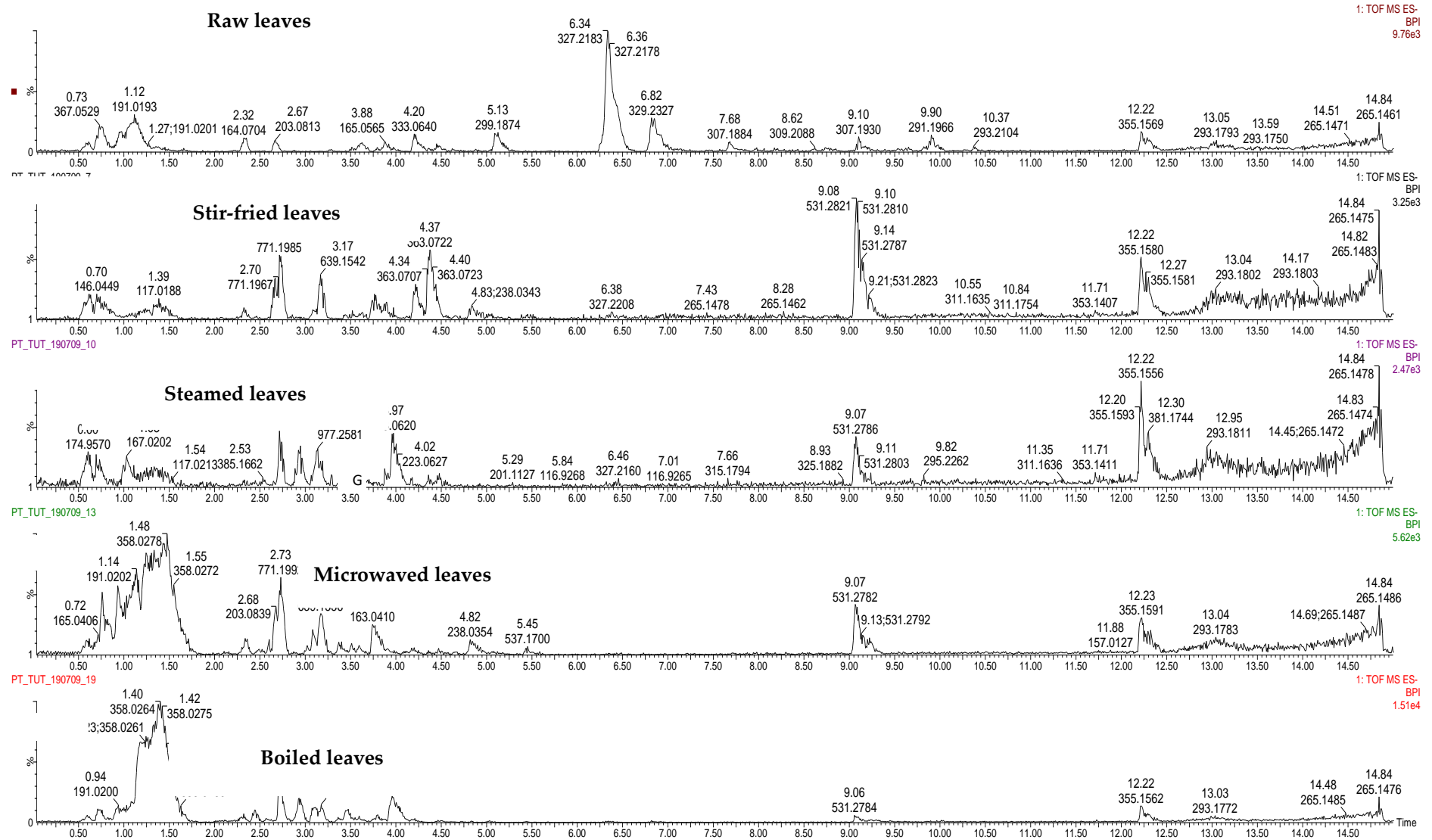
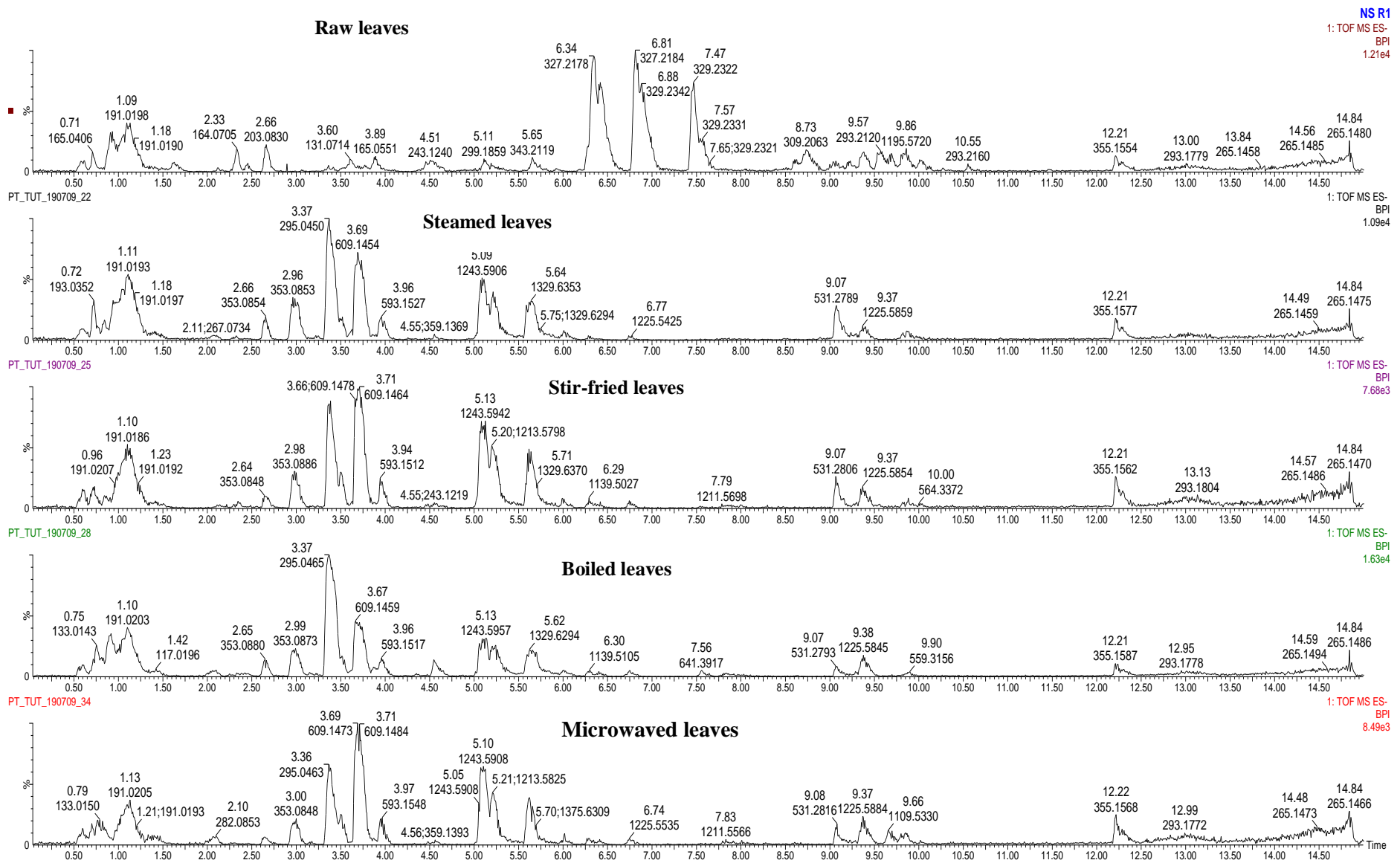


<sup>1</sup> Phytochemical Food Network Research Group, Department of Crop Sciences, Tshwane University of Technology, Pretoria West, 0001, South Africa <sup>2</sup> Department of Biomedical Sciences, Tshwane University of Technology, Acadia Campus, Pretoria 0002, South Africa, <sup>3</sup> ARC Industrial Transformation Training Centre for Uniquely Australian Foods, Queensland Alliance for Agriculture and Food Innovation, The University of Queensland, QLD 4108, Queensland, Australia



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**Supplementary Figure 1A:** Comparison of UPLC-Q-TOF/MS chromatogram illustrating the changes in phenolic compounds in Chinese cabbage (*Brassica rapa* L. subsp. *chinensis*) during different household cooking techniques. The relative peak intensity is normalized, and peaks are expressed as the percentage highest peak intensity



**Supplementary Figure 1. B** Comparison of UPLC-Q-TOF/MS chromatogram illustrating the changes in phenolic compounds in Nightshade (*Solanum retroflexum* Dun) during different household cooking techniques. The relative peak intensity is normalized, and peaks are expressed as the percentage highest peak intensity.

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**Supplementary Table 1A.** Tentative identification and characterization of phenolic compounds in Chinese cabbage (*Brassica rapa* L. subsp. *chinensis*) based on their UV (222 to 354) nm retention times relative to the cocktail standards used and the patterns of MS fragmentation under negative mode

Retention time	[M-H] <sup>-</sup>	M-H formula	ppm error	MS fragments	UV	Tentative identification	Ref
2.71	771.2011	C <sub>33</sub> H <sub>39</sub> O <sub>21</sub>	3.5	609,285,255	265,347	Kaempferol 3-O-sophoroside 7-O-glucoside	
2.85	963.2401	C <sub>43</sub> H <sub>47</sub> O <sub>25</sub>	-0.5	801,609,285	267,333	Kaempferol-3-O-hydroxy feruloyl-trihexoside	
3.09	609.1474	C <sub>27</sub> H <sub>39</sub> O <sub>16</sub>	3.0	447,285	265,321	Kaempferol-dihexoside	
3.12	977.254	C <sub>44</sub> H <sub>49</sub> O <sub>25</sub>	-0.3	815,285	265,333	Kaempferol-3-O-sinapoyl-dihexoside-hexoside	Managa et al., 2019; Managa et al., 2020
3.17	639.1542	C <sub>28</sub> H <sub>31</sub> O <sub>17</sub>	-1.6	477,315	254,340	Isorhamnetin-O-dihexoside	
3.45	431.1922	C <sub>20</sub> H <sub>31</sub> O <sub>10</sub>	1.2	325,209,207,163,150,133	327	Malic acid derivative	
3.59	801.1874	C <sub>37</sub> H <sub>37</sub> O <sub>20</sub>	-0.5	771,609, 285,255	265,340	Kaempferol-3-O-hydroxyferuloyl-diglucoside	
3.96	339.0724	C <sub>15</sub> H <sub>15</sub> O <sub>9</sub>	2.4	309,223,193,164,149,133	265,340	Sinapoyl malate	
4.07	447.1033	C <sub>22</sub> H <sub>21</sub> O <sub>12</sub>	0.0	314	253,350	Isorhamnetin-O-hexoside	
4.20	315.05	C <sub>16</sub> H <sub>11</sub> O <sub>7</sub>	-1.6	284,255,151	291	Rhamnetin/Isorhamnetin	
4.63	363.0714	C <sub>17</sub> H <sub>16</sub> O <sub>9</sub>	-0.6	345,285,271	289	Kaempferol-dimethoxy derivative Pubchem 123947790	
6.82	329.2327	C <sub>18</sub> H <sub>33</sub> O <sub>5</sub>	1.2	223,211,171,139,99	275	Unknown	
9.1	531.2821	C <sub>26</sub> H <sub>43</sub> O <sub>11</sub>	0,6	485,307	none	Unknown	

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Table 1B. Tentative identification and characterization of phenolic and steroidal saponin compounds in African nightshade (*Solanum retroflexum* Dun)

Retention time	[M-H]	M-H formula	ppm error	MS fragments	UV	Tentative identification	References
2.66	353.0851	C <sub>16</sub> H <sub>17</sub> O <sub>9</sub>	-2.5	191,179,135	325	Neochlorogenic acid	
2.98	353.0868	C <sub>16</sub> H <sub>17</sub> O <sub>9</sub>	-2.0	191,85	325	Chlorogenic acid	
3.4	295.0449	C <sub>13</sub> H <sub>11</sub> O <sub>8</sub>	-2.7	179,133	328	Caffeoylmalic acid	
3.73	609.1448	C <sub>27</sub> H <sub>29</sub> O <sub>16</sub>	1.6	300,271	255,352	Rutin	
3.9	593.1519	C <sub>28</sub> H <sub>29</sub> O <sub>15</sub>	2.4	285,223,193,149	331	Kaempferol 3-O-rutinoside	
4.12	515.118	C <sub>25</sub> H <sub>23</sub> O <sub>12</sub>	-1.9	353,191,179,135	327	Dicaffeoylquinic acid	
4.31	515.1208	C <sub>25</sub> H <sub>23</sub> O <sub>12</sub>	3.5	353,191,179,173,135,99	327	Dicaffeoylquinic acid	
5.08	1243.5978	C <sub>57</sub> H <sub>94</sub> O <sub>28</sub>	1.9	1081,919,757	none	Tigogenin_5G	
5.16	1213.585	C <sub>79</sub> H <sub>93</sub> O <sub>18</sub>	6.8	1081,1051,919,757	none	Tigogenin-3G-Xyl-G	
5.60	1329.6312	C <sub>68</sub> H <sub>97</sub> O <sub>26</sub>	-0.7	1081 , 919	none	Tigogenin-GG-Rha-Xyl_Xyl	

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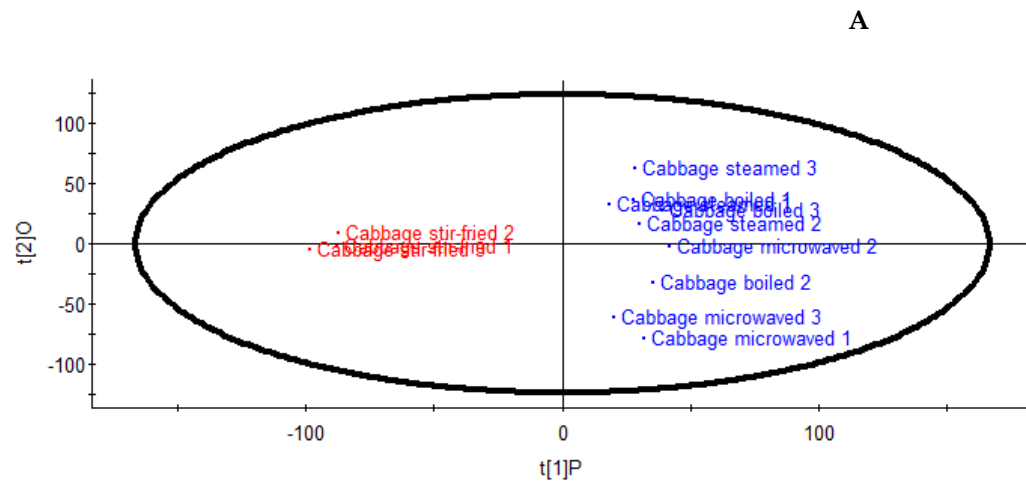
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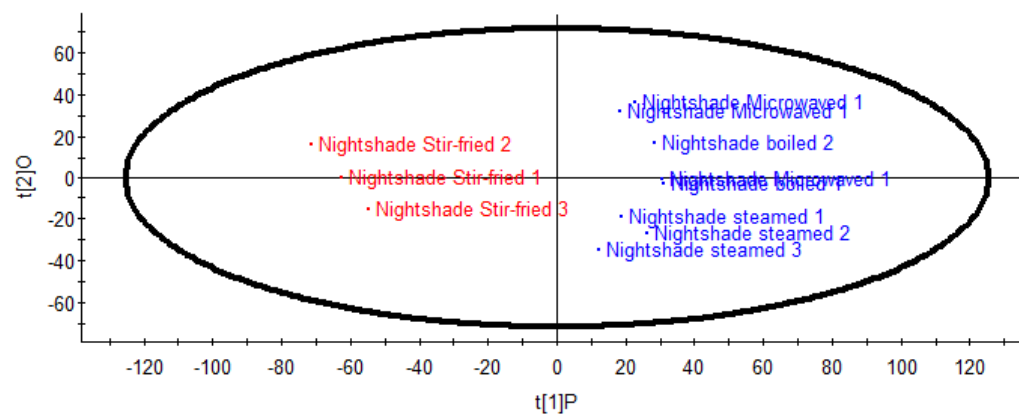
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6.37	327.2165	$C_{18}H_{31}O_5$	-2.1	229,211,171,97	310	Unknown
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**Supplementary Figure. 2:** Score plot of Principal component analysis (unsupervised) based on UPLC-Q-TOF/MS spectra of different household cooking techniques A) Chinese cabbage (*Brassica rapa L. subsp. Chinensis*) and B) nightshade (*Solanum retroflexum* Dun)