CLAIMS

1. A method of producing a Jasmonate using a yeast cell, the method comprising a) culturing a yeast cell under conditions suitable for producing the Jasmonate, wherein expression of the polyketide synthase (PKS) gene has been disrupted in the yeast cell, and b) isolating a Jasmonate produced from the yeast cell.

2. The method of claim 1, wherein the method comprises disrupting the PKS gene prior to step a).

3. The method of claim 1 or 2, wherein the method comprises providing the yeast cell with a fatty acid source in step a).

4. The method of any one of claims 1 to 3, wherein the yeast cell is *Malassezia spp*.

5. The method of any one of claims 1 to 4, wherein the PKS gene has been disrupted by a deletion or an insertion.

6. The method of any one of claims 1 to 5, wherein the PKS gene of the yeast cell has been disrupted by nuclease-mediated gene editing.

7. The method of claim 6, wherein the nuclease is a zinc finger protein, a nuclease comprising a Transcription activator-like effector (TALEN) nuclease or a CRISPR/Cas system.

8. The method of claim 7, wherein the CRISPR/Cas system is CRISPR/Cas9.

9. The method of claim 7 or 8, wherein the CRISPR/Cas system comprises at least one nucleic acid encoding a CRISPR nuclease and at least one nuclease acid encoding a guide RNA.

10. The method of any one of claims 7 to 9, wherein the CRISPR/Cas system comprises an exogenous sequence for integrating into the yeast genome via homologous recombination following cleavage by the nuclease.

11. The method of any one of claims 1 to 4, wherein expression of the PKS gene is

disrupted using an inhibitory nucleic acid or small molecule that inhibits expression of the PKS gene.

12. The method of any one of claims 1 to 11, wherein the Jasmonate is Jasmonic acid, methyl-Jasmonate, or a Jasmonic acid conjugated with an amino acid.

13. The method of any one of claims 1 to 12, wherein the Jasmonate is secreted by the yeast cell, and step b) comprises isolating the secreted Jasmonate.

14. A method of enhancing the production of a Jasmonate from a yeast cell, the method comprising disrupting expression of the polyketide synthase (PKS) gene in the yeast cell.

15. The method of claim 14, wherein the method further comprises culturing the yeast cell under conditions suitable for producing the Jasmonate and isolating the Jasmonate produced from the yeast cell.

16. An engineered yeast cell for producing a Jasmonate, wherein the polyketide synthase (PKS) gene has been disrupted in the yeast cell.

17. A microbiome composition comprising a yeast cell, wherein the polyketide synthase (PKS) gene has been disrupted in the yeast cell.

18. The microbiome composition of claim 17, wherein the microbiome composition is a skin microbiome composition.

19. A microbiome composition of claim 17 or 18 for use as a cosmetic or as a medicament.

20. Use of a microbiome composition of claim 17 or 18 for producing a Jasmonate.