

Aquaplastic derived from E. coli confronts the plastic waste crisis? Made from gut bacteria, this genetically engineered biodegradable material completely dissolves in 45 days

Using genetically engineered E. coli, scientists from Northeastern University, Harvard, Johns Hopkins and elsewhere say they turned E. coli into a plastic that can be made into plastic film or bendable three-dimensional molds for cones, bowls, tubes or other structures. The plastic substitute almost completely dissolves in 45 days, according to [a study](#) published [recently] in Nature Chemical Biology.

They fed the E. coli a nutrient-rich material that enabled it to produce two types of “aquagels,” flexible material they used to make different forms of aquaplastics.

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The science behind these aquagels is part of a new field called “engineered living materials,” in which living materials are used to produce new substances.

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“The investment and potential and the energy cost to get us there to grow things on the timeline and scale of manufacturing that we’re used to seems to be a big hurdle,” [chemistry professor Jeffrey] Moore said.

But, Moore said, he is excited about the potential: “I like the idea that biology has pervaded the planet for the last 3 billion years, and so why not find a solution wrapped up in biology to the synthetic problems we’ve created?”

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