

Solvay Booth #2222 | AAOS Annual Meeting 2018

Solvay's Zeniva® PEEK enables durable all-polymer knee implant from Okani Medical Technology

Alpharetta, Ga., March 5, 2018 --- Solvay, a leading global supplier of specialty polymers, announced that Okani Medical Technology, a China-based pioneer in artificial joint applications, has developed an all-polymer knee implant based on Solvay's Zeniva® polyetheretherketone (PEEK). Okani's novel ORGKnee™ implant offers a longer service life at a lower cost than traditional metallic implant systems. Solvay's booth at AAOS 2018 will feature the ORGknee™ implant in multiple sizes.

Okani evaluated Zeniva® PEEK's suitability for the femoral and tibial tray components of its knee implant according to ISO 14243-1:2009, which simulates normal walking behavior over 10 years. The findings, which Okani will present at the Orthopaedic Research Society (ORS) 2018 Annual Meeting next week, indicate that the ORGKnee™ implant made of Zeniva® PEEK exhibited 50 percent less wear versus a metal implant as measured by material loss over 3 million cycles.

Okani selected Zeniva® PEEK for its ORGKnee™ implant due, in part, to the material's success in spinal implant applications. Unlike implants made of cobalt chrome or titanium alloys, those molded from Zeniva® PEEK exhibit a modulus similar to cortical bone, which can improve patient comfort, provide a more stable fixation over time and extend implant lifetime due to significantly reduced wear of the total knee-joint prosthesis.

"PEEK's injection molding capability makes large-scale production of ORGKnee™ implants possible in a fraction of the time and cost it takes to make metal implants, which can take up to three months to manufacture, machine and polish using methods that can pose risks both to workers and the environment," said Zhonglin Zhu, chief technology officer for Okani.

Another motivation that prompted Okani's decision to work with Solvay was the polymer supplier's reputation for partnering with highly innovative medical device companies.

"Okani's implant is not only a perfect showcase for the unique properties of Zeniva® PEEK, but also for Solvay's open innovation business model, which takes a collaborative approach to helping medical device customers foster innovation and optimize their technology," said Jeff Hrivnak, global business manager for Healthcare at Solvay's Specialty Polymers Business Unit.

Okani's ORGKnee™ implant enters pre-clinical trials this April before undergoing standard clinical trials by China's Food and Drug Administration (CFDA) in September, 2018. The company plans to commercially launch its ORGKnee™ solution in 2020 after CFDA approvals are complete.

For more information about this application and related news about specialty polymers for healthcare, please go to solvayhealthcare.com.

® Zeniva is a registered trademark of Solvay

™ ORGKnee is a trademark of Okani Medical Technology

Okani Medical Technology

Okani was established in 2014 to leverage advanced polymer technologies toward the development of novel implants for elbows, knees, hips and other joint applications.

Solvay

Solvay is an advanced materials and specialty chemicals company, committed to developing chemistry that address key societal challenges. Solvay innovates and partners with customers worldwide in many diverse end markets. Its products are used in planes, cars, batteries, smart and medical devices, as well as in mineral and oil and gas extraction, enhancing efficiency and sustainability. Its light-weighting materials promote cleaner mobility, its formulations optimize the use of resources and its performance chemicals improve air and water quality. Solvay is headquartered in Brussels with around 24,500 employees in 61 countries. Net sales were €10.1 billion in 2017, with 90% from activities where Solvay ranks among the world's top 3 leaders, resulting in an EBITDA margin of 22%. Solvay SA ([SOLB.BE](#)) is listed on Euronext Brussels and Paris (Bloomberg: [SOLB.BB](#) - Reuters: [SOLB.BR](#)) and in the United States its shares (SOLVY) are traded through a level-1 ADR program.

Solvay Specialty Polymers

Solvay Specialty Polymers manufactures over 1500 products across 35 brands of high-performance polymers – fluoropolymers, fluoroelastomers, fluorinated fluids, semi-aromatic polyamides, sulfone polymers, ultra-high performance aromatic polymers, and high-barrier polymers – for use in Aerospace, Alternative Energy, Automotive, Healthcare, Membranes, Oil and Gas, Packaging, Plumbing, Semiconductors, Wire & Cable, and other industries. Learn more at www.solvayspecialtypolymers.com.

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Okani Medical Technology, a China-based pioneer in artificial joint applications, developed its ORGKnee™ all-polymer knee implant, based on Solvay's Zeniva® polyetheretherketone (PEEK). Test simulations of the implant indicate that PEEK helped reduce wear by 50 percent versus a metal implant as measured by material loss over 3 million cycles. Photo courtesy of Okani Medical Technology.