

Supporting Information

Analysis of alkaloids in areca nut-containing products by liquid chromatography-tandem mass-spectrometry

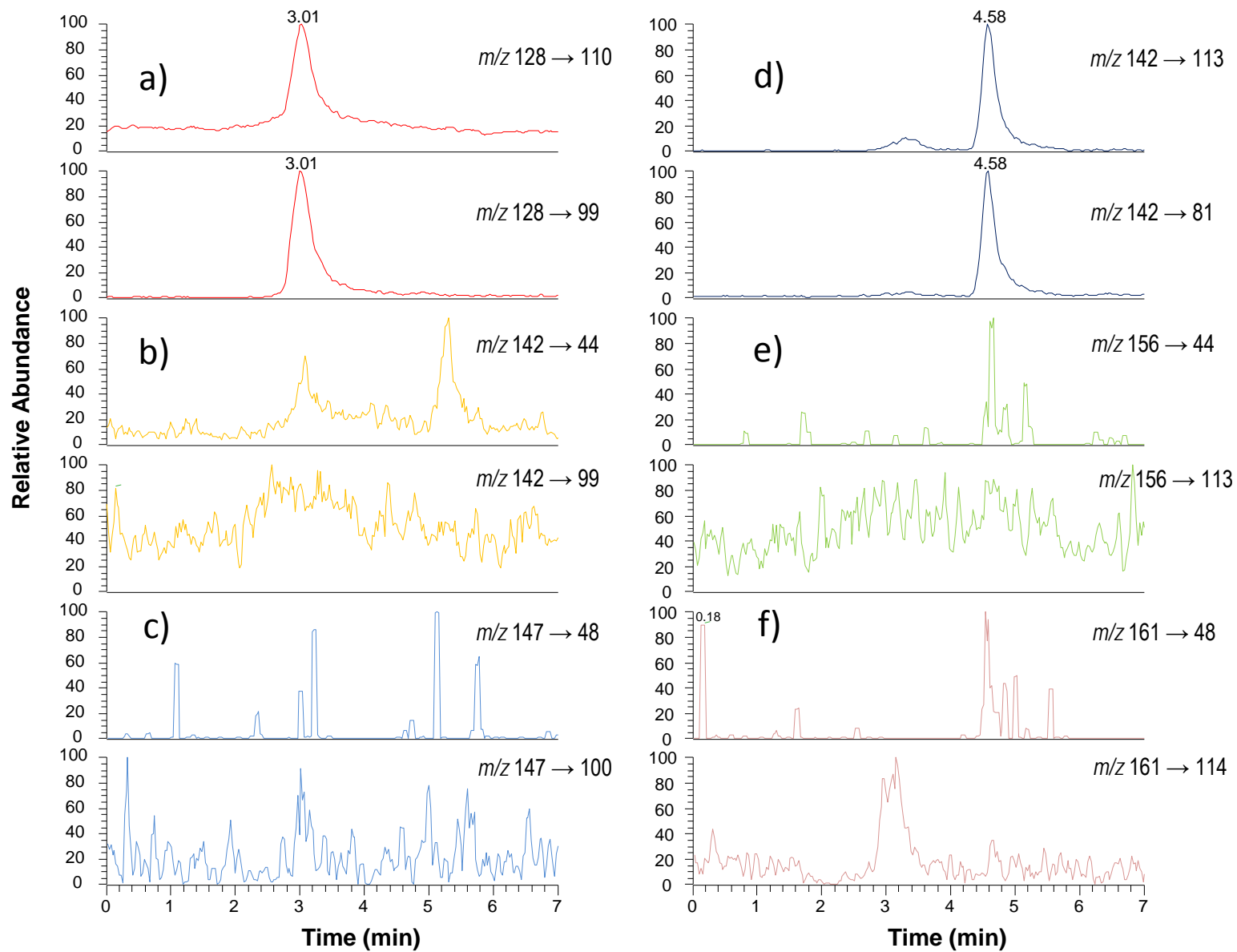
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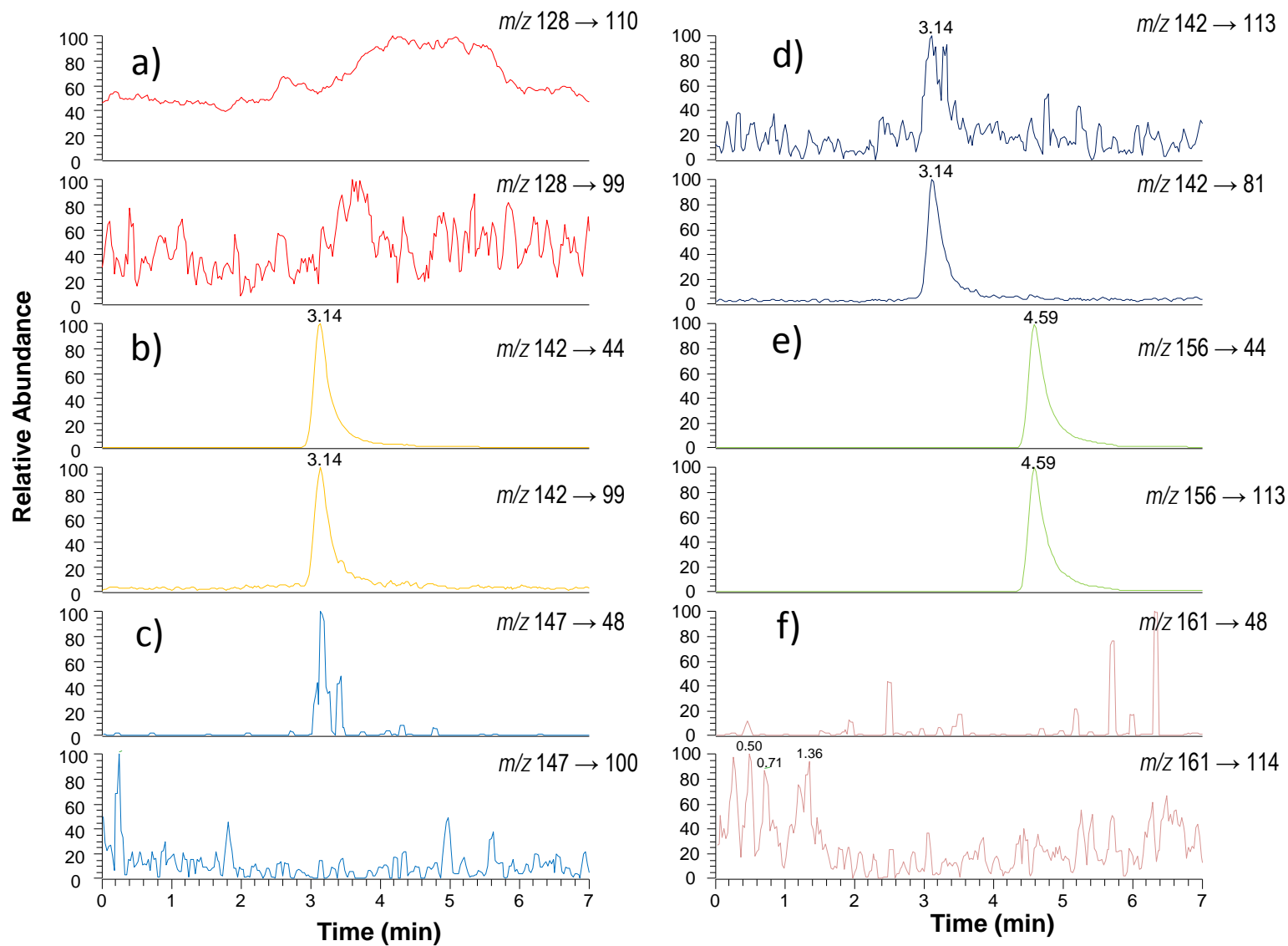
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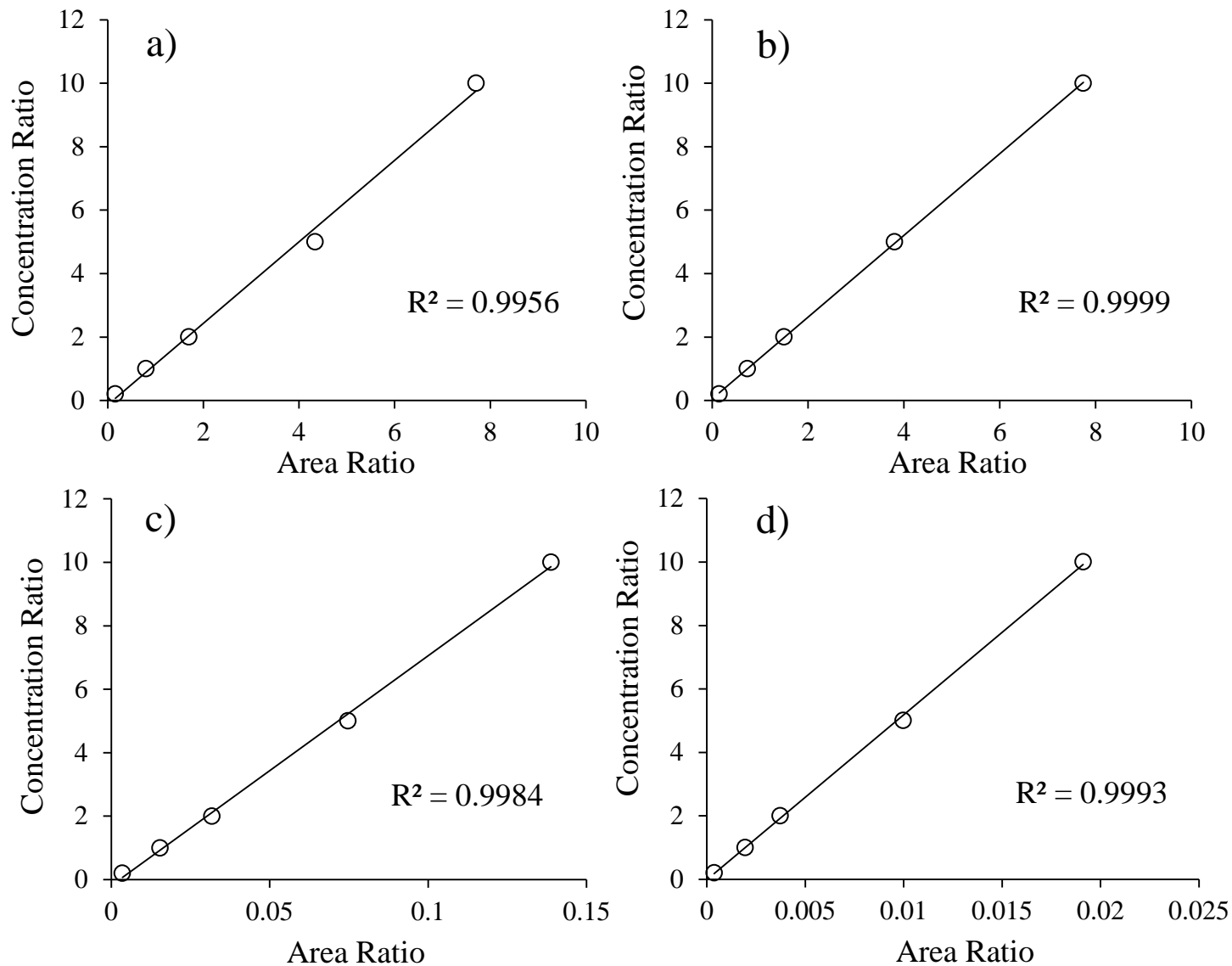
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Supplemental Figure 1a: LC-MS/MS chromatogram obtained upon analysis of standard mix of guvacine (a) and guvacoline (d). No significant peaks were observed at the same retention time in arecaidine (b), arecaidine-d5 (c), arecoline (e) and arecoline-d5 (f) transitions.



Supplemental Figure 1b: LC-MS/MS chromatogram obtained upon analysis of standard mix of arecaidine (b) and arecoline (e). No significant peaks were observed at the same retention time in guvacine (a), arecaidine-d5 (c), guvacoline (d) and arecoline-d5 (f) transitions.



Supplemental Figure 2. Linearity of the method obtained upon analysis of standards having internal standard at constant concentration (50 pg/ μ L) and alkaloids concentration ranging from 10 to 500 pg/ μ L for a) arecoline, b) arecaidine, c) guvacoline, and d) guvacine.

Supplemental Table 1: Alkaloids levels in areca nut containing products in artificial saliva extract

Product	Alkaloids (mg/g product dry weight)				Total Alkaloids
	Guvacine	Arecaidine	Guvacoline	Arecoline	
<u>Dry Areca Nuts</u>					
Sample 1	1.22	0.13	0.18	0.69	2.22
Sample 2	1.71	0.14	0.21	0.76	2.82
Sample 3	2.26	0.20	0.14	0.65	3.25
Sample 4	2.24	0.15	0.52	1.33	4.24
Sample 5	1.45	0.25	0.16	1.11	2.97
Sample 6	1.09	0.12	0.12	0.48	1.80
Sample 7	3.32	0.22	0.18	0.69	4.37
Sample 8	4.53	0.46	0.20	0.94	6.08
Sample 9 (roasted)	9.24	0.40	0.32	0.93	10.85
<u>Pan Masala</u>					
Pan Parag	4.09	1.08	0.27	0.69	6.09
Pan Bahar	5.10	1.87	0.38	1.11	8.40
Rajnigandha	3.66	1.32	0.25	0.80	5.99
Rajshri	3.50	0.88	0.24	0.92	5.48
RMD	4.29	1.50	0.33	0.72	6.81
Vimal	3.36	0.92	0.24	0.77	5.25
<u>Gutkha</u>					
Tulsi Gutkha	4.53	1.32	0.32	0.99	7.11
Pan Parag Gutkha	3.07	1.17	0.23	0.63	5.07
<u>Chinese Areca nut</u>					
Product 1	1.26	0.65	0.26	1.46	3.62
Product 2	2.54	1.47	0.14	1.02	5.17
Product 3	1.55	0.76	0.28	1.17	3.77

Supplemental Table 2: Areca alkaloids in *pan masala* with and without the addition of tobacco

Product	Alkaloids (mg/g product dry weight)				
	Guvacine	Arecaidine	Guvacoline	Arecoline	Total Alkaloids
<i>Pan Masala</i>					
Rajshri	2.10	0.95	0.25	1.25	4.55
RMD	3.50	1.68	0.40	0.94	6.51
Vimal	3.11	1.10	0.24	0.93	5.36
<i>Pan Masala + Tobacco</i>					
Rajshri + Tobacco	2.02	0.85	0.28	1.05	4.19
RMD + Tobacco	4.02	1.85	0.44	0.87	7.18
Vimal + Tobacco	3.04	1.00	0.24	0.75	5.03