

Becker Transactions Unveils Revolutionary Patented Diagnostic Technology: Empowering Testing Anytime, Anywhere

NEW YORK , NY, UNITED STATES, April 14, 2026 /EINPresswire.com/ -- [Becker Transactions](#), a world-leading patent brokerage firm, today proudly announces the availability of a high-value patent portfolio that is set to revolutionize At-Home and Point-of-Care Diagnostic Testing. No Lab, No Power, No Problem: Diagnostic Devices with Surface Energy Gradient Coatings Work Anywhere Allowing Liquid Control Without Pumps, Valves or Hardware.

"Becker Transactions is thrilled to be at the forefront of a transformative shift in diagnostics. With the increasing demand for rapid, accurate, and user-friendly tests—especially in at-home and point-of-care settings—we

recognize the urgent need for innovation. Current solutions often fall short due to limitations in accuracy and fluid handling, but our groundbreaking technology addresses these challenges head-on. We are excited to empower healthcare providers and patients with reliable diagnostic tools that will enhance disease screening and chronic condition monitoring like never before." - Dean Becker, Chairman, Becker Transactions

This innovative diagnostic patent portfolio, developed by Brian Babcock, covers surface energy gradient coating technology and microfluidic product designs that fundamentally transform how diagnostic devices manage liquid flow and testing. A surface energy gradient coating changes the capillary pressure applied to a liquid as it flows down a channel. These coatings can be used to control multiple flow characteristics on a device including flow velocity and stop/start behavior. Multiple channels can have different flow velocities which allows for multiple tests with different reaction times to be performed in a device while simplifying the design. Time delays for



introducing reactants can be designed into the product without requiring additional user input. The portfolio currently consists of 5 granted patents and 3 pending patent applications (1 allowed). The earliest cases in the portfolio have a priority date of 2013 with the later patents in the portfolio extending to 2041.

“Using surface energy gradient coatings on a diagnostic device creates many opportunities that cannot be achieved in current at-home and point-of-care devices. Different channels can have different coatings that control fluid flow velocity, allowing for multiple tests or timed delivery of fluids to a zone,” Babcock said. “For example, diabetes patients often want to monitor HbA1c levels and glucose levels, but glucose levels can be obtained in seconds while HbA1c levels often take 3 minutes or more. Using our gradient coatings we were able to create a flow channel for glucose testing and a flow channel for HbA1c testing, allowing a single blood sample to be tested for both. In another example, our coatings have been used to delay the delivery of an on-board wash sample to a reaction zone, allowing time for antibodies to bind to proteins before non-bound species were washed away. This design improves the accuracy of lateral flow tests while also greatly reducing the chance of user error.”

By precisely engineering surface energy gradients, fluids move at controlled rates and paths, enabling accurate and reproducible test results that are critical for both qualitative and quantitative diagnostics. Instead of relying on complex pumps, wicking structures, multiple reagent additions, or conventional hardware, the precision coatings passively control fluid movement enabling faster, simpler, and more reliable diagnostics for at-home, point-of-care, lab-on-a-chip, and other remote testing environments. Coatings can also be used to control the flow of on-board reagents such as wash solutions or other reagent solutions that can improve the accuracy of testing or expand the number of tests that can be performed by a device.

Mr. Babcock founded Surnetics LLC to develop and commercialize the technology. Although his initial inspiration for the technology was rocket nozzle cooling, he quickly recognized the benefits the technology would provide in diagnostic and life science applications. “From the beginning, work on the gradient coating technology has been focused on developing coating formulations and coating processes that meet the cost and volume requirements for large-scale precision manufacturing. We have developed coating formulations for the preferred plastic, metal, and glass materials used in diagnostic and life science applications. Our automated precision manufacturing process can support companies’ development and early commercialization efforts and is also scalable and can be integrated into their product manufacturing lines.”

Gradient coatings can be produced on the following materials:

- Polymers: COC, Polyester, Acrylic, Polycarbonate, Polypropylene, Polyethylene, Nylon, Silicones
- Metals: Stainless Steel, Carbon Steel, Gold, Copper, Nickel, Silver, and Alloys
- Silicon/Glass: Silicon, Silanized Glass, Glass and Metal Oxides

Coatings have been developed for use with blood, plasma, wash solutions, and other aqueous- and organic-based reagent solutions. Separate licenses are also available for trade secret and technology transfer content including:

- Coating formulations for metal, glass, and plastic surfaces.
- Coating processes and equipment specifications.
- Predictive flow models and material test data for product designs.
- Preferred materials and coating compositions with specific liquids.

About Brian Babcock

Brian Babcock is the inventor on the gradient coating technology patents. A recognized expert in coating and polymer materials, he has over 30 years of expertise with surface modification, specialty coatings, and material development across multiple industries. With deep experience in technology development, IP strategy, and commercialization, he manages the technical development efforts and patent portfolio for the surface gradient coatings and products. He is a registered patent agent with previous Intellectual Property Manager roles for Donaldson Company (filtration), SunEdison/GCL Solar Materials (solar and semiconductors), and Johnson & Johnson (life science). He has BS and MS degrees in chemical engineering from Vanderbilt University.

About Becker Transactions

Becker Transactions is a world leading patent brokerage firm expertly led by Dean Becker and Olivia Becker, a father daughter team, who bring a rich family legacy of navigating complex intellectual property transactions. Our team has collectively facilitated over \$11 billion USD in intellectual property transactions. With decades of experience collaborating with inventors, government agencies, top research institutes, universities, and major corporations, we specialize in technology monetization. We excel at identifying essential intellectual property assets and connecting them with strategic buyers seeking competitive advantages.

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