

SUPPLEMENTARY INFORMATION OF

Dopamine and Citicoline-co-Loaded Solid Lipid Nanoparticles as Multifunctional Nanomedicines for Parkinson Disease Treatment by Intranasal Administration

Stefano Castellani^{1,†}, Giorgia Natalia Iaconisi^{2,†}, Francesca Tripaldi³, Vito Porcelli⁴, Adriana Trapani^{3*}, Eugenia Messina⁴, Lorenzo Guerra⁴, Cinzia Di Franco⁵, Giuseppe Maruccio^{6,7}, Annagrazia Monteduro^{6,7}, Filomena Corbo³, Sante Di Gioia⁸, Giuseppe Trapani³, and Massimo Conese⁸

¹ Department of Precision and Regenerative Medicine and Ionian Area (DiMePRE-I), University of Bari “Aldo Moro”, 70125-Bari, Italy; stefano.castellani@uniba.it (S.C.)

² Department of Biological and Environmental Sciences and Technologies, University of Salento, 73100 Lecce, Italy; giorgianatalia.iaconisi@uniba.it (G.N.I.)

³ Department of Pharmacy-Drug Sciences, University of Bari “Aldo Moro”, 70125-Bari, f.tripaldi4@uniba.it (F.T.), giuseppe.trapani080@gmail.com (G.T.); filomena.corbo@uniba.it (F.C.); adriana.trapani@uniba.it (A.T.)

⁴ Department of Biosciences, Biotechnologies and Environment, University of Bari “Aldo Moro”, 70125-Bari, Italy; lorenzo.guerra1@uniba.it (L.G.); vito.porcelli@uniba.it (V.P.); eugenia.messina@uniba.it (E.M.)

⁵ CNR-IFN Bari, Bari Via Amendola 173, 70126 Bari, Italy; cinzia.difranco@cnr.it (C.D.)

⁶ Omics Research Group, Department of Mathematics and Physics “Ennio De Giorgi”, University of Salento and INFN Sezione di Lecce, Via per Monteroni, 73100 Lecce, Italy; annagrazia.monteduro@unisalento.it (A.G.M.)

⁷ CNR-NANOTEC Institute of Nanotechnology, Via per Monteroni, 73100 Lecce, Italy; giuseppe.maruccio@unisalento.it (G.M.); annagrazia.monteduro@unisalento.it (A.G.M.)

⁸ Department of Clinical and Experimental Medicine, University of Foggia, 71122 Foggia, Italy; sante.digioia@unifg.it (S.D.G.); massimo.conese@unifg.it (M.C.)

* Correspondence: adriana.trapani@uniba.it; Tel.: +39-080-544211

† These authors contributed equally to this work.

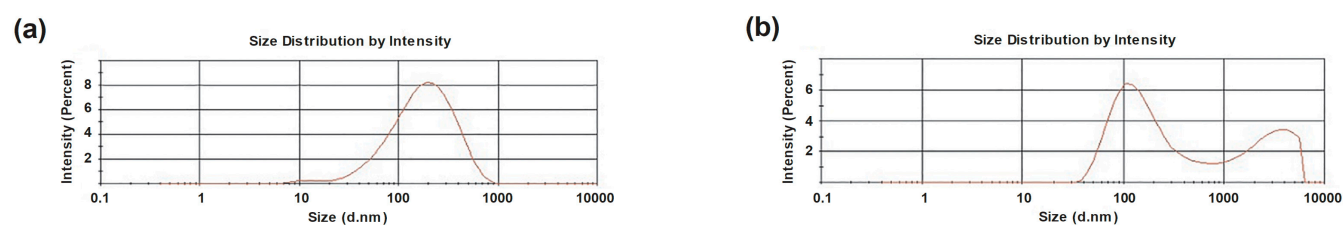


Figure S1. Particle size distribution of DA-CIT-SLNs-60 (a) and DA-CIT-SLNs-120 (b)

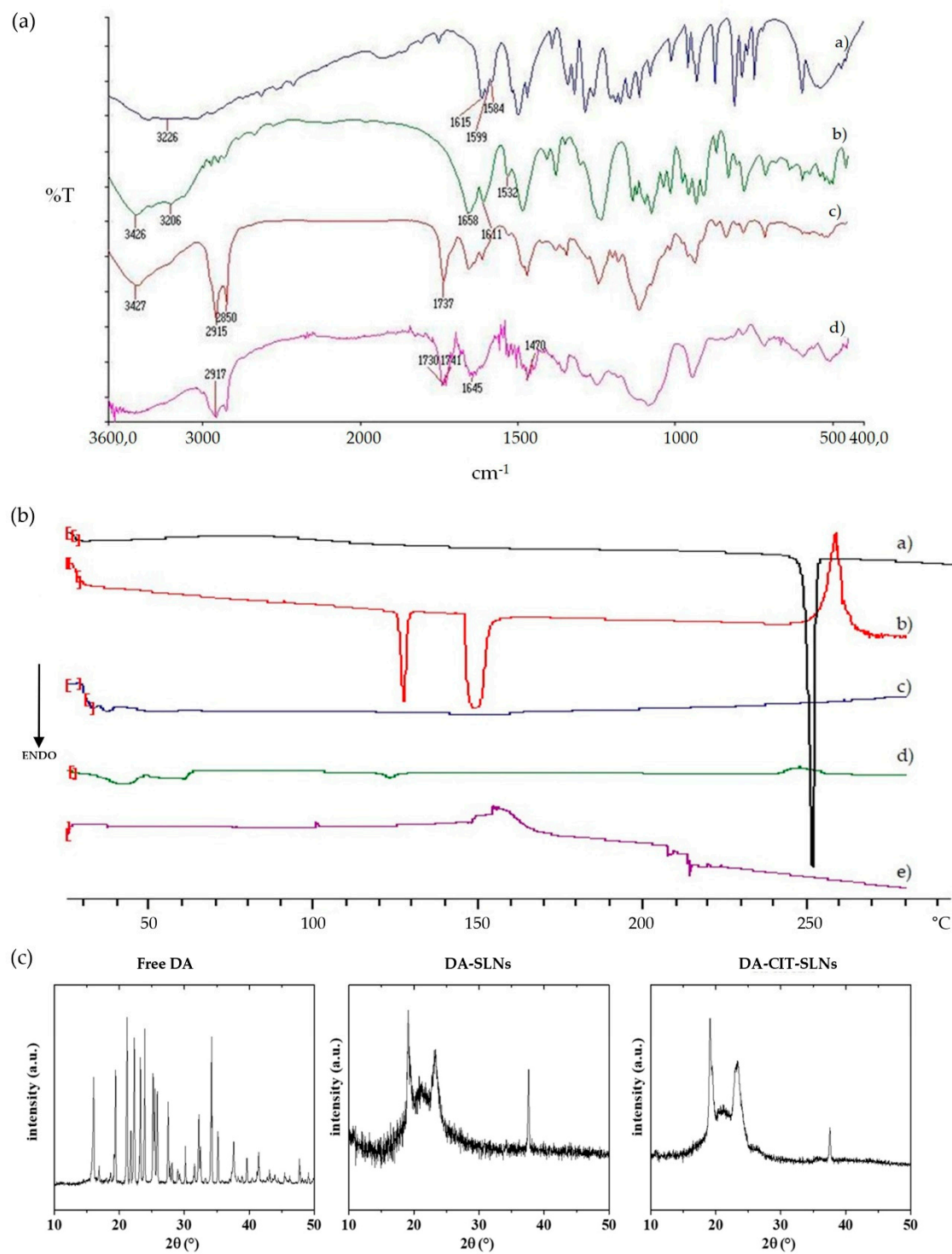


Figure S2: Panel **(a)**: FT-IR spectra of pure DA (a), pure CIT (b), DA-SLNs (c), DA-CIT-SLNs-60 (d). Panel **(b)**: DSC profiles of pure DA (a), pure CIT (b), DA-SLNs (c), CIT-SLNs (d), DA-CIT-SLNs-60 (e). Panel **(c)**: X-ray diffraction patterns of free DA (left); DA-SLNs (middle), DA-CIT-SLNs-60 (right). As for the FT-IR spectrum of CIT-SLNs and the X-ray diffraction patterns of free CIT and CIT-SLNs the reader is referred to Ref. [22].