

Supplementary Materials

Imine Reductase Based All-Enzyme Hydrogel with Intrinsic Cofactor Regeneration for Flow Biocatalysis

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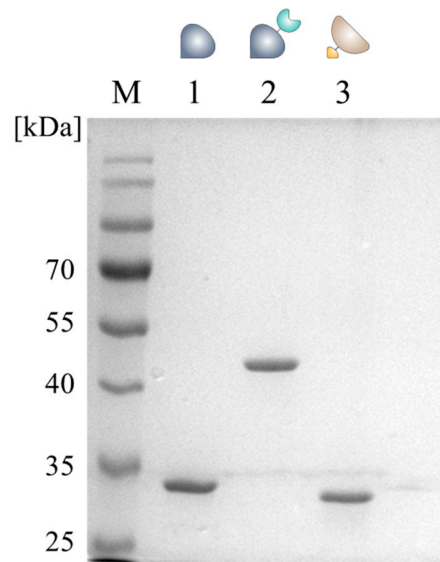


Figure S1. SDS-gel electrophoretic analysis of the purified recombinant proteins, used in this study. This is a coomassie stained 12% SDS-PAGE. M: Color Prestained Protein Standard, Broad Range (New England Biolabs); lane 1: GDH-His (29 kDa); lane 2: GDH-SC-His (41 kDa); lane 3: GF3546-ST (33 kDa).

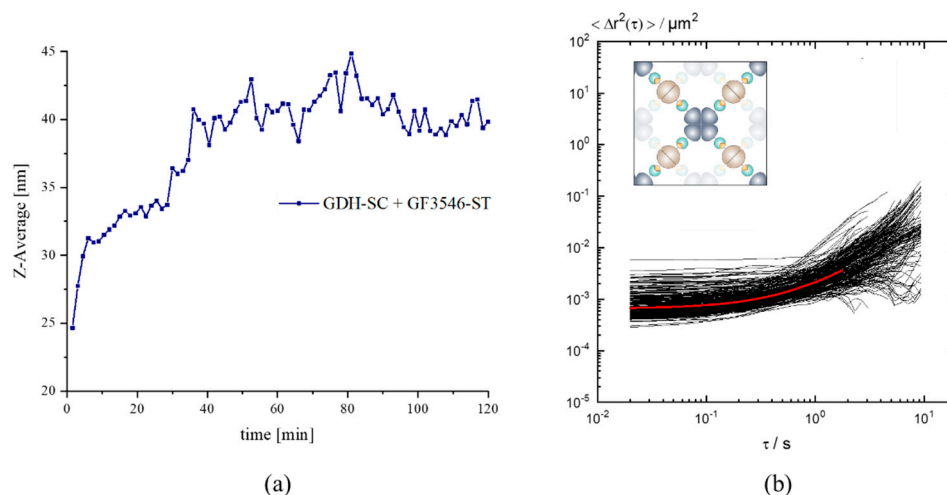


Figure S2. (a) Time-dependent increase of the hydrodynamic particle diameter of a 1 mM equimolar mixture of GDH-SC/GF3546-ST determined by DLS. (b) Optical microrheology measurements based on multiple particle tracking (MTP) analyses of gelled GDH-SC/GF3546-ST. Mean square displacements (MSDs) of individual polystyrene microspheres of 200 nm diameter determined for the gelled GDH-SC/GF3546-ST material were recorded (black curves). The red curve shows the ensemble-average MSD. Note that the MSDs exhibit almost no time dependence indicating that tracer particles are highly constrained by the surrounding hydrogel.

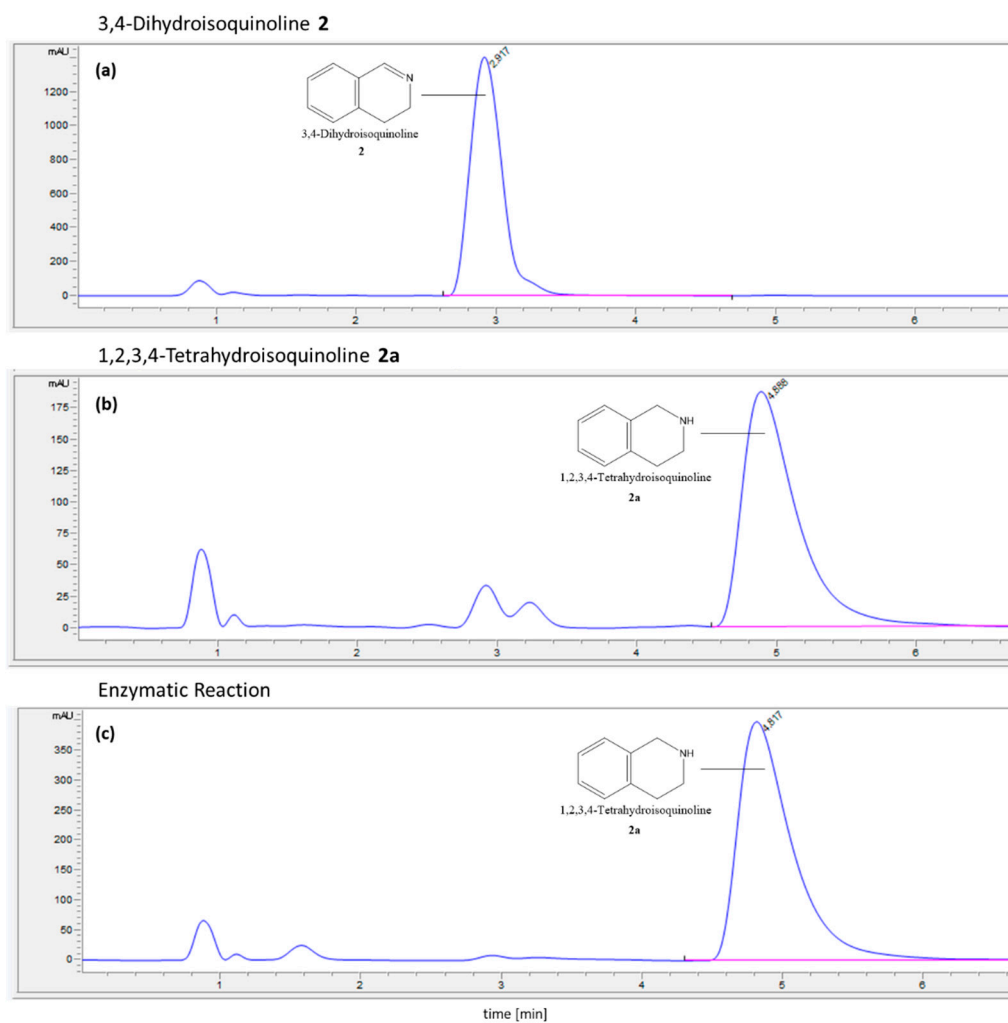


Figure S3. Representative HPLC traces of (a) the educt 3,4-Dihydroisoquinoline **2** and the corresponding amine product obtained from (b) chemical or (c) enzymatic reduction by GF3546-ST.

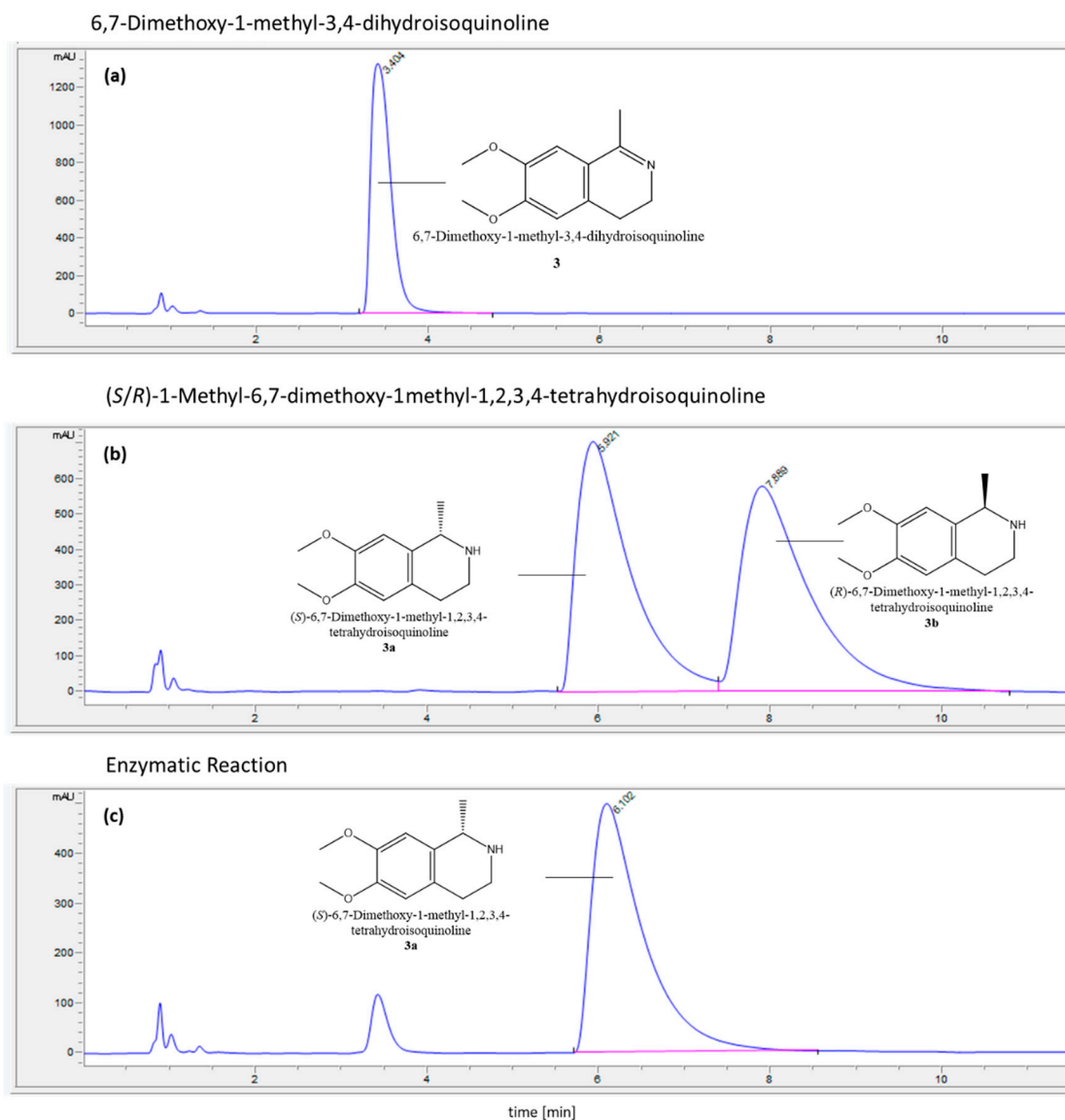


Figure S4. Representative HPLC traces of (a) the educt 6,7-Dimethoxy-1-methyl-3,4-dihydroisoquinoline **3** and the corresponding amine product obtained from (b) chemical or (c) enzymatic reduction by GF3546-ST.



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