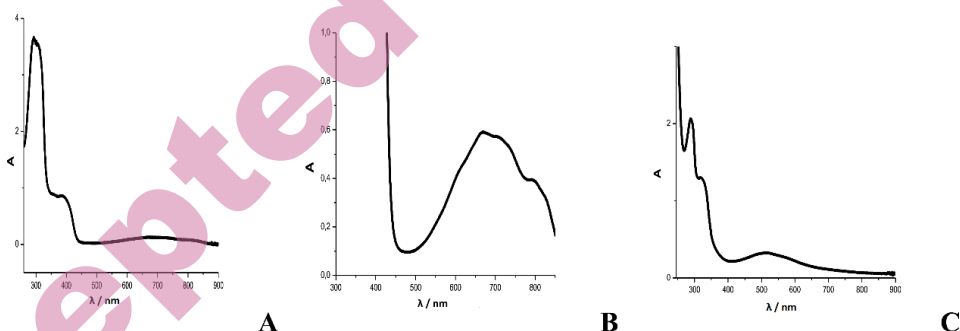


SUPPLEMENTARY MATERIAL TO  
**Redox pathways in the carnosine–manganese system mediated by semiquinone radicals**

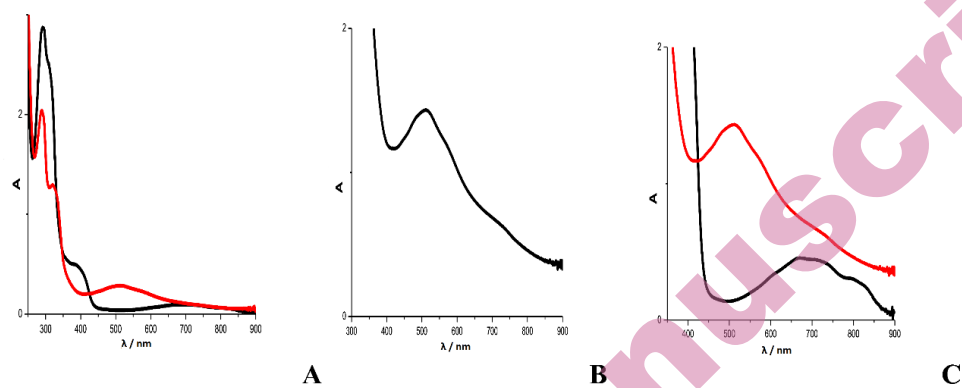
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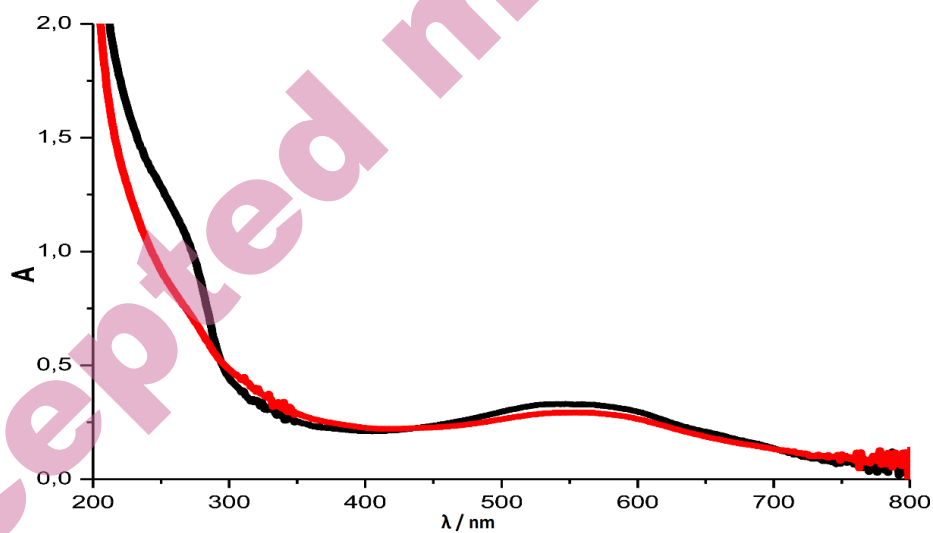


**Fig. S1.** Electronic spectrum of 3,4-DHBA dianion ( $c = 2.6 \times 10^{-3}$  M) in DMSO under aerobic conditions: (A, B) UV and Vis regions for the cyan form and (C) for the green form.

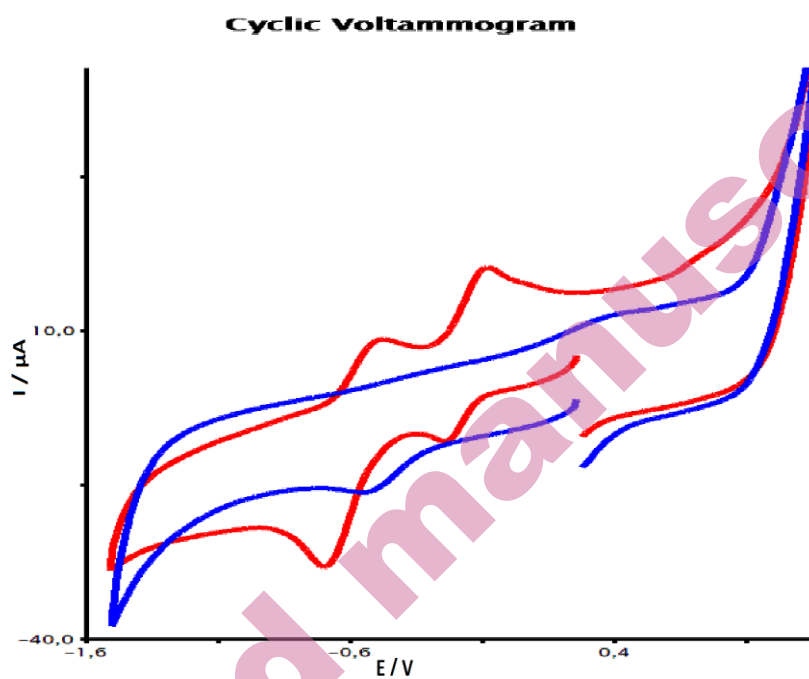
\* Corresponding author. E-mail: [dpavlos@chem.uoa.gr](mailto:dpavlos@chem.uoa.gr)



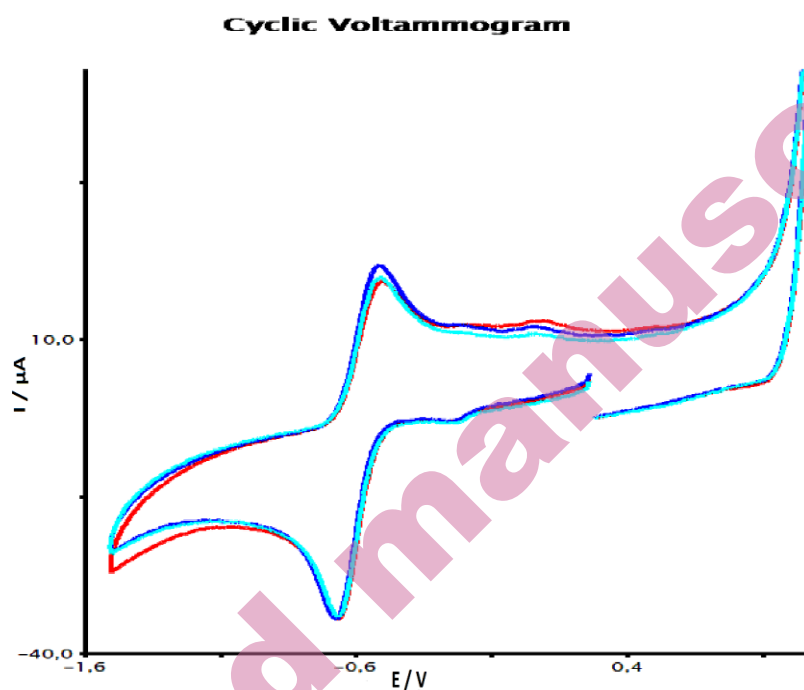
**Fig. S2.** Electronic spectra of a 1:1 mixture of 3,4-DHBA dianion and carnosine in DMSO under aerobic conditions: A) comparison between 3,4-DHBA dianion (black line) and its mixture with carnosine (red line); B) visible region showing the blue form; C) comparison of the visible region.



**Fig. S3.** 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)<sup>25</sup> (red trace).



**Fig. S4.** 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. S5.** Cyclic voltammograms of isolated carnosine-manganese complex (solid 27)<sup>25</sup> ( $c = 10^{-3}$  M) in a DMSO solution of 3,4-DHBA dianion at  $t = 0$  min (red), 10 min (blue), and 25 min (green). Scan rate:  $100 \text{ mV s}^{-1}$ .