

SUPPLEMENTARY MATERIAL TO
**Redox pathways in the carnosine–manganese system mediated
by semiquinone radicals**

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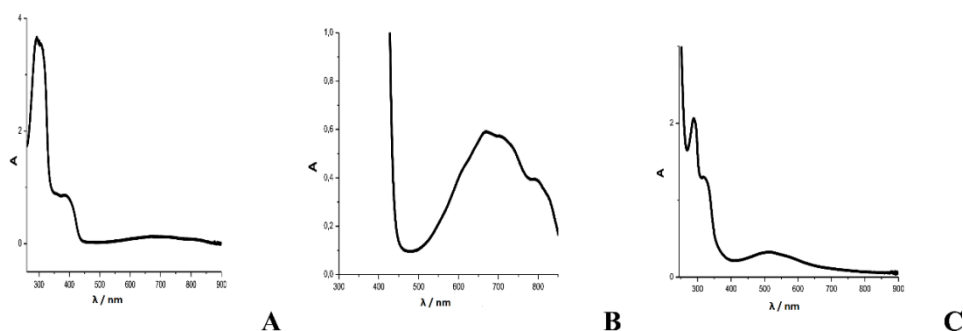


Fig. S-1. Electronic spectrum of 3,4-DHBA dianion ($c = 2.6 \times 10^{-3}$ M) in DMSO under aerobic conditions: (A, B) UV and Vis regions for the cyan form and (C) for the green form.

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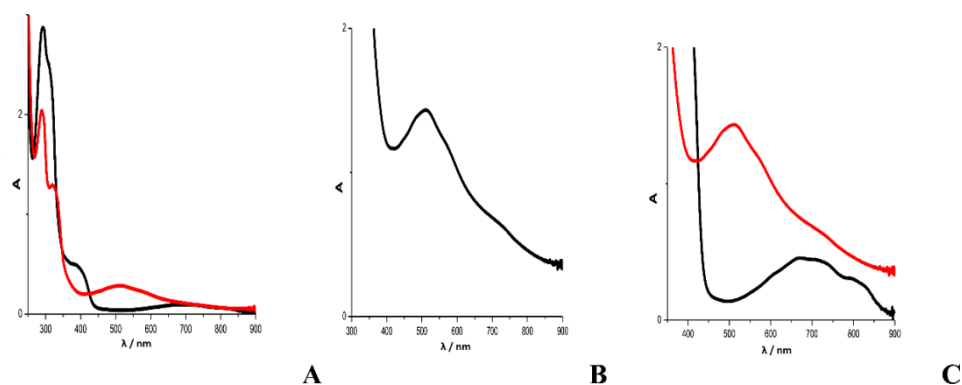


Fig. S-2. Electronic spectra of a 1:1 mixture of 3,4-DHBA dianion and carnosine in DMSO under aerobic conditions: A) comparison between 3,4-DHBA dianion (black line) and its mixture with carnosine (red line); B) visible region showing the blue form; C) comparison of the visible region.

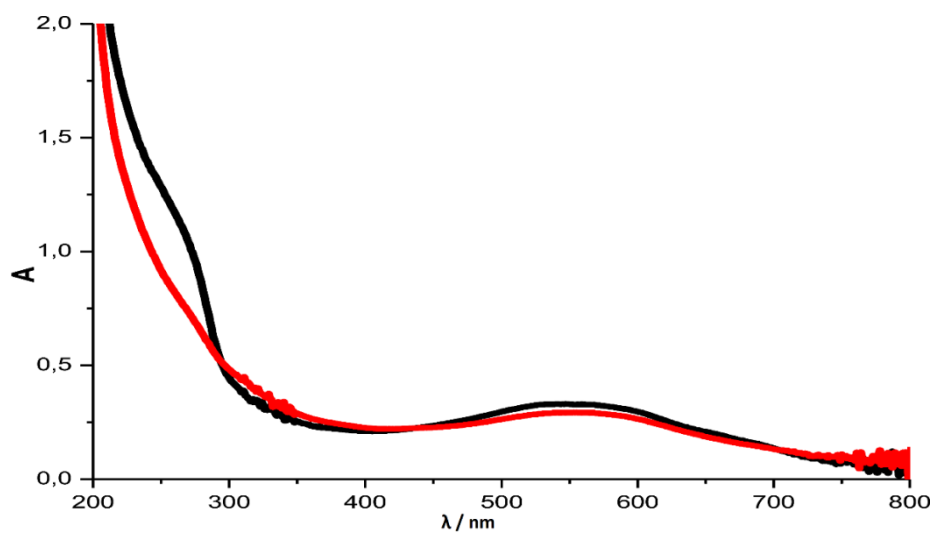


Fig. S-3. Electronic spectrum of the 3,4-DHBA dianion mixture in DMSO (black trace) compared with the spectrum after addition of an equimolar solution of isolated carnosine-manganese complex (solid 24)²⁵ (red trace).

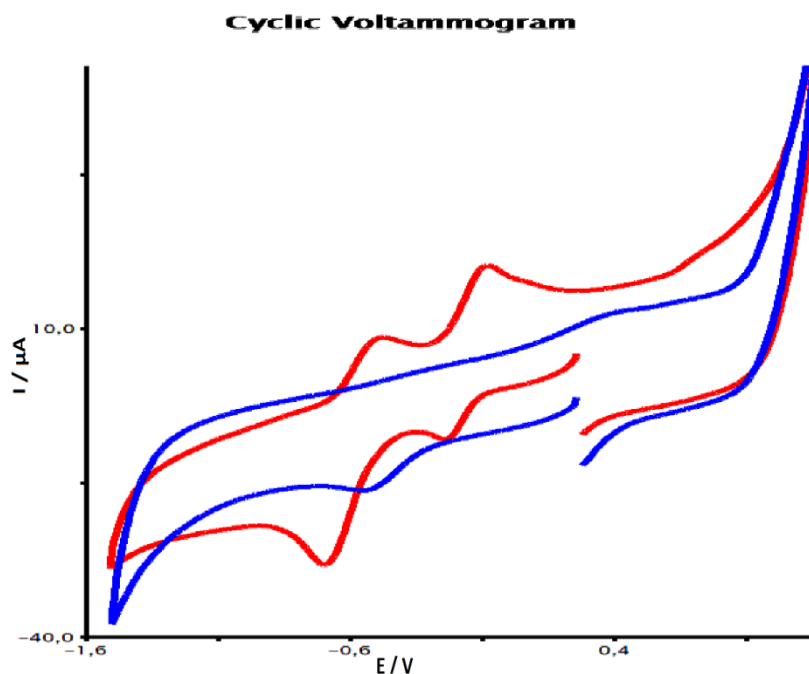


Fig. S-4. Cyclic voltammograms of 3,4-DHBA dianion in DMSO before (red line) and after 25 min of electrolysis (blue line). Potential range: -1500 to 1500 mV; scan rate: 100 mV s⁻¹.

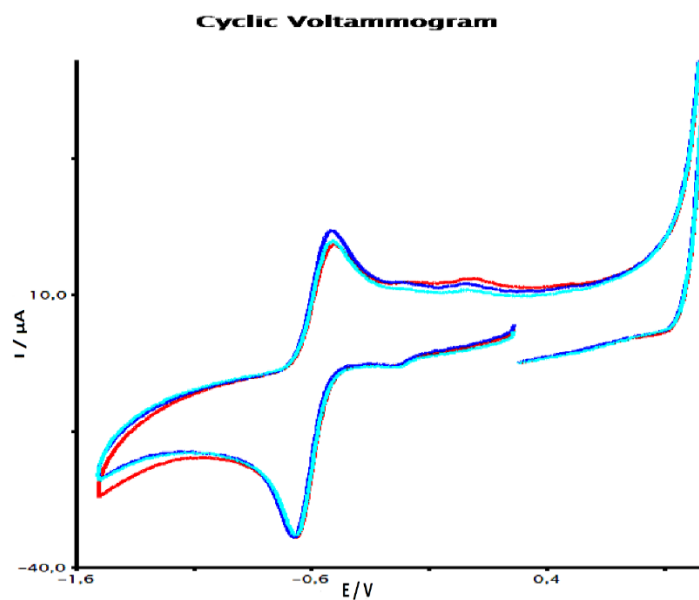


Fig. S-5. Cyclic voltammograms of isolated carnosine-manganese complex (solid 27)²⁵ ($c = 10^{-3}$ M) in a DMSO solution of 3,4-DHBA dianion at $t = 0$ min (red), 10 min (blue), and 25 min (green). Scan rate: 100 mV s⁻¹.