Supporting Information

Interfacial Processes that Modulate the Kinetics of Lipase-Mediated Catalysis using Porous Silica Host Particles

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Figure S1: Adsorbed mass (left axis) and layer thickness (right axis) as a function of time during lipase-mediated hydrolysis of a tributyrin film on a hydrophilic (blue line) and hydrophobic surface (red line) for (A) CalA and (B) PPL. Lipase injection occurred at $t = 0$ min and flow rates remained constant at 10 µg mL$^{-1}$ for all samples. The following phases are labelled for CalA-mediated hydrolysis on hydrophobic silica: (i) lipase adsorption, (ii) accumulation phase whereby digestion products adsorb at lipid-in-water interface, and (iii) mass ejection of digestion products.
Figure S2: Decrease in adsorbed mass and layer thickness (left axis, blue bars) and FFA concentration in ejection media (right axis, red squares) as a function of silica surface chemistry and lipase extract for the lipase-mediated hydrolysis of a tributyrin film.

Figure S3: Pseudo-first-order fit for hydrolysis of tributyrin ( dilig) emulsion droplets, (●) loaded in PS-1L and (●) loaded in PS-2L for (A) CalA and (B) PPL.