Supplementary material

Homogentisic acid and gentisic acid biosynthesized pyomelanin mimics: structural characterization and antioxidant activity

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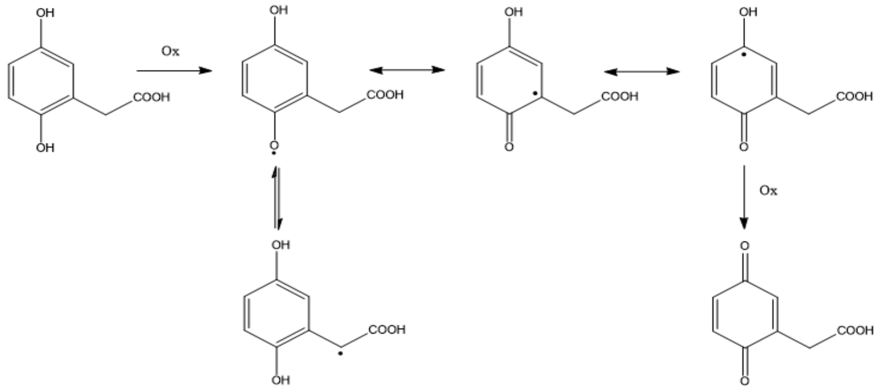

Scheme 1 – Scheme of the radical delocalization in HGA

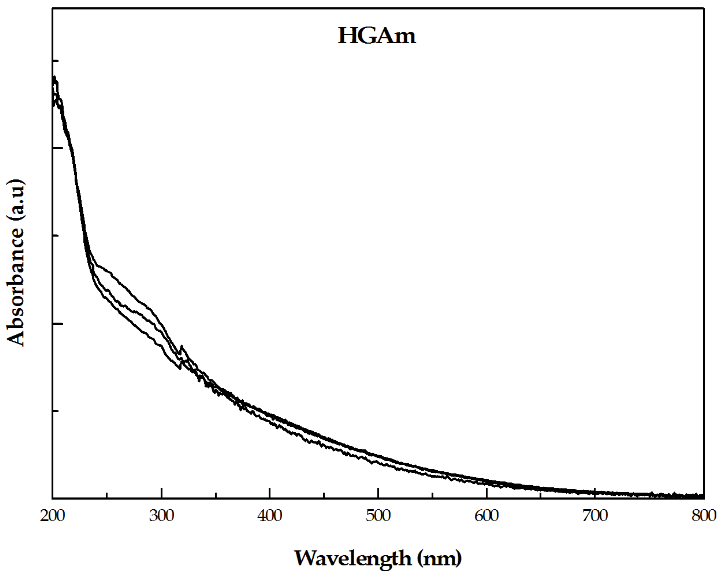

Fig S1: Reproducibility test of pyomelanin mimic from homogentisic acid (HGAm). The synthetic conditions were the same for all samples (pH 7.1 and molar ratio lac:HGA 1:1000). The UV-vis measurements were carried out at room temperature.

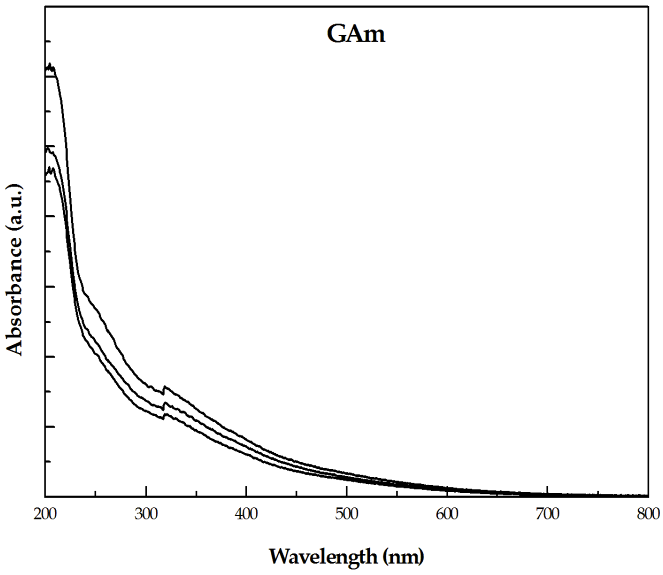

Fig S2: Reproducibility test of pyomelanin mimic from gentisic acid (GAm). The synthetic conditions were the same for all samples (pH 7.1 and molar ratio lac:GA 1:1000). The UV-vis measurements were carried out at room temperature.

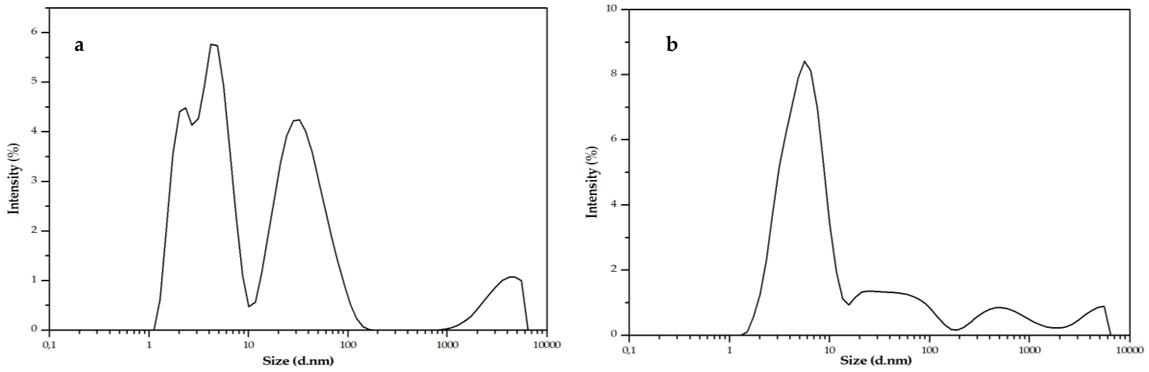

Fig. S3: DLS of a)HGAm and b) GAm. The spectra have been recorded in water.

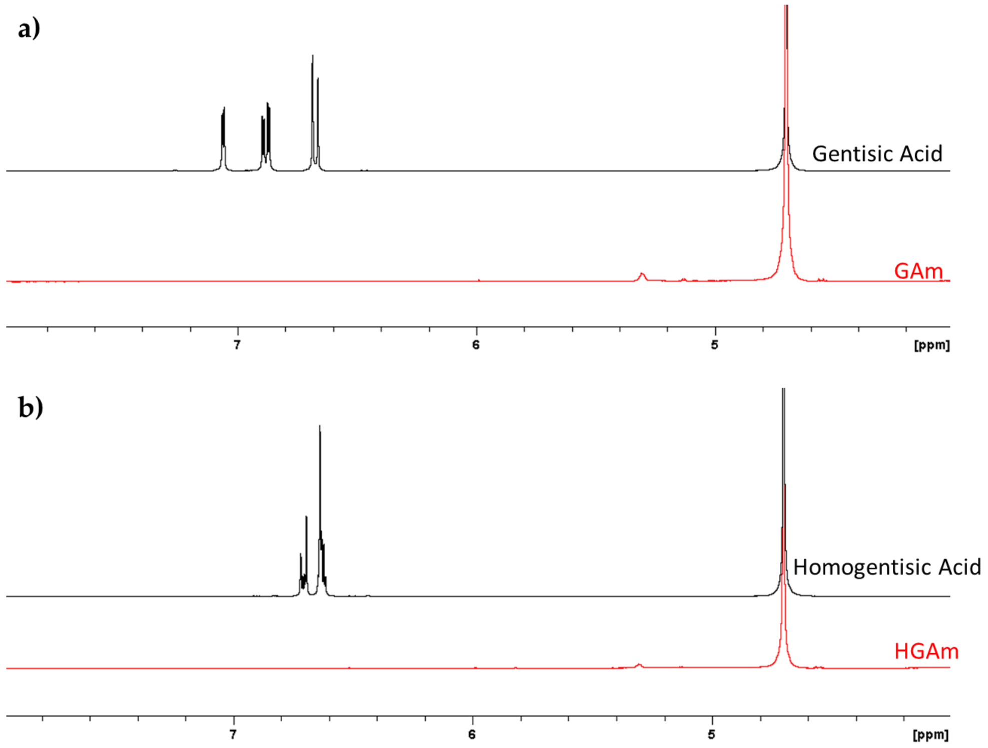

Fig. S4: In panel A: ^{1}H NMR spectra of GA (black line) and GAm (red line). In panel B: ^{1}H NMR spectra of HGA (black line) and HGAm (red line).

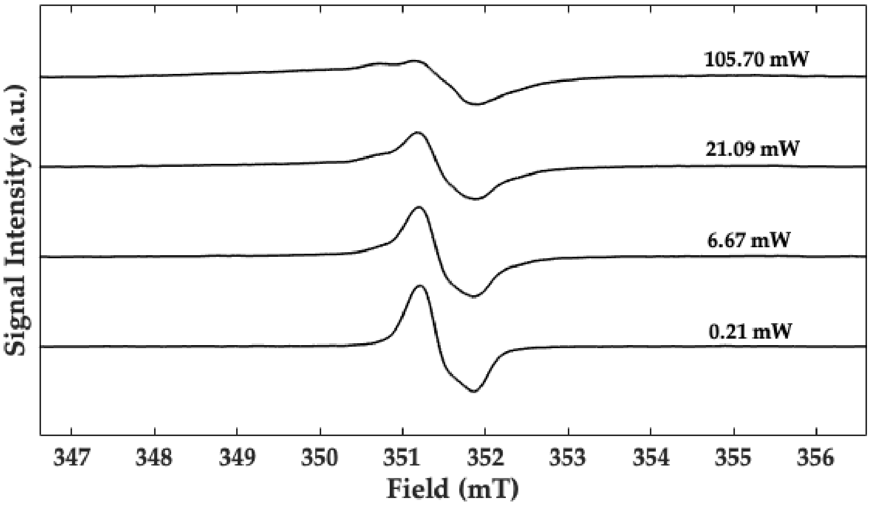

Fig. S5: Room temperature X-band (ν= 9.86 GHz) EPR spectra of GAm at pH 7.1 recorded at variable microwave power values.

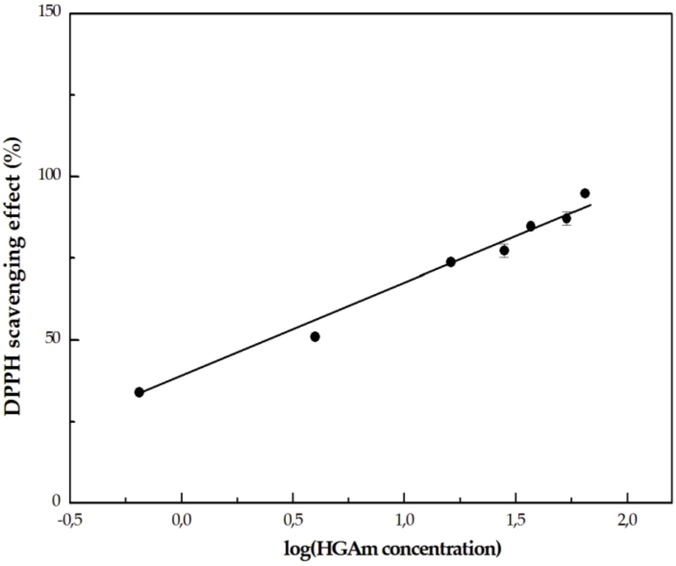

Fig. S6 Antioxidant activity of HGAm. The EC_{50} value was calculated using GraphPad Prism plotting the DPPH scavenger percentage measured by EPR spectroscopy in function of the log of HGAm concentrations analyzed. All measurements were repeated in triplicate.

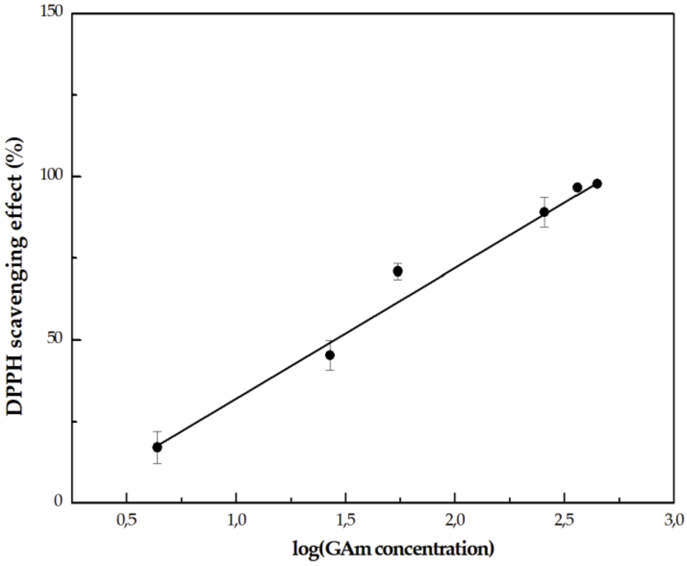

Fig. S7 Antioxidant activity of GAm. EC50 value was calculated using GraphPad Prism plotting the DPPH scavenger percentage measured by EPR spectroscopy in function of the log of GAm concentrations analyzed. All measurements were repeated in triplicate.

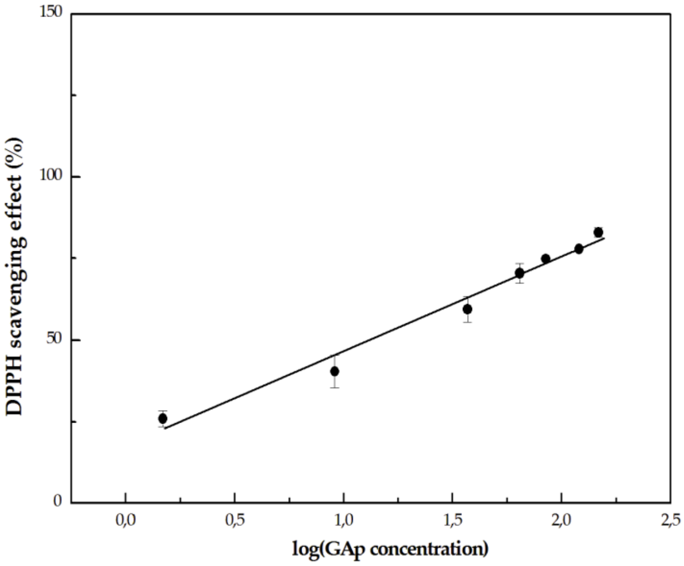

Fig. S8 Antioxidant activity of gallic acid polymer (GAp). The EC50 value was calculated using GraphPad Prism plotting the DPPH scavenger percentage measured by EPR spectroscopy in function of the log of GAp concentrations analyzed. All measurements were repeated in triplicate.