Article

Açaí (*Euterpe oleracea* Mart.) Seed Extracts from Different Varieties: A Source of Proanthocyanidins and Eco-Friendly Corrosion Inhibition Activity

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SUPPLEMENTARY MATERIAL

Figure S1 – HILIC-HPLC-FLD chromatograms of PA, WA and BRS crude extracts. Peaks are identified by their degree of polymerization (DP).

Figure S2 – HPLC-DAD chromatogram of PA extract. Extracted ion chromatograms corresponding to B-type procyanidins oligomers (monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer and octamer, respectively).

Figure S3 – HPLC-DAD chromatogram of WA extract. Extracted ion chromatograms corresponding to B-type procyanidins oligomers (monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer and octamer, respectively).

Figure S4 – HPLC-DAD chromatogram of BRS extract. Extracted ion chromatograms corresponding to B-type procyanidins oligomers (monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer and octamer, respectively).

Figure S5 – Chromatograms of PA, WA and BRS phloroglucinolysis aqueous fractions.

Figure S6 – MALDI-TOF $[M+Na]^+$ mass spectra from PA, WA and BRS aqueous fractions.

Figure S7 – Effect of PA on the metallic surface after 24 hours immersion in neutral pH corrosive solution without PA and 1.0 $g.L^{-1}$ of PA. A – Metallic surface after 24 hours immersion in neutral pH corrosive solution; B – Black protective film formation after 24 hours immersion in neutral pH corrosive solution with 1.0 $g.L^{-1}$ of PA; and C – metallic surface after black film removal.

Figure S8 – Nyquist plot for carbon steel AISI 1020 in a neutral pH corrosive solution for purple açaí (PA) crude extract in 1.0 $g.L^{-1}$. The control represents the absence of any inhibitor.

Figure S9 – Bode plot for carbon steel AISI 1020 in a neutral pH corrosive solution purple açaí (PA) crude extract in 1.0 $g.L^{-1}$. The control represents the absence of any inhibitor. Relation between log frequency (Hz) and phase angle (°) and log impedance modules ($\Omega \cdot cm^{-2}$).

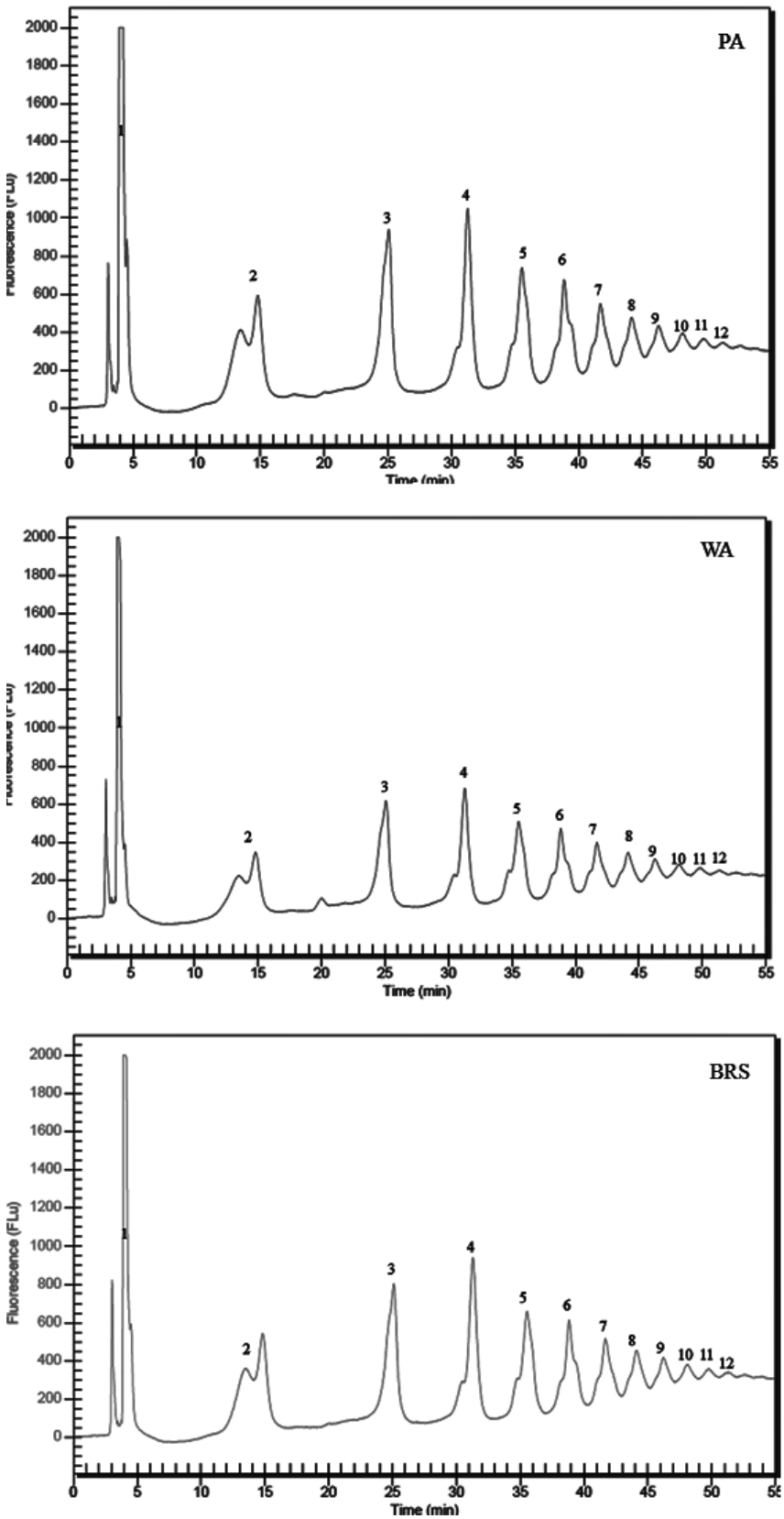

Figure S1 – HILIC-HPLC-FLD chromatograms of PA, WA and BRS crude extracts. Peaks are identified by their degree of polymerization (DP).

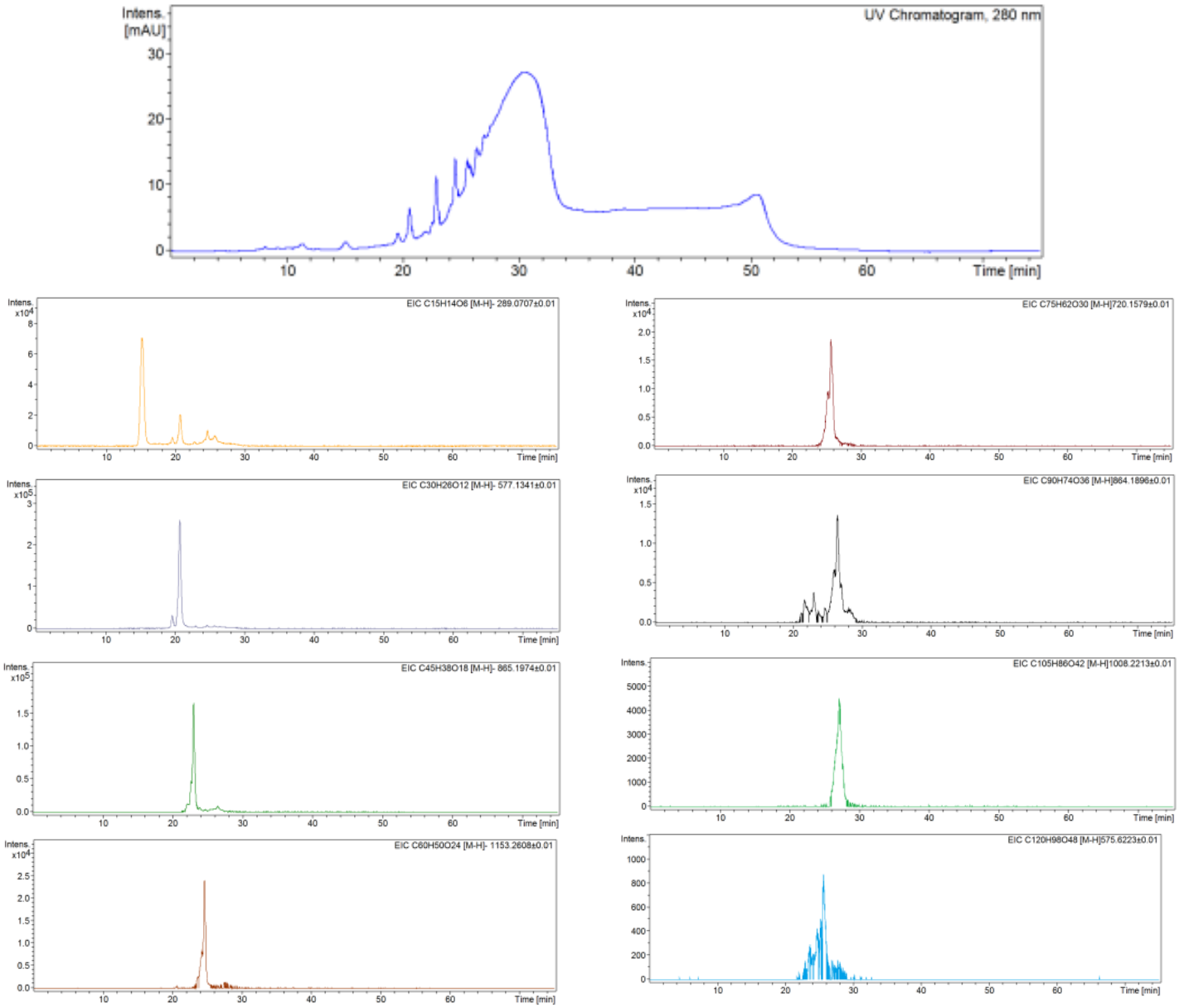

Figure S2 – HPLC-DAD chromatogram of PA extract. Extracted ion chromatograms corresponding to B-type procyanidins oligomers (monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer and octamer, respectively).

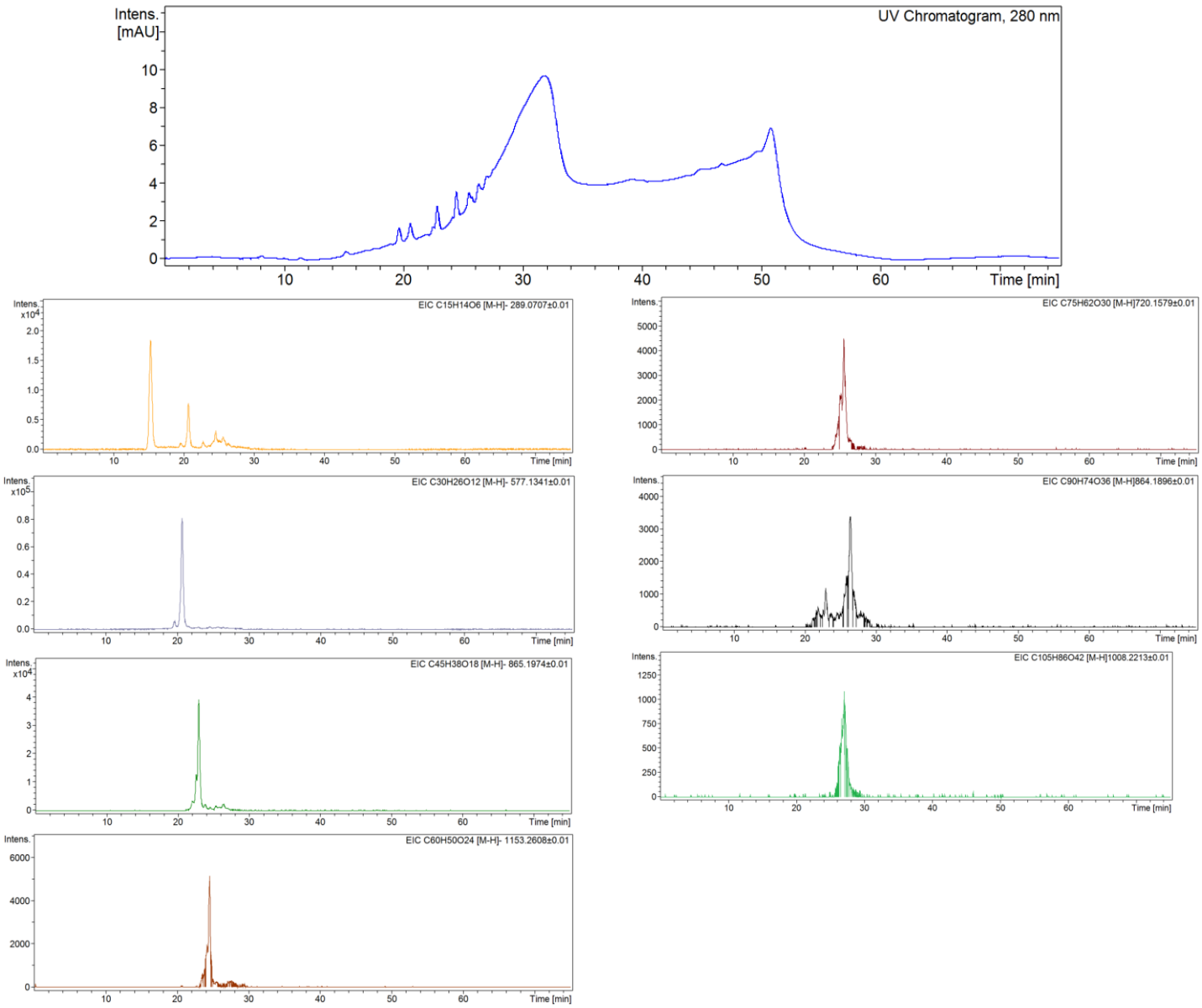

Figure S3 – HPLC-DAD chromatogram of WA extract. Extracted ion chromatograms corresponding to B-type procyanidins oligomers (monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer and octamer, respectively).

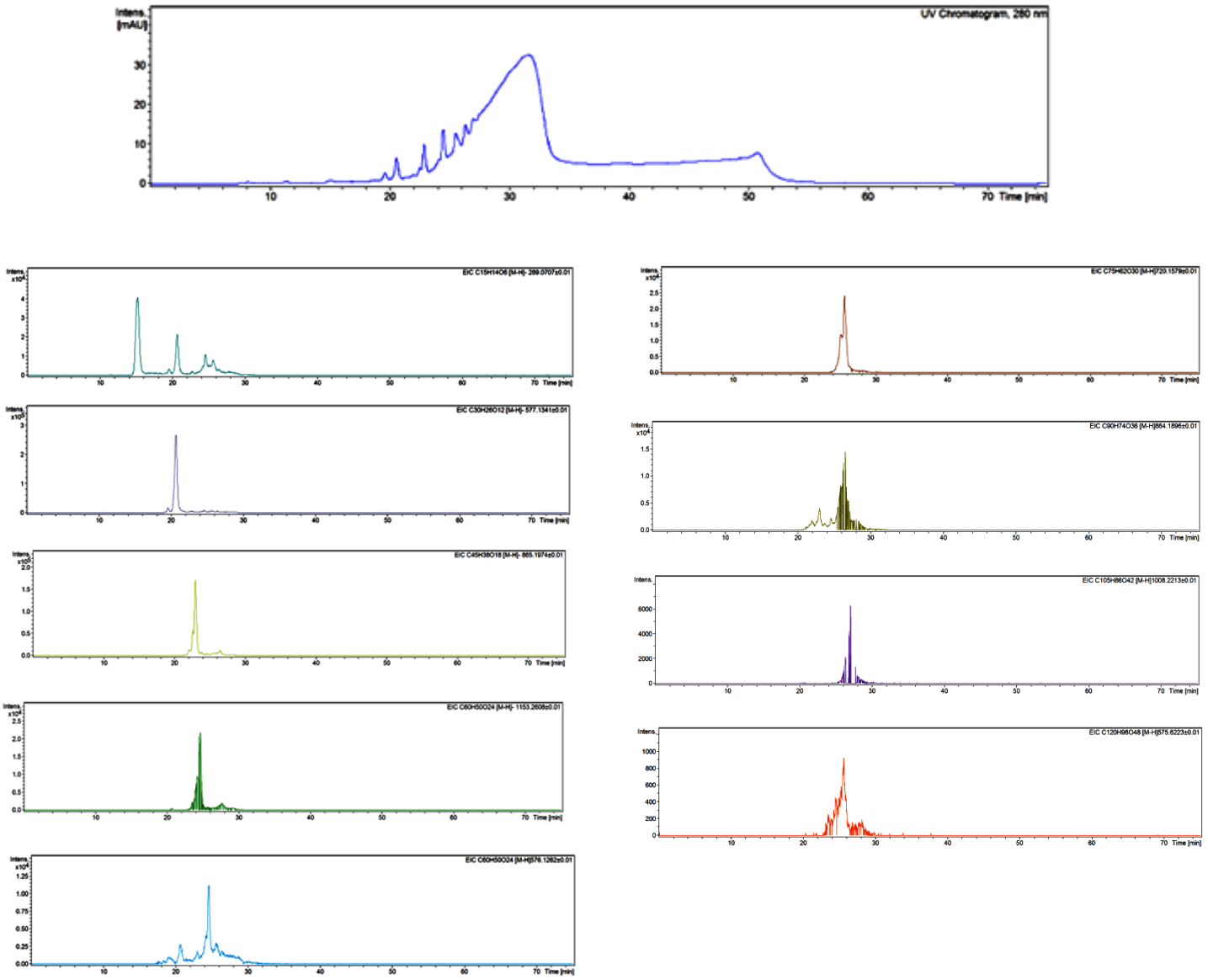

Figure S4 – HPLC-DAD chromatogram of BRS extract. Extracted ion chromatograms corresponding to B-type procyanidins oligomers (monomer, dimer, trimer, tetramer, pentamer, hexamer, heptamer and octamer, respectively).

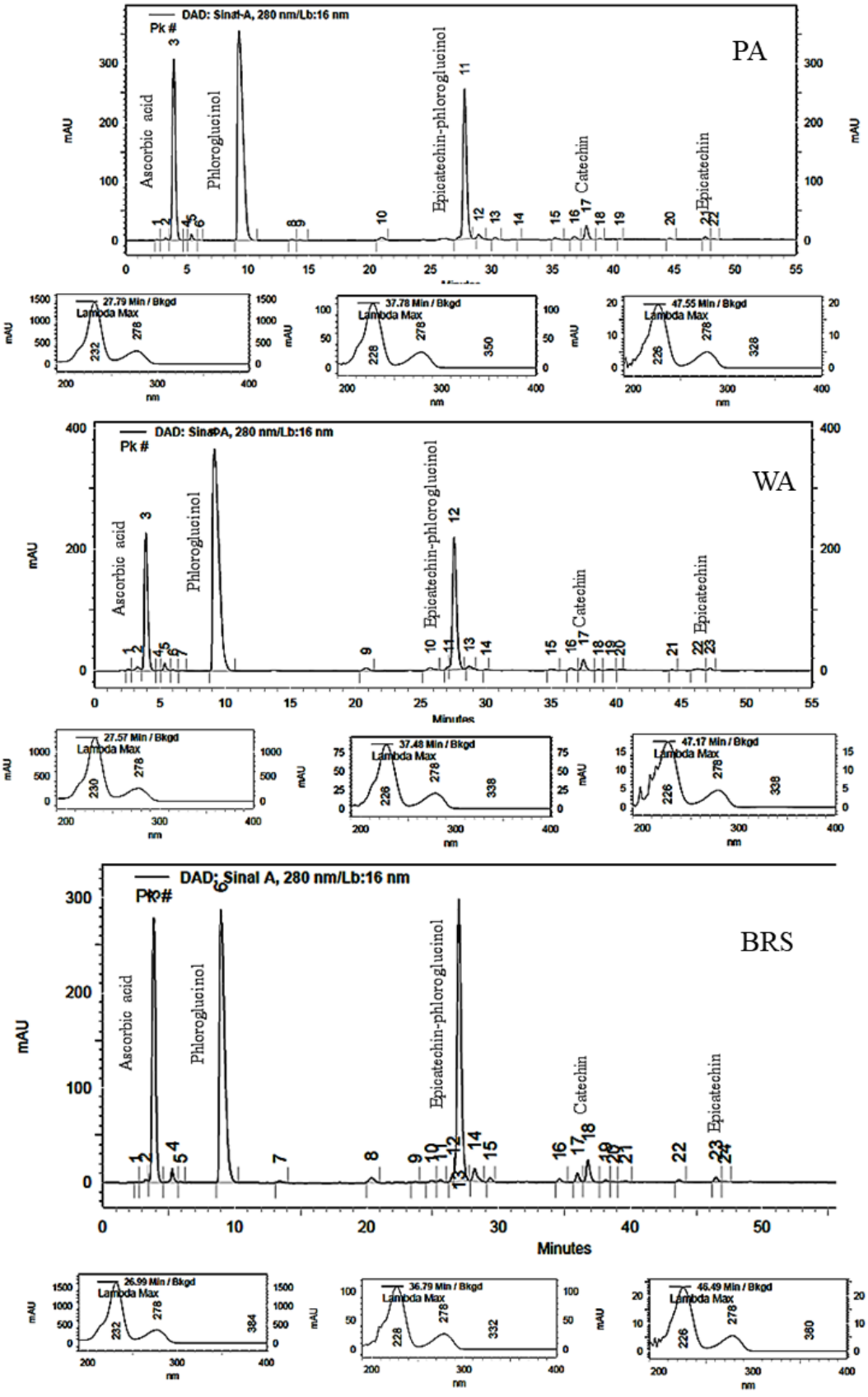

Figure S5 – Chromatograms of PA, WA and BRS phloroglucinolysis aqueous fractions.

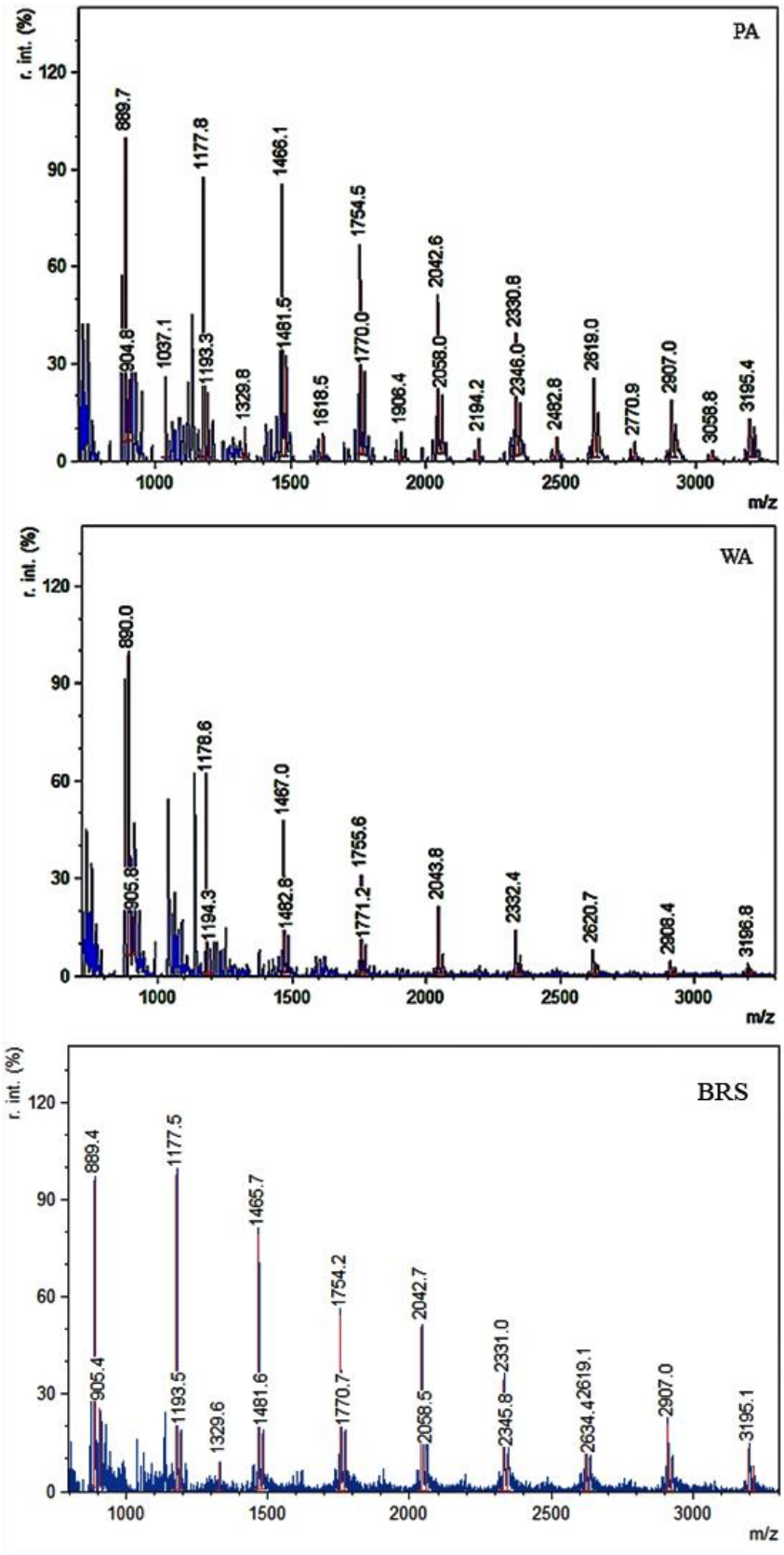

Figure S6 – MALDI-TOF $[M+Na]^+$ mass spectra from PA, WA and BRS aqueous fractions.

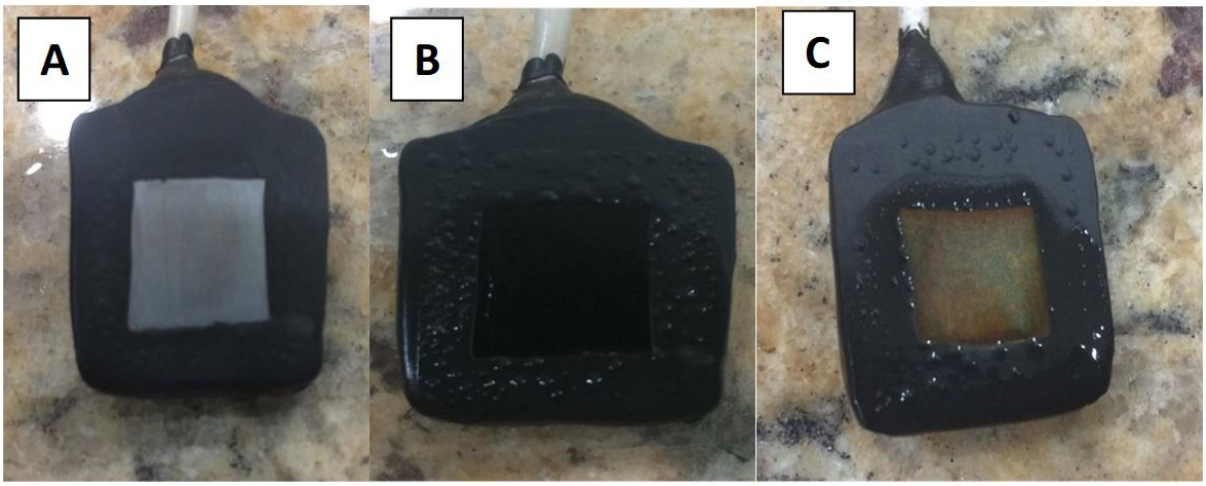

Figure S7 – Effect of PA on the metallic surface after 24 hours immersion in neutral pH corrosive solution without PA and 1.0 $g.L^{-1}$ of PA. A – Metallic surface after 24 hours immersion in neutral pH corrosive solution; B – Black protective film formation after 24 hours immersion in neutral pH corrosive solution with 1.0 $g.L^{-1}$ of PA; and C – metallic surface after black film removal.

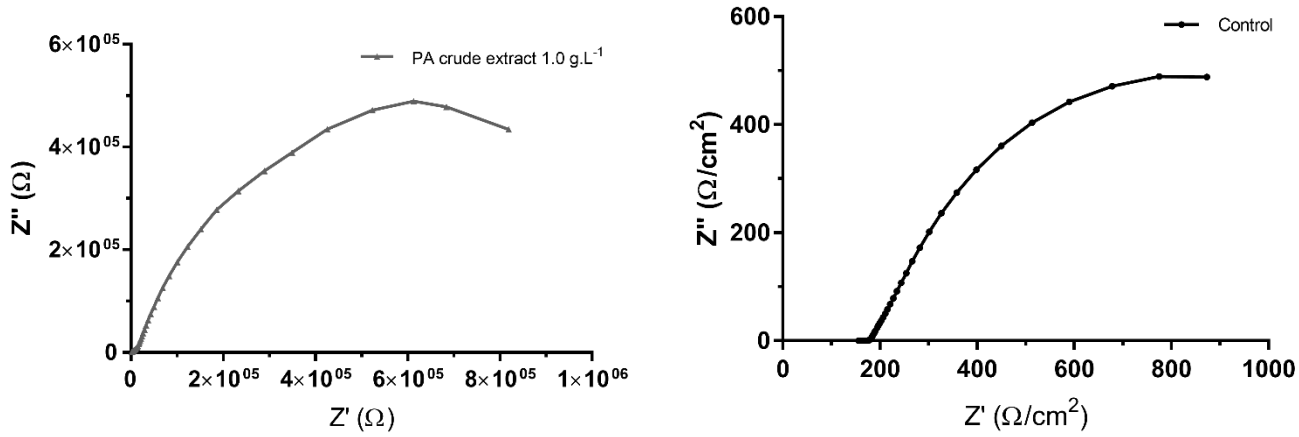

Figure S8 – Nyquist plot for carbon steel AISI 1020 in a neutral pH corrosive solution for purple a ça í(PA) crude extract in 1.0 $g.L^{-1}$. The control represents the absence of any inhibitor.

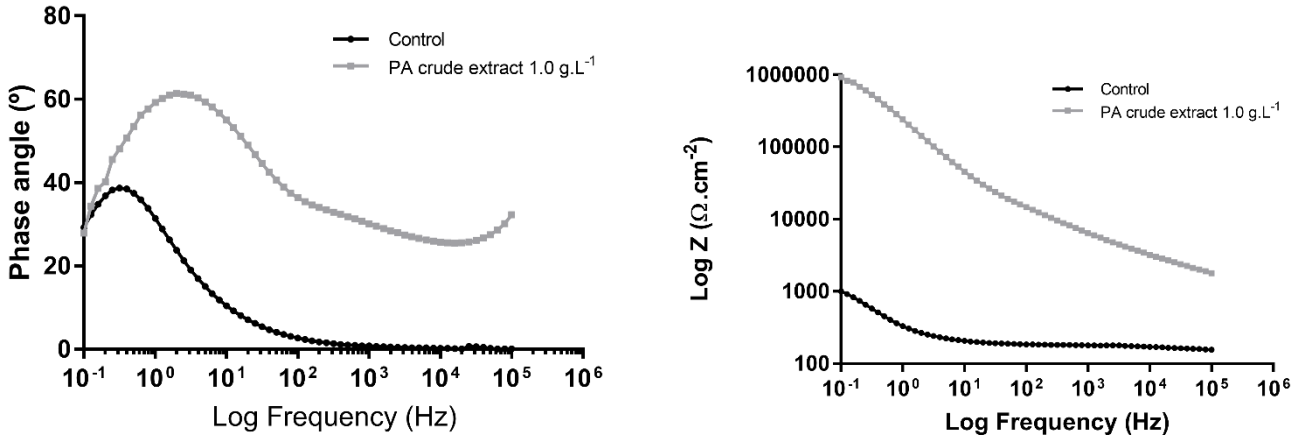

Figure S9 – Bode plot for carbon steel AISI 1020 in a neutral pH corrosive solution purple açaí (PA) crude extract in 1.0 $g.L^{-1}$. The control represents the absence of any inhibitor. Relation between log frequency (Hz) and phase angle (°) and log impedance modules ($\Omega \cdot cm^{-2}$).