

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

DIMITRIOS PAVLOS^{1*}, ALEXANDROS PERIVOLARIS², MARIA FOUNTA,³
MARIA KAMARIOTAKI¹ and DESPINA HATZIPANAYIOTI¹

¹Department of Chemistry, Section III, National and Kapodistrian University of Athens,
Panepistimiopolis, 15771 Athens, Greece, ²Digital tutoring center of the Ministry of
Education and Religious Affairs – Directorate of Secondary Education, Athens, Greece and
³Maria Founta, Quality Control Department, Doctum Pharmaceutical S.A., 19002 Peania,
Athens, Greece

J. Serb. Chem. Soc. 91 (7–8) (2026) 695–710

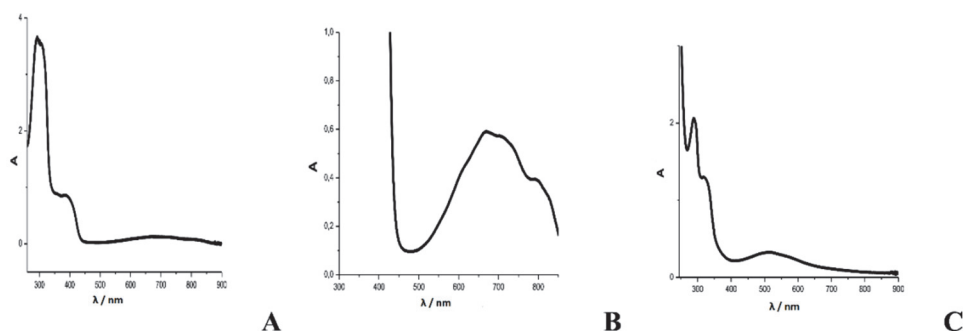


Fig. S-1. Electronic spectrum of 3,4-DHBA dianion ($c = 2.6 \times 10^{-3}$ M) in DMSO under aerobic conditions: (A, B) UV and Vis regions for the cyan form and (C) for the green form.

*Corresponding author. E-mail: dpavlos@chem.uoa.gr

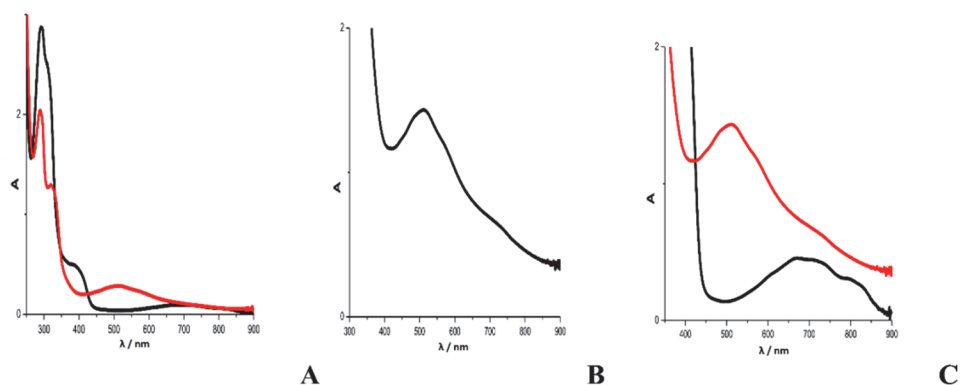


Fig. S-2. Electronic spectra of a 1:1 mixture of 3,4-DHBA dianion and carnosine in DMSO under aerobic conditions: A) comparison between 3,4-DHBA dianion (black line) and its mixture with carnosine (red line); B) visible region showing the blue form; C) comparison of the visible region.

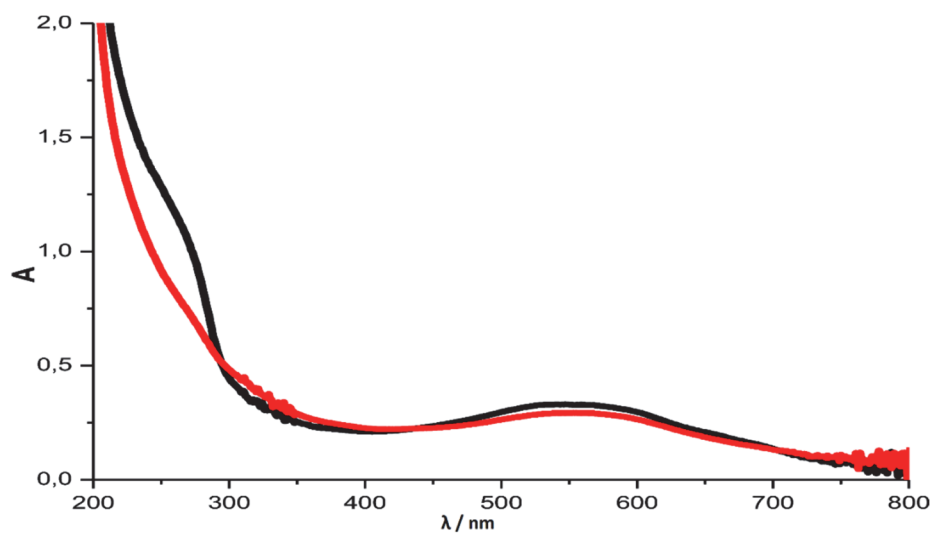


Fig. S-3. Electronic spectrum of the 3,4-DHBA dianion mixture in DMSO (black trace) compared with the spectrum after addition of an equimolar solution of isolated carnosine-manganese complex (solid 24)²⁵ (red trace).

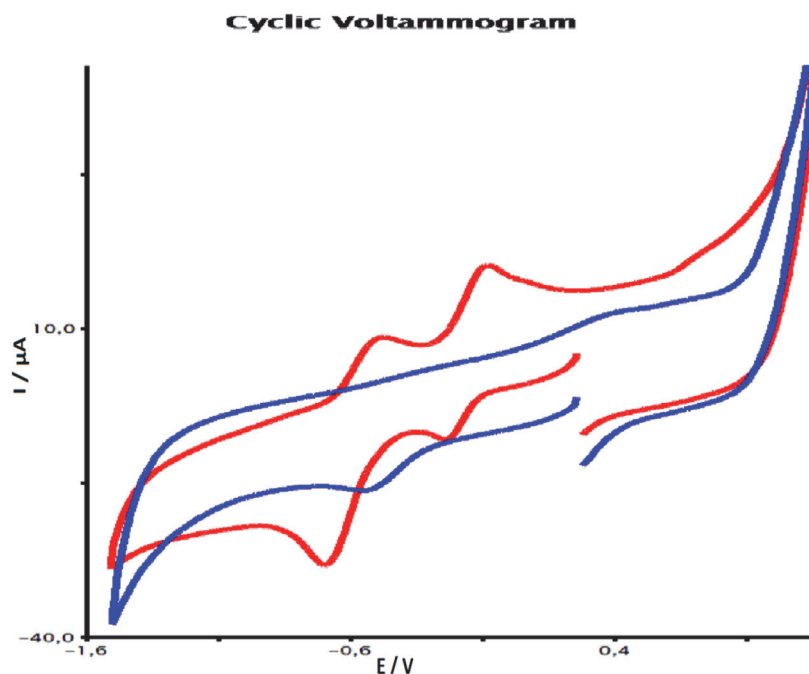


Fig. S-4. Cyclic voltammograms of 3,4-DHBA dianion in DMSO before (red line) and after 25 min of electrolysis (blue line). Potential range: -1500 to 1500 mV; scan rate: 100 mV s^{-1} .

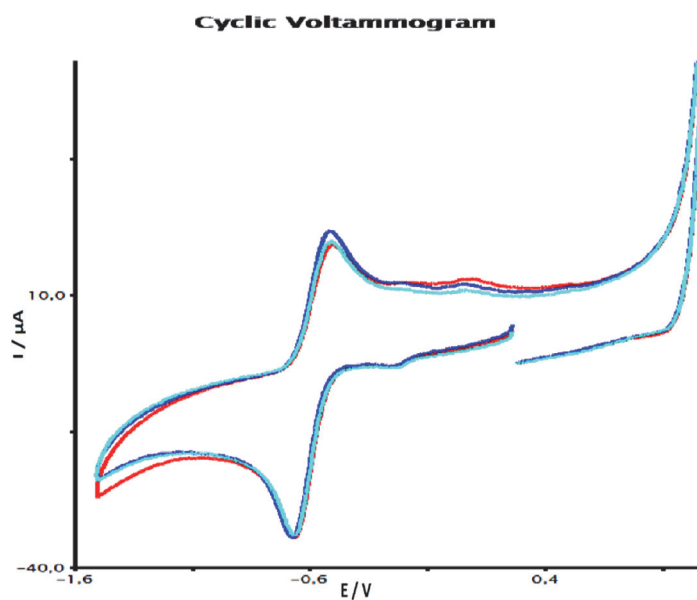


Fig. S-5. Cyclic voltammograms of isolated carnosine-manganese complex (solid 27)²⁵ ($c = 10^{-3} \text{ M}$) in a DMSO solution of 3,4-DHBA dianion at $t = 0$ min (red), 10 min (blue), and 25 min (green). Scan rate: 100 mV s^{-1} .