FDA investigation pending involving
16 safety to continue the trial.

17 And so then the trial was stopped, and I
18 think it's true that the Teething Tablets were reintroduced
19 to the market.

20 You know, and so do I plan on questioning her
21 about that second study and the reasons that it was stopped
22 or that it was stopped? No.

23 But the defense cannot affirmatively elicit
24 that in a sanitized fashion, have her testify, apparently,
25 with some innocuous perception of the jury attached to it

1 that they simply pulled the product off the market for
2 reasons of their own accord without regard for safety.
3 That -- the point is, they're, it appears, would be the ones
4 getting into this, not me.

5 **THE COURT:** Why do we need to get into any of this
6 at all?

7 **MR. MARGULIES:** Well, the -- Mr. Gomez raised the
8 implication with Dr. Borneman that Hyland's didn't do any
9 more studies after Dr. Jacobs did her report. The Court will
10 remember an extended series of questions about an e-mail from
11 Dr. Bell recommending additional studies. Dr. Bell will talk
12 about that e-mail. That's not about the study we're talking
13 about.

14 But plaintiffs put the implication before the
15 jury that Hyland's did -- Hyland's did the Teething Tablet
16 study and then just threw up its hands and walked away. And
17 I think it's important for the jury to hear they didn't threw
18 up their hands, they started another study, they stopped it.
19 The product was taken off the market, it was reformulated,
20 it's been put on the market again. They are thinking about
21 doing additional studies now.

22 So I'm not opening the door. The door's been
23 open, and I think I have every right to respond to it.

24 **THE COURT:** Well, if you open the door to respond
25 to it, then they have a right to cross-examine about it.

1 It's either not pertinent or important enough
2 to elicit because it's not really an aspect of the
3 plaintiffs' case; or if you go into it, then they have a
4 right to cross-examine.

5 I don't see why you can't simply say that --
6 that there -- that there is contemplation for a new study and
7 leave it at that. If you weighed into the fact that there
8 was a study, and then it stopped, and we went to a recall,
9 then they have a right to cross-examine.

10 **MR. MARGULIES:** Well, Your Honor, if the Court --

11 And I think it's a 403 issue, certainly in
12 terms of prejudice and consumption of time, confusion of
13 issues.

14 **THE COURT:** Yes, it is a 403 issue; but to the
15 extent that you weighed into it, then they have a right to
16 cross-examine about it. If you don't go into it, I presume
17 they won't be going into it.

18 **MR. GOMEZ:** I did not intend to get into it. And
19 I'm not sure what the relevance would be of even the fact --
20 even if they did for innocuous reasons that they started the
21 study and then stopped the study. And there is no relevance
22 to it.

23 **MR. MARGULIES:** Well, I mean, I suppose if we have
24 a stipulation or order that counsel can't argue that Hyland's
25 didn't do anything following the study, I don't have any need

1 to go into it.

2 But I didn't open this door. Mr. Gomez did
3 through his questions that he was asking of Dr. Borneman.

4 **THE COURT:** Well, do plaintiffs intend to argue
5 that after the first study they just sat on their hands and
6 didn't do anything further?

7 **MR. GOMEZ:** We intend to argue that since the
8 first study, which was conducted in 2006, which showed that
9 placebos did better than Teething Tablets, they've not
10 completed the study that demonstrates that Teething Tablets
11 do, in fact, afford effective medical care, and even setting
12 aside this evidence, that remains true.

13 **MR. MARGULIES:** If that's all they intend to
14 argue, and I can rely on that, then I'm not going to open up
15 the door to the recall.

16 **THE COURT:** All right, why don't we just sidestep
17 all of that then.

18 **MR. MARGULIES:** Thank you.

19 **MR. GOMEZ:** That will be safest.

20 **THE COURT:** All right, why don't we call the
21 jurors in, then.

22 (Following held in the presence of the jury.)

23 **THE COURT:** Good morning, ladies and gentlemen of
24 the jury.

25 **THE JURY:** Good morning.

1 **THE COURT:** All right, are plaintiffs ready with
2 their next witness?

3 **MS. DIXON:** Yes, Your Honor, we are.

4 Before we begin, we just wanted to admit the
5 documents that the jury saw yesterday on the video with
6 Dr. Taylor. In case they were taking notes, we could
7 identify them for the record.

8 **THE COURT:** I thought we already had admitted
9 them, but why don't you go over them.

10 **MS. DIXON:** Your Honor, the depo exhibits to
11 Dr. Taylor's deposition at Exhibit 2 is admitted as Trial
12 Exhibit 172.

13 Depo Exhibit No. 6 is admitted as Exhibit
14 176.

15 Depo Exhibit 9 is admitted as trial Exhibit
16 179.

17 Deposition Exhibit 11 is admitted as Trial
18 Exhibit 181.

19 Deposition Exhibit 157 is admitted as Trial
20 Exhibit 190.

21 And deposition Exhibit 158 is admitted as
22 Trial Exhibit 191.

23 **THE COURT:** They've all been admitted.

24 (Exhibit Nos. 172, 176, 179, 181, 190, 191 received
25 into evidence.)

1 **MS. DIXON:** Thank you, Your Honor.

2 The plaintiffs would like to play for the
3 jury a compilation of deposition testimony selected by the
4 plaintiffs and defendants of Ms. Rodriguez.

5 **THE COURT:** All right, that is Plaintiff Diana
6 Rodriguez; is that right?

7 **MS. DIXON:** Yes, Your Honor.

8 **THE COURT:** Oh, I'm sorry, Nancy.

9 **MS. DIXON:** Nancy.

10 **THE COURT:** All right, Nancy Rodriguez, who is a
11 plaintiff.

12 All right. You may proceed.

13 (Deposition testimony of Nancy Rodriguez played.)

14 **MR. PERSSON:** Your Honor, defendants would request
15 that we be able to move Exhibits 1308, 1309, 1310, 1311 and
16 1313 into evidence. These are the products that she
17 discussed that are not Hyland's products but are homeopathic.

18 **THE COURT:** All right, any objection?

19 **MS. DIXON:** Yes, Your Honor. Objection as to --
20 lacks foundation and hearsay. She didn't describe the
21 packaging of the products. We don't know if the packaging
22 that they provided is the same. These are also the same ones
23 that we discussed were never produced at discovery or
24 identified on the exhibit lists.

25 **THE COURT:** I'm sorry. They were not produced

1 during discovery?

2 **MS. DIXON:** Correct. Nor identified on the
3 exhibit list.

4 **MR. PERSSON:** Your Honor, they're not our
5 products. They wouldn't have been responsive to any
6 discovery requests. They're only relevant because
7 Ms. Rodriguez claimed she used the products, and they were
8 effective for her.

9 **THE COURT:** When did she have her deposition
10 taken?

11 **MR. PERSSON:** She had her deposition taken in
12 2012.

13 **THE COURT:** So you've had that deposition since
14 2012.

15 **MR. PERSSON:** Correct, but the -- they wouldn't be
16 responsive to discovery responses to us, and it's impeachment
17 of plaintiffs' theory of the case.

18 **THE COURT:** Were these identified in a timely
19 fashion in the exhibit list?

20 **MR. PERSSON:** They were on the exhibit list, yes,
21 Your Honor.

22 **THE COURT:** All right.

23 **MS. DIXON:** Your Honor, they didn't show it to
24 Ms. Rodriguez during her deposition so that we know that was
25 the same product that she's testifying that she bought, and

1 the exhibit list that was filed with the Court at the
2 pretrial conference did not have these on them. They were
3 added a week before trial started.

4 **MR. PERSSON:** Your Honor, they were added after we
5 were told she wasn't going to be here.

6 **MS. DIXON:** That --

7 **THE COURT:** Well, I'm going to allow them to be
8 admitted. I think these are issues that counsel can argue
9 about as opposed to that they should not be admitted.

10 **MR. PERSSON:** Thank you, Your Honor.

11 **THE COURT:** So, that was 1308, 1309, 1310 and
12 1312?

13 **MR. PERSSON:** Sorry, no. 1311 and 1313.

14 **THE COURT:** All right.

15 (Exhibit Nos. 1308, 1309, 1310, 1311 and 1313
16 received in evidence.)

17 **THE COURT:** All right. Are plaintiffs ready with
18 their next witness?

19 **MS. DIXON:** Yes, Your Honor, we are going to play
20 a videotaped deposition that has been selected by defense and
21 plaintiffs of Daniele Xenos.

22 (Deposition testimony of Daniele Xenos played.)

23 **MR. PERSSON:** Your Honor, for the same reason we
24 would request that we be allowed to move Exhibit 1312 into
25 evidence.

1 **THE COURT:** Can you identify that for the record,
2 please?

3 **MR. PERSSON:** That would be the arnica rub,
4 NatraBio Arnica Rub -- make sure I say that exactly the way
5 it is. Yes, the product packaging for the NatraBio's Arnica
6 Rub.

7 **THE COURT:** All right. For the same reasons I
8 articulated earlier, I will admit it.

9 **MR. PERSSON:** Thank you, Your Honor.

10 **MS. DIXON:** Your Honor, just for the record, we
11 have the same objections.

12 (Exhibit No. 1312 received in evidence.)

13 **THE COURT:** All right. Do plaintiffs have any
14 other witnesses?

15 **MR. GOMEZ:** No. At this time, subject to the
16 damage evidence that we discussed earlier, we would rest.

17 **THE COURT:** All right. So plaintiffs have rested
18 subject to a witness who will be called next week. Due to
19 his schedule, he's not available at this time. Is that
20 correct?

21 **MR. GOMEZ:** That is correct, Your Honor.

22 **THE COURT:** All right, then we will take our
23 morning break, and we will resume at 10:45 with the
24 defendants' case.

25 (Following proceedings held outside the presence

1 of the jury.)

2 **THE COURT:** We are in recess.

3 (Recess taken.)

4 (Following proceedings held outside the presence
5 of the jury.)

6 **THE COURT:** Housekeeping issues?

7 **MR. MARGULIES:** Yes, Your Honor, thank you.

8 Our first witness will be Dr. Iris Bell.

9 Dr. Bell is a -- has diabetes, and she has an
10 issue with her monitor that she informs me will beep very
11 loudly shortly after 11:00. She's not sure entirely when,
12 but it has to be recalibrated, and I don't want to really --

13 I mean, obviously, it's going to beep, but I
14 don't know that it would be appropriate to have her do that
15 in front of the jury. So we're going to need maybe five
16 minutes to allow her to step out and do that. I don't
17 anticipate any other disruptions during the day, but she
18 informs me that's going to happen probably in about 20
19 minutes from now.

20 **THE COURT:** Oh, but she doesn't know exactly when.

21 **MR. MARGULIES:** Right. Right. Right. She said
22 apparently it somehow had to be restarted this morning and
23 about two hours after it will insist on being --

24 So, it's one of those continuous monitors
25 that she needs to monitor her blood sugar and let her know if

1 it's gotten too high or too low.

2 **THE COURT:** I see. Would you prefer to just wait
3 until it beeps before we continue, or do you want to go ahead
4 and have her start and have the --

5 **MR. MARGULIES:** How long will it take you to
6 recalibrate?

7 **THE COURT:** Why don't we go off the record.
8 (Discussion off the record.)

9 **MR. MARGULIES:** Your Honor, Dr. Bell thinks it
10 will take her five minutes or so to recalibrate. And I think
11 it would probably be better to just go ahead and start and
12 then just take a five-minute -- maybe excuse her for five
13 minutes and let her do that.

14 **THE COURT:** Okay. What I will do then is, I will
15 allow Dr. Bell to be excused to do that but keep the jurors
16 here. They can stretch. I don't want them to have to walk
17 back up and down the stairs just for five minutes.

18 **MR. MARGULIES:** Agreed, thank you.

19 **THE COURT:** All right.

20 **MR. GOMEZ:** We just have one more issue, Your
21 Honor. And, you know, when -- sometimes when they're sort of
22 prepping for the next witness, we can kind of see on the
23 screen what's coming. And so I anticipate there were some
24 labels from competitive products that were just admitted that
25 other plaintiffs had testified that they had used, I think

1 with success. And so I would anticipate -- it appears that
2 Dr. Bell is going to testify about those labels.

3 No? Not true. Well, then I will sit my butt
4 down. I apologize.

5 **MR. MARGULIES:** I'm not as clever as you think I
6 am. Did I miss something?

7 **MR. GOMEZ:** I'll give you a tip.

8 **THE COURT:** Don't give him any ideas.

9 I just realized that I need a new notepad so
10 I'm going to just recess briefly and be right back.

11 (Brief pause in the proceedings.)

12 (Following held in the presence of the jury.)

13 **THE COURT:** All right, Mr. Margulies, are you
14 prepared to call your first witness?

15 **MR. MARGULIES:** Yes, thank you, Your Honor.

16 The defense would call Iris Bell.

17 **COURT CLERK:** Do you swear or affirm that the
18 testimony you're about to give in the case now before this
19 Court will be the truth, the whole truth and nothing but the
20 truth, so help you God?

21 **THE WITNESS:** Yes, I do.

22 **COURT CLERK:** You may be seated.

23 Please state and spell your full name for the
24 record.

25 **THE WITNESS:** My name is Iris Roberta Bell. First

1 name, I-R-I-S, last name, B, as in boy, E-L-L.

2 WITNESS, IRIS BELL, SWORN

3 DIRECT EXAMINATION

4 BY MR. MARGULIES:

5 Q. Good morning, Dr. Bell.

6 A. Good morning.

7 Q. Where have you come to us from today?

8 A. Tucson, Arizona, originally.

9 Q. Would you tell us a little bit about your education,
10 please.

11 A. Yeah, I actually grew up in the Boston area and
12 attended Harvard University, received my bachelor's degree
13 magna cum laude from Harvard.

14 I then became interested in brain function
15 and physiology and proceeded to Stanford University for a
16 Ph.D. program, which I completed and received a Ph.D. in
17 neuro and biobehavioral sciences.

18 Q. All right.

19 A. At that point I -- I'm sorry.

20 Q. I just wanted to ask you what date, what year did you
21 get your bachelor's degree and what date did you get your
22 Ph.D.?

23 A. I believe it was 1972 that I got my bachelor's, and
24 1977 when I received my Ph.D.

25 Q. Okay. Thank you. And have you had any other

1 professional degrees since getting your Ph.D. in neuro and
2 biobehavioral sciences?

3 A. I became very interested during graduate school in
4 clinical research and was told that an MD would be helpful,
5 and so I applied to medical school and ended up still at
6 Stanford Medical School where I received my MD in 1980.

7 Q. Thank you. Did you complete an internship?

8 A. Yes. I then we went to the University of California
9 San Francisco where I completed an internship that involved
10 rotation between medical services, neurology, and psychiatry.
11 And then the next three years after that were a full
12 psychiatry residency. I believe I completed that in 1984.

13 Q. Thank you. Are you licensed as a physician?

14 A. Yes, I am.

15 Q. And what states -- in what states are you licensed?

16 A. I have active licenses in the State of Arizona and in
17 the State of California, and I have a license that is on
18 retirement type status in Massachusetts.

19 Q. And I'm sorry, your residency was in what field?

20 A. In psychiatry.

21 Q. Psychiatry. Have you practiced as a psychiatrist?

22 A. Yes, I have.

23 Q. We heard from another expert in this trial who is a --
24 we've heard from a psychologist. Can you explain the
25 difference to the jury between a psychologist and a

1 psychiatrist?

2 A. Well, a psychologist has often a four or more year
3 program learning about purely psychology. A psychiatrist
4 completes a full course of medical school training; and in
5 order to be licensed, I am certified in various ways. You
6 then complete an internship, which always involves both
7 medical and psychiatric training.

8 Q. And are you board certified in psychiatry?

9 A. Yes, I am.

10 Q. What does it mean to be board certified in psychiatry?

11 A. It means I completed qualifying training and took both
12 an oral and a written examination from the certifying body
13 for physicians who are neurologists and psychiatrists.

14 Q. Thank you. Have you had any education and training in
15 homeopathy?

16 A. Yes, I have. There have been more informal training
17 periods in my homeopathy work. They began, I believe, in the
18 late 1970s in a study group in the San Francisco Bay Area. I
19 continued an interest about homeopathy but did not pursue
20 further training until the late 1990s.

21 At that point I took a course to refresh my
22 knowledge of the basics of the field from the Desert
23 Institute of Homeopathy in Phoenix, Arizona, and that was
24 followed by a two-year program to receive a certificate as a
25 master clinician in homeopathy.

1 In the course of that training I -- I
2 actually took again an oral and written examination in the
3 State of Arizona which offers medical licenses not only to
4 conventional doctors but also to individuals trained in
5 homeopathy.

6 Q. Thank you. I would like to talk -- have you talk a
7 little bit about your work as a psychiatrist.

8 Have you practiced as a psychiatrist?

9 A. Yes, I have.

10 Q. Can you describe for the jury --

11 Did you start right out of your residency as
12 a psychiatrist?

13 A. Yes, I did.

14 Q. Tell us a little bit about what you did, where you
15 started and what you were doing, please.

16 A. Much of my work was in inpatient psychiatry. I also
17 had a part-time outpatient practice. And I was working on a
18 Senior Investigator's Research grant at the same time. This
19 is immediately after residency.

20 I typically served as a director or assistant
21 director of inpatient psychiatry, and it's in various --
22 either general psychiatry or geriatric psychiatry for many
23 years after that.

24 Q. Before I forget, let me ask you to take a look in the
25 black binder in front of you. You should have an exhibit

1 marked 1033, if you wouldn't mind taking a look at that.

2 A. Okay.

3 Q. Do you see that?

4 A. Yes, I do.

5 Q. Do you recognize it?

6 A. Yes.

7 Q. What is it?

8 A. It is a copy of my curriculum vitae.

9 Q. And what is contained in the curriculum vitae?

10 A. A description of my education, my licensure, honors,
11 academic appointments, hospital appointments, professional
12 appointments, committee assignments, membership in
13 professional societies. It covers research interest,
14 teaching experience, responsibilities in clinical services,
15 research support, that -- that really translates into
16 research grants from various agencies.

17 And includes my experience as a reviewer, a
18 peer reviewer of multiple articles and a variety of medical
19 journals. And then a list of my own publications in peer
20 reviewed medical journals as well as other stuff, book
21 chapters and smaller books or monographs that I've written
22 on.

23 It concludes with a description of
24 presentations at professional conferences, research
25 conferences, where I was a speaker. First set of them

1 describes ones I was invited to give often as a keynote
2 speaker, and the other set are competitive abstracts where
3 you submit an abstract of what you propose to discuss, and it
4 is either accepted or rejected. This is a list of my
5 accepted presentations through the course of my career.

6 Q. Okay. We'll come back and discuss some of these
7 things.

8 **MR. MARGULIES:** But at this point, Your Honor, but
9 we'd offer Exhibit 1033 into evidence.

10 **THE COURT:** It is admitted.

11 (Exhibit No. 1033 received in evidence.)

12 **MR. MARGULIES:** Thank you.

13 BY **MR. MARGULIES:**

14 Q. So, we were starting to discuss your work as a
15 psychiatrist, and you were describing working inpatient and
16 with a senior investigator. Where were you at the time?

17 A. At the time I was in the Bay Area. My practice was in
18 San Francisco proper. My research was based at the
19 University of California Berkley.

20 Q. And for how long did you hold this position?

21 A. I was in that area for three -- three years, I
22 believe, up until approximately 1990.

23 Q. Where did you go in 1990?

24 A. Oh, I'm sorry. In 19 -- I spent a three-year period
25 back in Boston after I completed my roughly three years of

1 practice in the San Francisco area. So, I finished my
2 training in 1984 and practiced for several years, had an
3 opportunity to train further in geriatric psychiatry and
4 ended up becoming additionally certified in that field.

5 And during the time I was doing that
6 training, I was running an inpatient unit in geropsychiatry
7 back in the Boston area at McLean Hospital in the Harvard
8 Medical School, so --

9 Q. What's geriatric psychiatry?

10 A. It is a subspecialty of the general field of
11 psychiatry in which the clinicians are specifically trained
12 to take care of older individuals who have unique -- in
13 psychiatry, often, unique psychiatric difficulties.

14 Q. Okay, thank you. So, you went back to Boston. And
15 what did you do after the three years in Boston?

16 A. At that point I was recruited as a tenure track
17 faculty member at the University of Arizona in the department
18 of psychiatry.

19 Q. So by the time you were recruited -- this was 1990?

20 A. Yes.

21 Q. Have you held academic positions between 1984, at the
22 end of your residency, until 1990?

23 A. Yes, I had some type of more junior instructor or
24 adjunct appointments at both the University of California San
25 Francisco after I completed my original training because I

1 was still involved with teaching residents and medical
2 students.

3 And at Harvard, I was, I believe, an
4 instructor of psychiatry as my academic appointment. And I
5 became an assistant professor at the University of Arizona
6 College of Medicine.

7 Q. And who recruited you?

8 A. Dr. Allen Gallenberg. And he was the chairman of the
9 department of psychiatry.

10 Q. And what did -- what was -- how --

11 What were you being recruited for?

12 A. At that point I was considered a very well-qualified
13 geriatric psychiatrist, and the University of Arizona was
14 interested in developing a program of both clinical
15 opportunity -- clinical care for older patients and
16 education.

17 Q. And did you -- for how long did you remain affiliated
18 with the University of Arizona as an academic?

19 A. Until -- I'm actually still affiliated with them. I'm
20 in a professor emeritus status. I, over the years, advanced
21 into receiving full tenure and professorship, and so, I
22 retired as a professor emeritus roughly in 19 -- I'm sorry,
23 in 2010.

24 Q. Okay. In your time in Arizona, did you -- did you see
25 patients as a psychiatrist?

1 A. Oh, yes.

2 Q. And did you engage in research at the same time?

3 A. Yes, I did.

4 Q. We'll you talk a little bit about that. Have you --

5 Do you have any relationship with the
6 Standard Homeopathy Company?

7 A. Yes, I do.

8 Q. What's that relationship?

9 A. I am serving as an external consultant to them with
10 regard to research in the field of homeopathy and currently
11 also as the medical director who evaluates adverse event
12 reports that consumers may call the company with.

13 Q. Are you an employee of the company?

14 A. No, I'm not.

15 Q. What relationship do you have, if you know?

16 A. I am a consultant who is contracted with them to
17 provide my services.

18 Q. When did you first -- when -- when did this
19 relationship with Standard Homeopathic start?

20 A. To my recall, it was in roughly 2006.

21 Q. How did that happen?

22 A. I attended many different professional conferences,
23 and as I recall, after one of my talks about my research,
24 Dr. Borneman, who was the CEO of the company, approached me
25 about serving in the capacity I just described.

1 Q. Okay, thank you. I'd like to talk a little bit about
2 the research that you've done over the years.

3 Have you obtained grants from the government
4 or from entities to do research during the course of your
5 career?

6 A. Yes. I've received a substantial number of private
7 foundation grants, which is how you begin research, and then
8 I received a series of grants from the National Institutes of
9 Health.

10 And I -- during the time that I was also
11 simultaneously serving as a geriatric psychiatrist for the
12 academically affiliated Tucson Veteran's Affairs Medical
13 Center. I received at least two grants from them. One of
14 them was a career -- a type of career development grant, a
15 study called Four Syndrome.

16 Q. Okay. Talk to the jury a little bit, if you wouldn't
17 mind, about how grants work. How does -- how does a
18 researcher go about getting a grant from the government or
19 from a private entity?

20 A. The first thing one has to do is establish a track
21 record of research in the particular topic that's on your
22 study to -- and that involves getting pilot data or
23 preliminary data of some sort, sometimes from very small
24 grants from the government, sometimes from private
25 foundations.

1 You then write a grant following the
2 particular directions of the agency. There is certain
3 standardized structures, but they're quite comprehensive.
4 They include not only the qualifications of every member of
5 the research team but also a description of precisely what
6 you propose to do, how you propose to analyze it, and what
7 you'll do if the grants -- if the data take you in a
8 different direction.

9 You then apply. There is a peer review
10 process. And during that process, at least in the government
11 and at NIH, I've been on those kinds of committees as well,
12 there are roughly 25 people in a room, whoever reviewed your
13 grant, and who make their recommendations.

14 It's not uncommon for the first attempt at
15 getting funded to be rejected. You get the reviewer
16 feedback, you revise your proposal, and you try again.

17 Q. What happens if you get the grant approved? What --

18 Is there money approved? What happens to you
19 as a researcher? Your grant is approved, now what?

20 A. At that point the institution where you're based
21 receives the actual grant funding from the funding agency,
22 and it is administered financially, if you will, with the
23 accounting and so on through the institution itself, whatever
24 university you're at.

25 The grant itself, you then proceed to hire

1 the staff to implement the project and whatever you propose
2 to do over the period of time you said you were going to do
3 it in.

4 Q. And -- and what you propose to do, is that typically
5 research?

6 A. Oh, yes. Well, I'm sorry. Generally, it is for a
7 research grant. There are other grants for conferences which
8 I've also been a coinvestigator on.

9 Q. Would you talk to us a little bit about the types of
10 grants that you've received over your career as a researcher?

11 A. I've received -- I'm sorry. Are you asking about
12 topics or --

13 Q. Yes, let's talk about the topics that you received.
14 Let's start there.

15 A. Some of my earlier work when I was at McLean Hospital
16 and just starting in geriatrics, I became very interested in
17 nutritional factors that might contribute to depression and
18 dementia in older patients. And I took advantage, again,
19 when you're writing a grant or when you're looking into a new
20 area of reading the literature and discovering, there were
21 some hints in the literature that B vitamins were important.

22 And so some of my initial work and a number
23 of my earlier papers after I completed all my training were
24 around that type of topic, and that was the area that I was
25 actually working in at the time I was recruited to the

1 University of Arizona.

2 Subsequent to that, I proceeded to do a
3 variety of studies, continued with some of my dietary
4 interests, some on personality type and health. I was
5 working with a number of psychologists in the health
6 psychology program at the University of Arizona.

7 And then I studied a number of years working
8 in the field of environmental health in which I competed for
9 and received a series of small foundation grants and
10 one somewhat -- well, significantly larger Veteran's Affairs
11 Center grant.

12 As -- as my career evolved and as my
13 interests evolved, I eventually ended up working more
14 generally in the area of complementary and alternative
15 medicine.

16 I received a grant to train more junior
17 researchers, postdoctoral and pre-doctoral fellows, in
18 research on complementary/alternative medicine, at which
19 point I worked with a large number of faculty who had
20 different kinds of expertise to help with that training. And
21 I also received a career development grant.

22 In the context of all of that work, I
23 received a series of research grants from the National
24 Institutes of Health, specifically on the topic of
25 homeopathy, based in part on some of my prior research using

1 electroencephalography, which is EEG or brain waves, and
2 brain waves are really an objective measure of what's going
3 on. They don't allow you to read anybody's thoughts, but
4 they do allow you to see the level of attention, alertness,
5 and function going on in the brain.

6 Q. Have -- have any of the grants or the types of grants
7 that you've been discussing dealt with you studying the
8 effects of medication in human beings?

9 A. I did not receive those specifically. Some of my
10 colleagues did, and I have served as an investigator or
11 coinvestigator on some of those projects, especially early in
12 my career.

13 I also collaborated with a researcher who had
14 an animal model of stress from noise where she was looking at
15 various kinds of alternative therapies and whether it would
16 help alleviate the physical damage that the stress caused in
17 the animals.

18 Q. How many publications have you authored that are
19 published -- or how many articles have you authored that are
20 published in peer reviewed scientific journals?

21 A. I believe my most recent count of that was around 146
22 articles.

23 Q. Okay. And have you also published book chapters as
24 well?

25 A. Yes, I have, I believe close to 30 of those and a

1 couple of monographs.

2 Q. Have you served -- I think you mentioned you've served
3 as a peer reviewer for journals?

4 A. Oh, yes.

5 Q. And what do you -- what do you do as a peer reviewer?

6 A. It's -- peer review can be either blinded or unblinded
7 in that you may or may not know the author's name, and they
8 may or may not know the name of the reviewers.

9 The editor of the journal selects the
10 reviewers when they receive the paper, the manuscript that's
11 been submitted; and then the reviewers, and it's typically at
12 least two, often three, sometimes five, we each write our
13 systematic evaluation of what the study was -- was about, how
14 well it was implemented, how well it was presented,
15 recommendations for revisions and improvements, and when we
16 give -- you typically give the editor recommendations to
17 whether we believe it should be published or not.

18 Q. And your -- in the course of doing research yourself,
19 you've performed randomized clinical trials; is that correct?

20 A. Yes, I have.

21 Q. And in the course of serving as a peer reviewer, have
22 you peer reviewed other researchers' randomized clinical
23 trials?

24 A. Yes, I have.

25 Q. Can you tell us some of the journals for which you

1 have acted as a peer reviewer, please?

2 A. I'd like to refer, because it's a fairly extensive
3 list, to my curriculum vitae. If I can --

4 Q. If I could maybe turn your attention to page 13. Is
5 that it?

6 A. Yes. I have reviewed for the American Journal of
7 Clinical Nutrition, the American Journal of Medicine, the
8 American Journal of Psychiatry, Health Psychology, several
9 different alternative medicine journals, including the
10 Journal of Alternative and Complementary Medicine, the
11 Journal of the American of Institute of Homeopathy, the
12 Journal -- the Journal of Homeopathy itself.

13 There is a German journal, a respected one in
14 complementary medicine that we refer to as Forschende
15 Komplementärmedizin. I'm sorry, I don't know German, and ^
16 Classich Natricile clinic. I can provide you that specific
17 item.

18 Public Library of Science One, which is a
19 general research journal in the field of medicine and
20 science, Psychological Bulletin, Psychosomatic Medicine,
21 Psychiatry Research and so on.

22 Q. Okay. Thank you.

23 At some point you began researching
24 complementary medicine in homeopathy?

25 A. Yes, I did.

1 Q. What got you interested in that?

2 A. Well, as I mentioned, I was originally studying
3 nutrition, and other things in that field, began in other
4 areas of research, and it's been an evolving process. I've
5 learned about psychophysiology and biofeedback research that
6 I did as -- for an honor's thesis at Harvard as an
7 undergraduate, moved in to nutrition, and began to learn even
8 more about how to apply psychophysiology techniques in the
9 study of sleep disorders and eating.

10 Q. Maybe you can help -- what's psychophysiology?

11 A. It is a subspecialty in the field of health
12 psychology.

13 **THE WITNESS:** Excuse me, I believe my --

14 **THE COURT:** Oh, okay. We're going to take a short
15 break so that Dr. Bell can take care of this beeper that she
16 has.

17 Dr. Bell, perhaps you can step out into the
18 hallway to do that, and I'll just have the jurors here stand
19 and stretch or whatever for the few minutes that she needs to
20 adjust her beeper.

21 **MR. MARGULIES:** Thank you, Your Honor.

22 (Brief pause.)

23 **THE COURT:** All right, we are back in session.

24 BY **MR. MARGULIES:**

25 Q. Okay. Dr. Bell, I think you were in the middle

1 of explaining. I'd asked you what pathophysiology meant.

2 A. Actually, psychophysiology.

3 Q. Psychophysiology, pardon me.

4 A. It is a field of health psychology, behavioral
5 medicine, where researchers tend to use physiologic --
6 objective physiological measures to monitor the functioning
7 of the human body.

8 Q. Can you give us an example? What's an objective
9 physiological measure?

10 A. Well, something like brain waves, sometimes heart rate
11 or heart rate variability, sweating of the palms, muscles
12 tension, things like that.

13 Q. So you were explaining why you first started becoming
14 interested in doing research in alternative medicine and
15 homeopathy before I interrupted you to ask you to explain
16 that term. So if you wouldn't mind continuing with your
17 answer.

18 A. So, basically, what I did was develop certain tools as
19 a researcher that were very focused on measuring physiology
20 as it happened, during the time things were going on with an
21 individual.

22 Then I became interested partly through my
23 research in nutrition and diet in various problems where
24 sensitivity to foods and chemicals might be an issue. That
25 is part of the broad area of environmental health I was

1 describing.

2 And in the course of my work there, I ended
3 up discovering literature, colleagues' and my own work, in
4 which I discovered -- actually, several of us discovered that
5 low levels of environmental chemicals that were not even
6 consciously detectible could change brainwave function when
7 they were sniffed by certain individuals, and that would be
8 different than if you just gave them a placebo to -- to
9 sniff. So those were my techniques at that time.

10 And when I got -- when I -- when I got
11 interested in homeopathy, I was very deeply immersed in what
12 was going on in clinical care and research in the area of
13 this type of person who had food and chemical sensitivities.
14 I knew that many of the allergists who took care of these
15 types of patients use standard allergens in very low doses.

16 They would either -- they would test and
17 treat the patient with a technique in which they would dilute
18 standard antigens or allergens that they received from a
19 manufacturer who made that type of material for allergy
20 shots.

21 But rather than just give a shot in the
22 material, they would give very small amounts in actually
23 progressive dilutions where they would find that they could
24 either provoke symptoms or relieve symptoms with different
25 dilutions. So I was aware of that.

1 And when I was in my first year of medical
2 school at Stanford, having never heard of homeopathy, I was
3 invited to attend a lecture by a graduate of Stanford Medical
4 School who had, himself, made a journey professionally trying
5 to find additional and better ways of treating his patients.
6 He had discovered homeopathy, had started some training in
7 Greece where there was a leading worldwide expert in the
8 field, and he happened to be coming to Stanford to give a
9 talk on this.

10 As I heard that talk, I realized that while
11 it was not at all identical, that there was some overlap in
12 the testing procedure that I was familiar with that I had
13 seen affect patients in allergists' offices and the way
14 homeopathy was described to me.

15 So at that point I became very interested and
16 began to study it because it sounded like a more powerful way
17 to use that basic approach of lordosis to actually help
18 people.

19 Q. Let me talk about the tool you were talking about.
20 You said you were using EEGs to measure exposure to low
21 levels of chemicals; is that right?

22 A. Yes.

23 Q. Were you actually doing clinical trials of this using
24 this method?

25 A. Yes, I was. In one sense, yes.

1 Q. Can you describe how you would -- how you would go
2 about testing exposure to a low level of a chemical and using
3 EEG to measure it? What did you actually do?

4 A. Well, as an example, in the study that we had funded
5 by the Veteran's Affairs Department, we had veterans who
6 reported having become ill during Gulf War I, people who said
7 they had been in the same service but not. So you pick the
8 patient by: Yes, I'm ill. Yes, you know, I want a
9 standardized validated questionnaire. Yes, I have chemical
10 sensitivity or not.

11 So there were people who were sick, there
12 were -- half of them were people who had reported illness
13 from -- acquired reported illness from chemicals, some not.
14 We would connect them to a piece of equipment that could
15 measure brainwaves, along with other things, including their
16 attention function and -- and other heart rate variability,
17 and monitored that when we asked them to sniff very, very low
18 doses of diesel fuel. In that -- in that particular scenario
19 it was jet fuel, because it was a very common agent that the
20 military used and that the military members were exposed to.

21 We gave it in such low dose that when we
22 asked them to guess what was in there versus the bags of
23 material where it wasn't actual diesel fuel present, they
24 were not able to reliably identify which was which. So, we
25 had a placebo, and we had a verum. We did this kind of

1 procedures in civilians, and we did it with Gulf War
2 veterans, and we observed what happened with the brainwaves
3 when they were sniffing these materials.

4 Q. Did -- did -- did your study show a difference between
5 the folks who sniffed the chemical and those who sniffed the
6 placebo?

7 A. They did. It depended partly on who received it. So
8 if someone had identified as chemically sensitive, they were
9 much more likely to show certain patterns of responses in the
10 brainwaves.

11 Q. When did you undertake this research?

12 A. Over a period of a number of years. I'd have to refer
13 to my CV to tell you exactly.

14 Q. If you can even give us an approximate date, that
15 would be fine.

16 A. Probably in the 2000s.

17 Q. Was there anything in your personal life that caused
18 you to look to homeopathy as a potential research interest?

19 A. Yes, I -- as I said, I was aware of homeopathy, and
20 in -- I believe it was 1995, I developed type 1 diabetes,
21 juvenile diabetes as an adult, and was very shocked and
22 surprised by that and when -- in a personal exploration of
23 options I had within the alternative community as well as
24 trying to find the best possible care from conventional
25 medicine.

1 And at that time I revisited homeopathy and
2 began a course of treatment. I have continued that kind of
3 treatment through the present day.

4 Q. When did you first start doing research as a
5 researcher in the area of homeopathy?

6 A. It was probably in the late 1990s, early 2000s.

7 Q. And at the time you started this research, did you
8 reach a conclusion about whether the principles of
9 homeopathy, as you understood them, were consistent or
10 inconsistent with basic scientific principles?

11 A. Well, I understood what the controversy was in the
12 field. I reached an understanding that the medicines were
13 very dilute, but they were also prepared in a very unique
14 manner.

15 And I was especially interested at that point
16 since I had personal experience and had seen other people
17 experience changes after taking remedies of homeopathic
18 medicines. I was very curious about whether I could find
19 objective ways of discovering that -- or documenting changes
20 that we would be able to show compared with placebo.

21 And during that time, I -- well, I then
22 proceeded into getting research grants from NIH to actually
23 pursue that kind of direction.

24 Q. You said you understood the controversy, what the
25 controversy was in the field. Can you explain what you meant

1 by that?

2 A. The controversy was around dose with the assumptions
3 that because of the reported serial dilution of the original
4 materials, the amount of the source material would
5 progressively decrease over the course of each serial
6 dilution step.

7 And I was very interested in, at that point,
8 the human body, partly because of my physiology work, in its
9 organization as a complex system where basically everything
10 is connected to everything else. And if something changes in
11 one part, things will change to adjust to those changes in
12 other parts of the body.

13 Q. Did you -- have you -- have you conducted any clinical
14 research, clinical trial research on homeopathy?

15 A. Yes.

16 Q. Can you describe how many -- why don't you describe
17 what --

18 What research have you conducted on
19 homeopathy medications?

20 A. I -- I've been funded to do several different
21 psychophysiology studies mainly relying on brainwaves. We
22 also had other funding to interview patients who had been
23 very successful in their treatment of a chronic disease.
24 That was a different type of methodology.

25 In my more clinical placebo controlled

1 studies, I studied patients who had the condition of
2 fibromyalgia, which is a chronic pain condition. It's very
3 debilitating for people who suffer from it. And at the time
4 I started that work, there were no conventional medications
5 available.

6 Q. Let's talk about that particular research. Was that
7 done on a grant, the fibromyalgia research?

8 A. Yes, it was. I competed for and received a research
9 grant from the National Institutes of Health.

10 Q. Was there a particular part of the NIH that this grant
11 came from?

12 A. At that time it would have been called the National
13 Center For Complementary and Alternative Medicine.

14 Q. Does it have a different name now?

15 A. Yes, it does.

16 Q. Do you know what that name is now?

17 A. I think it's the National Center for Complementary and
18 Integrated Medicine.

19 Q. Okay. And can you describe what -- what it was you
20 studied in patients with fibromyalgia? What -- what -- what
21 was your research method?

22 A. There were multiple aspects to it. We did a formal
23 clinical trial with individualized homeopathy. We had two
24 homeopaths interview each of the people after they had been
25 screened for inclusion and exclusion criteria. And those

1 homeopaths would see the patient, come to a joint agreement
2 as to what the homeopathic medicine would be that they would
3 prescribe in regular practice.

4 And at that point they would fax that
5 information to the homeopathic pharmacy who would make a
6 custom homeopathic medicine or package up a placebo that was
7 indistinguishable and ship it directly to the patient.

8 So the patient would receive a number of
9 bottles for their subject number, and the homeopath would
10 know what they meant to give the patient, but they did not
11 know if they were receiving placebo or the actual medicine,
12 which would be called a verum.

13 Q. So -- so this was --

14 Were the patients randomized?

15 A. Yes, it was randomized, it was double blind, and
16 placebo controlled. There was a placebo group.

17 Now, that was the core part of the clinical
18 trial itself, and we had several different outcome measures.

19 One --

20 The primary one was an actual physical
21 examination by a physician who was a rheumatologist
22 specializing in examination of patients with joint and muscle
23 problems, and that individual would do a standardized
24 physical examination, pushing on certain identified points on
25 the body and rating the pain response of the individual when

1 they did so.

2 So it's a standard clinical evaluation in
3 someone whose suspected of having a diagnosis in conventional
4 medicine of fibromyalgia. And that individual had no contact
5 with the rest of the study.

6 We also had the patients who were enrolled in
7 the study fill out questionnaires that were validated on
8 their pain, rating their pain experience and their mood, and
9 some of those other types of outcomes.

10 Excuse me.

11 **THE WITNESS:** This one won't continue to beep,
12 Your Honor.

13 **MR. MARGULIES:** Everything okay?

14 **THE WITNESS:** Yes.

15 And they -- they filled out those particular
16 questionnaires in addition to that physical exam.

17 During the course of the study, at baseline,
18 before they had started to take the medicine orally, we had
19 one laboratory session at the University of Arizona where
20 they were hooked up for a brainwave measurement, and we had
21 them sniff bottles that were prepared, again, randomized,
22 double blind, the staff doing this study, actually collecting
23 the data, did not know what was in those bottles. They were
24 both placebo bottles and the treatment medicine. So the
25 placebo group was getting placebo on placebo in a randomized

1 order.

2 The treatment group that was receiving the
3 real medicine, the verum, that group was getting the verum,
4 their own natural dose of medicine at the time, and placebo.
5 Those are all randomized bottles, quite a few of them. We
6 averaged a response of the brainwaves. So we had a
7 comparison, really, controlling for just sniffing something
8 because that might change brainwaves by itself. So every
9 patient had that experience with a placebo exposure.

10 And then we had the two groups, the people
11 getting the real medicine, so to speak, and the verum -- I'm
12 sorry, and the placebo; and we compared their brainwave
13 responses in the laboratory session. We did data baseline.
14 That was the very first time they'd ever actually been
15 treated in any manner with that particular medicine, and it
16 was an individually chosen homeopathic medicine.

17 And then we repeated that same procedure with
18 them at the three-month point and the six-month point in the
19 study.

20 BY MR. MARGULIES:

21 Q. And what did you find when you repeated the
22 procedures?

23 A. We found that not only was there the sort of very
24 short-term overing response of the brain as shown by the
25 brainwaves when they actually made a sniff. But when we

1 averaged what was going on with the frequency of the
2 brainwaves, if you will, there is a certain frequency of
3 brainwaves called alpha waves that are sometimes associated
4 in the popular media with meditation and so on, and in which
5 a slowing of thinking in brain, just a relaxation. It often
6 precedes going into a sleep state, although it's not part
7 directly in the sleep state necessarily.

8 And we found that the magnitude of that alpha
9 wave response increased over time in the people receiving the
10 verum, but it decreased in the people receiving the placebo.

11 Q. What conclusions did you draw --

12 Well, before I ask you that, was this method
13 that you used comparing brainwaves generally accepted as a
14 method for studying exposure -- or was it generally accepted
15 as a method, I'm sorry, for measuring psychophysiological
16 activity?

17 A. Yes. At that particular point in time there had been
18 several investigators who had done that type of work.

19 Q. And what -- what ultimately did you conclude based on
20 the observations in the EEG portion of the study?

21 A. Well, we have found what would be called a
22 sensitization response, and that's just a big term for
23 amplification. So the dose was actually decreasing over the
24 course of treatment. By the time they got to the three-month
25 point and for the people that ended up staying with the verum

1 treatment for six months, they were on an increasingly more
2 dilute form of the homeopathic medicine, but it had been
3 succussed many, many times. And by succession, I mean
4 agitation. The patients actually did that themselves at home
5 every day when they took the medicine.

6 And over the course of time, those -- those
7 kinds of changes were documented.

8 And -- I'm sorry, what was --

9 Q. Was there a -- was there a statistically significant
10 difference between the folks who were getting the homeopathic
11 medication and the folks who were getting the placebo?

12 A. Yes. Both in the clinical examination by the
13 rheumatologist with the ratings that doctor provided, in some
14 of the subjective ratings on pain, and in particular, the
15 brainwaves did change over time.

16 And as I said, the verum group increased in
17 their EEG response at the time they were in the lab, and the
18 placebo group decreased in that response.

19 Q. Did you at some point change who was getting exposed
20 to what the drug or versus the placebo?

21 A. Yes.

22 Q. What happened there?

23 A. We did a procedure that was recommended by some of the
24 skeptics of complementary medicine, actually, where they
25 wanted to see if people could vote with their feet and

1 evaluate for themselves how they felt they were doing in the
2 treatment. They could decide to either stay with what they
3 have been blindly randomized to or they can switch.

4 And so a certain subset of people in the
5 verum group and a certain subset of people in the placebo
6 group made the decision to switch to the opposite assignment.

7 Q. And what happened with their EEGs after they did that?

8 A. Their EEGs turned around and basically started to
9 follow what the original placebo or verum group had been
10 doing. So if they went to the placebo, the magnitude of
11 their response went further down. If they stayed on the
12 placebo, it continued down.

13 If they were on the verum and made the
14 switch, it went down. If they had been on the placebo and
15 switched to the verum, the actual medicine, it started to go
16 up.

17 Q. You've used the word "verum" a few times.

18 A. Yes.

19 Q. You mean the medicine, is that --

20 A. The actual medicine, yes.

21 Q. That's a technical term you use?

22 A. That's a technical term for the -- the true medicine.

23 Q. Showing you Exhibit 1033, page 19. I've circled
24 reference 87, is that reference -- a reference to a
25 publication that arose from this particular study that you're

1 describing today?

2 A. Yes.

3 Q. All right. And what -- which -- which publication was
4 that, if you could?

5 A. That was the primary clinical outcome reports peer
6 reviewed in the Journal Rheumatology which we published
7 describing the -- the clinical outcomes of the patient.

8 Q. This is where the rheumatologist was actually
9 observing the patient?

10 A. Yes, actually observing, evaluating clinically what
11 was going on.

12 Q. Thank you. And then showing you on page 20, and I've
13 circled reference 90, does this reference also pertain to
14 this research that you were doing?

15 A. Yes, it does.

16 Q. And which publication is this?

17 A. This is a paper we published in the peer review
18 journal, International Journal of Neuroscience, and it
19 describes the findings that I just outlined for you with
20 brainwave or EEG, alpha sensitization or amplification that
21 occurred over time in the people with the fibromyalgia
22 problem.

23 Q. Did you report back to the National Center For
24 Complementary and Alternative Medicine the results of
25 these -- of this placebo controlled trial?

1 A. Yes.

2 Q. And was that because you had a grant from them and you
3 had to?

4 A. Yes.

5 Q. Okay. Have you done any further studies of EEGs and
6 homeopathic medications?

7 A. Yes, I have.

8 Q. Okay. Can you describe the next one you did for us?

9 A. There were two that ended up being done and funded
10 with some degree of overlap. The one that I applied for to
11 follow up on the finding with fibromyalgia patients was a
12 study where I proposed to screen people using a validated
13 questionnaire for what would be called homeopathic
14 constitutional type.

15 Q. Let's stop before you get too far with that. What do
16 you mean by a "validated questionnaire"?

17 A. It is a questionnaire that has been previously tested
18 before you use it in the course of any kind of research
19 project. It's tested to determine if it actually measures
20 what it hopes to measure.

21 Q. Okay. And what's a -- was it homeopathic
22 constitutional type? Did I get that right?

23 A. Yes.

24 Q. Okay. What is a homeopathic constitutional type?

25 A. In the field of homeopathy there is a belief that --

1 particularly from a chronic point of view, that we, as very
2 unique individuals, will have a certain pattern of mental,
3 emotional and physical symptomatology and factors that
4 contribute to our condition.

5 And in homeopathy the attempt of a
6 homeopathic practice is to do a specialized kind of
7 interview, they call case taking, where they will evaluate
8 that type of information and attempt to find the pattern that
9 that patient expresses so that they can then match it to the
10 pattern of information that is documented in the materia
11 medica describing homeopathic medicines individually.

12 Q. Okay. So you have a validated questionnaire on
13 homeopathic constitutional types?

14 A. Yes.

15 Q. What did you do with that?

16 A. We screened a very large number, mainly of college
17 students, and identified people who had scored high on two
18 particular types of constitutional types, knowing that these
19 were not sick individuals, they were healthy young adults,
20 basically. I think their average age was 19. But we
21 screened them in that way and brought in people who either
22 fit the criteria and didn't have high scores for the other
23 remedies, fit the criteria for pulsatilla, which is a
24 homeopathic medicine, or I believe sulfur in that study,
25 another very common homeopathic medicine, and we brought

1 those individuals into the laboratory and under double blind
2 placebo controlled conditions exposed them to the sniffs of
3 the remedy and placebo.

4 Q. Explain to me how it worked. So you -- you had a
5 group of -- of study subjects?

6 A. Yes.

7 Q. And some of them would be assigned to sniff a remedy,
8 and some of them would be assigned to sniff nothing; is that
9 right?

10 A. Essentially, yes.

11 Q. All right. And you were -- what were you measuring
12 again?

13 A. We were measuring the brainwave response.

14 Q. Okay. And what were the results of that particular
15 study?

16 A. In that study we, again, found evidence that the --
17 not only that the remedy effects were different more from the
18 placebo, but that the -- the -- there was an influence from
19 session to session. So we had, I believe, three weekly
20 sessions that the people were evaluated in. And depending in
21 part on which homeopathic potency, which is the way
22 homeopathic medicines are dosed, they -- if they had had a
23 prior exposure that might influence the size of the response
24 that gave us in the brainwaves the next time they countered
25 it. If they hadn't had that type of exposure, it would look

1 a little bit different.

2 Q. Was there a statistically significant difference in
3 the EEG response of the folks who were exposed to the remedy
4 and the folks who were not exposed to the remedy?

5 A. Essentially, yes.

6 Q. And was this study also published?

7 A. Yes, it was.

8 Q. And I'm going to show you page 22 of Exhibit 1033,
9 reference 121. Is that the publication of this study?

10 A. Yes, that is one of those papers that was published in
11 that -- on that topic.

12 Q. And that was published in which journal?

13 A. The Journal of Homeopathy.

14 Q. What is the Journal of Homeopathy?

15 A. It is, to my understanding, the official publication
16 of the faculty of homeopathy in the United Kingdom.

17 Q. Is it a peer reviewed journal?

18 A. Oh, yes, it's a peer reviewed journal.

19 Q. Have you done any further studies on exposure to
20 homeopathic ingredients, further clinical -- randomized
21 clinical trials?

22 A. I was also very interested in the effects of certain
23 homeopathic remedies on sleep or medicines on sleep and
24 applied for and eventually received a grant from the National
25 Institutes of Health to look at that type of phenomenon.

1 So we, again, in this study were screening
2 individuals for their constitutional type or at least the
3 tendency to have more symptoms that might suggest to us that
4 a particular homeopathic medicine might help them, because in
5 this study they weren't being evaluated by a professional
6 homeopath.

7 We screen people for general health, and
8 we -- actually, after they met our inclusion and exclusion
9 criteria, they actually slept at home over a period of
10 several weeks.

11 We had baseline sleep recordings so they
12 could get adjusted to sleeping with all the equipment
13 attached to them, which is a standard procedure in sleep
14 research, and then we also had a placebo session where we
15 recorded what their sleep pattern looked like after they had
16 acclimated to the procedures. We then --

17 Q. I'm sorry. What exactly are you recording when these
18 people are hooked up and trying to sleep?

19 A. Their actual brainwaves and the muscle tone in their
20 jaw, among other things, and the muscles tone and activity
21 near the eyes. During sleep, there's a stage of sleep called
22 REM sleep, or rapid eye movement sleep, and we're able to
23 objectively detect when that occurs and quantify it as we can
24 on their sleep stages by the brainwave patterns that you see.

25 Q. And were the subjects in this study randomly assigned

1 to a treatment group and a placebo group?

2 A. They were -- everyone had a placebo. They were
3 randomly assigned to receive one of two homeopathic medicines
4 that are reported in the homeopathic materia medica to be
5 associated with a history of insomnia from caffeine, or from
6 coffee, if you will.

7 And so we chose one medicine to be Coffea
8 Cruda, which is homeopathically prepared coffee, and the
9 other medicine, I believe, was Nux Vomica, which is a plant
10 based common medicine used in homeopathy.

11 Q. So was the placebo actually their own sleep pattern --

12 A. Yeah, they -- they -- they had received placebo
13 pellets during the time they had the sleep recording on
14 placebo. Yes.

15 Q. Okay. So to just make sure I understand, you enrolled
16 the patients, they were given pellets that were really
17 placebos?

18 A. Yes.

19 Q. You measured their response?

20 A. In sleep, during sleep.

21 Q. During sleep. And then you started giving them the
22 real thing and continued to measure their -- their sleep?

23 A. Yes. We actually repeated their baseline in case it
24 had been changed by the experience of being in the study. So
25 we repeated two different baseline periods. One preceded

1 placebo, the other preceded the random assignment to one of
2 the two medicines.

3 Q. And what were the results of this particular study?

4 A. Again, this was a single dose of a particular
5 homeopathic potency. In that study we observed that the --
6 the individuals who received the different individual verum
7 medicines actually slept more. They're particularly in their
8 what's called slow rate sleep, their nonrapid eye movement
9 sleep, but they actually slept more.

10 Q. Was there a statistically significant difference
11 between the placebo findings and the -- the homeopathic
12 exposure findings?

13 A. Yes.

14 Q. Was this study published in the scientific literature?

15 A. Yes, it was.

16 Q. And, again, showing you page 22 of Exhibit 133, is
17 reference 119 the publication of this particular study?

18 A. Yes. That was published in the Journal Sleep Medicine
19 in 2011.

20 Q. What's the Journal Sleep Medicine?

21 A. It's a highly respected peer reviewed journal for
22 researchers working in the area of sleep.

23 Q. And I think you mentioned this was an NIH grant as
24 well?

25 A. Yes, it was.

1 Q. Have you gotten any more recent grants from the NIH to
2 study homeopathic medications?

3 A. I don't believe I have.

4 Q. Have they talked to you about the issue of applying
5 for more grants for doing these types of placebo controlled
6 trials?

7 A. Yes.

8 Q. And what have they told you?

9 A. They told me that because of the nature of the
10 homeopathic debate in the field, they were not willing to
11 consider -- even if you went through peer review, in their
12 priorities, they were not willing to fund another study that
13 was clinically oriented.

14 Q. Did they tell you that they needed anything before
15 they consider that?

16 A. Yes. They said they wanted me to be able to provide
17 information about the mechanism of homeopathy.

18 Q. And have you taken them up on that challenge?

19 A. Yes, I have.

20 Q. Okay. Why don't you talk about where you turned your
21 research to in the last couple of years regarding homeopathy?

22 A. Over several different iterations I read the
23 literature on what was known about homeopathic medicines
24 outside of the clinical literature in addition to what I was
25 monitoring in the clinical literature. And we -- I

1 collaborated at first with a material scientist, a very
2 respected senior professor at Pennsylvania State University,
3 looking at -- trying to determine what types of a certain
4 physical chemistry measuring might be able to determine what
5 was a verum, or a real so-called homeopathic medicine, versus
6 a placebo.

7 And then I was again observing the literature
8 where there were quite a few other findings that still
9 required explanation.

10 Q. But why were you interested in looking at a way to
11 determine from observation what was a medication versus a
12 placebo?

13 A. Well, that's a very fundamental aspect that NIH
14 wanted. They had certainly moved in that direction for
15 research on herbs. They wanted the investigator to be able
16 to do tests to demonstrate that when they said they were
17 giving a verum, they were really giving a verum. And they --
18 they had the same -- excuse me, the same approach that they
19 wanted to apply in homeopathy.

20 Q. Did your collaboration with the material science
21 expert result in any studies being done?

22 A. Yes, it did.

23 Q. And are those reflected in your -- in your CV?

24 A. Yes, they are.

25 Q. What were the results of that particular

1 collaboration?

2 A. We discovered that there were certain types of
3 spectroscopy which included something called Raman
4 Spectroscopy and something else. I believe, I think it was
5 ultraviolet visible spectroscopy. And these are techniques
6 that -- that he was the expert in, but they're different ways
7 of reflecting light off materials that are in a sample and
8 then quantifying what that tells you.

9 Q. So when you use the word --

10 Did you just define the word you were using
11 which was "spectroscopy"?

12 A. Yes, I did.

13 Q. Okay. So you're using the light bouncing off or
14 through a sample and trying to figure out what's inside of
15 that?

16 A. Yes. What's absorbed, what's reflected, and so on.

17 Q. Is that -- is that something that you -- that you're
18 not an expert in, that you -- you -- you relied on him to
19 take to determine that that was appropriate?

20 A. Right.

21 Q. Okay.

22 A. And in the course of that work, which was all done in
23 his laboratory, my role was basically to identify a
24 homeopathic pharmacy to send the test materials to his
25 laboratory at Penn State, and -- I'm sorry.

1 Q. That's okay. What -- what --

2 Where did you turn to next after doing that
3 particular collaboration?

4 A. During that collaboration, he said to me that he was
5 very interested in the aspect of succussions, and actually,
6 we published a separate paper describing, at that time, our
7 understanding of the literature and the possibility that the
8 succussion process was so strong that it would actually
9 produce something called nanobubbles, and that those might be
10 playing a role in the formation of the homeopathic medicine.

11 Q. What would be --

12 Can you describe what a nanobubble would be
13 in a succussion process?

14 A. Well, as -- as anyone would know, if you shake a
15 bottle of any liquid, you would get bubbles of different
16 sizes. Nanobubbles are very, very, very small. They are in
17 the same range as actual particles, and they might measure
18 anywhere from one to perhaps a hundred or more nanometers,
19 which is a particular measurement of very small materials.

20 Q. I think we heard yesterday it's a billionth of a
21 meter; is that right?

22 A. Yes, it's a billionth.

23 Q. Smaller than a human cell?

24 A. Oh, yes, much smaller.

25 Q. And did that nanobubble theory lead anywhere?

1 A. It did both in our laboratory and in other
2 laboratories more recently in homeopathic research. It turns
3 out, according to the experts in that topic, including the
4 material scientists I was working with, that when nanobubbles
5 pop, they actually cause very strong pressure, atmospheric
6 pressure kinds of increases and temperature increases locally
7 around themselves. So it's very small, but it is -- it
8 causes a natural physical change in the solution.

9 Q. Did you -- at some point did you begin to think that
10 nanoparticles as opposed to nanobubbles might play a role in
11 how homeopathic medicines work?

12 A. Well, that's when I knew the word "nano." And I was
13 again following the literature. And in the Journal of
14 Homeopathy in the year 2010, there was a paper published by
15 investigators at the Indian Institute of Technology
16 stating -- studying six different homeopathic medicines using
17 electromicroscopy and other techniques of that type where
18 they actually showed that there were nanoparticles of the
19 source material in the verum medicines.

20 Q. Do you recall how diluted the medicines were that they
21 were looking at?

22 A. The potencies that they studied were 6C, 30C, and
23 200C. It would be extremely diluted at the 200C.

24 Q. And at -- at the dilutions above 6C, as a scientist,
25 do you expect to find any particles present at all?

1 A. You do not expect to see bulk materials, the large
2 forms of the source material there at that point.

3 Q. What did you take away from reading this new research
4 that was showing the presence of nanoparticles in very
5 diluted homeopathically prepared materials?

6 A. Well, again, I was familiar with literature on other
7 topics in homeopathy research that I felt needed some
8 explanation and understanding. And one of the primary
9 sources of the debate in the field was there's nothing there
10 if you keep diluting it enough.

11 At that point there is something there.
12 Based on that original study, there were nanoparticles of
13 source material present even at those high potencies. So I
14 was very surprised and wanted to learn more about that.

15 **MR. MARGULIES:** This is probably a good time for a
16 break if that works.

17 **THE COURT:** All right. We'll take our lunch break
18 at this time, and we will return at 1:15.

19 We are in recess.

20 (Noon recess taken.)
21
22
23
24
25

/	1984 [3] - 19:12, 24:2, 24:21	8	16:24, 23:10 adult [1] - 39:21	Anne [1] - 63:11 ANNE [1] - 1:22
/S/Anne [1] - 63:10	1990 [4] - 23:22, 23:23, 24:19, 24:22	87 [1] - 48:24 894-2969 [1] - 1:24	adults [1] - 51:19 advanced [1] - 25:20	anne.kielwasser@gmail.com [1] - 1:25
0	1990s [2] - 20:20, 40:6	9	advantage [1] - 29:18 adverse [2] - 5:22, 26:11	answer [1] - 35:17 anticipate [3] - 15:17, 16:23, 17:1
09/10/2015 [1] - 63:10	1995 [1] - 39:20 1:15 [1] - 62:18	9 [1] - 10:15 90 [1] - 49:13 90012 [1] - 1:24 90071 [1] - 2:18 92101 [1] - 2:6 92103 [1] - 2:11 9:00 [1] - 4:1	Affairs [3] - 27:12, 30:10, 38:5 affect [1] - 37:13 affiliated [3] - 25:17, 25:19, 27:12 affirm [1] - 17:17 affirmatively [2] - 6:8, 6:23	anticipated [1] - 5:1 antigens [1] - 36:18 apologize [1] - 17:4 appearances [1] - 4:10
1	2	A	afford [1] - 9:11 age [1] - 51:20 agencies [1] - 22:16 agency [2] - 28:2, 28:21 agent [1] - 38:19 agitation [1] - 47:4 agreed [1] - 16:18 agreement [1] - 43:1 ahead [2] - 16:3, 16:11 aKtranscripts.com [1] - 1:25 al [4] - 1:8, 1:12, 4:9 alertness [1] - 31:4 Allen [2] - 4:9, 25:8 ALLEN [1] - 1:8 allergens [2] - 36:15, 36:18 allergists [1] - 36:14 allergists' [1] - 37:13 allergy [1] - 36:19 alleviate [1] - 31:16 allow [5] - 13:7, 15:16, 16:15, 31:3, 31:4 allowed [1] - 13:24 alpha [3] - 46:3, 46:8, 49:20 Alternative [3] - 33:10, 42:13, 49:24 alternative [5] - 30:14, 31:15, 33:9, 35:14, 39:23 American [4] - 33:6, 33:7, 33:8, 33:11 amount [2] - 5:23, 41:4 amounts [1] - 36:22 amplification [2] - 46:23, 49:20 analyze [1] - 28:6 Angeles [3] - 1:17, 1:24, 2:18 animal [1] - 31:14 animals [1] - 31:17	applied [3] - 19:5, 50:10, 53:24 apply [3] - 28:9, 34:8, 58:19 applying [1] - 57:4 appointment [1] - 25:4 appointments [4] - 22:11, 22:12, 24:24 approach [2] - 37:17, 58:18 approached [1] - 26:24 appropriate [3] - 5:18, 15:14, 59:19 approved [3] - 28:17, 28:18, 28:19 approximate [1] - 39:14 area [11] - 18:11, 23:21, 24:1, 24:7, 29:20, 29:24, 30:14, 35:25, 36:12, 40:5, 56:22 Area [2] - 20:18, 23:17 areas [1] - 34:4 argue [5] - 8:24, 9:4, 9:7, 9:14, 13:8 Arizona [12] - 18:8, 19:16, 20:23, 21:3, 24:17, 25:5, 25:13, 25:18, 25:24, 30:1, 30:6, 44:19 arnica [1] - 14:3 Arnica [2] - 14:4, 14:5 arose [1] - 48:25 Arroyo [1] - 2:11 articles [3] - 22:18, 31:19, 31:22 articulated [1] - 14:8 aside [1] - 9:12 aspect [3] - 8:2, 58:13, 60:5 aspects [1] - 42:22 assigned [4] - 52:7, 52:8, 54:25, 55:3 assignment [2] - 48:6, 56:1
1 [1] - 39:20 10 [3] - 1:18, 3:8, 4:1 1033 [6] - 3:9, 22:1, 23:9, 23:11, 48:23, 53:8 10:45 [1] - 14:23 11 [2] - 3:4, 10:17 119 [1] - 56:17 11:00 [1] - 15:11 12-1150DMG [2] - 1:10, 4:8 121 [1] - 53:9 13 [3] - 3:2, 3:5, 33:4 1308 [4] - 3:2, 11:15, 13:11, 13:15 1309 [4] - 3:2, 11:15, 13:11, 13:15 1310 [4] - 3:2, 11:15, 13:11, 13:15 1311 [4] - 3:2, 11:15, 13:13, 13:15 1312 [4] - 3:9, 13:12, 13:24, 14:12 1313 [4] - 3:2, 11:16, 13:13, 13:15 133 [1] - 56:16 14 [1] - 3:9 146 [1] - 31:21 157 [1] - 10:19 158 [1] - 10:21 1700 [1] - 2:6 172 [3] - 3:8, 10:12, 10:24 176 [3] - 3:8, 10:14, 10:24 179 [3] - 3:8, 10:16, 10:24 18 [2] - 3:5, 3:6 181 [3] - 3:8, 10:18, 10:24 19 [4] - 23:24, 25:22, 48:23, 51:20 190 [3] - 3:8, 10:20, 10:24 191 [3] - 3:8, 10:22, 10:24 1970s [1] - 20:18 1972 [1] - 18:23 1977 [1] - 18:24 1980 [1] - 19:6	2 [2] - 4:8, 10:11 20 [2] - 15:18, 49:12 2000s [2] - 39:16, 40:6 2006 [2] - 9:8, 26:20 200C [2] - 61:23 2010 [4] - 5:25, 6:1, 25:23, 61:14 2011 [1] - 56:19 2012 [2] - 12:12, 12:14 2015 [2] - 1:18, 4:1 213 [1] - 1:24 213-892-9200 [1] - 2:18 213-892-9494 [1] - 2:19 22 [2] - 53:8, 56:16 23 [1] - 3:9 25 [1] - 28:12	A.M [1] - 4:1 able [7] - 11:15, 38:24, 40:20, 54:22, 57:16, 58:4, 58:15 absorbed [1] - 59:16 abstract [1] - 23:3 abstracts [1] - 23:2 academic [4] - 22:11, 24:21, 25:4, 25:18 academically [1] - 27:12 accepted [4] - 23:4, 23:5, 46:13, 46:14 acclimated [1] - 54:16 accord [1] - 7:2 according [1] - 61:3 accounting [1] - 28:23 acquired [1] - 38:13 acted [1] - 33:1 active [1] - 19:16 activity [2] - 46:16, 54:20 actual [8] - 28:21, 38:23, 43:11, 43:20, 48:15, 48:20, 54:19, 60:17 added [2] - 13:3, 13:4 addition [2] - 44:16, 57:24 additional [3] - 7:11, 7:21, 37:5 additionally [1] - 24:4 adjunct [1] - 24:24 adjust [2] - 34:20, 41:11 adjusted [1] - 54:12 administered [1] - 28:22 admit [2] - 10:4, 14:8 admitted [12] - 10:8, 10:11, 10:13, 10:15, 10:17, 10:19, 10:21, 10:23, 13:8, 13:9,		
	3			
	30 [1] - 31:25 30C [1] - 61:22 312 [1] - 1:23			
	4			
	401 [1] - 5:11 403 [3] - 5:11, 8:11, 8:14 41st [1] - 2:17 432 [1] - 1:23			
	5			
	555 [1] - 2:17			
	6			
	6 [1] - 10:13 619-237-3490 [1] - 2:7 619-237-3496 [1] - 2:7 619-564-6665 [1] - 2:12 619-696-9006 [1] - 2:12 651 [1] - 2:11 655 [1] - 2:6 6C [2] - 61:22, 61:24			

assignments [1] - 22:12 assistant [2] - 21:20, 25:5 associated [2] - 46:3, 55:5 assumptions [1] - 41:2 atmospheric [1] - 61:5 attached [2] - 6:25, 54:13 attempt [3] - 28:14, 51:5, 51:8 attend [1] - 37:3 attended [2] - 18:12, 26:22 attention [3] - 31:4, 33:4, 38:16 Attorneys [1] - 2:5 author's [1] - 32:7 authored [2] - 31:18, 31:19 available [2] - 14:19, 42:5 average [1] - 51:20 averaged [2] - 45:6, 46:1 aware [2] - 36:25, 39:19	27:7, 61:9 begun [1] - 6:9 BEHALF [2] - 2:3, 2:15 behalf [3] - 4:15, 4:17, 4:21 behavioral [1] - 35:4 beings [1] - 31:8 belief [1] - 50:25 believes [1] - 5:17 Bell [12] - 6:8, 7:11, 15:8, 15:9, 16:15, 17:2, 17:16, 17:25, 18:5, 34:15, 34:17, 34:25 BELL [2] - 3:5, 18:2 bell [5] - 5:1, 5:6, 6:14, 7:11, 16:9 belladonna [1] - 5:21 belladonna [2] - 5:20, 5:23 Berkley [1] - 23:19 best [1] - 39:24 better [3] - 9:9, 16:11, 37:5 between [6] - 19:10, 19:25, 24:21, 39:4, 47:10, 56:11 big [1] - 46:22 billionth [2] - 60:20, 60:22 binder [1] - 21:25 biobehavioral [2] - 18:17, 19:2 biofeedback [1] - 34:5 bit [8] - 18:9, 21:7, 21:14, 26:4, 27:1, 27:16, 29:9, 53:1 black [1] - 21:25 blind [3] - 43:15, 44:22, 52:1 blinded [1] - 32:6 blindly [1] - 48:3 blood [1] - 15:25 board [2] - 20:8, 20:10 body [5] - 20:12, 35:7, 41:8, 41:12, 43:25 book [2] - 22:20, 31:23 books [1] - 22:21 Borneman [4] - 2:21, 7:8, 9:3, 26:24 BORNEMAN [1] - 6:2 Boston [5] - 18:11, 23:25, 24:7, 24:14, 24:15 bottle [1] - 60:15 bottles [5] - 43:9, 44:21, 44:23, 44:24, 45:5 bought [1] - 12:25	bouncing [1] - 59:13 boy [1] - 18:1 brain [7] - 18:14, 31:1, 31:2, 31:5, 35:10, 45:24, 46:5 brainwave [6] - 36:6, 44:20, 45:12, 49:20, 52:13, 54:24 brainwaves [13] - 38:15, 39:2, 39:10, 41:21, 45:6, 45:8, 45:25, 46:2, 46:3, 46:13, 47:15, 52:24, 54:19 break [4] - 14:23, 34:15, 62:16, 62:17 Brief [2] - 17:11, 34:22 briefly [1] - 17:10 broad [1] - 35:25 Broadway [1] - 2:6 brought [2] - 51:21, 51:25 bubbles [1] - 60:15 bulk [1] - 62:1 Bulletin [1] - 33:20 butt [1] - 17:3 BY [5] - 3:6, 18:4, 23:13, 34:24, 45:20	48:5, 51:2, 53:22, 58:3, 59:2 certainly [2] - 8:11, 58:14 certificate [1] - 20:24 certified [4] - 20:5, 20:8, 20:10, 24:4 certify [1] - 63:2 certifying [1] - 20:12 cetera [1] - 4:9 chairman [1] - 25:8 challenge [1] - 57:18 change [6] - 36:6, 41:11, 45:8, 47:15, 47:19, 61:8 changed [1] - 55:24 changes [5] - 40:17, 40:19, 41:10, 41:11, 47:7 chapters [2] - 22:21, 31:23 charged [1] - 63:5 chemical [4] - 36:13, 38:2, 38:9, 39:5 chemically [1] - 39:8 chemicals [4] - 35:24, 36:5, 37:21, 38:13 chemistry [1] - 58:4 children [2] - 5:22, 6:13 chose [1] - 55:7 chosen [1] - 45:16 chronic [3] - 41:23, 42:2, 51:1 circled [2] - 48:23, 49:13 circuit [1] - 63:5 civilians [1] - 39:1 claimed [1] - 12:7 Classich [1] - 33:16 CLERK [3] - 4:8, 17:17, 17:22 clever [1] - 17:5 clinic [1] - 33:16 clinical [2] - 19:4, 22:14, 25:14, 25:15, 32:19, 32:22, 36:12, 37:23, 41:13, 41:14, 41:25, 42:23, 43:17, 44:2, 47:12, 49:5, 49:7, 53:20, 53:21, 57:24, 57:25 Clinical [1] - 33:7 clinically [2] - 49:10, 57:13 clinician [1] - 20:25 clinicians [1] - 24:11 close [1] - 31:25 Coffea [1] - 55:7 coffee [2] - 55:6, 55:8	coinvestigator [2] - 29:8, 31:11 collaborated [2] - 31:13, 58:1 collaboration [4] - 58:20, 59:1, 60:3, 60:4 colleagues [1] - 31:10 colleagues' [1] - 36:3 collecting [1] - 44:22 College [1] - 25:6 college [1] - 51:16 coming [2] - 16:23, 37:8 committee [1] - 22:12 committees [1] - 28:11 common [3] - 38:19, 51:25, 55:10 community [1] - 39:23 company [3] - 26:12, 26:13, 26:24 Company [1] - 26:6 compared [2] - 40:20, 45:12 comparing [1] - 46:13 comparison [1] - 45:7 competed [2] - 30:8, 42:8 competitive [2] - 16:24, 23:2 compilation [1] - 11:3 Complementary [4] - 33:10, 42:13, 42:17, 49:24 complementary [4] - 30:14, 33:14, 33:24, 47:24 complementary/alternative [1] - 30:18 complete [2] - 19:7, 20:6 completed [8] - 9:10, 18:16, 19:9, 19:12, 20:11, 23:25, 24:25, 29:23 completes [1] - 20:4 complex [1] - 41:9 comprehensive [1] - 28:3 conclude [1] - 46:19 concludes [1] - 22:23 conclusion [1] - 40:8 conclusions [1] - 46:11 condition [3] - 42:1, 42:2, 51:4 conditions [1] - 52:2 conducted [3] - 9:8,
B				
bachelor's [3] - 18:12, 18:21, 18:23 bags [1] - 38:22 based [6] - 23:18, 28:20, 30:25, 46:19, 55:10, 62:12 baseline [5] - 44:17, 45:13, 54:11, 55:23, 55:25 basic [2] - 37:17, 40:10 basics [1] - 20:22 Bay [2] - 20:18, 23:17 became [6] - 18:14, 19:3, 25:5, 29:16, 35:22, 37:15 become [1] - 38:6 becoming [2] - 24:4, 35:13 beep [3] - 15:10, 15:13, 44:11 beeper [2] - 34:15, 34:20 beeps [1] - 16:3 began [7] - 6:14, 20:17, 33:23, 34:3, 34:7, 37:16, 40:2 begin [4] - 4:24, 10:4,	27:7, 61:9 begun [1] - 6:9 BEHALF [2] - 2:3, 2:15 behalf [3] - 4:15, 4:17, 4:21 behavioral [1] - 35:4 beings [1] - 31:8 belief [1] - 50:25 believes [1] - 5:17 Bell [12] - 6:8, 7:11, 15:8, 15:9, 16:15, 17:2, 17:16, 17:25, 18:5, 34:15, 34:17, 34:25 BELL [2] - 3:5, 18:2 bell [5] - 5:1, 5:6, 6:14, 7:11, 16:9 belladonna [1] - 5:21 belladonna [2] - 5:20, 5:23 Berkley [1] - 23:19 best [1] - 39:24 better [3] - 9:9, 16:11, 37:5 between [6] - 19:10, 19:25, 24:21, 39:4, 47:10, 56:11 big [1] - 46:22 billionth [2] - 60:20, 60:22 binder [1] - 21:25 biobehavioral [2] - 18:17, 19:2 biofeedback [1] - 34:5 bit [8] - 18:9, 21:7, 21:14, 26:4, 27:1, 27:16, 29:9, 53:1 black [1] - 21:25 blind [3] - 43:15, 44:22, 52:1 blinded [1] - 32:6 blindly [1] - 48:3 blood [1] - 15:25 board [2] - 20:8, 20:10 body [5] - 20:12, 35:7, 41:8, 41:12, 43:25 book [2] - 22:20, 31:23 books [1] - 22:21 Borneman [4] - 2:21, 7:8, 9:3, 26:24 BORNEMAN [1] - 6:2 Boston [5] - 18:11, 23:25, 24:7, 24:14, 24:15 bottle [1] - 60:15 bottles [5] - 43:9, 44:21, 44:23, 44:24, 45:5 bought [1] - 12:25	CA [3] - 2:6, 2:11, 2:18 caffeine [1] - 55:5 CALIFORNIA [1] - 1:2 California [6] - 1:17, 1:24, 19:8, 19:17, 23:19, 24:24 cannot [1] - 6:23 capacity [1] - 26:25 care [7] - 9:11, 24:12, 25:15, 34:15, 36:12, 36:14, 39:24 career [8] - 23:5, 27:5, 27:14, 29:10, 30:12, 30:21, 31:12 case [7] - 8:3, 10:6, 12:17, 14:24, 17:18, 51:7, 55:23 caused [2] - 31:16, 39:17 causes [1] - 61:8 cell [1] - 60:23 Center [5] - 27:13, 30:11, 42:13, 42:17, 49:23 CENTRAL [1] - 1:2 CEO [1] - 26:24 certain [12] - 28:2, 35:18, 36:7, 39:9, 43:24, 46:2, 48:4,	48:5, 51:2, 53:22, 58:3, 59:2 certainly [2] - 8:11, 58:14 certificate [1] - 20:24 certified [4] - 20:5, 20:8, 20:10, 24:4 certify [1] - 63:2 certifying [1] - 20:12 cetera [1] - 4:9 chairman [1] - 25:8 challenge [1] - 57:18 change [6] - 36:6, 41:11, 45:8, 47:15, 47:19, 61:8 changed [1] - 55:24 changes [5] - 40:17, 40:19, 41:10, 41:11, 47:7 chapters [2] - 22:21, 31:23 charged [1] - 63:5 chemical [4] - 36:13, 38:2, 38:9, 39:5 chemically [1] - 39:8 chemicals [4] - 35:24, 36:5, 37:21, 38:13 chemistry [1] - 58:4 children [2] - 5:22, 6:13 chose [1] - 55:7 chosen [1] - 45:16 chronic [3] - 41:23, 42:2, 51:1 circled [2] - 48:23, 49:13 circuit [1] - 63:5 civilians [1] - 39:1 claimed [1] - 12:7 Classich [1] - 33:16 CLERK [3] - 4:8, 17:17, 17:22 clever [1] - 17:5 clinic [1] - 33:16 clinical [2] - 19:4, 22:14, 25:14, 25:15, 32:19, 32:22, 36:12, 37:23, 41:13, 41:14, 41:25, 42:23, 43:17, 44:2, 47:12, 49:5, 49:7, 53:20, 53:21, 57:24, 57:25 Clinical [1] - 33:7 clinically [2] - 49:10, 57:13 clinician [1] - 20:25 clinicians [1] - 24:11 close [1] - 31:25 Coffea [1] - 55:7 coffee [2] - 55:6, 55:8	coinvestigator [2] - 29:8, 31:11 collaborated [2] - 31:13, 58:1 collaboration [4] - 58:20, 59:1, 60:3, 60:4 colleagues [1] - 31:10 colleagues' [1] - 36:3 collecting [1] - 44:22 College [1] - 25:6 college [1] - 51:16 coming [2] - 16:23, 37:8 committee [1] - 22:12 committees [1] - 28:11 common [3] - 38:19, 51:25, 55:10 community [1] - 39:23 company [3] - 26:12, 26:13, 26:24 Company [1] - 26:6 compared [2] - 40:20, 45:12 comparing [1] - 46:13 comparison [1] - 45:7 competed [2] - 30:8, 42:8 competitive [2] - 16:24, 23:2 compilation [1] - 11:3 Complementary [4] - 33:10, 42:13, 42:17, 49:24 complementary [4] - 30:14, 33:14, 33:24, 47:24 complementary/alternative [1] - 30:18 complete [2] - 19:7, 20:6 completed [8] - 9:10, 18:16, 19:9, 19:12, 20:11, 23:25, 24:25, 29:23 completes [1] - 20:4 complex [1] - 41:9 comprehensive [1] - 28:3 conclude [1] - 46:19 concludes [1] - 22:23 conclusion [1] - 40:8 conclusions [1] - 46:11 condition [3] - 42:1, 42:2, 51:4 conditions [1] - 52:2 conducted [3] - 9:8,

<p>41:13, 41:18 conference [2] - 13:2, 63:7 conferences [4] - 22:24, 22:25, 26:22, 29:7 conformance [1] - 63:6 confusion [1] - 8:12 connect [1] - 38:14 connected [1] - 41:10 consciously [1] - 36:6 consider [2] - 57:11, 57:15 considered [1] - 25:12 consistent [1] - 40:9 constitutional [6] - 50:14, 50:22, 50:24, 51:13, 51:18, 54:2 consultant [2] - 26:9, 26:16 consumers [1] - 26:12 consumption [1] - 8:12 contact [1] - 44:4 contained [1] - 22:9 contemplation [1] - 8:6 context [1] - 30:22 continue [3] - 6:16, 16:3, 44:11 continued [5] - 20:19, 30:3, 40:2, 48:12, 55:22 continuing [1] - 35:16 continuous [1] - 15:24 contracted [1] - 26:16 contribute [2] - 29:17, 51:4 controlled [5] - 41:25, 43:16, 49:25, 52:2, 57:5 controlling [1] - 45:7 controversy [4] - 40:11, 40:24, 40:25, 41:2 conventional [4] - 21:4, 39:24, 42:4, 44:3 copy [1] - 22:8 core [1] - 43:17 Corporate [1] - 2:21 correct [6] - 12:2, 12:15, 14:20, 14:21, 32:19, 63:2 Counsel [1] - 4:10 counsel [3] - 5:17, 8:24, 13:8 count [1] - 31:21 countered [1] - 52:24</p>	<p>couple [2] - 32:1, 57:21 course [15] - 20:4, 20:21, 21:1, 23:5, 27:4, 32:18, 32:21, 36:2, 40:2, 41:5, 44:17, 46:24, 47:6, 50:18, 59:22 COURT [49] - 1:1, 4:8, 4:22, 5:24, 6:1, 6:4, 7:5, 7:24, 8:14, 9:4, 9:16, 9:20, 9:23, 10:1, 10:8, 10:23, 11:5, 11:8, 11:10, 11:18, 11:25, 12:9, 12:13, 12:18, 12:22, 13:7, 13:11, 13:14, 13:17, 14:1, 14:7, 14:13, 14:17, 14:22, 15:2, 15:6, 15:20, 16:2, 16:7, 16:14, 16:19, 17:8, 17:13, 17:17, 17:22, 23:10, 34:14, 34:23, 62:17 court [1] - 4:6 Court [7] - 1:23, 5:4, 7:9, 8:10, 13:1, 17:19, 63:11 covers [1] - 22:13 criteria [4] - 42:25, 51:22, 51:23, 54:9 cross [5] - 5:18, 7:25, 8:4, 8:9, 8:16 cross-examine [5] - 5:18, 7:25, 8:4, 8:9, 8:16 CRR [1] - 1:22 Cruda [1] - 55:8 CSR [2] - 1:22, 63:11 cum [1] - 18:13 curious [1] - 40:18 curriculum [3] - 22:8, 22:9, 33:3 custom [1] - 43:6 CV [3] - 4:8, 39:13, 58:23</p>	<p>dealt [1] - 31:7 debate [2] - 57:10, 62:9 debilitating [1] - 42:3 Deborah [2] - 2:5, 4:12 decide [1] - 48:2 decision [1] - 48:6 decrease [1] - 41:5 decreased [2] - 46:10, 47:18 decreasing [1] - 46:23 deeply [1] - 36:11 defendant [2] - 4:19, 4:21 DEFENDANTS [1] - 2:15 defendants [4] - 1:13, 4:17, 11:4, 11:14 defendants' [1] - 14:24 defense [4] - 6:7, 6:23, 13:20, 17:16 define [1] - 59:10 degree [3] - 18:12, 18:21, 50:10 degreas [1] - 19:1 dementia [1] - 29:18 demonstrate [1] - 58:16 demonstrates [1] - 9:10 Department [1] - 38:5 department [2] - 24:17, 25:9 depended [1] - 39:7 depo [3] - 10:10, 10:13, 10:15 deposit [1] - 63:6 Deposition [2] - 3:4, 3:5 deposition [12] - 10:11, 10:17, 10:19, 10:21, 11:3, 11:13, 12:9, 12:11, 12:13, 12:24, 13:20, 13:22 depression [1] - 29:17 describe [8] - 11:20, 21:10, 38:1, 41:16, 42:19, 50:8, 60:12 described [2] - 26:25, 37:14 describes [2] - 23:1, 49:19 describing [6] - 23:15, 36:1, 49:1, 49:7, 51:11, 60:6 description [3] - 22:10, 22:23, 28:5 Desert [1] - 20:22</p>	<p>detect [1] - 54:23 detectible [1] - 36:6 determine [5] - 50:19, 58:3, 58:4, 58:11, 59:19 develop [1] - 35:18 developed [1] - 39:20 developing [1] - 25:14 development [2] - 27:14, 30:21 diabetes [3] - 15:9, 39:20, 39:21 diagnosis [1] - 44:3 Diana [1] - 11:5 Diego [2] - 2:6, 2:11 diesel [2] - 38:18, 38:23 diet [1] - 35:23 dietary [1] - 30:3 difference [5] - 19:25, 39:4, 47:10, 53:2, 56:10 different [18] - 26:22, 28:8, 30:20, 33:9, 36:8, 36:24, 41:20, 41:24, 42:14, 43:18, 52:17, 53:1, 55:25, 56:6, 57:22, 59:6, 60:15, 61:16 difficulties [1] - 24:13 dilute [3] - 36:17, 40:13, 47:2 diluted [3] - 61:20, 61:23, 62:5 diluting [1] - 62:10 dilution [2] - 41:3, 41:6 dilutions [3] - 36:23, 36:25, 61:24 DIRECT [2] - 3:6, 18:3 direction [3] - 28:8, 40:23, 58:14 directions [1] - 28:2 directly [2] - 43:7, 46:7 director [3] - 21:20, 21:21, 26:11 discovered [4] - 36:4, 37:6, 59:2 discovering [3] - 29:20, 36:3, 40:19 discovery [4] - 11:23, 12:1, 12:6, 12:16 discuss [3] - 23:3, 23:6, 23:14 discussed [3] - 11:17, 11:23, 14:16 discussing [1] - 31:7 Discussion [1] - 16:8 disease [1] - 41:23</p>	<p>disorders [1] - 34:9 disruptions [1] - 15:17 DISTRICT [2] - 1:1, 1:2 DIXON [12] - 4:12, 10:3, 10:10, 11:1, 11:7, 11:9, 11:19, 12:2, 12:23, 13:6, 13:19, 14:10 Dixon [2] - 2:5, 4:13 doctor [1] - 47:13 doctoral [1] - 30:17 doctors [1] - 21:4 documented [2] - 47:7, 51:10 documenting [1] - 40:19 documents [1] - 10:5 DOLLY [1] - 1:4 done [8] - 27:2, 42:7, 46:18, 50:5, 50:9, 53:19, 58:21, 59:22 door [4] - 7:22, 7:24, 9:2, 9:15 door's [1] - 7:22 dose [5] - 38:21, 41:2, 45:4, 46:23, 56:4 dosed [1] - 52:22 doses [2] - 36:15, 38:18 double [3] - 43:15, 44:22, 52:1 down [5] - 16:17, 17:4, 48:11, 48:12, 48:14 Dr [23] - 5:1, 5:5, 5:6, 6:8, 6:14, 7:8, 7:9, 7:11, 9:3, 10:6, 10:11, 15:8, 15:9, 16:9, 16:15, 17:2, 18:5, 25:8, 26:24, 34:15, 34:17, 34:25 draw [1] - 46:11 Drive [1] - 2:11 drug [1] - 47:20 due [2] - 5:19, 14:18 during [17] - 12:1, 12:24, 15:17, 19:3, 24:5, 27:4, 27:10, 28:10, 35:20, 38:6, 40:21, 44:17, 54:21, 55:13, 55:20, 55:21, 60:4</p>
	<p>D</p>			
	<p>damage [2] - 14:16, 31:16 Daniele [2] - 13:21, 13:22 DANIELE [1] - 3:5 data [5] - 27:22, 27:23, 28:7, 44:23, 45:13 Date [1] - 63:11 date [3] - 18:20, 18:21, 39:14 DAY [2] - 1:16, 4:3</p>			
				<p>E</p>
				<p>E-L-L [1] - 18:1 e-mail [6] - 2:8, 2:13, 2:19, 2:20, 7:10, 7:12 early [2] - 31:11, 40:6</p>

<p>L</p> <p>lab ^[1] - 47:17</p> <p>labels ^[2] - 16:24, 17:2</p> <p>laboratories ^[1] - 61:2</p> <p>laboratory ^[6] - 44:19, 45:13, 52:1, 59:23, 59:25, 61:1</p> <p>lacks ^[1] - 11:20</p> <p>ladies ^[1] - 9:23</p> <p>large ^[3] - 30:19, 51:16, 62:1</p> <p>larger ^[1] - 30:10</p> <p>last ^[2] - 18:1, 57:21</p> <p>late ^[3] - 20:18, 20:20, 40:6</p> <p>laude ^[1] - 18:13</p> <p>Law ^[1] - 2:10</p> <p>lead ^[1] - 60:25</p> <p>leading ^[1] - 37:7</p> <p>learn ^[2] - 34:7, 62:14</p> <p>learned ^[1] - 34:5</p> <p>learning ^[1] - 20:3</p> <p>least ^[4] - 27:13, 28:10, 32:12, 54:2</p> <p>leave ^[1] - 8:7</p> <p>lecture ^[1] - 37:3</p> <p>less ^[1] - 63:5</p> <p>level ^[3] - 5:21, 31:4, 38:2</p> <p>levels ^[2] - 36:5, 37:21</p> <p>Library ^[1] - 33:18</p> <p>license ^[1] - 19:17</p> <p>licensed ^[3] - 19:13, 19:15, 20:5</p> <p>licenses ^[2] - 19:16, 21:3</p> <p>licensure ^[1] - 22:10</p> <p>life ^[1] - 39:17</p> <p>light ^[2] - 59:7, 59:13</p> <p>likely ^[1] - 39:9</p> <p>liquid ^[1] - 60:15</p> <p>list ^[7] - 12:3, 12:19, 12:20, 13:1, 22:19, 23:4, 33:3</p> <p>lists ^[1] - 11:24</p> <p>literature ^[11] - 29:20, 29:21, 36:3, 56:14, 57:23, 57:24, 57:25, 58:7, 60:7, 61:13, 62:6</p> <p>LLP ^[1] - 2:17</p> <p>locally ^[1] - 61:6</p> <p>look ^[5] - 21:24, 22:1, 39:18, 52:25, 53:25</p> <p>looked ^[1] - 54:15</p> <p>looking ^[5] - 29:19, 31:14, 58:3, 58:10, 61:21</p>	<p>lordosis ^[1] - 37:17</p> <p>Los ^[3] - 1:17, 1:24, 2:18</p> <p>loudly ^[1] - 15:11</p> <p>low ^[7] - 16:1, 36:5, 36:15, 37:20, 38:2, 38:17, 38:21</p> <p>lower ^[1] - 5:23</p> <p>lunch ^[1] - 62:17</p> <p>M</p> <p>ma'am ^[1] - 6:2</p> <p>magna ^[1] - 18:13</p> <p>magnitude ^[2] - 46:8, 48:10</p> <p>mail ^[6] - 2:8, 2:13, 2:19, 2:20, 7:10, 7:12</p> <p>manner ^[2] - 40:14, 45:15</p> <p>manufacturer ^[1] - 36:19</p> <p>manufacturing ^[1] - 5:19</p> <p>manuscript ^[1] - 32:10</p> <p>MARGULIES ^[26] - 3:6, 4:18, 4:25, 5:25, 6:3, 7:7, 8:10, 8:23, 9:13, 9:18, 15:7, 15:21, 16:5, 16:9, 16:18, 17:5, 17:15, 18:4, 23:8, 23:12, 23:13, 34:21, 34:24, 44:13, 45:20, 62:15</p> <p>Margulies ^[3] - 2:16, 4:19, 17:13</p> <p>marked ^[1] - 22:1</p> <p>market ^[7] - 5:9, 5:14, 6:10, 6:19, 7:1, 7:19, 7:20</p> <p>Marron ^[3] - 2:10, 2:10, 4:17</p> <p>MARRON ^[1] - 4:16</p> <p>Mary ^[1] - 2:21</p> <p>Massachusetts ^[1] - 19:18</p> <p>master ^[1] - 20:25</p> <p>match ^[1] - 51:9</p> <p>materia ^[2] - 51:10, 55:4</p> <p>material ^[10] - 36:19, 36:22, 38:23, 41:4, 58:1, 58:20, 61:4, 61:19, 62:2, 62:13</p> <p>materials ^[7] - 39:3, 41:4, 59:7, 59:24, 60:19, 62:1, 62:5</p> <p>matter ^[1] - 63:4</p> <p>McLean ^[2] - 24:7,</p>	<p>29:15</p> <p>MD ^[2] - 19:4, 19:6</p> <p>mean ^[6] - 8:23, 15:13, 20:10, 47:3, 48:19, 50:16</p> <p>means ^[1] - 20:11</p> <p>meant ^[3] - 35:1, 40:25, 43:10</p> <p>measure ^[8] - 31:2, 35:9, 37:20, 38:3, 38:15, 50:20, 55:22, 60:17</p> <p>measured ^[1] - 55:19</p> <p>measurement ^[2] - 44:20, 60:19</p> <p>measures ^[3] - 35:6, 43:18, 50:19</p> <p>measuring ^[5] - 35:19, 46:15, 52:11, 52:13, 58:4</p> <p>mechanism ^[1] - 57:17</p> <p>media ^[1] - 46:4</p> <p>medica ^[2] - 51:11, 55:4</p> <p>medical ^[11] - 9:11, 19:5, 19:10, 20:4, 20:7, 21:3, 22:18, 22:20, 25:1, 26:11, 37:1</p> <p>Medical ^[4] - 19:6, 24:8, 27:12, 37:3</p> <p>medication ^[3] - 31:8, 47:11, 58:11</p> <p>medications ^[4] - 41:19, 42:4, 50:6, 57:2</p> <p>Medicine ^[9] - 25:6, 33:7, 33:10, 33:20, 42:13, 42:18, 49:24, 56:18, 56:20</p> <p>medicine ^[35] - 30:15, 30:18, 33:9, 33:14, 33:19, 33:24, 35:5, 35:14, 39:25, 43:2, 43:6, 43:11, 44:4, 44:18, 44:24, 45:3, 45:4, 45:11, 45:15, 45:16, 47:2, 47:5, 47:24, 48:15, 48:19, 48:20, 48:22, 51:24, 51:25, 54:4, 55:7, 55:9, 55:10, 58:5, 60:10</p> <p>medicines ^[13] - 40:12, 40:18, 51:11, 52:22, 53:23, 55:3, 56:2, 56:7, 57:23, 61:11, 61:16, 61:19, 61:20</p>	<p>meditation ^[1] - 46:4</p> <p>member ^[2] - 24:17, 28:4</p> <p>members ^[1] - 38:20</p> <p>membership ^[1] - 22:12</p> <p>mental ^[1] - 51:2</p> <p>mentioned ^[3] - 32:2, 34:2, 56:23</p> <p>met ^[1] - 54:8</p> <p>meter ^[1] - 60:21</p> <p>method ^[5] - 37:24, 42:21, 46:12, 46:14, 46:15</p> <p>methodology ^[1] - 41:24</p> <p>middle ^[1] - 34:25</p> <p>might ^[10] - 29:17, 35:24, 45:8, 52:23, 54:3, 54:4, 58:4, 60:9, 60:17, 61:10</p> <p>military ^[2] - 38:20</p> <p>mind ^[3] - 22:1, 27:17, 35:16</p> <p>minute ^[1] - 16:12</p> <p>minutes ^[6] - 15:16, 15:19, 16:10, 16:13, 16:17, 34:19</p> <p>miss ^[1] - 17:6</p> <p>model ^[1] - 31:14</p> <p>money ^[1] - 28:18</p> <p>monitor ^[3] - 15:10, 15:25, 35:6</p> <p>monitored ^[1] - 38:17</p> <p>monitoring ^[1] - 57:25</p> <p>monitors ^[1] - 15:24</p> <p>monographs ^[2] - 22:21, 32:1</p> <p>month ^[3] - 45:18, 46:24</p> <p>months ^[1] - 47:1</p> <p>mood ^[1] - 44:8</p> <p>MORNING ^[2] - 1:17, 4:4</p> <p>morning ^[13] - 4:12, 4:14, 4:16, 4:18, 4:20, 4:22, 5:2, 9:23, 9:25, 14:23, 15:22, 18:5, 18:6</p> <p>most ^[1] - 31:21</p> <p>move ^[2] - 11:15, 13:24</p> <p>moved ^[2] - 34:7, 58:14</p> <p>movement ^[2] - 54:22, 56:8</p> <p>MR ^[48] - 3:6, 4:11, 4:16, 4:18, 4:20, 4:25, 5:25, 6:3, 6:6, 7:7, 8:10, 8:18, 8:23,</p>	<p>9:7, 9:13, 9:18, 9:19, 11:14, 12:4, 12:11, 12:15, 12:20, 13:4, 13:10, 13:13, 13:23, 14:3, 14:9, 14:15, 14:21, 15:7, 15:21, 16:5, 16:9, 16:18, 16:20, 17:5, 17:7, 17:15, 18:4, 23:8, 23:12, 23:13, 34:21, 34:24, 44:13, 45:20, 62:15</p> <p>MS ^[14] - 4:12, 4:14, 6:2, 10:3, 10:10, 11:1, 11:7, 11:9, 11:19, 12:2, 12:23, 13:6, 13:19, 14:10</p> <p>multiple ^[2] - 22:18, 42:22</p> <p>muscle ^[2] - 43:22, 54:19</p> <p>muscles ^[2] - 35:11, 54:20</p> <p>N</p> <p>name ^[8] - 17:23, 17:25, 18:1, 32:7, 32:8, 42:14, 42:16</p> <p>Nancy ^[4] - 11:8, 11:9, 11:10, 11:13</p> <p>NANCY ^[1] - 3:4</p> <p>nano ^[1] - 61:12</p> <p>nanobubble ^[2] - 60:12, 60:25</p> <p>nanobubbles ^[4] - 60:9, 60:16, 61:4, 61:10</p> <p>nanometers ^[1] - 60:18</p> <p>nanoparticles ^[4] - 61:10, 61:18, 62:4, 62:12</p> <p>National ^[7] - 27:8, 30:23, 42:9, 42:12, 42:17, 49:23, 53:24</p> <p>NatraBio ^[1] - 14:4</p> <p>NatraBio's ^[1] - 14:5</p> <p>Natricile ^[1] - 33:16</p> <p>natural ^[2] - 45:4, 61:8</p> <p>nature ^[1] - 57:9</p> <p>near ^[1] - 54:21</p> <p>necessarily ^[1] - 46:7</p> <p>need ^[4] - 7:5, 8:25, 15:15, 17:9</p> <p>needed ^[2] - 57:14, 62:7</p> <p>needs ^[2] - 15:25, 34:19</p> <p>NELSON ^[1] - 4:14</p>
--	---	---	--	--

<p>Nelson [1] - 4:15 neuro [2] - 18:17, 19:1 neurologists [1] - 20:13 neurology [1] - 19:10 Neuroscience [1] - 49:18 never [2] - 11:23, 37:2 new [4] - 8:6, 17:9, 29:19, 62:3 next [8] - 10:2, 13:18, 14:18, 16:22, 19:11, 50:8, 52:24, 60:2 NIH [6] - 28:11, 40:22, 42:10, 56:23, 57:1, 58:13 noise [1] - 31:14 nonrapid [1] - 56:8 Noon [1] - 62:20 North [1] - 1:23 Norton [1] - 2:17 Nos [4] - 3:2, 3:8, 10:24, 13:15 notepad [1] - 17:9 notes [1] - 10:6 nothing [3] - 17:19, 52:8, 62:9 number [9] - 27:6, 29:22, 30:5, 30:7, 30:19, 39:12, 43:8, 43:9, 51:16 Nutrition [1] - 33:7 nutrition [3] - 34:3, 34:7, 35:23 nutritional [1] - 29:17 Nux [1] - 55:9</p>	<p>offer [1] - 23:9 offers [1] - 21:3 offices [1] - 37:13 Offices [1] - 2:10 Official [1] - 1:23 official [2] - 53:15, 63:11 often [5] - 20:2, 23:1, 24:13, 32:12, 46:5 older [3] - 24:12, 25:15, 29:18 ON [2] - 2:3, 2:15 once [1] - 6:14 one [23] - 5:1, 15:24, 16:20, 26:23, 27:13, 27:20, 30:10, 33:13, 37:25, 41:11, 43:19, 43:20, 44:11, 44:19, 50:8, 50:10, 53:10, 55:3, 55:7, 55:25, 56:1, 60:18, 62:8 One [1] - 33:18 ones [3] - 7:3, 11:22, 23:1 open [5] - 4:6, 7:23, 7:24, 9:2, 9:14 opened [1] - 6:12 opening [1] - 7:22 opportunity [2] - 24:3, 25:15 opposed [2] - 13:9, 61:10 opposite [1] - 48:6 options [1] - 39:23 oral [2] - 20:12, 21:2 orally [1] - 44:18 order [3] - 8:24, 20:5, 45:1 organization [1] - 41:9 oriented [1] - 57:13 original [4] - 24:25, 41:3, 48:9, 62:12 originally [2] - 18:8, 34:2 outcome [2] - 43:18, 49:5 outcomes [2] - 44:9, 49:7 outlined [1] - 49:19 outpatient [1] - 21:17 outside [4] - 4:6, 14:25, 15:4, 57:24 overing [1] - 45:24 overlap [2] - 37:11, 50:10 own [5] - 7:2, 22:19, 36:3, 45:4, 55:11</p>	<p>P</p> <p>package [1] - 43:6 packaging [3] - 11:21, 14:5 page [5] - 33:4, 48:23, 49:12, 53:8, 56:16 pain [5] - 42:2, 43:25, 44:8, 47:14 palms [1] - 35:11 paper [4] - 32:10, 49:17, 60:6, 61:14 papers [2] - 29:23, 53:10 pardon [1] - 35:3 part [8] - 21:17, 30:25, 35:25, 41:11, 42:10, 43:17, 46:6, 52:21 part-time [1] - 21:17 particles [2] - 60:17, 61:25 particular [19] - 27:21, 28:2, 38:18, 42:6, 42:10, 44:15, 45:15, 46:17, 47:14, 48:25, 51:18, 52:14, 54:4, 56:3, 56:4, 56:17, 58:25, 60:3, 60:19 particularly [2] - 51:1, 56:7 partly [3] - 35:22, 39:7, 41:8 parts [1] - 41:12 pathophysiology [1] - 35:1 patient [10] - 36:17, 38:8, 43:1, 43:7, 43:8, 43:10, 45:9, 49:7, 49:9, 51:9 patients [15] - 25:15, 25:25, 29:18, 36:15, 37:5, 37:13, 41:22, 42:1, 42:20, 43:14, 43:22, 44:6, 47:4, 50:11, 55:16 pattern [5] - 51:2, 51:8, 51:10, 54:15, 55:11 patterns [2] - 39:9, 54:24 pause [2] - 17:11, 34:22 peer [16] - 22:18, 22:19, 28:9, 31:20, 32:3, 32:5, 32:6, 32:21, 32:22, 33:1, 49:5, 49:17, 53:17, 53:18, 56:21, 57:11 pellets [2] - 55:13, 55:16</p>	<p>pending [1] - 6:15 Penn [1] - 59:25 Pennsylvania [1] - 58:2 people [22] - 28:12, 37:18, 38:6, 38:11, 38:12, 40:16, 42:3, 42:24, 45:10, 46:9, 46:10, 46:25, 47:25, 48:4, 48:5, 49:21, 50:12, 51:17, 51:21, 52:20, 54:7, 54:18 perceived [1] - 6:13 perception [3] - 5:19, 5:21, 6:25 performed [1] - 32:19 perhaps [2] - 34:17, 60:18 period [4] - 23:24, 29:2, 39:12, 54:9 periods [2] - 20:17, 55:25 person [1] - 36:13 personal [3] - 39:17, 39:22, 40:16 personality [1] - 30:4 Persson [2] - 2:16, 4:21 PERSSON [12] - 4:20, 11:14, 12:4, 12:11, 12:15, 12:20, 13:4, 13:10, 13:13, 13:23, 14:3, 14:9 pertain [1] - 49:13 pertains [1] - 5:3 pertinent [1] - 8:1 Ph.D [5] - 18:16, 18:22, 18:24, 19:1 pharmacy [2] - 43:5, 59:24 phenomenon [1] - 53:25 Phoenix [1] - 20:23 physical [7] - 31:16, 43:20, 43:24, 44:16, 51:3, 58:4, 61:8 physician [2] - 19:13, 43:21 physicians [1] - 20:13 physiologic [1] - 35:5 physiological [2] - 35:6, 35:9 physiology [3] - 18:15, 35:19, 41:8 pick [1] - 38:7 piece [1] - 38:14 pilot [1] - 27:22 placebo [40] - 36:8, 38:25, 39:6, 40:20, 41:25, 43:6, 43:11,</p>	<p>43:16, 44:24, 44:25, 45:4, 45:9, 45:12, 46:10, 47:11, 47:18, 47:20, 48:5, 48:9, 48:10, 48:12, 48:14, 49:25, 52:2, 52:3, 52:18, 54:14, 55:1, 55:2, 55:11, 55:12, 55:14, 56:1, 56:11, 57:5, 58:6, 58:12 placebos [2] - 9:9, 55:17 Plaintiff [1] - 11:5 plaintiff [1] - 11:11 plaintiffs [15] - 1:10, 4:11, 4:13, 4:15, 5:2, 7:14, 9:4, 10:1, 11:2, 11:4, 13:17, 13:21, 14:13, 14:17, 16:25 PLAINTIFFS [1] - 2:3 plaintiffs [2] - 8:3, 12:17 plan [1] - 6:20 plant [1] - 55:9 play [3] - 11:2, 13:19, 61:10 played [4] - 3:4, 3:5, 11:13, 13:22 playing [1] - 60:10 point [22] - 7:3, 18:19, 20:21, 23:8, 24:16, 25:12, 28:20, 30:19, 33:23, 37:15, 40:15, 41:7, 43:4, 45:18, 46:17, 46:25, 47:19, 51:1, 61:9, 62:2, 62:11 points [1] - 43:24 pop [1] - 61:5 popular [1] - 46:4 portion [1] - 46:20 position [1] - 23:20 positions [1] - 24:21 possibility [1] - 60:7 possible [1] - 39:24 postdoctoral [1] - 30:17 potencies [2] - 61:22, 62:13 potency [3] - 5:23, 52:21, 56:5 potential [1] - 39:18 powerful [1] - 37:16 practice [5] - 21:17, 23:17, 24:1, 43:3, 51:6 practiced [3] - 19:21, 21:8, 24:2 pre [1] - 30:17 pre-doctoral [1] -</p>
<p>O</p> <p>objection [2] - 11:18, 11:19 objections [1] - 14:11 objective [4] - 31:2, 35:6, 35:8, 40:19 objectively [1] - 54:23 observation [1] - 58:11 observations [1] - 46:20 observed [2] - 39:2, 56:5 observing [3] - 49:9, 49:10, 58:7 obtained [1] - 27:3 obviously [1] - 15:13 occur [1] - 5:24 occurred [2] - 6:1, 49:21 occurs [1] - 54:23 OF [3] - 1:2, 2:3, 2:15</p>				

<p>30:17 preceded [2] - 55:25, 56:1 precedes [1] - 46:6 precisely [1] - 28:5 prefer [1] - 16:2 prejudice [1] - 8:12 preliminary [1] - 27:23 prepared [5] - 17:14, 40:13, 44:21, 55:8, 62:5 prepping [1] - 16:22 prescribe [1] - 43:3 presence [6] - 4:7, 9:22, 14:25, 15:4, 17:12, 62:4 present [4] - 38:23, 40:3, 61:25, 62:13 Present [1] - 2:21 presentations [2] - 22:24, 23:5 presented [1] - 32:14 PRESIDING [1] - 1:4 pressure [2] - 61:5, 61:6 presume [1] - 8:16 pretrial [1] - 13:2 previously [1] - 50:17 primary [3] - 43:20, 49:5, 62:8 principles [2] - 40:8, 40:10 priorities [1] - 57:12 private [3] - 27:6, 27:19, 27:24 problem [1] - 49:22 problems [2] - 35:23, 43:23 procedure [4] - 37:12, 45:17, 47:23, 54:13 procedures [3] - 39:1, 45:22, 54:16 proceed [2] - 11:12, 28:25 proceeded [3] - 18:15, 30:2, 40:22 Proceedings [1] - 1:16 proceedings [5] - 4:6, 14:25, 15:4, 17:11, 63:3 process [5] - 28:10, 34:4, 60:8, 60:13 produce [1] - 60:9 produced [2] - 11:23, 11:25 product [7] - 5:14, 5:20, 6:10, 7:1, 7:19, 12:25, 14:5 products [6] - 11:16,</p>	<p>11:17, 11:21, 12:5, 12:7, 16:24 professional [6] - 19:1, 22:11, 22:13, 22:24, 26:22, 54:5 professionally [1] - 37:4 professor [4] - 25:5, 25:20, 25:22, 58:2 professorship [1] - 25:21 program [5] - 18:16, 20:3, 20:24, 25:14, 30:6 progressive [1] - 36:23 progressively [1] - 41:5 project [2] - 29:1, 50:19 projects [1] - 31:11 proper [1] - 23:18 proposal [1] - 28:16 propose [5] - 23:3, 28:6, 29:1, 29:4 proposed [1] - 50:12 provide [3] - 26:17, 33:16, 57:16 provided [2] - 11:22, 47:13 provoke [1] - 36:24 psychiatric [2] - 20:7, 24:13 psychiatrist [10] - 19:21, 20:1, 20:3, 21:7, 21:8, 21:12, 23:15, 25:13, 25:25, 27:11 psychiatrists [1] - 20:13 psychiatry [17] - 19:10, 19:12, 19:20, 19:21, 20:8, 20:10, 21:16, 21:21, 21:22, 24:3, 24:9, 24:11, 24:13, 24:18, 25:4, 25:9 Psychiatry [2] - 33:8, 33:21 Psychological [1] - 33:20 psychologist [3] - 19:24, 19:25, 20:2 psychologists [1] - 30:5 psychology [4] - 20:3, 30:6, 34:12, 35:4 Psychology [1] - 33:8 psychophysiological [1] - 46:15</p>	<p>psychophysiology [6] - 34:5, 34:8, 34:10, 35:2, 35:3, 41:21 Psychosomatic [1] - 33:20 public [1] - 33:18 publication [6] - 48:25, 49:3, 49:16, 53:9, 53:15, 56:17 publications [2] - 22:19, 31:18 published [13] - 31:19, 31:20, 31:23, 32:17, 49:6, 49:17, 53:6, 53:10, 53:12, 56:14, 56:18, 60:6, 61:14 pulled [1] - 7:1 pulsatilla [1] - 51:23 purely [1] - 20:3 pursue [2] - 20:19, 40:23 pushing [1] - 43:24 put [2] - 7:14, 7:20</p>	<p>rating [2] - 43:25, 44:8 ratings [2] - 47:13, 47:14 reach [1] - 40:8 reached [1] - 40:12 read [2] - 31:3, 57:22 reading [2] - 29:20, 62:3 ready [2] - 10:1, 13:17 real [4] - 45:3, 45:11, 55:22, 58:5 realized [2] - 17:9, 37:10 really [7] - 8:2, 15:12, 22:15, 31:2, 45:7, 55:16, 58:17 reason [1] - 13:23 reasons [4] - 6:21, 7:2, 8:20, 14:7 recalibrate [2] - 16:6, 16:10 recalibrated [1] - 15:12 receive [5] - 20:24, 31:9, 32:10, 43:8, 55:3 received [28] - 3:3, 3:8, 3:9, 3:9, 10:24, 13:16, 14:12, 18:12, 18:16, 18:24, 19:6, 23:11, 27:6, 27:8, 27:13, 29:10, 29:11, 29:13, 30:9, 30:16, 30:21, 30:23, 36:18, 39:7, 42:8, 53:24, 55:12, 56:6 receives [1] - 28:21 receiving [5] - 25:21, 43:11, 45:2, 46:9, 46:10 recent [2] - 31:21, 57:1 recently [1] - 61:2 recess [4] - 15:2, 17:10, 62:19, 62:20 Recess [1] - 15:3 recognize [1] - 22:5 recommendations [3] - 28:13, 32:15, 32:16 recommended [1] - 47:23 recommending [1] - 7:11 record [7] - 10:7, 14:1, 14:10, 16:7, 16:8, 17:24, 27:21 recorded [2] - 54:15, 63:3 recording [2] - 54:17, 55:13</p>	<p>recordings [1] - 54:11 recruited [5] - 24:16, 24:19, 25:7, 25:11, 29:25 reduction [1] - 63:6 refer [3] - 33:2, 33:14, 39:12 reference [7] - 48:24, 49:13, 53:9, 56:17 reflected [2] - 58:23, 59:16 reflecting [1] - 59:7 reformulated [2] - 5:22, 7:19 refresh [1] - 20:21 regard [3] - 5:1, 7:2, 26:10 regarding [1] - 57:21 regular [1] - 43:3 regulations [1] - 63:7 reintroduced [2] - 5:15, 6:18 rejected [2] - 23:4, 28:15 relationship [4] - 26:5, 26:8, 26:15, 26:19 relaxation [1] - 46:5 relevance [2] - 8:19, 8:21 relevant [1] - 12:6 reliably [1] - 38:24 relied [1] - 59:18 relieve [1] - 36:24 rely [1] - 9:14 relying [1] - 41:21 REM [1] - 54:22 remain [1] - 25:17 remains [1] - 9:12 remedies [3] - 40:17, 51:23, 53:23 remedy [5] - 52:3, 52:7, 52:17, 53:3, 53:4 remember [1] - 7:10 repeated [4] - 45:17, 45:21, 55:23, 55:25 report [2] - 7:9, 49:23 reported [5] - 38:6, 38:12, 38:13, 41:3, 55:4 Reporter [2] - 1:23, 63:11 Reporter's [1] - 1:16 reports [2] - 26:12, 49:5 Representative [1] - 2:21 request [2] - 11:14, 13:24 requests [1] - 12:6</p>
Q				
<p>qualifications [1] - 28:4 qualified [1] - 25:12 qualifying [1] - 20:11 quantify [1] - 54:23 quantifying [1] - 59:8 questioning [1] - 6:20 questionnaire [5] - 38:9, 50:13, 50:16, 50:17, 51:12 questionnaires [2] - 44:7, 44:16 questions [2] - 7:10, 9:3 quite [3] - 28:3, 45:5, 58:8</p>				
R				
<p>raised [1] - 7:7 Raman [1] - 59:3 random [1] - 56:1 randomized [9] - 32:19, 32:22, 43:14, 43:15, 44:21, 44:25, 45:5, 48:3, 53:20 randomly [2] - 54:25, 55:3 range [1] - 60:17 rapid [1] - 54:22 rate [4] - 35:10, 35:11, 38:16, 56:8 rather [1] - 36:21</p>				

<p>required [1] - 58:9</p> <p>Research [2] - 21:18, 33:21</p> <p>research [46] - 19:4, 22:13, 22:15, 22:16, 22:24, 23:18, 26:2, 26:10, 26:23, 27:2, 27:4, 27:7, 27:21, 28:5, 29:5, 29:7, 30:18, 30:23, 30:25, 32:18, 33:19, 34:4, 34:5, 35:14, 35:23, 36:12, 39:11, 39:18, 40:4, 40:7, 40:22, 41:14, 41:18, 42:6, 42:7, 42:8, 42:21, 49:14, 50:18, 54:14, 57:21, 58:15, 61:2, 62:3, 62:7</p> <p>researcher [6] - 27:18, 28:19, 29:10, 31:13, 35:19, 40:5</p> <p>researchers [3] - 30:17, 35:5, 56:22</p> <p>researchers' [1] - 32:22</p> <p>researching [1] - 33:23</p> <p>residency [5] - 19:12, 19:19, 21:11, 21:19, 24:22</p> <p>residents [1] - 25:1</p> <p>respected [3] - 33:13, 56:21, 58:2</p> <p>respond [3] - 6:5, 7:23, 7:24</p> <p>response [12] - 43:25, 45:6, 45:24, 46:9, 46:22, 47:17, 47:18, 48:11, 52:13, 52:23, 53:3, 55:19</p> <p>responses [3] - 12:16, 39:9, 45:13</p> <p>responsibilities [1] - 22:14</p> <p>responsive [2] - 12:5, 12:16</p> <p>rest [3] - 5:2, 14:16, 44:5</p> <p>restarted [1] - 15:22</p> <p>rested [1] - 14:17</p> <p>result [1] - 58:21</p> <p>results [4] - 49:24, 52:14, 56:3, 58:25</p> <p>resume [1] - 14:23</p> <p>retired [1] - 25:22</p> <p>retirement [1] - 19:18</p> <p>return [1] - 62:18</p> <p>review [4] - 28:9, 32:6, 49:17, 57:11</p>	<p>reviewed [9] - 22:20, 28:12, 31:20, 32:22, 33:6, 49:6, 53:17, 53:18, 56:21</p> <p>reviewer [7] - 22:17, 22:18, 28:15, 32:3, 32:5, 32:21, 33:1</p> <p>reviewers [3] - 32:8, 32:10, 32:11</p> <p>revise [1] - 28:16</p> <p>revisions [1] - 32:15</p> <p>revisited [1] - 40:1</p> <p>rheumatologist [3] - 43:21, 47:13, 49:8</p> <p>Rheumatology [1] - 49:6</p> <p>Roberta [1] - 17:25</p> <p>RODRIGUEZ [1] - 3:4</p> <p>Rodriguez [6] - 11:4, 11:6, 11:10, 11:13, 12:7, 12:24</p> <p>role [3] - 59:23, 60:10, 61:10</p> <p>Ronald [3] - 2:10, 2:10, 4:16</p> <p>Room [1] - 1:23</p> <p>room [1] - 28:12</p> <p>Rose [1] - 2:17</p> <p>rotation [1] - 19:10</p> <p>roughly [4] - 23:25, 25:22, 26:20, 28:12</p> <p>RPR [2] - 1:22, 63:11</p> <p>rub [1] - 14:3</p> <p>Rub [2] - 14:4, 14:6</p> <p>running [1] - 24:6</p>	<p>scientific [3] - 31:20, 40:10, 56:14</p> <p>scientist [2] - 58:1, 61:24</p> <p>scientists [1] - 61:4</p> <p>scored [1] - 51:17</p> <p>scores [1] - 51:22</p> <p>screen [3] - 16:23, 50:12, 54:7</p> <p>screened [3] - 42:25, 51:16, 51:21</p> <p>screening [1] - 54:1</p> <p>seated [1] - 17:22</p> <p>second [2] - 6:14, 6:21</p> <p>see [10] - 8:5, 16:2, 16:22, 22:3, 25:24, 31:4, 43:1, 47:25, 54:24, 62:1</p> <p>selected [2] - 11:3, 13:20</p> <p>selects [1] - 32:9</p> <p>send [1] - 59:24</p> <p>Senior [1] - 21:18</p> <p>senior [2] - 23:16, 58:2</p> <p>sense [1] - 37:25</p> <p>sensitive [1] - 39:8</p> <p>sensitivities [1] - 36:13</p> <p>sensitivity [2] - 35:24, 38:10</p> <p>sensitization [2] - 46:22, 49:20</p> <p>separate [1] - 60:6</p> <p>SEPTEMBER [2] - 1:18, 4:1</p> <p>serial [2] - 41:3, 41:5</p> <p>series [4] - 7:10, 27:8, 30:9, 30:23</p> <p>served [4] - 21:20, 31:10, 32:2</p> <p>service [1] - 38:7</p> <p>services [3] - 19:10, 22:14, 26:17</p> <p>serving [4] - 26:9, 26:25, 27:11, 32:21</p> <p>session [6] - 34:23, 44:19, 45:13, 52:19, 54:14</p> <p>SESSION [2] - 1:17, 4:4</p> <p>sessions [1] - 52:20</p> <p>set [2] - 22:25, 23:2</p> <p>setting [1] - 9:11</p> <p>SEVEN [1] - 1:16</p> <p>several [8] - 24:2, 33:8, 36:4, 41:20, 43:18, 46:18, 54:10, 57:22</p>	<p>shake [1] - 60:14</p> <p>ship [1] - 43:7</p> <p>shocked [1] - 39:21</p> <p>short [2] - 34:14, 45:24</p> <p>short-term [1] - 45:24</p> <p>shortly [1] - 15:11</p> <p>shot [1] - 36:21</p> <p>shots [1] - 36:20</p> <p>show [5] - 12:23, 39:4, 39:9, 40:20, 53:8</p> <p>showed [2] - 9:8, 61:18</p> <p>showing [4] - 48:23, 49:12, 56:16, 62:4</p> <p>shown [1] - 45:24</p> <p>sick [2] - 38:11, 51:19</p> <p>sidestep [1] - 9:16</p> <p>significant [3] - 47:9, 53:2, 56:10</p> <p>significantly [1] - 30:10</p> <p>similar [1] - 5:15</p> <p>simply [3] - 5:12, 7:1, 8:5</p> <p>simultaneously [1] - 27:11</p> <p>single [1] - 56:4</p> <p>sit [1] - 17:3</p> <p>six [3] - 45:18, 47:1, 61:16</p> <p>six-month [1] - 45:18</p> <p>size [1] - 52:23</p> <p>sizes [1] - 60:16</p> <p>skeptics [1] - 47:24</p> <p>skye@consumersadvocates.com [1] - 2:13</p> <p>Sleep [2] - 56:18, 56:20</p> <p>sleep [23] - 34:9, 46:6, 46:7, 53:23, 54:11, 54:13, 54:15, 54:18, 54:21, 54:22, 54:24, 55:11, 55:13, 55:20, 55:21, 55:22, 56:8, 56:9, 56:22</p> <p>sleeping [1] - 54:12</p> <p>slept [3] - 54:9, 56:7, 56:9</p> <p>slow [1] - 56:8</p> <p>slowing [1] - 46:5</p> <p>small [6] - 27:23, 30:9, 36:22, 60:16, 60:19, 61:7</p> <p>smaller [3] - 22:21, 60:23, 60:24</p> <p>sniff [6] - 36:9, 38:17, 44:21, 45:25, 52:7, 52:8</p>	<p>sniffed [3] - 36:7, 39:5</p> <p>sniffing [2] - 39:3, 45:7</p> <p>sniffs [1] - 52:2</p> <p>so-called [1] - 58:5</p> <p>societies [1] - 22:13</p> <p>solution [1] - 61:8</p> <p>someone [2] - 39:8, 44:3</p> <p>sometimes [6] - 16:21, 27:23, 27:24, 32:12, 35:10, 46:3</p> <p>somewhat [1] - 30:10</p> <p>sorry [15] - 11:8, 11:25, 13:13, 18:19, 19:19, 23:24, 25:22, 29:6, 29:11, 33:15, 45:12, 46:15, 47:8, 54:17, 59:25</p> <p>sort [3] - 16:21, 27:23, 45:23</p> <p>sounded [1] - 37:16</p> <p>source [4] - 41:4, 61:19, 62:2, 62:13</p> <p>sources [1] - 62:9</p> <p>South [1] - 2:17</p> <p>speaker [2] - 22:25, 23:2</p> <p>specialized [1] - 51:6</p> <p>specializing [1] - 43:22</p> <p>specific [1] - 33:16</p> <p>specifically [3] - 24:11, 30:24, 31:9</p> <p>spectroscopy [3] - 59:3, 59:5, 59:11</p> <p>Spectroscopy [1] - 59:4</p> <p>spell [1] - 17:23</p> <p>Spencer [2] - 2:16, 4:20</p> <p>spencer.persson@nortonrosefulbright.com [1] - 2:20</p> <p>spent [1] - 23:24</p> <p>Spring [1] - 1:23</p> <p>staff [2] - 29:1, 44:22</p> <p>stage [1] - 54:21</p> <p>stages [1] - 54:24</p> <p>stairs [1] - 16:17</p> <p>stand [1] - 34:18</p> <p>Standard [2] - 26:6, 26:19</p> <p>standard [4] - 36:15, 36:18, 44:2, 54:13</p> <p>standardized [3] - 28:3, 38:9, 43:23</p> <p>Stanford [5] - 18:15, 19:6, 37:2, 37:3, 37:8</p>
--	--	--	--	--

<p>start [6] - 16:4, 16:11, 21:11, 26:19, 29:14, 40:4</p> <p>started [13] - 5:7, 7:18, 8:20, 13:3, 21:15, 35:13, 37:6, 40:7, 42:4, 44:18, 48:8, 48:15, 55:21</p> <p>starting [2] - 23:14, 29:16</p> <p>State [5] - 19:16, 19:17, 21:3, 58:2, 59:25</p> <p>state [3] - 17:23, 46:6, 46:7</p> <p>STATES [1] - 1:1</p> <p>states [3] - 19:15, 63:7</p> <p>stating [1] - 61:16</p> <p>statistically [3] - 47:9, 53:2, 56:10</p> <p>status [2] - 19:18, 25:20</p> <p>stay [1] - 48:2</p> <p>stayed [1] - 48:11</p> <p>staying [1] - 46:25</p> <p>stenographically [1] - 63:3</p> <p>step [3] - 15:16, 34:17, 41:6</p> <p>still [4] - 19:5, 25:1, 25:19, 58:8</p> <p>stipulation [1] - 8:24</p> <p>stop [1] - 50:15</p> <p>stopped [9] - 5:8, 5:13, 6:9, 6:17, 6:21, 6:22, 7:18, 8:8, 8:21</p> <p>story [2] - 6:11</p> <p>Street [2] - 1:23, 2:17</p> <p>stress [2] - 31:14, 31:16</p> <p>stretch [2] - 16:16, 34:19</p> <p>strong [2] - 60:8, 61:5</p> <p>structures [1] - 28:3</p> <p>students [2] - 25:2, 51:17</p> <p>studied [4] - 30:7, 42:1, 42:20, 61:22</p> <p>studies [9] - 7:9, 7:11, 7:21, 30:3, 41:21, 42:1, 50:5, 53:19, 58:21</p> <p>study [48] - 5:7, 5:13, 6:9, 6:21, 7:12, 7:16, 7:18, 8:6, 8:8, 8:21, 8:25, 9:5, 9:8, 9:10, 20:18, 27:15, 27:22, 32:13, 34:9, 37:16, 38:4, 39:4, 44:5, 44:7, 44:17, 44:22,</p>	<p>45:19, 46:20, 48:25, 50:12, 51:24, 52:5, 52:15, 52:16, 53:6, 53:9, 54:1, 54:5, 54:25, 55:24, 56:3, 56:5, 56:14, 56:17, 57:2, 57:12, 62:12</p> <p>studying [4] - 31:7, 34:2, 46:14, 61:16</p> <p>stuff [1] - 22:20</p> <p>subject [3] - 14:15, 14:18, 43:9</p> <p>subjective [1] - 47:14</p> <p>subjects [2] - 52:5, 54:25</p> <p>submit [1] - 23:3</p> <p>submitted [1] - 32:11</p> <p>subsequent [4] - 5:7, 5:13, 6:9, 30:2</p> <p>subset [2] - 48:4, 48:5</p> <p>subspecialty [2] - 24:10, 34:11</p> <p>substantial [1] - 27:6</p> <p>success [1] - 17:1</p> <p>successful [1] - 41:23</p> <p>succession [1] - 47:3</p> <p>succussed [1] - 47:3</p> <p>succussion [2] - 60:8, 60:13</p> <p>succussions [1] - 60:5</p> <p>suffer [1] - 42:3</p> <p>sugar [1] - 15:25</p> <p>suggest [1] - 54:3</p> <p>Suite [1] - 2:6</p> <p>sulfur [1] - 51:24</p> <p>support [1] - 22:15</p> <p>suppose [1] - 8:23</p> <p>surprised [2] - 39:22, 62:14</p> <p>suspected [1] - 44:3</p> <p>swear [1] - 17:17</p> <p>sweating [1] - 35:11</p> <p>switch [3] - 48:3, 48:6, 48:14</p> <p>switched [1] - 48:15</p> <p>SWORN [2] - 3:5, 18:2</p> <p>symptomatology [1] - 51:3</p> <p>symptoms [3] - 36:24, 54:3</p> <p>Syndrome [1] - 27:15</p> <p>system [1] - 41:9</p> <p>systematic [1] - 32:13</p>	<p>9:10</p> <p>talks [1] - 26:23</p> <p>Taylor [1] - 10:6</p> <p>Taylor's [1] - 10:11</p> <p>teaching [2] - 22:14, 25:1</p> <p>team [1] - 28:5</p> <p>technical [2] - 48:21, 48:22</p> <p>technique [1] - 36:17</p> <p>techniques [4] - 34:8, 36:9, 59:5, 61:17</p> <p>Technology [1] - 61:15</p> <p>Teething [8] - 5:3, 5:5, 5:8, 6:12, 6:18, 7:15, 9:9, 9:10</p> <p>Tel [1] - 2:7</p> <p>tel [1] - 2:12</p> <p>telephone [1] - 1:24</p> <p>temperature [1] - 61:6</p> <p>tend [1] - 35:5</p> <p>tendency [1] - 54:3</p> <p>tension [1] - 35:12</p> <p>tenure [2] - 24:16, 25:21</p> <p>term [5] - 35:16, 45:24, 46:22, 48:21, 48:22</p> <p>terms [1] - 8:12</p> <p>test [2] - 36:16, 59:24</p> <p>tested [2] - 50:17, 50:19</p> <p>testified [1] - 16:25</p> <p>testify [2] - 6:24, 17:2</p> <p>testimony [1] - 12:25</p> <p>testimony [9] - 3:4, 3:5, 5:5, 5:12, 6:8, 11:3, 11:13, 13:22, 17:18</p> <p>testing [2] - 37:12, 38:2</p> <p>tests [1] - 58:16</p> <p>THE [53] - 2:3, 2:15, 4:22, 5:24, 6:1, 6:4, 7:5, 7:24, 8:14, 9:4, 9:16, 9:20, 9:23, 9:25, 10:1, 10:8, 10:23, 11:5, 11:8, 11:10, 11:18, 11:25, 12:9, 12:13, 12:18, 12:22, 13:7, 13:11, 13:14, 13:17, 14:1, 14:7, 14:13, 14:17, 14:22, 15:2, 15:6, 15:20, 16:2, 16:7, 16:14, 16:19, 17:8, 17:13, 17:21, 17:25, 23:10, 34:13, 34:14, 34:23, 44:11, 44:14,</p>	<p>62:17</p> <p>themselves [3] - 47:4, 48:1, 61:7</p> <p>theory [2] - 12:17, 60:25</p> <p>therapies [1] - 31:15</p> <p>thesis [1] - 34:6</p> <p>they've [2] - 9:9, 10:23</p> <p>thinking [2] - 7:20, 46:5</p> <p>thinks [1] - 16:9</p> <p>thoughts [1] - 31:3</p> <p>three [10] - 19:11, 23:21, 23:24, 23:25, 24:15, 32:12, 45:18, 46:24, 52:19</p> <p>three-month [2] - 45:18, 46:24</p> <p>three-year [1] - 23:24</p> <p>threw [2] - 7:16, 7:17</p> <p>THURSDAY [2] - 1:18, 4:1</p> <p>timely [1] - 12:18</p> <p>tip [1] - 17:7</p> <p>today [2] - 18:7, 49:1</p> <p>tone [2] - 54:19, 54:20</p> <p>took [6] - 20:11, 20:21, 21:2, 29:18, 36:14, 47:5</p> <p>tool [1] - 37:19</p> <p>tools [1] - 35:18</p> <p>topic [5] - 27:21, 29:24, 30:24, 53:11, 61:3</p> <p>topics [3] - 29:12, 29:13, 62:7</p> <p>track [2] - 24:16, 27:20</p> <p>train [2] - 24:3, 30:16</p> <p>trained [2] - 21:4, 24:11</p> <p>training [13] - 20:4, 20:7, 20:11, 20:14, 20:16, 20:20, 21:1, 24:2, 24:6, 24:25, 29:23, 30:20, 37:6</p> <p>transcript [2] - 63:3, 63:5</p> <p>Transcript [1] - 1:16</p> <p>translates [1] - 22:15</p> <p>treat [1] - 36:17</p> <p>treated [1] - 45:15</p> <p>treating [1] - 37:5</p> <p>treatment [9] - 40:2, 40:3, 41:23, 44:24, 45:2, 46:24, 47:1, 48:2, 55:1</p> <p>Trial [5] - 2:5, 10:11, 10:17, 10:19, 10:22</p> <p>TRIAL [2] - 1:16, 4:3</p> <p>trial [11] - 5:5, 6:14,</p>	<p>6:16, 6:17, 10:15, 13:3, 19:23, 41:14, 42:23, 43:18, 49:25</p> <p>trials [5] - 32:19, 32:23, 37:23, 53:21, 57:6</p> <p>true [5] - 6:18, 9:12, 17:3, 48:22, 63:2</p> <p>truth [3] - 17:19, 17:20</p> <p>try [1] - 28:16</p> <p>trying [5] - 37:4, 39:24, 54:18, 58:3, 59:14</p> <p>Tucson [2] - 18:8, 27:12</p> <p>turn [2] - 33:4, 60:2</p> <p>turned [2] - 48:8, 57:20</p> <p>turns [1] - 61:2</p> <p>two [11] - 15:23, 20:24, 27:13, 32:12, 42:23, 45:10, 50:9, 51:17, 55:3, 55:25, 56:2</p> <p>two-year [1] - 20:24</p> <p>type [18] - 19:18, 24:23, 27:14, 29:24, 30:4, 36:13, 36:19, 39:20, 41:24, 46:18, 50:14, 50:22, 50:24, 51:8, 52:25, 53:25, 54:2, 61:17</p> <p>types [10] - 29:9, 31:6, 36:15, 44:9, 51:13, 51:18, 57:5, 58:3, 59:2</p> <p>typically [4] - 21:20, 29:4, 32:11, 32:16</p>
U				
<p>ultimately [1] - 46:19</p> <p>ultraviolet [1] - 59:5</p> <p>unblinded [1] - 32:6</p> <p>uncommon [1] - 28:14</p> <p>under [2] - 5:11, 52:1</p> <p>undergraduate [1] - 34:7</p> <p>understood [3] - 40:9, 40:11, 40:24</p> <p>undertake [1] - 39:11</p> <p>unethical [1] - 6:15</p> <p>unfortunately [1] - 6:10</p> <p>unique [4] - 24:12, 24:13, 40:13, 51:2</p> <p>unit [1] - 24:6</p> <p>United [1] - 53:16</p> <p>united [1] - 63:7</p> <p>UNITED [1] - 1:1</p>				

<p>university ^[1] - 28:24 University ^[13] - 18:12, 18:15, 19:8, 23:19, 24:17, 24:24, 25:5, 25:13, 25:18, 30:1, 30:6, 44:19, 58:2 up ^[18] - 7:16, 7:18, 9:14, 16:17, 18:11, 19:5, 23:22, 24:4, 30:13, 36:3, 43:6, 44:20, 46:25, 48:16, 50:9, 50:11, 54:18, 57:18 US ^[1] - 2:17</p>	<p>35:10, 46:3 ways ^[4] - 20:5, 37:5, 40:19, 59:6 week ^[2] - 13:3, 14:18 weekly ^[1] - 52:19 weeks ^[1] - 54:10 weighed ^[2] - 8:7, 8:15 well-qualified ^[1] - 25:12 West ^[1] - 2:6 whole ^[3] - 6:11, 17:19 willing ^[2] - 57:10, 57:12 wishes ^[1] - 6:5 withdrawn ^[1] - 5:8 WITNESS ^[7] - 3:5, 17:21, 17:25, 18:2, 34:13, 44:11, 44:14 witness ^[7] - 5:2, 10:2, 13:18, 14:18, 15:8, 16:22, 17:14 witnesses ^[1] - 14:14 word ^[4] - 48:17, 59:9, 59:10, 61:12 works ^[1] - 62:16 worldwide ^[1] - 37:7 write ^[2] - 28:1, 32:12 writing ^[1] - 29:19 written ^[3] - 20:12, 21:2, 22:21</p>
V	X
<p>validated ^[5] - 38:9, 44:7, 50:12, 50:16, 51:12 variability ^[2] - 35:11, 38:16 variety ^[2] - 22:18, 30:3 various ^[5] - 20:5, 21:21, 22:16, 31:15, 35:23 versus ^[5] - 4:9, 38:22, 47:20, 58:5, 58:11 verum ^[18] - 38:25, 43:12, 45:3, 45:11, 46:10, 46:25, 47:16, 48:5, 48:9, 48:13, 48:15, 48:17, 56:6, 58:5, 58:17, 61:19 Veteran's ^[3] - 27:12, 30:10, 38:5 veterans ^[2] - 38:5, 39:2 video ^[1] - 10:5 videotaped ^[1] - 13:20 view ^[1] - 51:1 viewed ^[1] - 6:14 visible ^[1] - 59:5 vitae ^[3] - 22:8, 22:9, 33:3 vitamins ^[1] - 29:21 Vomica ^[1] - 55:9 vote ^[1] - 47:25 vS ^[1] - 1:11</p>	<p>XENOS ^[1] - 3:5 Xenos ^[2] - 13:21, 13:22</p>
W	Y
<p>wait ^[1] - 16:2 walk ^[1] - 16:16 walked ^[1] - 7:16 War ^[2] - 38:6, 39:1 wave ^[1] - 46:9 waves ^[4] - 31:1, 31:2,</p>	<p>year ^[6] - 18:20, 20:2, 20:24, 23:24, 37:1, 61:14 years ^[11] - 19:11, 21:23, 23:21, 23:25, 24:2, 24:15, 25:20, 27:2, 30:7, 39:12, 57:21 yesterday ^[2] - 10:5, 60:20 young ^[1] - 51:19 yourself ^[1] - 32:18</p>