

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

E. I. DU PONT DE NEMOURS AND COMPANY and
ARCHER-DANIELS-MIDLAND COMPANY,
Petitioners,

v.

FURANIX TECHNOLOGIES B.V.,
Patent Owner

Case IPR2015-01838
Patent 8,865,921

DECLARATION OF WAYNE P. SCHAMMEL, PH.D.

Exhibit 2003

I, Wayne P. Schammel, Ph.D., declare and state as follows:

I. QUALIFICATIONS

1. For the past forty years, I have worked as a research chemist, specializing in the development of homogeneous and heterogeneous catalysts, in particular for use in oxidation reactions. I also have particular experience utilizing high throughput experimentation (“HTE”) methodologies for the development of such catalysts.

2. I received my Bachelors of Science in chemistry from the University of Nebraska. I earned my PhD in inorganic chemistry from the Ohio State University.

3. In 1976, I joined Amoco Chemicals Company as Research Chemist and was promoted to Staff Research Chemist in 1982. During my time as Research Chemist and Staff Research Chemist, I provided process design data for the Whiting polybutylene unit, conducted research relating to polyisobutylene during which I discovered the fundamental relationship between impurities and polymer molecular weight, and designed and constructed a low temperature xylene crystallization unit.

4. I was promoted to Senior Research Chemist at Amoco Chemicals Company in 1985, and in 1992, I was promoted to Senior Research Associate. While I was Senior Research Chemist and Senior Research Associate, I was the

senior technical leader responsible for process improvements on the trimellitic anhydride (“TMA”) process. As part of this role, I designed, developed and implemented several significant catalyst improvements that enhanced the oxidation yield of pseudocumene to TMA. These improvements resulted in estimated annual savings of \$2-3 million. I also reduced catalyst costs by \$1 million per annum when catalyst metal prices escalated. In addition, I provided active technical support to Amoco’s Manufacturing department as needed which included solving significant corrosion, plugging and energy problems.

5. In 2002, I joined BP Americas Company – Aromatics and Acetyls as Process Chemistry Lead for Aromatics. In this position, I led the Process Chemistry Community of Practice, a strategic network of chemists to ensure best in class position for process chemistry in BP Aromatics. I guided the development and implementation of tools to facilitate research and increase productivity, in particular using knowledge management and technical software tools. I identified, monitored and addressed worldwide threats and opportunities to the purified terephthalic acid (“PTA”) business by performing a SWOT analysis of projects and activities. As part of this analysis, gaps with competitors were addressed and strengths were enhanced. I also established new external partnerships with academic and industrial specialists, which served to leverage R&D resources effectively. HTE capabilities were enhanced and academic partnerships were

nourished and improved.

6. In 2004, I was promoted to Senior Research Associate. In this role, I formed and guided a team of five chemists in a catalyst discovery program on PTA. I led the team that discovered and developed a new oxidation catalyst family, which has the potential to dramatically reduce both capital and operating costs for the production of PTA and other aromatic acid products. I stimulated the use of HTE in catalyst discovery and development projects, thus saving several hundred thousand dollars per year in research costs and making rapid and profound discoveries.

7. In 2009, I joined Siluria Technologies, Inc. as Lead Principal Scientist, and I have maintained that role to date. At Siluria Technologies, I have discovered and developed several families of novel fixed bed catalysts for the oxidative coupling of methane, some of which are currently being scaled up for demonstration testing and eventual commercialization.

8. I have also served as a consultant involving homogeneous oxidation with air or oxygen using cobalt/manganese/bromine based catalysts. One of the projects I consulted on concerned the oxidization of HMF ethers (for example 5-methoxymethylfurfural (MMF) and 5-ethoxymethylfurfural (EMF)) for the preparation of 2,5-furandicarboxylic acid (FDCA) and esters of FDCA. This consulting work led to my being an inventor on U.S. patent 8,519,167, assigned to

Patent Owner Furanix Technologies B.V.

9. I am an inventor on twenty-eight U.S. patents, including patents on oxidation catalyst technology. I am also an inventor on eighteen active patent applications on new oxidation catalyst technology, and an inventor on five international patent applications on catalyst technology. I am author or co-author of seven publications, including papers on oxidation reactions and chemical synthesis. A copy of my CV is provided as Exhibit 2019.

10. I am being compensated for my time working on this proceeding at a rate of \$200/hour. My compensation in no way depends on the outcome of this proceeding.

II. INFORMATION CONSIDERED

11. In forming my opinion, I have relied upon my accumulated scientific knowledge and experience. I have reviewed U.S. patent 8,865,921, as well as the documents cited in this declaration. I have also reviewed the Declaration of Kevin J. Martin (“Martin Decl.,” Ex. 1009) and the documents cited in Dr. Martin’s declaration. I have reviewed the Declaration of Gert-Jan Gruter, Ph.D. (“Gruter Decl.,” Ex.2007) and the documents cited in Dr. Gruter’s declaration. A list of documents I reviewed in forming my opinions can be found as Appendix A, at the end of this declaration.

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