

Supporting Information

Polyhydroxyalkanoate/antifungal polyene formulations with monomeric hydroxyalkanoic acids for improved antifungal efficiency

Marina Pekmezovic ^{1,2}, Melina Kalagasidis Krusic ³, Ivana Malagurski ¹, Jelena Milovanovic¹, Karolina Stępień ⁴, Maciej Guzik ⁵, Romina Charifou ⁶, Ramesh Babu ⁶, Kevin O'Connor ⁷ and Jasmina Nikodinovic-Runic ^{1,*}

¹ Institute of Molecular Genetics and Genetic Engineering, University of Belgrade, Vojvode Stepe 444a, 11221 Belgrade, Serbia; marinapekmezovic@gmail.com

² Department of Microbial Pathogenicity Mechanisms, Leibniz Institute for Natural Product Research and Infection Biology, Hans Knoell Institute, Beutenberstrasse 11a, 07745, Jena, Germany

³ Faculty of Technology and Metallurgy, University of Belgrade, Karnegijeva 4, 11000 Belgrade, Serbia; meli@tmf.bg.ac.rs

⁴ Department of Pharmaceutical Microbiology, Centre for Preclinical Research and Technology, Faculty of Pharmacy, Medical University of Warsaw, Banacha 1B, 02-097 Warsaw, Poland; kstepien@wum.edu.pl

⁵ Jerzy Haber Institute of Catalysis and Surface Chemistry Polish Academy of Sciences, Niezapominajek 8, 30-239 Krakow, Poland; maciej.guzik@ikifp.edu.pl

⁶ AMBER Centre, CRANN Institute, School of Chemistry, Trinity College Dublin, Dublin, Ireland; babup@tcd.ie

⁷ BiOrbic Bioeconomy SFI Research Centre and School of Biomolecular and Biomedical Sciences and Centre for Synthesis and Chemical Biology, University College Dublin, Belfield, Dublin 4, Ireland; kevin.oconnor@ucd.ie

* Correspondence: jasmina.nikodinovic@gmail.com; jasmina.nikodinovic@imgge.bg.ac.rs Tel.: +381 11 397 60 34

Table S1. Values of melting temperatures and enthalpies obtained by DSC (1st heating) and values of the maximum decomposition temperatures determined by TGA

	Control	NYS-9	NYS-17	AMB	AMBM
T_m (°C)	49.31	49.22	49.77	44.19	44.28
ΔH_m (J/g)	25.67	21.59	24.09	22.63	21.62
T_{max} (°C)	256.6	268.0	258.1	264.7	260.0

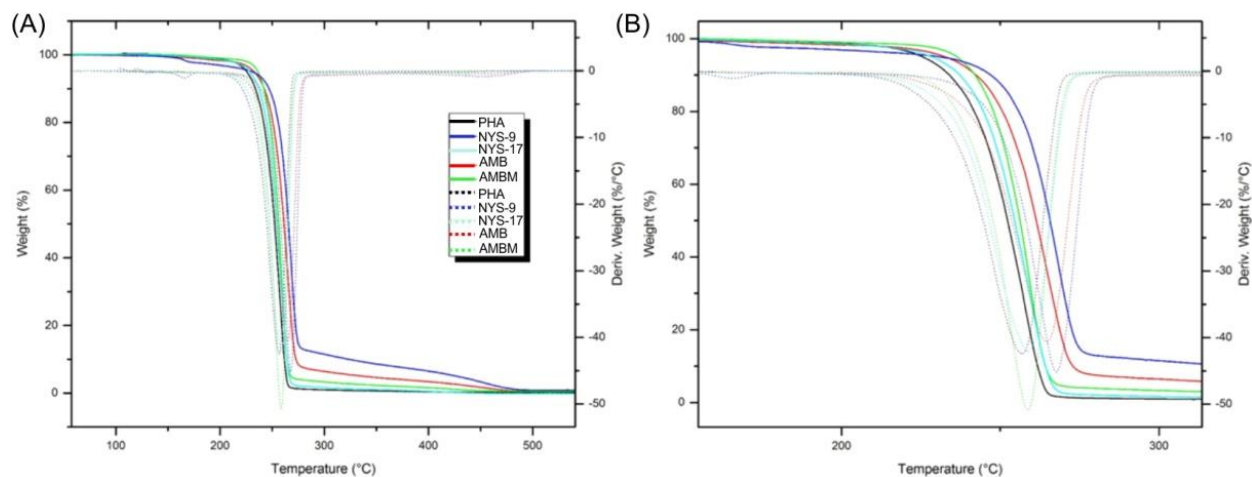


Figure S1. TGA thermograms obtained for the different samples (A) and close up (100 °C – 300 °C) of the TGA thermograms (B).

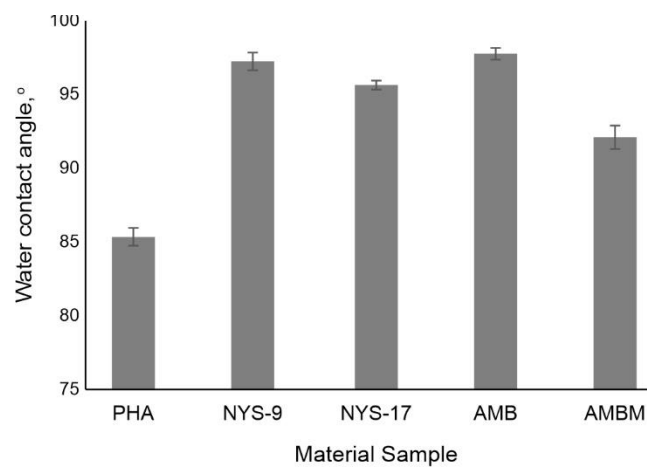


Figure S2. Water contact angle of PHA materials. The values are represented as mean \pm standard deviation.

Table S2. Zones of inhibition [mm] of PHA films containing polyenes against clinical *Candida* spp. strain.

<i>Candida albicans</i> 329UCK	
Material	Inhibition zone [mm]
NYS-17	26
NYS-9	22
AMBM	19
AMB	14
PHA	0