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(54) Title: A METHOD FOR POLYHYDROXYALKANOATE PRODUCTION

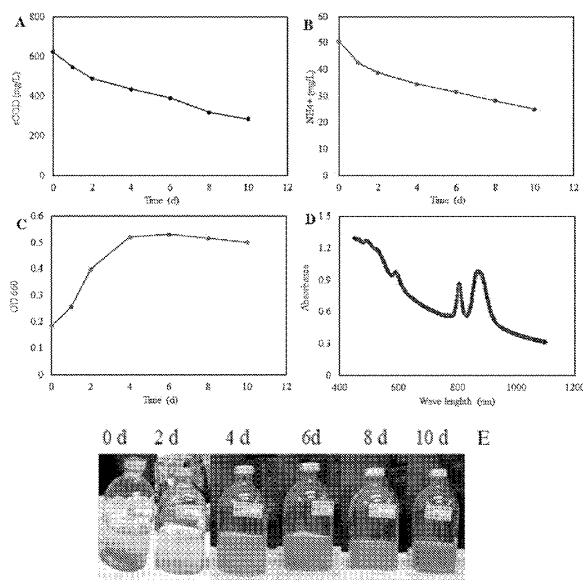


FIG. 1

(57) Abstract: Disclosed herein is a method for producing a polyhydroxyalkanoate, the method requiring the steps of: (a) providing a bacterial population mixture that has undergone an initialisation process; (b) adding a feed comprising a carbon source to the mixture to generate a feast phase for the bacterial population in the mixture; (c) subsequently subjecting the bacterial population to a famine phase by allowing the carbon source to become depleted and not adding any further carbon source to the mixture for a period of time; and (d) repeating steps (b) and (c) in an alternating pattern in the presence of a light source that has a wavelength greater than 715 nm. The method also involves periodically removing a portion of the mixture and harvesting a polyhydroxyalkanoate from the bacterial population in the removed portion of the mixture, where each periodical removal of a portion of the mixture is conducted during a feast phase before the carbon source is entirely depleted from the mixture. The bacterial population used in this method may be substantially

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formed from purple phototropic bacteria.