Artificial Transfer Hydrogenases for the Enantioselective Reduction of Cyclic Imines

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Man-made activity: Introduction of a biotinylated iridium piano stool complex within streptavidin affords an artificial imine reductase (see scheme). Saturation mutagenesis allowed optimization of the activity and the enantioselectivity of this metalloenzyme, and its X-ray structure suggests that a nearby lysine residue acts as a proton source during the transfer hydrogenation.
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