Comment on “A bacterium that degrades and assimilates poly(ethylene terephthalate)”

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Yoshida et al. (Report, 11 March 2016, p. 1196) reported that the bacterium Ideonella sakaiensis 201-F6 can degrade and assimilate poly(ethylene terephthalate) (PET). However, the authors exaggerated degradation efficiency using a low-crystallinity PET and presented no straightforward experiments to verify depolymerization and assimilation of PET. Thus, the authors’ conclusions are rather misleading.

The assimilation of PET by I. sakaiensis 201-F6 as a carbon source for growth does not appear to be sufficiently supported by the data despite the adherence of I. sakaiensis 201-F6 to PET film, as shown in the presented scanning electronic micrograph images (figure 2, D to F, in (I)). Carbon isotopic tracer experiments can verify assimilation of organic carbon in the biomass [e.g., (7)] but were not performed. The authors also could have easily measured changes in the number or the weight of I. sakaiensis 201-F6 cells grown in a medium with PET as a sole carbon source. Without such data, the authors’ claim that the bacterium can assimilate PET is unconvincing.

REFERENCES AND NOTES


ACKNOWLEDGMENTS

This work was supported by the National Natural Science Foundation of China (grants 51373006 and 20477002) and the State Basic Research Program of China (grant 2014CB931800).

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Science 353 (6301), 759.
DOI: 10.1126/science.aaf8305