Incorporation of the GEMs item: *Hydrolysis of post-consumer polylactic acid waste polylactic acid (PLA)* submitted by Rich Gurney into the Organic Chemistry curriculum.

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**Summary:** The generation of lactic acid from polylactic acid post-consumer waste provides a unique opportunity to involve students in the application of the Twelve Principles of Green Chemistry both in theory and in practice in a variety of laboratory courses, including organic chemistry. The experiment can be performed in 20 minutes if performed in a microwave or in 90 minutes if using traditional heating methods.

The organic concepts that can be discussed with this experiment include ester hydrolysis, saponification, acid-base titrations, $\text{pK}_a$, solubility of calcium salts, the difference between soap and acidic cleaners, household chemistry and various methods of spectrometry and spectroscopy. This experiment offers a further advantage over traditional experiments by fostering discussions of green engineering and green chemistry topics such as the use of safer solvents/reaction conditions, green polymers, use of a renewable feedstock, alternative energy sources (microwave heating), the E-factor, atom-economy, designing safer chemicals, energy efficiency, catalysis, design for degradation.