

# Supplementary Materials: The Application of Cold-Induced Liquid–Liquid Extraction for the Determination of 4-Methylimidazole in Tea and Associated Risk Assessment for Chinese Tea Consumers

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**Table S1.** Table S1: Dunn’s multiple comparisons test for the concentrations of 4-MEI among seven types of tea in China.

Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value
OT vs. GT	240.5	Yes	****	<0.0001
OT vs. BT	223.4	Yes	****	<0.0001
OT vs. DT	89.24	No	ns	0.1603
OT vs. WT	307.7	Yes	****	<0.0001
OT vs. ST	186.1	Yes	****	<0.0001
OT vs. YT	204.5	Yes	**	0.0025
GT vs. BT	-17.06	No	ns	>0.9999
GT vs. DT	-151.2	Yes	***	0.0004
GT vs. WT	67.22	No	ns	0.2740
GT vs. ST	-54.36	No	ns	>0.9999
GT vs. YT	-35.99	No	ns	>0.9999
BT vs. DT	-134.2	Yes	**	0.0053
BT vs. WT	84.28	No	ns	0.0696
BT vs. ST	-37.3	No	ns	>0.9999
BT vs. YT	-18.93	No	ns	>0.9999
DT vs. WT	218.4	Yes	****	<0.0001
DT vs. ST	96.87	No	ns	0.2825
DT vs. YT	115.2	No	ns	>0.9999
WT vs. ST	-121.6	Yes	**	0.0029
WT vs. YT	-103.2	No	ns	>0.9999
ST vs. YT	18.37	No	ns	>0.9999

Note: green tea (GT), oolong tea (OT), black tea (BT), white tea (WT), dark tea (DT), yellow tea (YT), and scented tea (ST).

**Table S2.** Dunn’s multiple comparisons test for the concentrations of 4-MEI among three different modes of tea processing in China.

Dunn's multiple comparisons test	Mean rank diff.	Significant?	Summary	Adjusted P Value
Non vs. Semi	-243.3	Yes	****	<0.0001
Non vs. Full	-53.71	Yes	*	0.0163
Semi vs. Full	189.6	Yes	****	<0.0001

Note: Non-fermented tea (Non), Full fermented tea (Full), Semi-fermented tea (Semi).



**Figure S1.** Maillard reaction in the baking process of tea.