

Using microbes to convert waste plastic

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The researchers genetically engineered a strain of the *Escherichia coli* microbe to produce enzymes that convert one of the monomers of PET into vanillin. These enzymes were introduced to a biological cell to carry out the reaction. There were challenges to overcome with the process including getting the substrate into the cell and removing the vanillin, which is toxic to the new strain of E coli.

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1. What is an enzyme?
2. Explain why it is important to recycle plastics.
3. Suggest why the vanillin was removed from the cell after it had been made.