

Supporting Information

Cascade kinetics in an enzyme-loaded aqueous two-phase system

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Table S1. Kinetic parameters from Michaelis-Menten fit of the obtained reaction rates at different substrate concentration.

	<i>Phosphate buffer</i>	<i>PEG-rich phase</i>	<i>Dex-rich phase</i>
$V_{\max} / \mu\text{mol/s}$	0.7461	0.0336	0.3447
K_m / mM	4.4408	2.5236	1.9909

Table S2. Translational diffusion coefficients for guaiacol and ABTS in absence and presence of crowding agents. Degrease of diffusion in percentages relative to the sample without polymer is given in the brackets.

	$D_{\text{guaiacol}} / \text{cm}^2/\text{sec} \times 10^{-6} (\text{decrease} / \%)$	$D_{\text{ABTS}} / \text{cm}^2/\text{sec} \times 10^{-6} (\text{decrease} / \%)$
<i>without polymer</i>	8.50 (-)	2.86 (-)
<i>PEG 10 w/v%</i>	4.79 (44%)	1.37 (52%)
<i>Dex 10 w/v%</i>	5.91 (30%)	1.74 (39%)

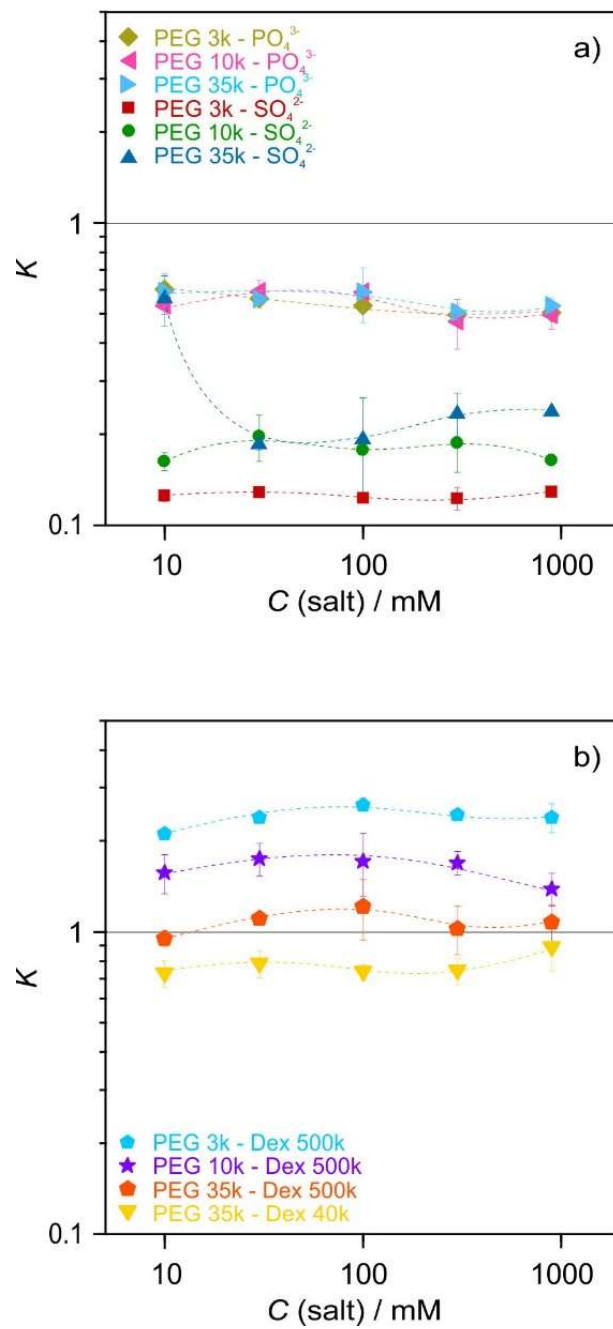


Figure S1. Partitioning coefficient (K) of HRP in various PEG-salt (a) and PEG-Dex (b) ATPS.

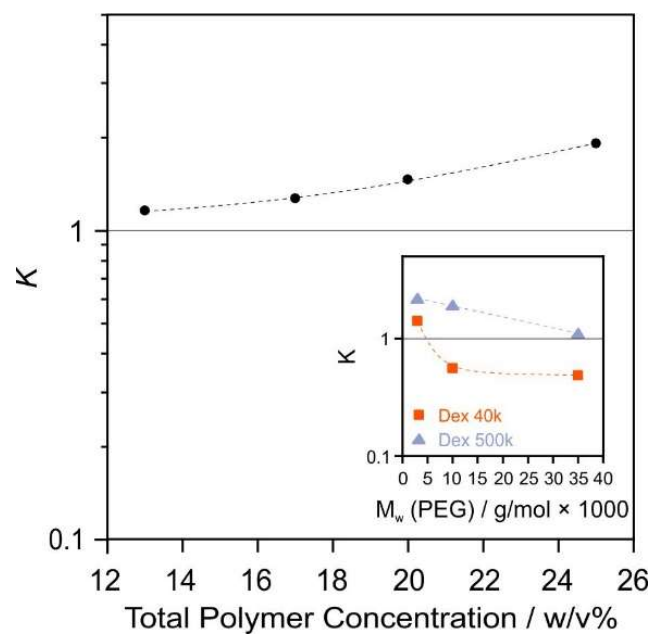


Figure S2. Partitioning coefficient (K) of HRP in PEG 3k-Dex 500k ATPS composed at different total polymer concentration ranging from 13 until 25 w/v%. Inset graph represents K for HRP in PEG-Dex ATPS composed different molar mass polymers both PEG and Dex.