



UbiQD Announces Record Efficiency from its Cadmium-Free Quantum Dots

April 10, 2017



LOS ALAMOS, N.M., April 10, 2017 -- UbiQD, LLC, a New Mexico-based quantum dot manufacturer, announced today that it has achieved greater than 80% quantum yield, or optical efficiency, for its quantum dots over a broad spectrum from the visible to the near infrared (550 nm to 1000 nm peak emission). For some colors between orange (600 nm) and deep red (800 nm), the company manufactured optimized quantum dots with near 100% quantum yield. With this milestone, UbiQD's materials now have the highest reported photon conversion efficiency for quantum dots that do not contain cadmium, an element known for its toxicity and which is widely used by many quantum dot manufacturers. At the same time, the new quantum yield reported by the company is also comparable to the best cadmium-containing nanomaterials that currently exist.

"We pride ourselves in being leading authorities on characterizing the optical performance of nanomaterials, and are very confident in these results," said Dr. Matt Bergren, Vice President of UbiQD. "We are making this announcement today after having independently verified the

results with several third parties, including accredited research institutions such as the National Renewable Energy Laboratory."

The benefit of high quantum yield positively impacts all quantum dot applications including lighting, displays, security, biotechnology, and design. While there are many potential markets for UbiQD's patented technology, the company's primary focus is enabling windows to generate electricity using products known as "luminescent solar concentrators." In July 2016, the National Science Foundation awarded UbiQD a Small Business Innovation Research (SBIR) grant to develop luminescent solar concentrating glass windows incorporating its near-infrared quantum dots. As part of the expanded effort, Dr. Nikolay Makarov joined UbiQD in late 2016 after a postdoc at Los Alamos National Laboratory in the Physical Chemistry and Spectroscopy Group.

"This cadmium-free quantum dot efficiency milestone takes us one step closer to achieving our vision of powering cities with ubiquitous quantum dot window tints," said Dr. Hunter McDaniel, founder and CEO of UbiQD. "Coupled with our low-toxicity solution and superior stability compared to other cadmium-free quantum dot materials, we offer a compelling value proposition and fast return on investment."

UbiQD has recently been testing prototype luminescent solar concentrator windows on the square foot scale using its high-performance glass quantum dot composites and has plans to start pilot projects to validate the technology in the marketplace later this year.

About UbiQD, LLC

UbiQD is a nanotechnology development company based in Los Alamos, New Mexico that manufactures low-hazard quantum dots and nanocomposites. While the company's primary focus is in enabling windows to generate electricity, UbiQD also currently sells its materials for R&D purposes and provides materials technology development services. Licensing technology developed at Los Alamos National Laboratory and the Massachusetts Institute of Technology, UbiQD envisions a future where quantum dots are ubiquitous in a wide spectrum of applications.

For more information or to purchase high quantum yield cadmium-free quantum dots, visit www.UbiQD.com.

RICHARD P. FEYNMAN CENTER FOR INNOVATION

www.lanl.gov/feynmancenter | (505) 667-9090 | feynmancenter@lanl.gov