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A chemical platform for the production of Bio-PET

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Fossil based plastic, polyethylene terephthalate (PET), dominates the current plastic bottle industry. To improve the carbon footprint of their packaging, and to reduce their reliance on volatile priced oil, the plastic bottle industry desires to instead produce a biobased PET bottle. The thermoplastic polymer, PET, is a product of the polymerization of monoethyleneglycol (MEG) and purified terephthalic acid (PTA). These two monomers are almost entirely sourced from fossil sources. To date there are a few commercial efforts to produce bio-based MEG from ethanol, biobased PTA however, remains unavailable in the market. PTA is itself synthesized through the oxidation of isomerically pure para-xylene, whereas para-xylene is a product of oil refining. Micromidas Inc. is a West Sacramento, California, chemical company, which converts biomass to commodity chemicals and resins. They have recently developed the technology, piloted the process, and are planning to build a first-of-a-kind commercial demonstration plant that will convert biomass –not oil- to polymer grade p-xylene and other monomers of interest. This talk will introduce Micromidas and aspects of its core technology.

Biography

Ryan Smith is the Chief Technology Officer and Co-founder of Micromidas, Inc., a chemical technology firm that converts biomass into both conventional petrochemicals and new chemical intermediates, monomers, and resins. Mr. Smith received his B.S. in Chemical Engineering from the University of California, Davis where he was recently named the 2016 the College of Engineering Innovator of the year.

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