UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UMICORE AG & CO. KG,

Petitioner

v.

BASF CORPORATION,

Patent Owner

Cases IPR2015-01121, -01125

Patent 7,601,662

Cases IPR2015-01123, -01124

Patent 8,404,203

CONFIDENTIAL

DEPOSITION OF MICHAEL TSAPATSIS, Ph.D.

Tuesday, April 12, 2016

REPORTED BY:
DANA S. ANDERSON-LINNELL
Job no: 16070

Page 2

CONFIDENTIAL DEPOSITION OF MICHAEL TSAPATSIS, Ph.D., taken on Tuesday, April 12, 2016, commencing at 9:01 a.m., at the Hyatt Regency, 1300 Nicollet Mall, Minneapolis, Minnesota, before Dana S. Anderson-Linnell, a Notary Public of and for the State of Minnesota.

Page 3

APPEARANCES

On Behalf of the Umicore AG & Co. KG:
K. Patrick Herman, Esquire
Elizabeth Gardner, Esquire
ORRICK, HERRINGTON & SUTCLIFFE, LLP
51 West 52nd Street
New York, NY 10019-6142
Phone: 212.506.5000
Email: pherman@orrick.com
egardner@orrick.com

(Appearances continued on next page)

Page 4

APPEARANCES (continued):

On Behalf of BASF Corporation:
Anish R. Desai, Esquire
WEIL, GOTSHAL & MANGES, LLP
1300 Eye Street, NW, Suite 900
Washington, DC 20005
Phone: 202.682.7000
Email: anish.desai@weil.com

ALSO PRESENT: Dr. Stefan Retzow, Umicore
Dr. Frank-Walter Schütze, Umicore

Page 5

INDEX

MICHAEL TSAPATSIS, Ph.D.,
called as a witness, being first duly sworn, was examined and testified as follows:

EXAMINATION

BY MR. HERMAN:

Q. Good morning, Doctor. Is it Dr. Tsapatsis?
A. Yes.
Q. Did I get that right?
A. Right.
Q. My name is Patrick Herman, and I am with the law firm of Orrick, Herrington and Sutcliffe. And I'm here today on behalf of Umicore. And with me are Elizabeth Gardner, also from Orrick, and Stefan Retzow and Frank Mr. Schütze, both from Umicore.

Have you ever been deposed before, Doctor?

A. No. This is the first time.
Q. So just before we begin, just a couple of things to keep in mind. The first is it would be great if whenever you're answering a question to respond orally as opposed to shaking your head or making some other nonverbal response.

Is that okay?

A. That is okay.
Q. And then the second is we should both try

our best to wait until each other are finished, me asking my question before you respond. And I'll do the same for you. I'll wait until you're done providing your answer before asking another question.

Is that fine?

A. That is fine.
Q. And the last is if you have any trouble understanding my question, if there's a part of it that's unclear to you, please feel free to let me know, and I'll try to rephrase.

Is that okay?

A. That is okay.
Q. Okay. So, Doctor, did you meet with anyone today in preparation for your deposition?
A. Today?
Q. Just in general, at any time.
A. I met with Anish.
Q. Is he the only one you met with in preparation?
A. Yes.
Q. And when was that meeting?
A. That was yesterday.
Q. Approximately how long?
A. Maybe two hours.

Page 10

Q. Okay. Did you review any documents that refreshed your recollection during the meeting?
A. Yes. I reviewed my declaration.
Q. Okay. Anything else?
A. The associated documents that I cite in my declaration.
Q. Okay. Did you talk with anyone who was not present besides Anish?
A. No, I didn't.
Q. Okay. Now, I would like to spend a little time talking about your background and the work that you've done. And I don't want to go through your entire work and academic history; so perhaps maybe the last 15 years or so.
Is that okay?
A. That is okay.
Q. Let's start maybe in about 2002. What were you doing in 2002?
A. 2002, I was a professor at University of Massachusetts at Amherst.
Q. Okay. And what department were you associated with?
A. Chemical engineer.
Q. And generally did you have any research that you were focusing on at the time?

Page 11

A. Yes. I was focusing on research on zeolites.
Q. Anything in particular about zeolites?
A. My research in zeolites at the time was on zeolite membranes, zeolite absorbants and synthesis of zeolite catalysts.
Q. And did you write papers about those particular topics in the 2002 time frame?
A. Yes, I wrote papers.
Q. And how long were you a professor at the University of Massachusetts?
A. From 1994.
Q. And when did you stop working there?
A. 2003.
Q. Okay. And did your area of research change at all from 2002 to 2003?
A. No. My area of research did not change.
Q. Okay. So still those same topics with respect to zeolites?
A. Yes.
Q. Okay. Then what did you do in 2003?
A. I moved to the University of Minnesota.
Q. Okay. And what was your position there?
A. Professor.
Q. And what department were you associated

Page 12

with?
A. Chemical engineering and material science.
Q. And in 2003, what was your research focused on?
A. On zeolite synthesis for absorption, separation and catalysis.
Q. And when you say "catalysis," what do you mean by that?
A. Accelerating reactions using zeolite catalysts, improving selectivity of reactions and making the materials that will do this accelerations and improvements of selectivity.
Q. Are there any particular reactions you were focused on?
A. We are focusing on hydrocarbon processing. We have focus on processing of tail gases of the Claus tail-gas process. And also we have reactions on -- we're studying reactions related to biomass, conversion to valuable products, chemicals and fuels.
Q. And that was in 2003?
A. That was starting in 2003.
Q. Okay. And how long did that particular research work continue?
A. It continues until now.

Page 13

Q. Okay. You say you've been researching those same topics, the synthesis absorption and catalysis with respect to zeolites. And with respect to catalysis, those areas of catalysis that you mentioned to me?
A. Uh-huh. Yes.
Q. And that work has been continuing since about 2003 until the present?
A. Yes.
Q. Okay. Now, in that 2003 to the present time frame, are there any particular problems with zeolites that you were focusing on?
A. We are focusing on improving the stability of zeolites under hydrothermal -- exposure to hydrothermal conditions. We are looking at how to improve mass transfer in zeolites by creating mesoporosity in the zeolites. We are looking at how to improve the stability of zeolites in catalytic applications.
Q. And you mentioned that you were working to improve stability of zeolites in catalytic applications. Did you write papers about that?
A. Yes.
Q. So if I look through the list of papers that are attached to your CV, am I going to see some

Page 14

where that's specifically addressed?
A. Yes.
Q. Why don't we take a brief look at your -- your CV is attached to your declaration, is that right?
A. Yes.
Q. And I'd like to show you what's been previously marked as Exhibit 2018 in all of the IPRs that are at issue. So that's IPR 2015/01121, 1123, 1124 and 1125. And I believe your CV is attached to the back of the document that I just handed to you.
A. (Reviews document.) Yes.
Q. And if you will turn to that for me. Starting at about page 085. Do you see the numbers in the lower right corner?
A. Yes.
Q. There's a list of papers that you've published, is that right?
A. Yes.
Q. And if you flip through, they're in date order.
A. Yes.
Q. You can find the papers that you started publishing at about 2003 beginning on page 95.

Page 15

A. Yes.
Q. And at the bottom there there's a paper that's entitled Highly Crystalline Layered Silicate with Three-Dimensionally Microporous Layers?
A. What page?
Q. On page 95.
A. Yes.
Q. So that's one of your papers, right?
A. Yes.
Q. And that's about the crystalline structure and microporous layers of particular materials that you were working with?
A. Yes.
Q. And if you start reading up, at 157, item number 157 is Roles of Transients and Nucleation in Film Deposition Within a Support?
A. Yes.
Q. That doesn't say anything about hydrothermal aging in its title, is that right?
A. Yes, it doesn't.
Q. So 156, that's your next paper. That's Microstructural Optimization of the Zeolite Membrane for Organic Vapor Separation?
A. Yes.

Page 16

Q. Is that one about hydrothermal stability?
A. No.
Q. How about 155?
A. No.
Q. 154?
A. No.
Q. 153?
A. No.
Q. 152?
A. No.
Q. 151?
A. No.
Q. 150?
A. No.
Q. So that's all the papers you've published in 2003, but none of those are about hydrothermal stability, is that true?
A. Yes, that's true.
Q. And how about 150, is that about hydrothermal stability?
A. No.
Q. 149?
A. No.
Q. So can you find, looking at the papers of 2004, any paper in that collection in 2004 that's

Page 17

about hydrothermal stability of zeolite materials?
A. In 2004, no.
Q. How about in 2005?
A. In 2005, no.
Q. 2006?
A. In 2006, no.
Q. Okay. So we looked at 2003, 2004, 2005, 2006. And in those time -- that time period, you didn't write any papers relating to the hydrothermal stability of zeolite materials, right?
MR. DESAI: Objection to form.
THE WITNESS: Correct.
BY MR. HERMAN:
Q. Now, in that time period were you working in industry?
A. No. I was working at the University of Minnesota at the time.
Q. So you were not working to design exhaust gas treatment systems, right?
A. No, I was not.
Q. And you were not working to select catalysts for reducing nitrogen oxides in diesel engine exhaust, true?

DOCKET ALARM

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts

Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research

With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips

Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS
Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS
Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS
Sync your system to PACER to automate legal marketing.