**Supplementary Materials**

# Enzymatic Polymerization of Dihydroquercetin (Taxifolin) in Betaine-Based Deep Eutectic Solvent and Product Characterization

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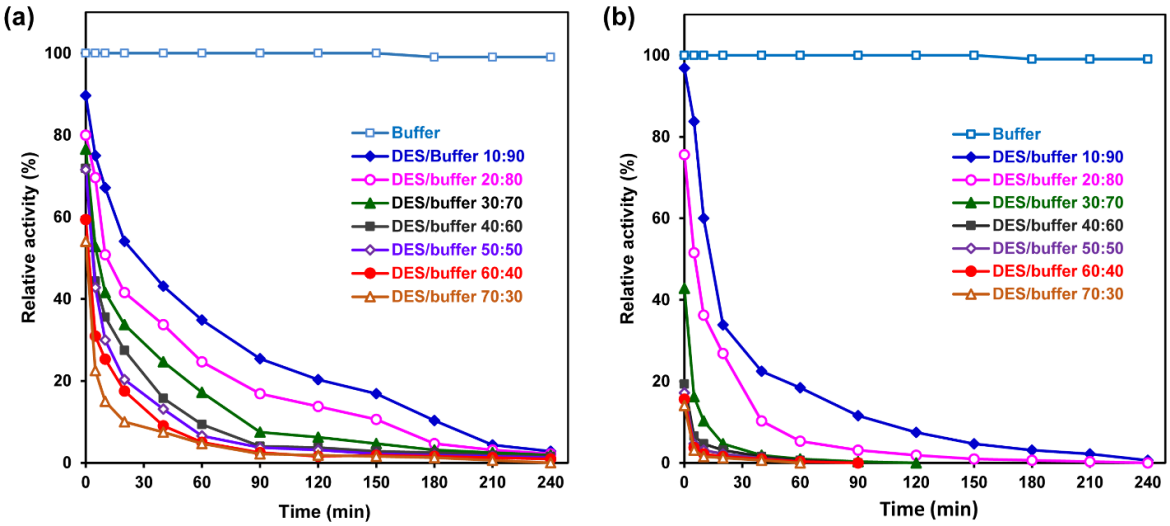


**Figure S1.** Laccase stability in B–L (1:2)/buffer (**a**) and B–P (1:2)/buffer (**b**) mixtures with different component volume ratios. Laccase activity in the buffer at the initial time was considered as 100%.

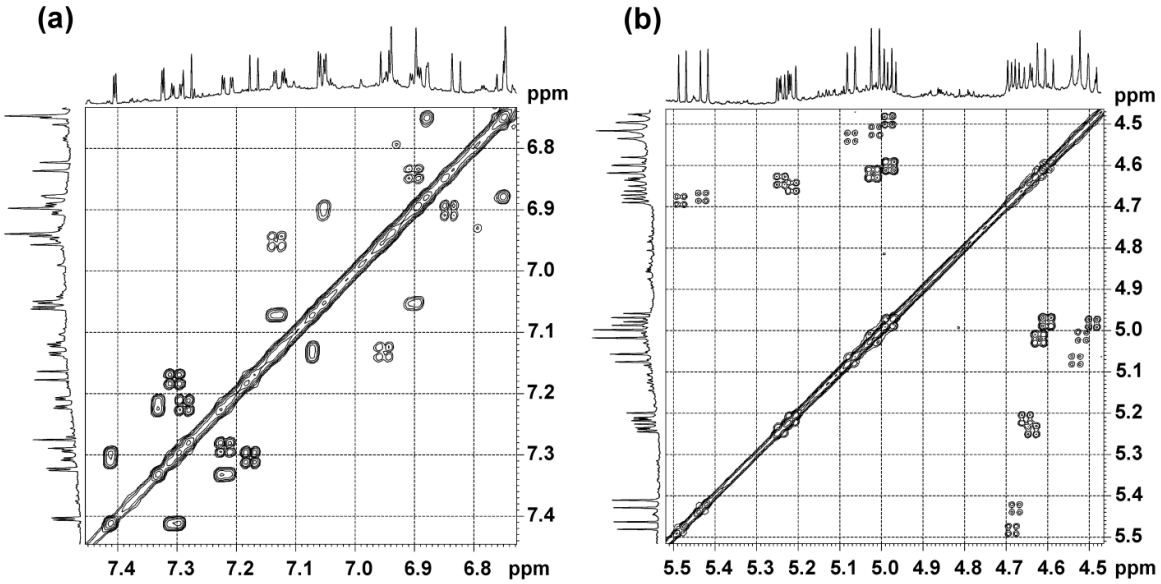


**Figure S2**. Two-dimensional NMR spectrum COSY of $D_2O$ pretreated oligoDHQ protons (**a**) H2', H5', H6' (ring ***B***) and (**b**) H2, H3 (ring ***C***).

**Table S1.** Parameters of the $^1H$ NMR spectra of the terminal fragments of oligoDHQ: chemical shifts ($\delta_H$, ppm), spin-spin coupling constants $^nJ_{HH}$ (Hz).*

| | Ring ***C*** | | | | Ring ***B*** | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | $\delta_{H2}$ | $\delta_{H3}$ | $^3J_{H2H3}$ | | $\delta_{H2'}$ | $\delta_{H5'}$ | $\delta_{H6'}$ | $^4J_{H2'H6'}$ | $^3J_{H5'H6'}$ |
| $C_\phi$ | 5.473 | 4.679 | 10.68 | $B_\alpha$ | 7.404 | 7.300 | 7.171 | 2.03 | 8.36 |
| $C_\eta$ | 5.420 | 4.671 | 10.92 | $B_\beta$ | 7.322 | 7.280 | 7.215 | 2.07 | 8.34 |
| $C_\nu$ | 5.235 | 4.624 | 11.52 | $B_\gamma$ | 7.059 | 6.949 | 7.126 | 2.12 | 8.33 |
| $C_\tau$ | 5.209 | 4.640 | 11.37 | $B_\delta$ | 7.050 | 6.830 | 6.896 | 2.09 | 8.31 |
| $C_o$ | 5.067 | 4.525 | 11.22 | $B_\varepsilon$ | 6.877 | 6.750 | 6.743 | 2.04 | 8.27 |
| $C_\pi$ | 5.008 | 4.626 | 11.77 | | | | | | |
| $C_\rho$ | 5.006 | 4.508 | 12.05 | | | | | | |
| $C_\sigma$ | 4.977 | 4.591 | 11.82 | | | | | | |
| $C_\delta$ | 4.963 | 4.487 | 11.88 | | | | | | |

*The structure of the title compound based on assembly of data of NMR experiments of $^1H$ (Fig. 5 of the main manuscript), $^{13}C$ and $^{13}C$-APT (Fig. 6 of the main manuscript) and two-dimensional NMR experiments COSY (Fig. S2).

## Complete reference

69. M. J. Frisch, G. W. Trucks, H. B. Schlegel, G. E. Scuseria, M. A. Robb, J. R. Cheeseman, G. Scalmani, V. Barone, B. Mennucci, G. A. Petersson, H. Nakatsuji, M. Caricato, X. Li, H. P. Hratchian, A. F. Izmaylov, J. Bloino, G. Zheng, J. L. Sonnenberg, M. Hada, M. Ehara, K. Toyota, R. Fukuda, J. Hasegawa, M. Ishida, T. Nakajima, Y. Honda, O. Kitao, H. Nakai, T. Vreven, J. A. Montgomery, Jr., J. E. Peralta, F. Ogliaro, M. Bearpark, J. J. Heyd, E. Brothers, K. N. Kudin, V. N. Staroverov, R. Kobayashi, J. Normand, K. Raghavachari, A. Rendell, J. C. Burant, S. S. Iyengar, J. Tomasi, M. Cossi, N. Rega, J. M. Millam, M. Klene, J. E. Knox, J. B. Cross, V. Bakken, C. Adamo, J. Jaramillo, R. Gomperts, R. E. Stratmann, O. Yazyev, A. J. Austin, R. Cammi, C. Pomelli, J. W. Ochterski, R. L. Martin, K. Morokuma, V. G. Zakrzewski, G. A. Voth, P. Salvador, J. J. Dannenberg, S. Dapprich, A. D. Daniels, O. Farkas, J. B. Foresman, J. V. Ortiz, J. Cioslowski, and D. J. Fox, *Gaussian 09, Revision A.02*, Gaussian, Inc., Wallingford CT, 2009.