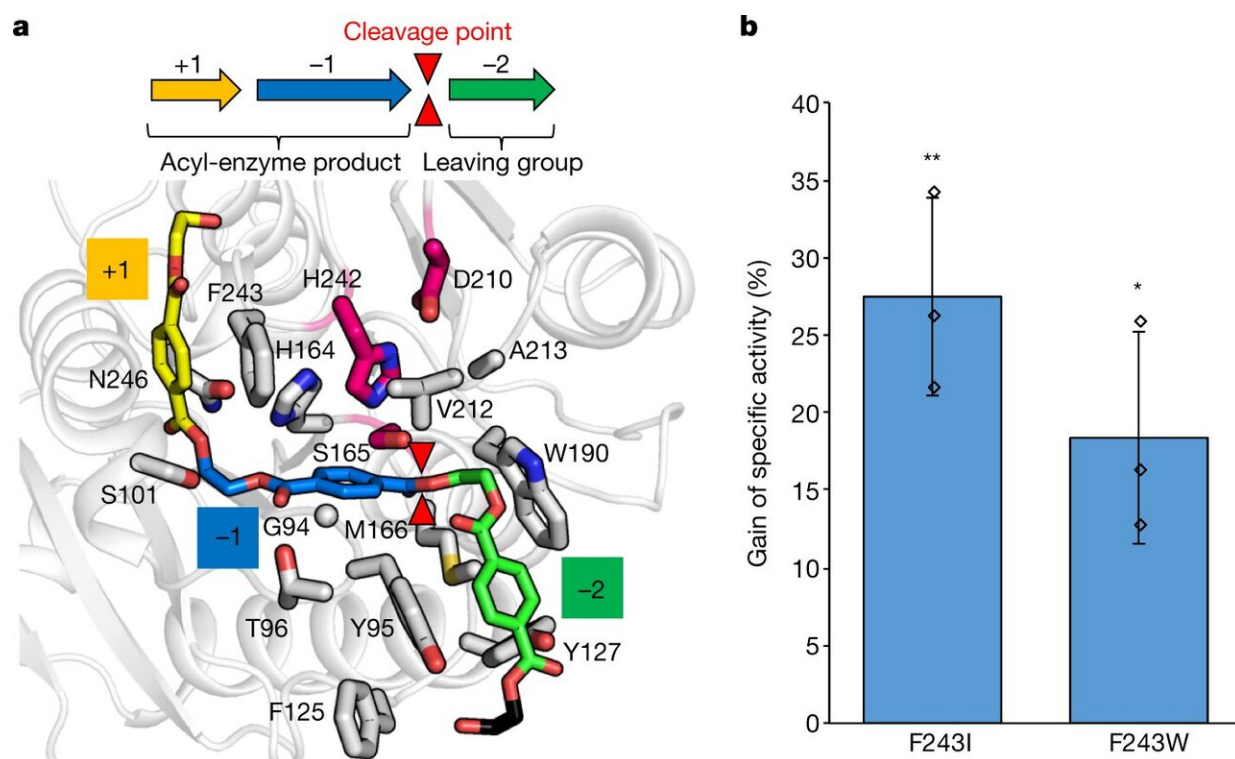


# Engineered enzyme able to break down PET in ten hours

April 9 2020, by Bob Yirka



a, Structural model of 2-HE(MHET)<sub>3</sub> (coloured stick model) docked in wild-type LCC (grey ribbon). The putative substrate-binding site of LCC can be subdivided into three subsites (-2, -1, +1), each in contact with the MHET units numbered relative to the scissile ester bond (red triangles). Amino acids in the first contact shell of LCC are shown as grey rods. Catalytic residues are in magenta. b, Calculated percentage improvement in specific activity of Pf-PET depolymerization by the F243I and F243W variants compared with wild-type LCC at 65 °C ( $6.9 \text{ nmol}_{\text{protein}} \text{ g}_{\text{PET}}^{-1}$  and  $2 \text{ g}_{\text{PET}} \text{ l}_{\text{buffer}}^{-1}$ ). Means  $\pm$  s.d. (n = 3) are shown; \*P

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