

Supplementary Information

Preparation, Characterization, Cytotoxicity and Antioxidant Activity of DOPA Melanin Modified by Amino Acids: Melanin-Like Oligomeric Aggregates

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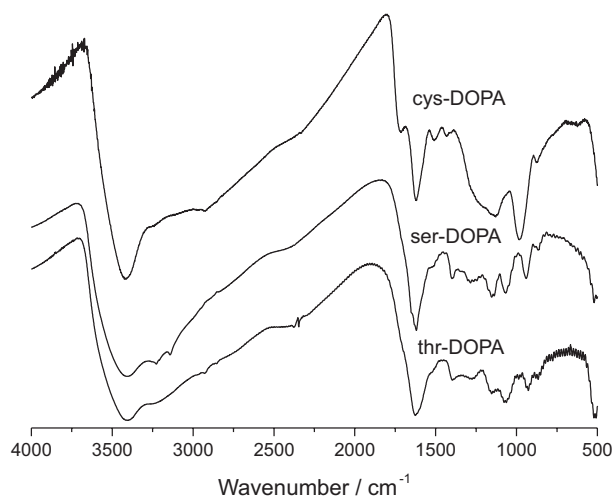


Figure S1. Infrared spectra (KBr) of cys-DOPA, thr-DOPA and ser-DOPA.

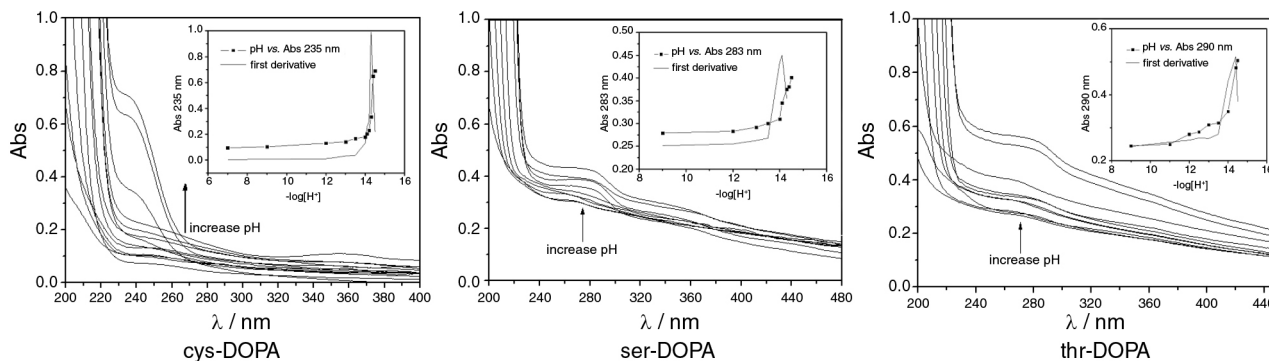


Figure S2. UV-Vis spectra of each melanin with successive additions of 4 mol L⁻¹ KOH, and the respective curves. pH vs. Abs_{max} of each system.

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Table S1. Monitored masses and the ionization energy of the mass spectrometer

Analyte	Parent ion (<i>m/z</i>)	Quantitative ion (<i>m/z</i>)	DP	EP	CEP	CE	CXP
Cysteine	122.84	75.9	16	7.5	10	15	4
Serine	105.984	65	41	10.5	10	15	4
Threonine	120.075	74.1	21	4.5	10	13	4

DP: declustering potential; EP: entrance potential; CE: collision energy; CEP: collision energy potential; CXP: collision cell exit potential.

Table S2. Elemental composition of melanins modified amino acids prepared in this work compared with the literature¹

Melanin	Elemental composition <i>per</i> atom of N
ser-DOPA	C _{7.43} H _{6.90} N ₁ O _{4.47}
cys-DOPA	C _{12.04} H _{15.82} N ₂ S _{1.04} O _{6.78}
thr-DOPA	C _{6.85} H _{6.03} N ₁ O _{5.09}
DOPA-melanin	C _{7.57} H _{6.78} N ₁ O _{4.72}
DHI melanin	C _{7.78} H _{6.04} N ₁ O _{3.96}
DHI + DHICA melanin	C _{8.09} H _{6.43} N ₁ O _{5.15}
DHICA melanin	C _{8.41} H _{7.94} N ₁ O _{6.76}
Synthetic pheomelanin	C _{11.23} H _{12.93} N ₂ S _{0.95} O _{6.37}
Cysteinildopa melanin	C _{11.51} H _{13.08} N ₂ S _{0.95} O _{6.17}
Sepia melanin	C _{7.61} H _{5.75} N ₁ O _{6.59}

References

1. d'Ischia, M.; Wakamatsu, K.; Napolitano, A.; Briganti, S.; Garcia-Borron, J.; Kovacs, D.; Meredith, P.; Pezzella, A.; Picardo, M.; Sarna, T.; Simon, J.; Ito, S.; *Pigm. Cell Melanoma Res.* **2013**, *26*, 616.