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(54) **Title:** BIOCATALYSTS AND METHODS FOR SYNTHESIZING DERIVATIVES OF TRYPTAMINE AND TRYPTAMINE ANALOGS

(57) **Abstract:** The present disclosure provides engineered transaminase polypeptides for the production of amines, polynucleotides encoding the engineered transaminases, host cells capable of expressing the engineered transaminases, and methods of using the engineered transaminases to prepare compounds useful in the production of active pharmaceutical agents. The present disclosure provides engineered polypeptides having transaminase activity, polynucleotides encoding the polypeptides, methods of the making the polypeptides, and methods of using the polypeptides for the biocatalytic conversion of ketone substrates to amine products. The present enzymes have been engineered to have one or more residue differences as compared to the amino acid sequence of the naturally occurring transaminase of *Vibrio fluvialis*. In particular, the transaminases of the present disclosure have been engineered for efficient formation of chiral tryptamine derivatives from its corresponding prochiral ketone substrates.

