Supplementary Material for

Mesocellular Silica Foam as Immobilization Carrier for Production of Statin Precursors

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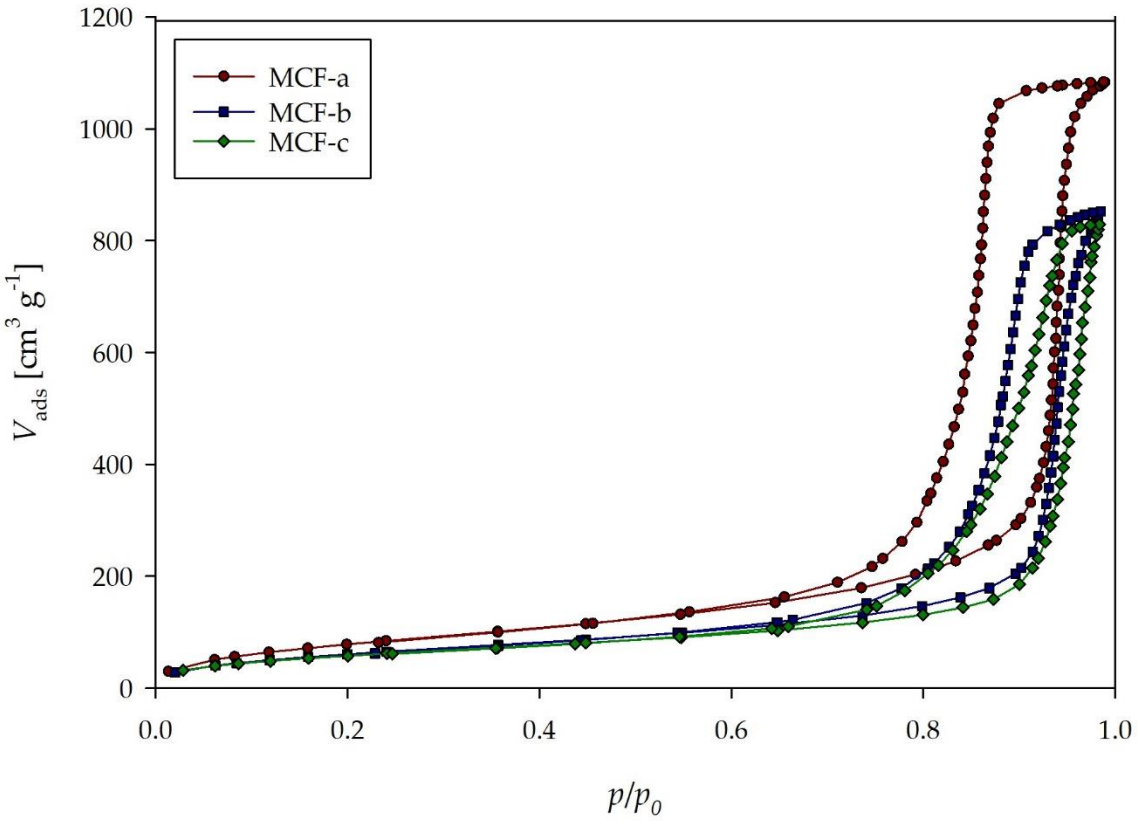

Figure S1. Nitrogen adsorption/desorption isotherms for the MCF carriers.

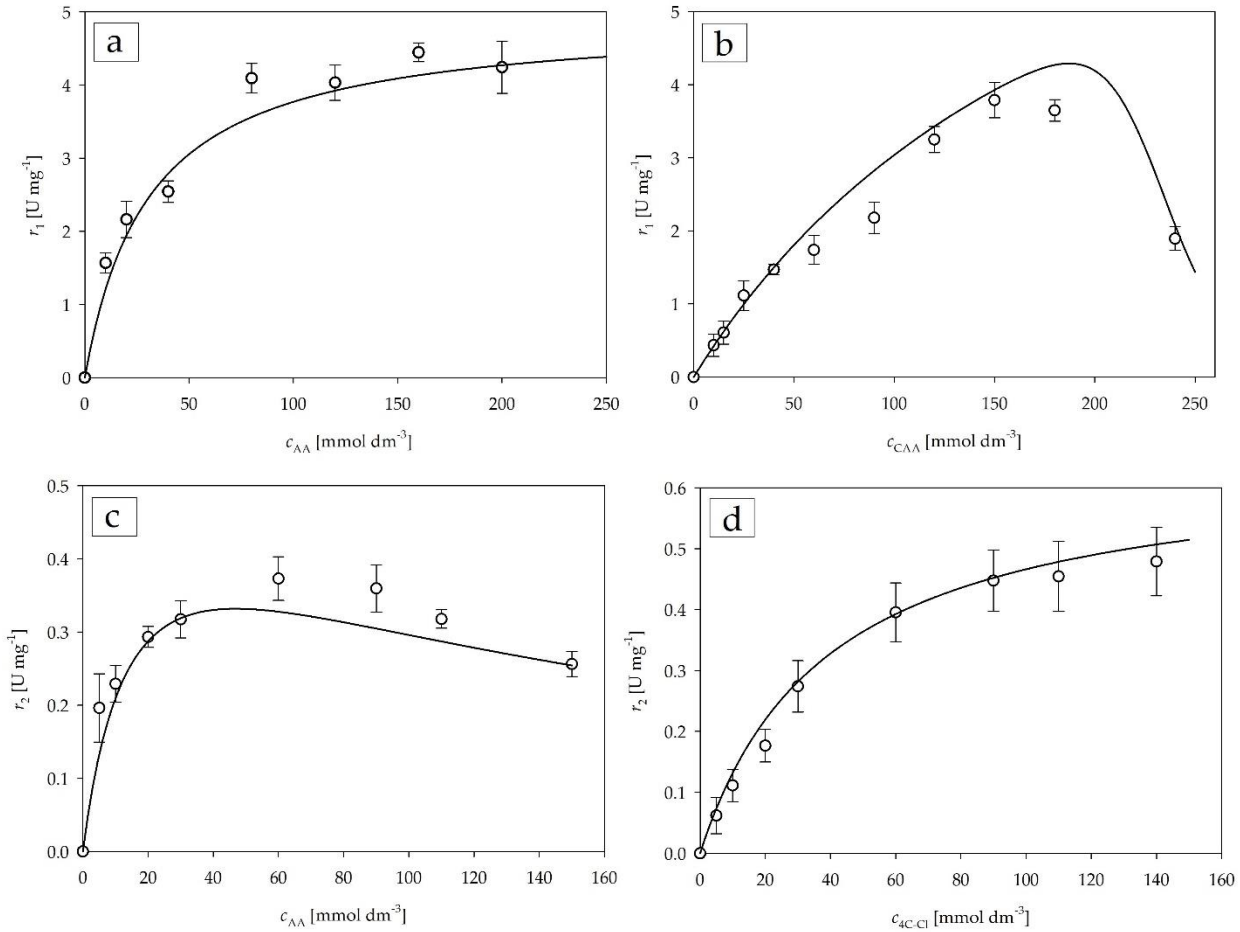

Figure S2. Kinetics of DERA immobilized on MCF-a/APTMS/10 % *v*/*v* succinic anhydride in the reaction of first (a, b) and second (c, d) aldol addition. The influence of: a -acetaldehyde ($c_{\text{chloroacetaldehyde}}$ = 100 mM), B - chloroacetaldehyde ($c_{\text{acetaldehyde}}$ = 100 mM), C - acetaldehyde ($c_{\text{4-chloro-3-hydroxybutanal}}$ = 5 mM) and D - 4-chloro-3-hydroxybutanal ($c_{\text{acetaldehyde}}$ = 40 mM) concentration on the initial reaction rate (0.1 M phosphate buffer pH 6, 25 °C, γ_{DERA} = 1 mg cm^{-3}).

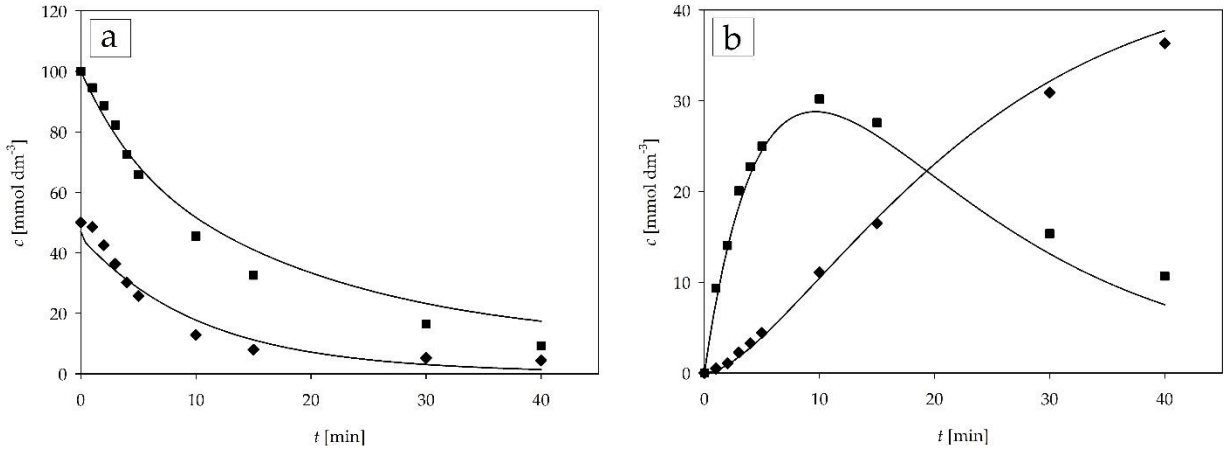

Figure S3. Mathematical model validation for double aldol addition reaction catalyzed by DERA^{024} immobilized on MCF-a/APTMS/10 % *v*/*v* succinic anhydride in the batch reactor. Time change of (a) substrate (symbols: diamond – acetaldehyde, square – chloroacetaldehyde) and (b) product (symbols: square - 4-chloro-3-hydroxybutanal, diamond – lactol). ($c_{\text{acetaldehyde}}$ = 100 mM, $c_{\text{chloroacetaldehyde}}$ = 45 mM, 0.1 M phosphate buffer pH 6, 25 °C, $\underline{\gamma}_{\text{DERA}}$ = 2 mg cm^{-3}).