

Investigations of major α -dicarbonyl content in U.S. honey of different geographical origins

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Table S1: Retention time, chemical formulas, measured mass, and fragment masses of MGO, GO and 3-DG derivatives.

α -dicarbonyl derivative	Chemical formula	Measured mass, Da	Retention time, min	Product ions, Da
MGO	C ₉ H ₈ N ₂	145.2	7.65	118.1, 126.8, 134.8
GO	C ₈ H ₆ N ₂	131.2	6.50	98.1, 102.1, 84.1
3-DG	C ₁₂ H ₁₂ O ₃ N ₂	235.3	5.45	217.1, 199.1

Table S2: Information on honey samples collection

Honey supplier	Country of origin	Floral source	Year
New Zealand Co Ltd Wanaka	New Zealand	<i>Leptospermum scoparium</i>	2023
Local hive company	USA (Washington, Texas, Southern California)	N/A	2023

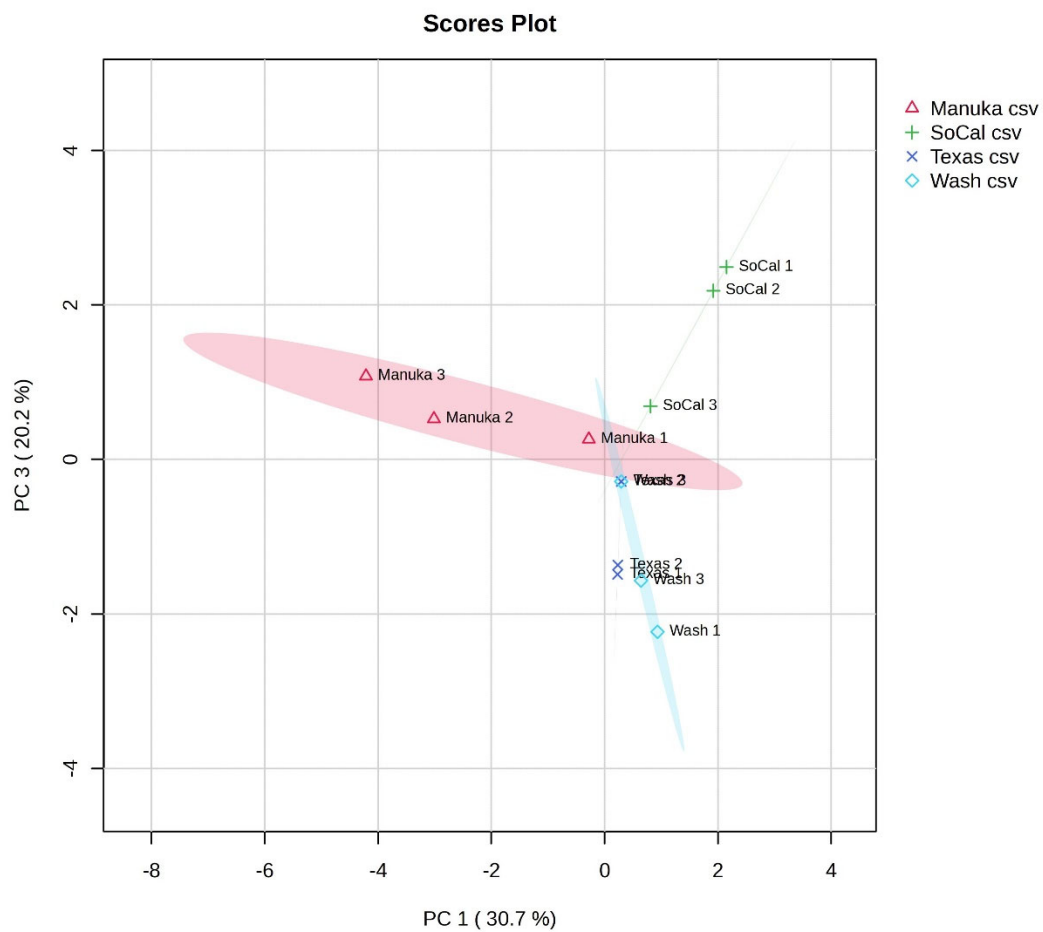


Figure S1: PCA plot showing the geographical origin variations for U.S. honey samples and Manuka honey from New Zealand.