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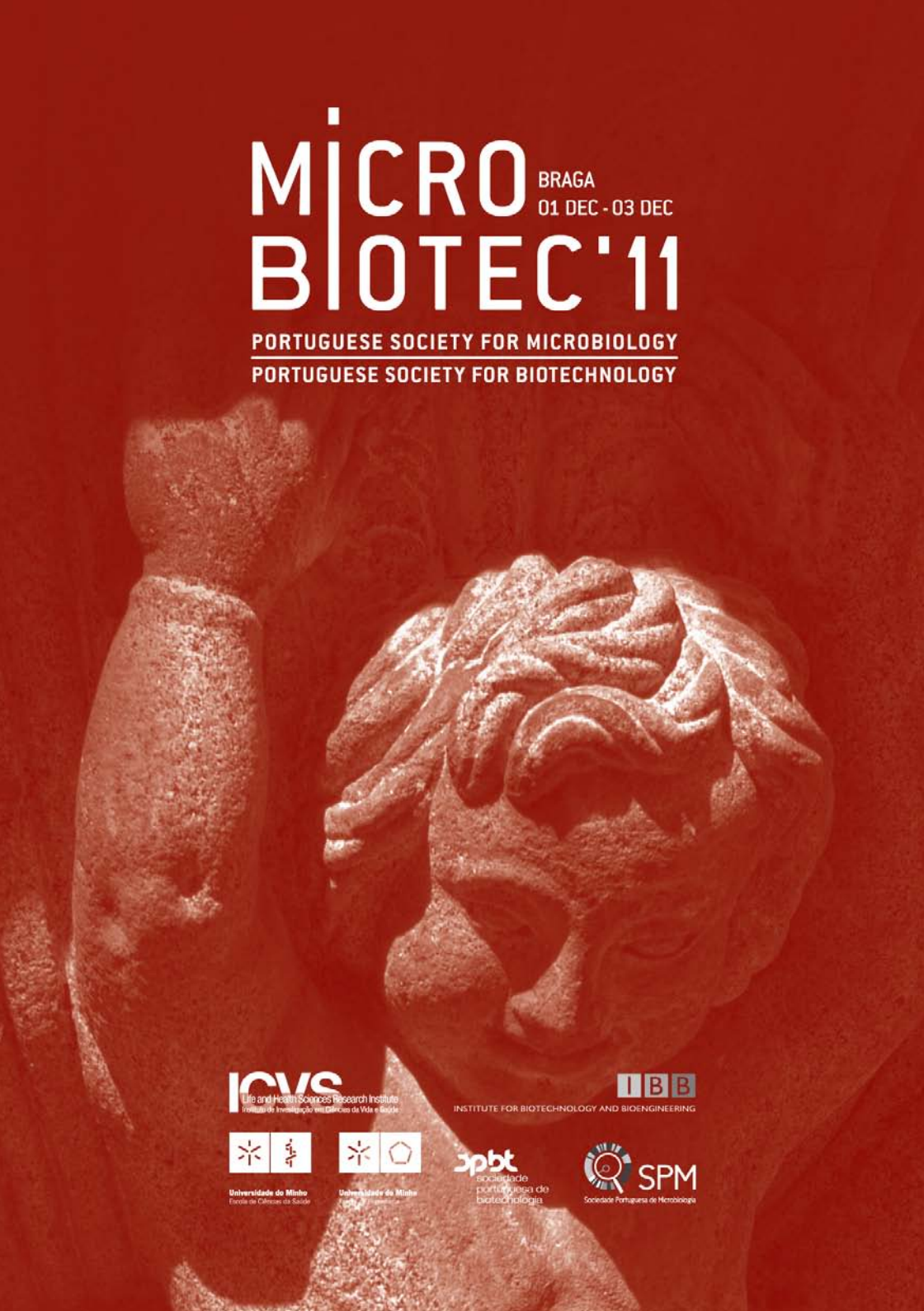

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PS1: 71

Use of a modified Gompertz equazion to model synthetic dye decolourization by yeast in liquid media

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Forty six yeast strains isolated from two wastewater treatment stations along with other 81 cheese isolates were compared on their ability to decolorize five textile dyes in solid media. After a screening methodology that included liquid culture decoulorisation ability evaluation, yeasts isolates, LIII S 36 and L III ST 7 presented the best performance in the decolourisation for the five dyes tested: Remazol Black B-A, Remazol Yellow RR, Levafix Blue CA, Remazol Brilliant Blue R and Levafix® Red CA).A modified Gompertz equation was used to model the decolourisation in liquid media; the estimated parameters, which all have biological attribution, allow us to assess quantitatively the decolourisation and a more accurate comparison between the different behaviours of the strains for each dye.Molecular biology methodologies also allowed the identification and the confirmation of the differences between the strains previous selected to liquid decolourisation based on classic methodologies. For the isolates from the wastewater treatment stations, we had a variety of different species identifications, such as *Candida ortopsilosis*, *Debaromyces hansenii* and for a small group of strains it should be necessary explore other methodologies of identification to obtain a correct identification. For the two strains with the best performance (L III S 36 and strain L III ST 7) were performed spectral scanning, is possible observe that, depending on the dye, the strains exhibit different behaviours in the decolourisation process, can achieve it through mechanisms of adsorption or due true degradation. Both strains produce extracellular manganese peroxidase. After 36 hours of incubation for the strain L III ST 7 and L III S 36 an average of 2.30 and 2.06 IU. l^{-1} of manganese peroxidase activity were detected, respectively. Due to the obvious morphological differences between filamentous fungi and yeasts, the enzymatic activities detected for the yeasts are interesting. Based on the results obtained it is possible to postulate that the decolourisation may be related with the MnP enzymatic activity.