

**Table S1.** Photosynthetic pigments identified by HPLC-PDA-ESI/APCI(+)-Q-TOF in the study.

<b>Pigment</b>	<b>UV-Vis Maxima (nm)</b>	<b>[M + H]<sup>+</sup> (m/z)</b>	<b>Elemental Composition</b>
chlorophyllide <i>a</i>	430, 666	615.2450	C <sub>35</sub> H <sub>34</sub> MgN <sub>4</sub> O <sub>5</sub>
pheophorbide <i>a</i>	410, 665	593.2761	C <sub>35</sub> H <sub>36</sub> N <sub>4</sub> O <sub>5</sub>
pheophorbide <i>a'</i>	409, 666	593.2758	C <sub>35</sub> H <sub>36</sub> N <sub>4</sub> O <sub>5</sub>
13 <sup>2</sup> -hydroxy-pheophorbide <i>a</i>	408, 666	609.2705	C <sub>35</sub> H <sub>36</sub> N <sub>4</sub> O <sub>6</sub>
<i>cis</i> -violaxanthin	412, 434, 463	599.4116 <sup>a</sup>	C <sub>40</sub> H <sub>56</sub> O <sub>4</sub>
<i>cis</i> -neoxanthin	412, 434, 462	599.4113 <sup>a</sup>	C <sub>40</sub> H <sub>56</sub> O <sub>4</sub>
<i>cis</i> -luteoxanthin	398, 421, 448	599.4114 <sup>a</sup>	C <sub>40</sub> H <sub>56</sub> O <sub>4</sub>
<i>all-trans</i> -lutein	421, 444, 474	551.4245 <sup>b</sup>	C <sub>40</sub> H <sub>56</sub> O <sub>2</sub>
<i>cis</i> -lutein	342, 421, 444, 474	551.4248 <sup>b</sup>	C <sub>40</sub> H <sub>56</sub> O <sub>2</sub>
15 <sup>2</sup> -hydroxy-lactone-chlorophyll <i>b</i>	454, 634	939.5115	C <sub>55</sub> H <sub>70</sub> MgN <sub>4</sub> O <sub>8</sub>
13 <sup>2</sup> -hydroxy-chlorophyll <i>b</i>	462, 650	923.5169	C <sub>55</sub> H <sub>70</sub> MgN <sub>4</sub> O <sub>7</sub>
chlorophyll <i>b</i>	466, 650	907.5222	C <sub>55</sub> H <sub>70</sub> MgN <sub>4</sub> O <sub>6</sub>
chlorophyll <i>b'</i>	466, 650	907.5220	C <sub>55</sub> H <sub>70</sub> MgN <sub>4</sub> O <sub>6</sub>
13 <sup>2</sup> -hydroxy-chlorophyll <i>b'</i>	462, 650	923.5164	C <sub>55</sub> H <sub>70</sub> MgN <sub>4</sub> O <sub>7</sub>
13 <sup>2</sup> -hydroxy-chlorophyll <i>a</i>	432, 666	909.5380	C <sub>55</sub> H <sub>72</sub> MgN <sub>4</sub> O <sub>6</sub>
chlorophyll <i>a</i>	432, 666	893.5429	C <sub>55</sub> H <sub>72</sub> MgN <sub>4</sub> O <sub>5</sub>
chlorophyll <i>a'</i>	432, 666	893.5425	C <sub>55</sub> H <sub>72</sub> MgN <sub>4</sub> O <sub>5</sub>
pheophytin <i>a</i>	407, 665	871.5730	C <sub>55</sub> H <sub>74</sub> N <sub>4</sub> O <sub>5</sub>
pheophytin <i>a'</i>	407, 665	871.5731	C <sub>55</sub> H <sub>74</sub> N <sub>4</sub> O <sub>5</sub>
<i>all-trans</i> -β-carotene	424, 451, 477	537.4435	C <sub>40</sub> H <sub>56</sub>
9- <i>cis</i> -β-carotene	340, 420, 446, 472	537.4445	C <sub>40</sub> H <sub>56</sub>

<sup>a</sup>Protonated ion arising from the M<sup>+</sup> radical ion. <sup>b</sup>Product ion corresponding to the loss of water from the protonated molecular ion.