Instructions on how to prepare the abstract

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Tailored Synthesis of Poly[(*R)*-3-hydroxybutyrate-*co*-3-hydroxyvalerate] (PHB/HV) in *Ralstonia eutropha* DSM 428

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Ralstonia eutropha was grown in a chemostat at a dilution rate of D = 0.1 ± 0.01 h^{-1} under the conditions of simultaneous limitation by carbon (butyric and/or valeric acid) and nitrogen (ammonium). In order to achieve a physiological state with a high cellular polyhydroxyalkanoate (PHA) content, the ratio of total carbon to nitrogen of the feed medium was kept constant at 17 mol C/molN and only the ratio of butyric to valeric acid was varied in the carbon feed. When only butyric acid was fed, poly([*R*]-3-hydroxybutyrate) (PHB) was isolated. For substrate mixtures consisting of butyric and valeric acid, and valeric acid alone, the co-polymer poly([*R*]-3-hydroxybutyrate-co-3-hydroxyvalerate) (PHB/HV) was incorporated with a maximum content of (*R*)-3-hydroxyvalerate of 62 mol%. The melting temperature of PHA decreased from 178 °C for PHB to about 80 °C for PHA with the highest HV content [1]. The molecular weight (M_w) of the polymer was between 0.9 and 1.2 × 10^6 with a polydispersity of 3 ± 0.3. The polymer composition in the cells was a non-linear function of the substrate mixture. It was concluded that dual (C, N) limited growth conditions in chemostat cultures could be used to tailor the composition of PHB/HV in an accurate way, which is not possible when using N limited batch cultures……..

- **The text between the asterisks should contain a minimum of 2000 characters and a maximum of 3000 characters and should not exceed the indicated limits.**
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REFERENCES

[1] M. Zinn, H.U. Weilenmann, R. Hany, M. Schmid, T. Egli, *Acta Biotechnol.* **23** (2003), pp. 309-316.
[2] M. Zinn, *Eur. Cell. Mater*. 5 Suppl. 1 (2003), pp. 38-39.
[3] R. Hany, Ch. Böhlen, T. Geiger, R. Hartmann, J. Kawada, M. Schmid, M. Zinn, R.H. Marchessault, *Macromolecules* **37** (2004), pp.385-389.

Two or three references should be provided and listed with authors, year of publication, journal, volume and pages according to the examples shown above.

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