



Metabolic schematic of *Ralstonia*.

chromosomes (~7 Mb), providing an inventory of the many candidate enzymes involved in the synthesis, polymerization, depolymerization, and catabolism of PHAs. The large number of genes encoding β -ketothiolases and acetoacetyl-CoA reductases offers the potential for tinkering with substrate specificity to create an intracellular library of three- to five-carbon hydroxyacid monomers. — GJC

BIOTECHNOLOGY

A Plastic Genome

Ralstonia eutropha H16 is a bacterium that can adjust to life on a variety of nutrients (as carbon and energy sources) and can survive periods of anoxia. Two skills are of particular interest: the ability to perform the Knallgas reaction and the storage of carbon in polyhydroxyalkanoate (PHA) granules. The former refers to the explosive combination of H_2 and O_2 (in a 2:1 ratio), which *Ralstonia* carries out in a traditional respiratory fashion, passing protons and electrons separately through membrane-bound carriers until they are added to O_2 in a terminal oxidase complex to produce water. The latter was first detailed almost half a century ago and has led to the biodegradable thermoplastic Biopol and to polythioesters.

Pohlmann *et al.* report the sequence of the two *Ralstonia*