

# Supporting Information

## Poly(N-vinylpyrrolidone)-poly(dimethylsiloxane)- Based Polymersome Nanoreactors for Laccase- Catalyzed Biotransformations

*Mariana Spulber<sup>1</sup>, Patric Baumann<sup>1</sup>, Sina S. Saxer<sup>2</sup>, Uwe Pieves<sup>2</sup>, Wolfgang Meier<sup>1</sup>,*

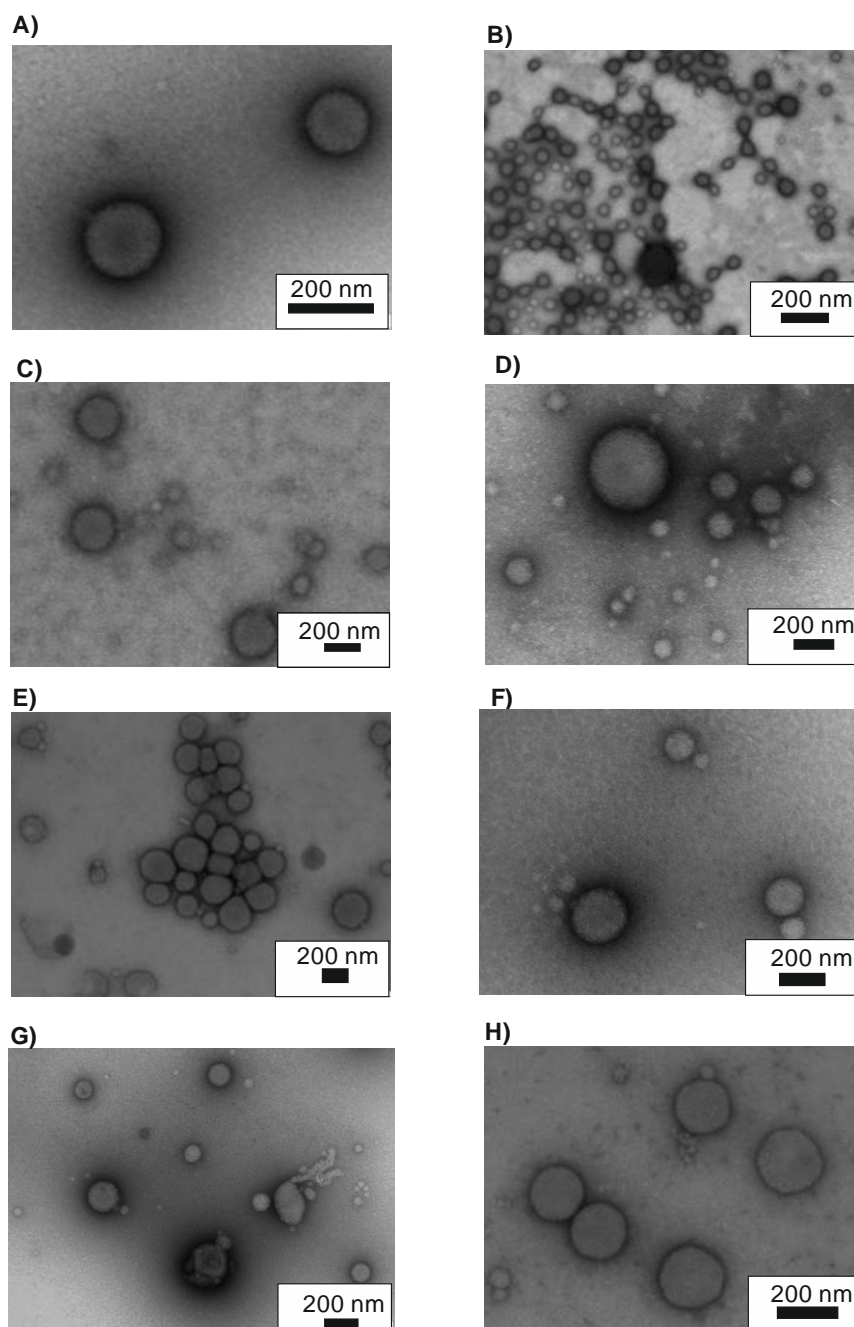
*Nico Bruns<sup>1,3,\*</sup>*

<sup>1</sup>Department of Chemistry, University of Basel, Klingelbergstrasse 80, 4056 Basel,  
Switzerland

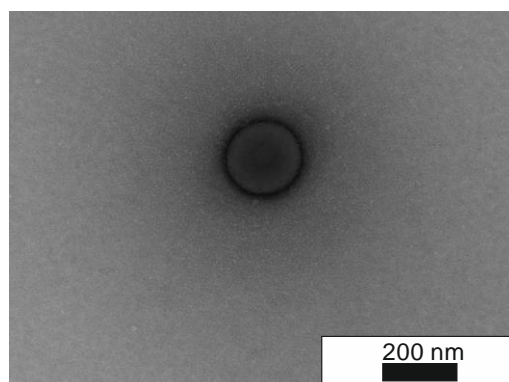
<sup>2</sup>Institute of Chemistry and Bioanalytics, School of Life Sciences, University of Applied  
Sciences and Arts Northwestern Switzerland, Gründenstrasse 40, 4132 Muttenz, Switzerland

<sup>3</sup>Adolphe Merkle Institute, University of Fribourg, Rte de l'Ancienne Papeterie, P.O. Box 209,  
1723 Marly 1, Switzerland

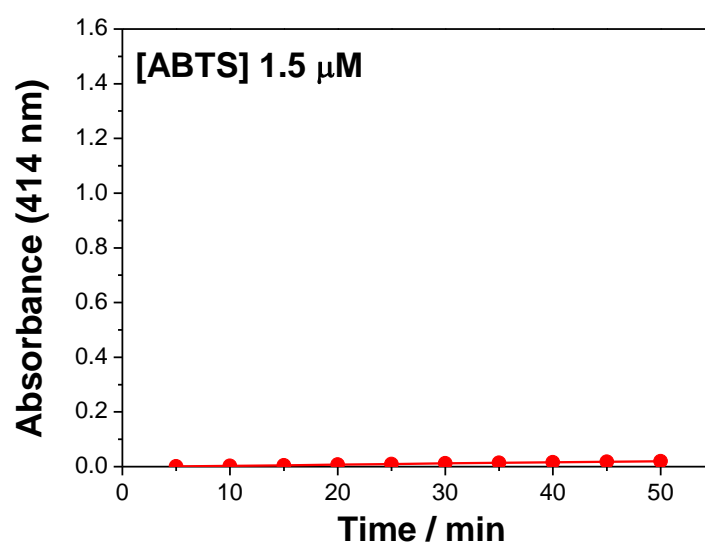
\* Email: nico.bruns@unifr.ch



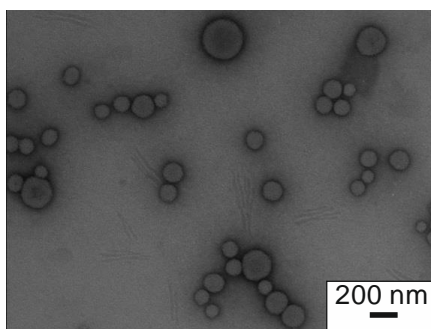
**Figure S1.** TEM micrographs of empty and Lac-loaded PDMS-PNVP polymersomes. The polymersomes were formed by self-assembly of block copolymers in phosphate saline solution or Lac-containing phosphate saline solution, respectively, at pH 4.25. They were purified by size exclusion chromatography. A) PDMS-PNVP2; B) PDMS-PNVP3; C) PDMS-PNVP4; (D) PDMS-PNVP5; (E) PDMS-PNVP2-Lac; (F) PDMS-PNVP3-Lac; G) PDMS-PNVP4-Lac; H) PDMS-PNVP5-Lac.



**Figure S2.** TEM micrograph of HRP-loaded PDMS-PNVP3 polymersome.



**Figure S2.** ABTS activity assay for HRP encapsulated in PDMS-PNVP3 polymersomes.



**Figure S3.** TEM micrograph of Lac-loaded PDMS-PNVP1 polymersomes after 3 months of storage at room temperature.