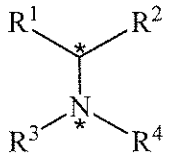
[0019a] In one aspect, there is provided a process for preparing an amine compound of formula **(III)**,



(III)

wherein

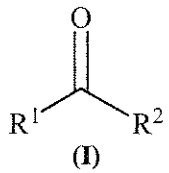
R^1 and R^2 groups are independently selected from a hydrogen atom, and optionally substituted alkyl, alkenyl, alkynyl, alkoxy, carboxy, aminocarbonyl, heteroalkyl, heteroalkenyl, heteroalkynyl, carboxyalkyl, aminoalkyl, haloalkyl, alkylthioalkyl, cycloalkyl, aryl, arylalkyl, heterocycloalkyl, heteroaryl, and heteroarylalkyl; and optionally R^1 and R^2 are linked to form a 3-membered to 10-membered ring;

R^3 and R^4 groups are independently selected from a hydrogen atom, and optionally substituted alkyl, alkenyl, alkynyl, alkoxy, carboxy, aminocarbonyl, heteroalkyl, heteroalkenyl, heteroalkynyl, carboxyalkyl, aminoalkyl, haloalkyl, alkylthioalkyl, cycloalkyl, aryl, arylalkyl, heterocycloalkyl, heteroaryl, and heteroarylalkyl, with the proviso that both R^3 and R^4 cannot be hydrogen; and optionally R^3 and R^4 are linked to form a 3-membered to 10-membered ring; and

optionally, the carbon atom and/or the nitrogen indicated by * is chiral;

the process comprising contacting

a compound of formula **(I)**,



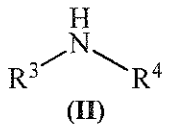
(I)

wherein

R^1, and R^2 are as defined above;

and

a compound of formula **(II)**,

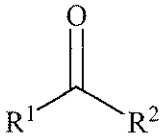


(II)

wherein

R^3, and R^4 are as defined above;

with an engineered polypeptide having imine reductase activity in presence of a cofactor under suitable reaction conditions, ~~optionally~~ wherein the engineered polypeptide is:



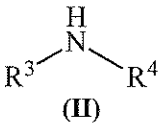
(I)

wherein

R^1, and R^2 are as defined above;

and

a compound of formula **(II)**,



(II)

wherein

R^3, and R^4 are as defined above;

with an engineered polypeptide having imine reductase activity in presence of a cofactor under suitable reaction conditions, ~~optionally~~ wherein the engineered polypeptide is:

(a) derived from a naturally occurring opine dehydrogenase selected from: opine dehydrogenase from *Arthrobacter sp. strain 1C* (SEQ ID NO: 2), D-octopine dehydrogenase from *Pecten maximus* (SEQ ID NO: 102), ornithine dehydrogenase from *Lactococcus lactis K1* (SEQ ID NO: 104), N-methyl-*L*-amino acid dehydrogenase from *Pseudomonas putida* (SEQ ID NO: 106), β-alanopine dehydrogenase from *Cellana grata* (SEQ ID NO: 108), and tauropine dehydrogenase from *Suberites domuncula* (SEQ ID NO: 110); or

(b) an engineered polypeptide of any one of **claims** 1 to 14.

21. The process of **claim 20** in which R^3 and R^4 are linked to form a 3-membered to 10-membered ring.

22. The process of **claim 20** in which the substrate compound of formula **(II)** is selected from methylamine, dimethylamine, isopropylamine, butylamine, isobutylaminel, *L*-norvaline, aniline, (*S*)-2-aminopent-4-enoic acid, pyrrolidine, and hydroxypyrrolidine.

23. The process of **claim 20** in which at least one of R^1 and R^2 of the compound of formula **(I)** is linked to at least one of R^3 and R^4 of the amine compound of formula **(II)**, whereby the process for preparing the amine compound of formula **(III)** comprises an intramolecular reaction.

24. The process of **claim 20** in which the suitable reaction conditions comprise

(a) substrate loading at about 10 g/L to 100 g/L;

(b) about 0.1 g/L to about 50 g/L of the engineered polypeptide;

(c) about 0.05 g/L (0.001 M) to about 2.5 g/L (0.050 M) of NAD(P)H;

(d) a pH of about 6 to 10;