

Protective effect of *Rosemarinus officinalis* and its nanoparticles against chemobrain and neuroinflammation in rats: Involvement of Wnt/ β -Catenin signaling and apoptotic machineries

Supplementary data

Figures

- Fig. S1 ESI-MS/MS spectrum of peak **(1)** in the negative ion mode showing Jasminoside B
- Fig. S2 ESI-MS/MS spectrum of peak **(2)** in the negative ion mode showing Rosmanol
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- Fig. S17 Zeta potential distribution chart of the nanoformulation using the zetasizer device.
- Fig. S18 Photomicrographs of hematoxylin and eosin-stained sections of the hippocampus from control group (1), Oxaliplatin (Oxa)-treated group (2), Oxa + *R. officinalis* (50 mg/kg) treatment group (3), Oxa + *R. officinalis* (100 mg/kg) treatment group (4), and Oxa + *R. officinalis* (1 mg/kg, IN) treatment group (5), with X100 magnification power.
- Fig S19. The original uncropped western blots where control group (1), Oxaliplatin (Oxa)-treated group (2), Oxa + *R. officinalis* (50 mg/kg) treatment group (3), Oxa + *R. officinalis* (100 mg/kg) treatment group (4), and Oxa + *R. officinalis* (1 mg/kg, IN) treatment group (5)
- Fig. S20 SRB cytotoxicity assay of Oxaliplatin and Oxaliplatin + *R. officinalis* combination at different concentrations (0.01, 0.1, 1, 10, 100, and 1000 μ M) on human HCT-116 colorectal cancer cells.

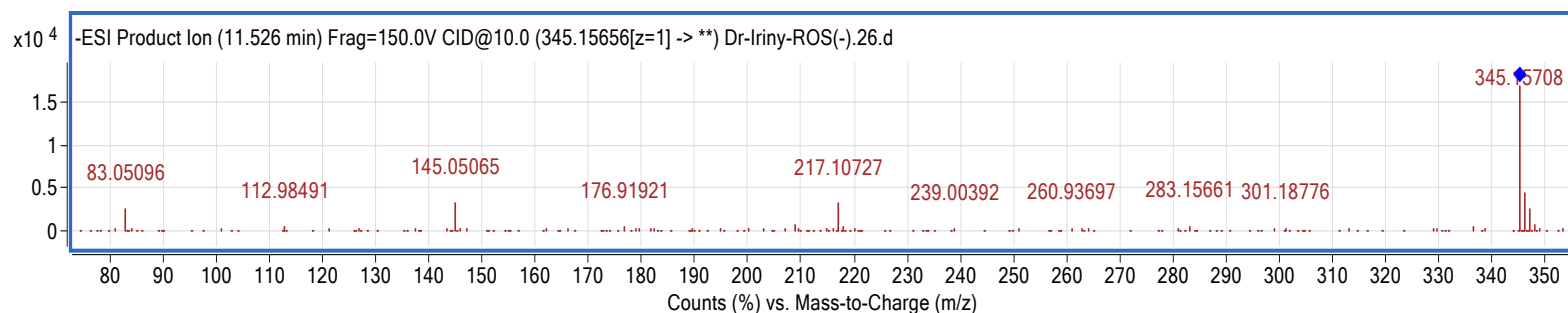


Fig. S1. ESI-MS/MS spectrum of peak (1) in the negative ion mode showing **Jasminoside B**.



Fig. S2. ESI-MS/MS spectrum of peak (2) in the negative ion mode showing **Rosmanol**.

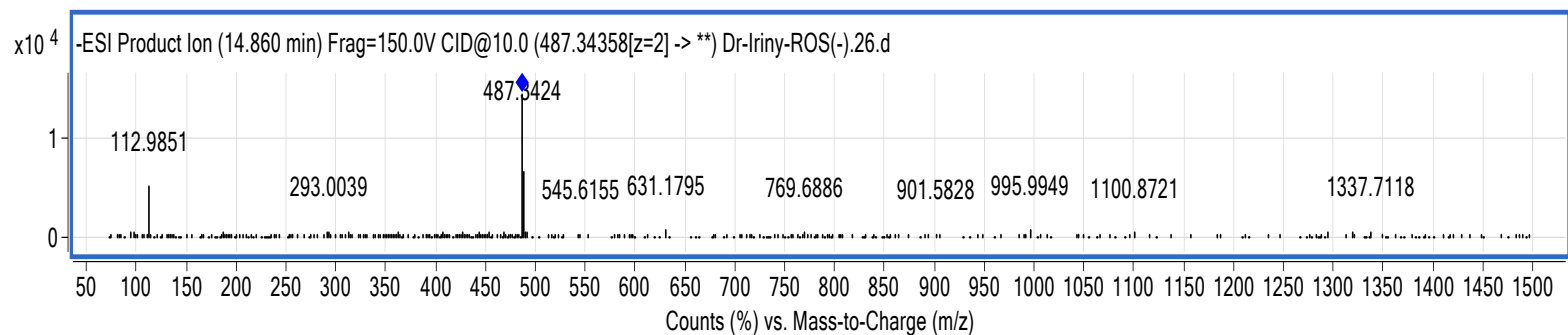


Fig. S3. ESI-MS/MS spectrum of peak (3) in the negative ion mode showing **Asiatic acid**.

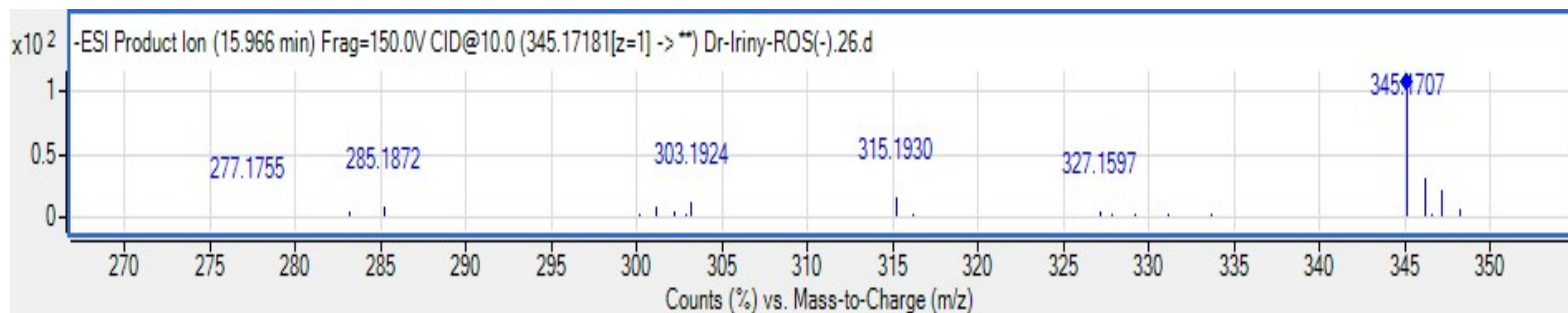


Fig. S4. ESI-MS/MS spectrum of peak (4) in the negative ion mode showing **Epirosmanol**.

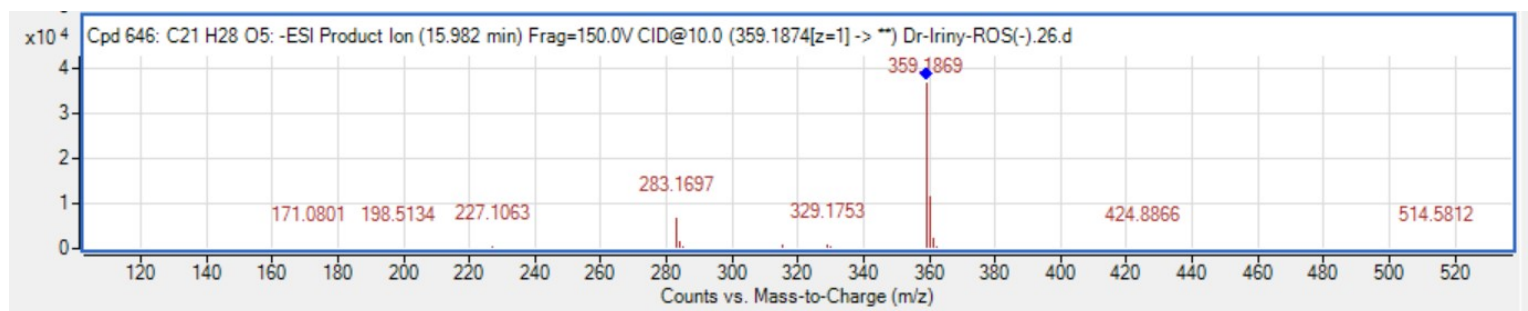


Fig. S5. ESI-MS/MS spectrum of peak (5) in the negative ion mode showing **Epirosmanol methyl ether**.

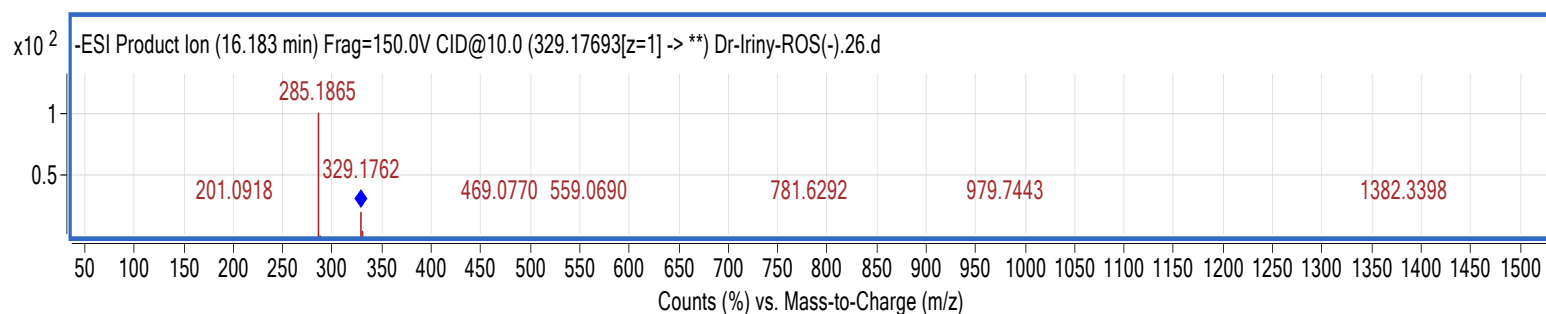


Fig. S6. ESI-MS/MS spectrum of peak (6) in the negative ion mode showing **Carnosol**.

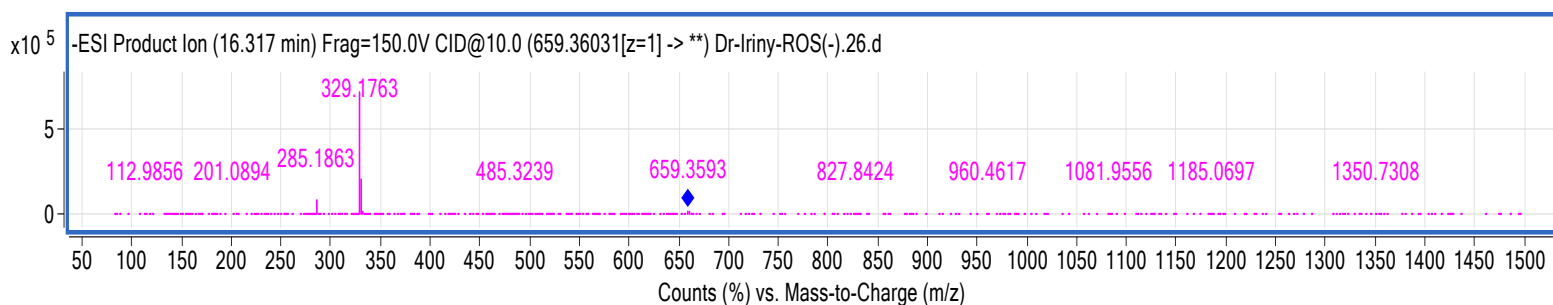


Fig. S7. ESI-MS/MS spectrum of peak (7) in the negative ion mode showing **Carnosol dimer**.

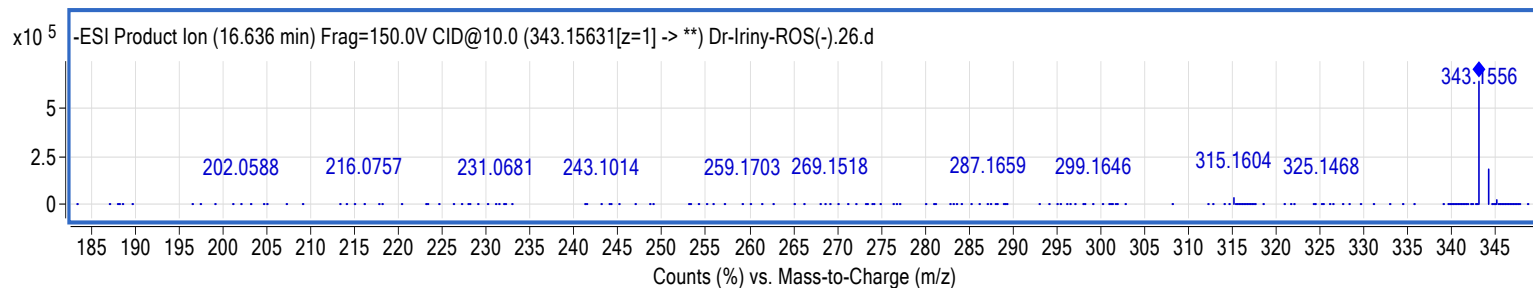


Fig. S8. ESI-MS/MS spectrum of peak (8) in the negative ion mode showing **Rosmadiol**.

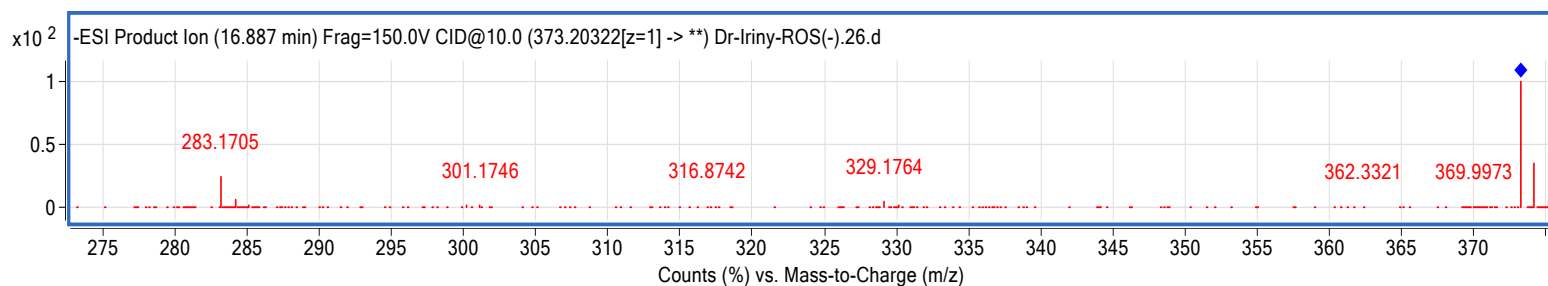


Fig. S9. ESI-MS/MS spectrum of peak (9) in the negative ion mode showing **11,12-Dimethylrosmanol**.

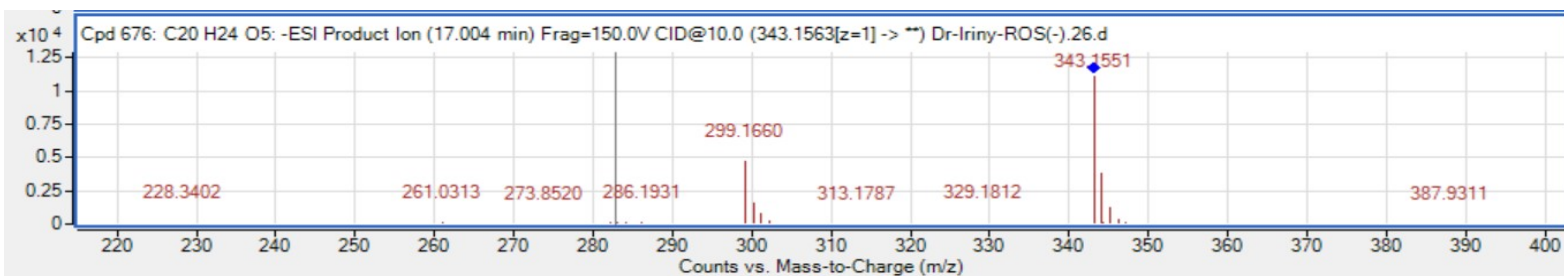


Fig. S10. ESI-MS/MS spectrum of peak (10) in the negative ion mode showing **Rosmadial isomer**.

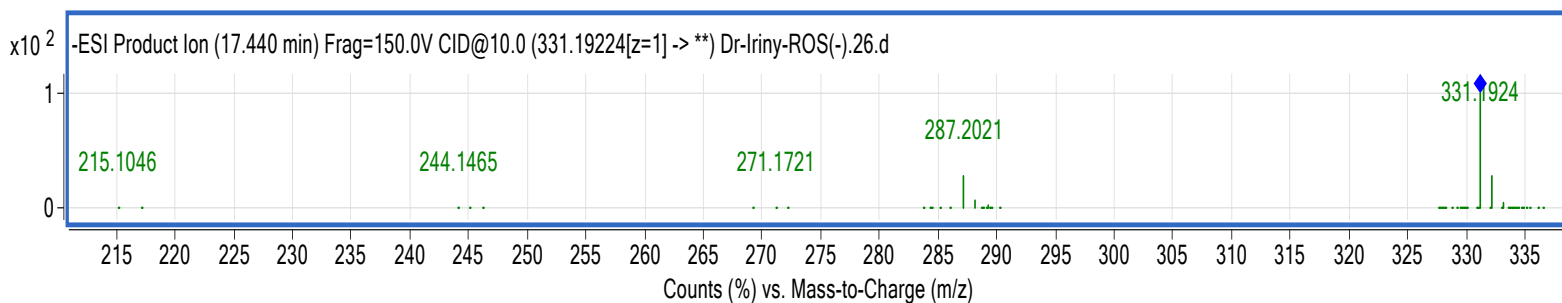


Fig. S11. ESI-MS/MS spectrum of peak (11) in the negative ion mode showing **Carnosic acid**.

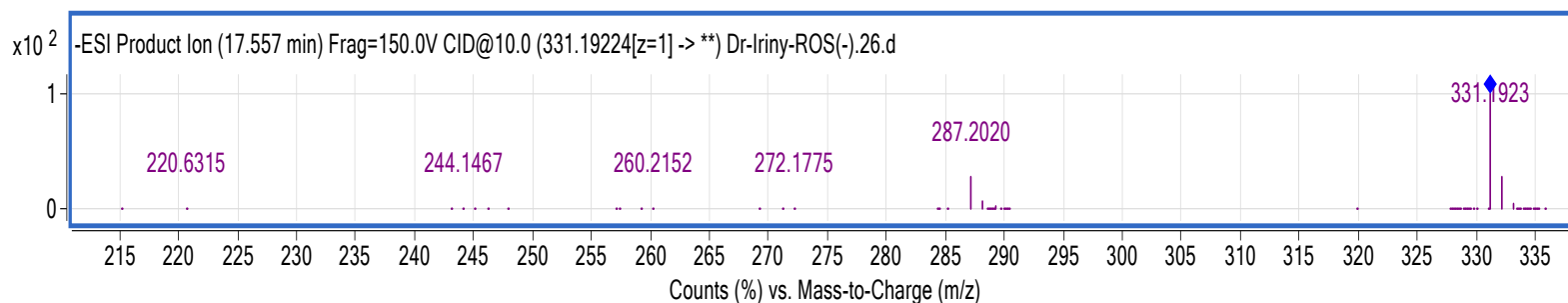


Fig. S12. ESI-MS/MS spectrum of peak (12) in the negative ion mode showing **Carnosic acid isomer**.

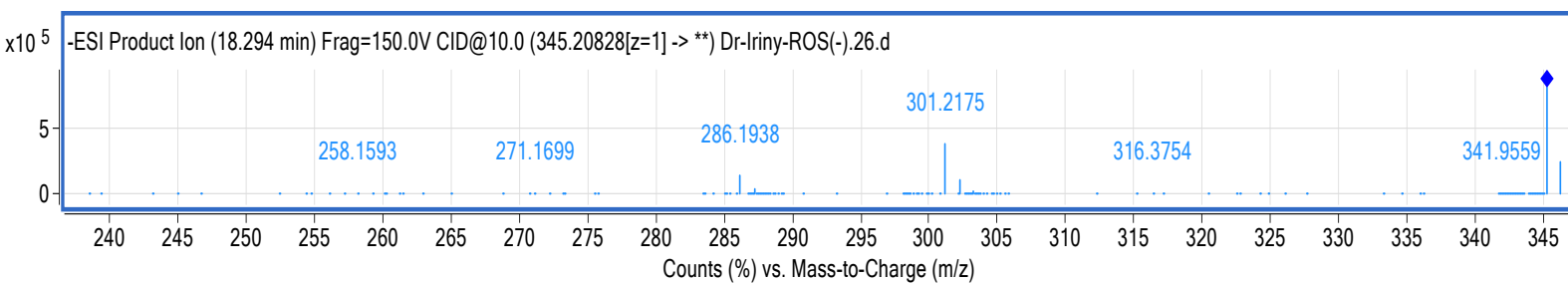


Fig. S13. ESI-MS/MS spectrum of peak (13) in the negative ion mode showing **12-*O*-Methyl-carnosic acid**.

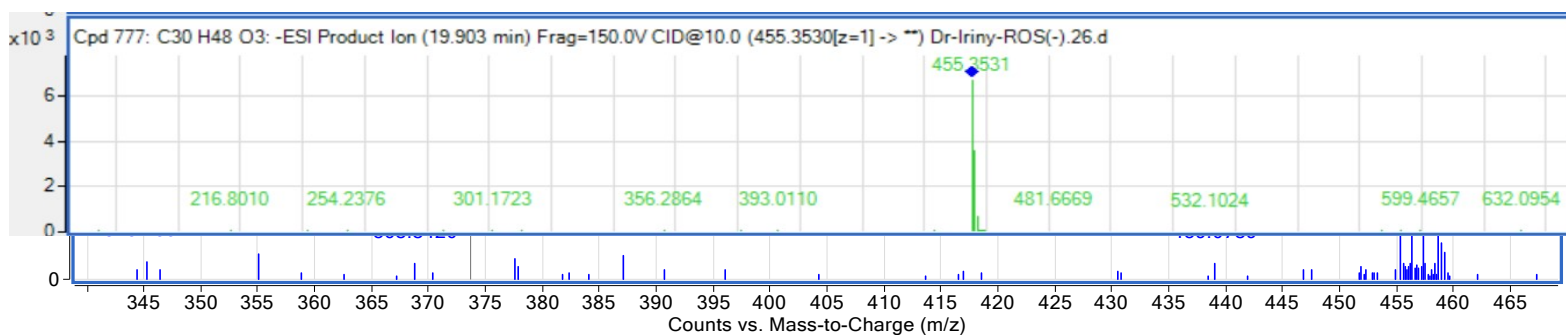
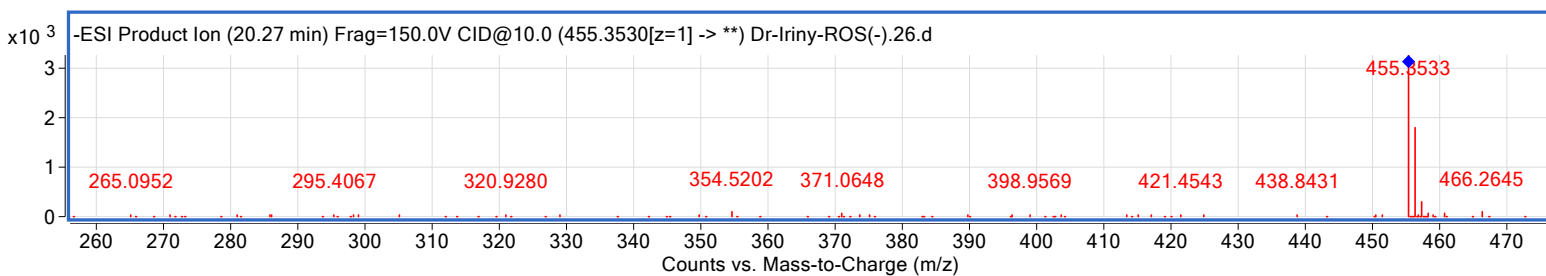


Fig. S14. ESI-MS/MS spectrum of peak (14) in the negative ion mode showing **Betulinic acid**.

Fig. S15. ESI-MS/MS spectrum of peak (15) in the negative ion mode showing **Oleanolic acid**.

Fig. S16. ESI-MS/MS spectrum of peak (16) in the negative ion mode showing **Ursolic acid**.



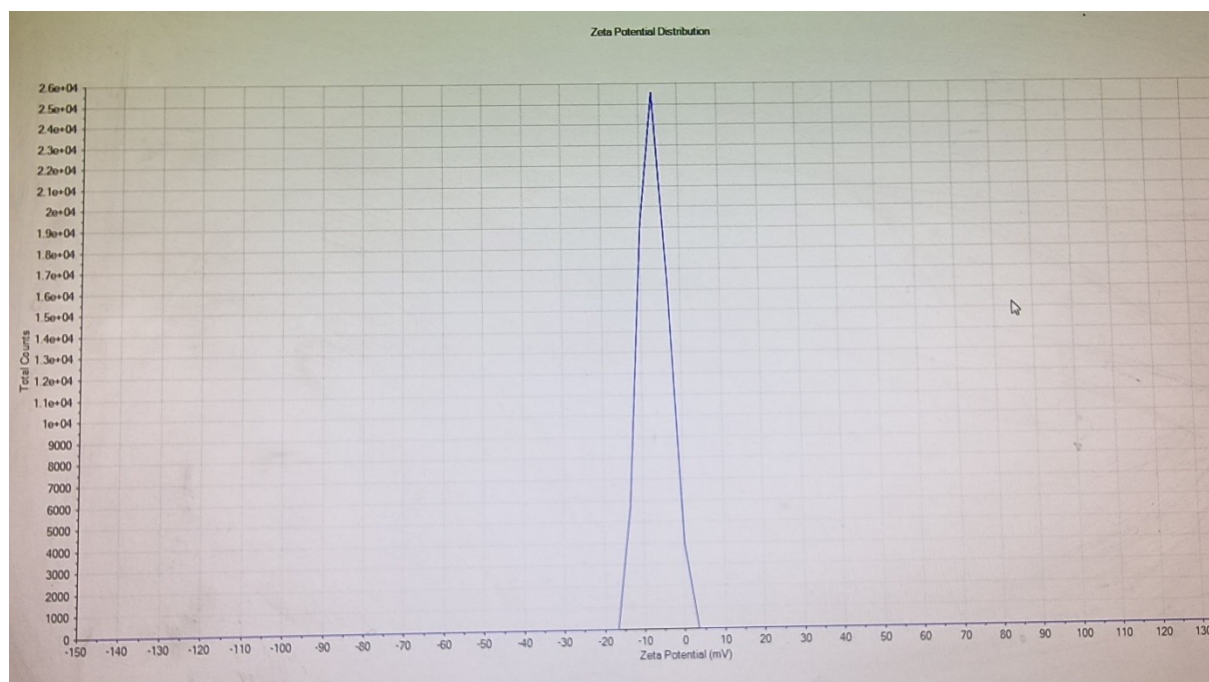


Fig. S17. Zeta potential distribution chart of the nanoformulation using the zetasizer device.

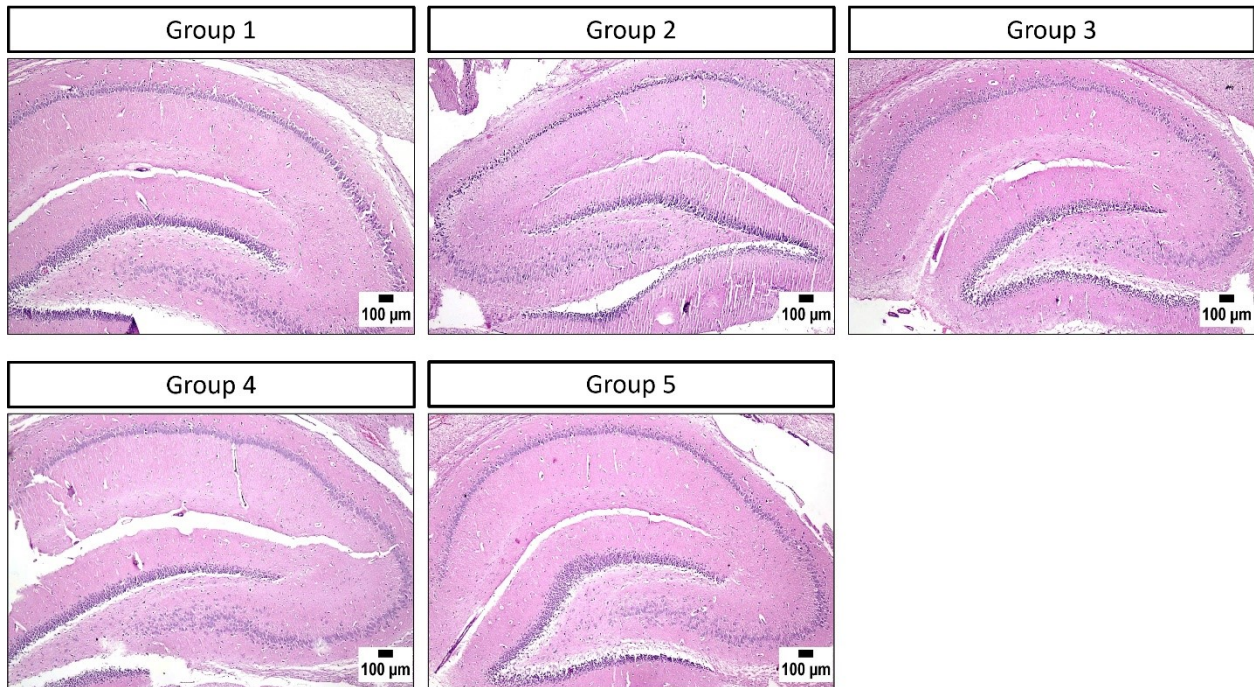


Fig. S18. Photomicrographs of hematoxylin and eosin-stained sections of the hippocampus from control group (1), Oxaliplatin (Oxa)-treated group (2), Oxa + *R. officinalis* (50 mg/kg) treatment group (3), Oxa + *R. officinalis* (100 mg/kg) treatment group (4), and Oxa + *R. officinalis* (1 mg/kg, IN) treatment group (5), with X100 magnification power.

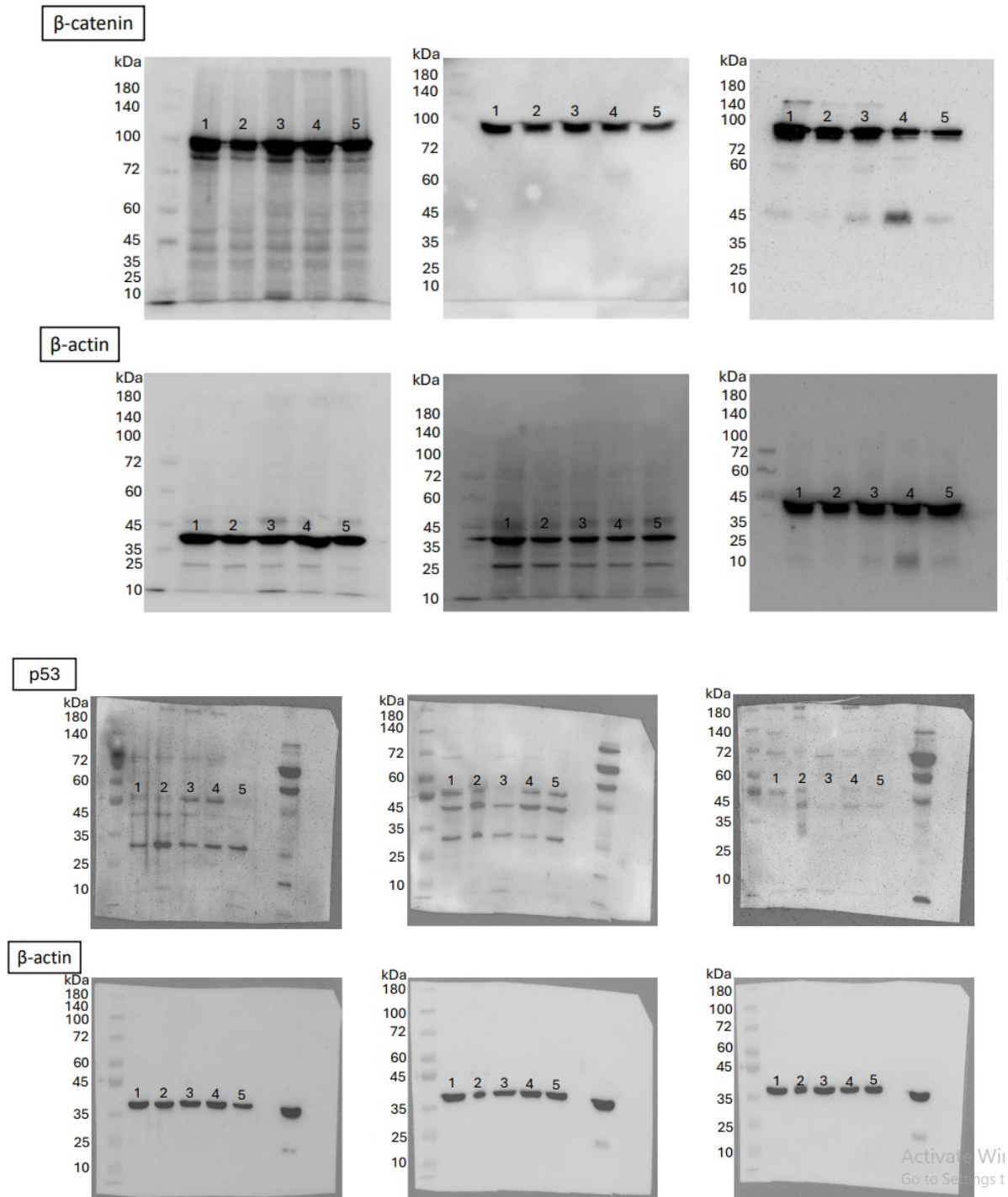


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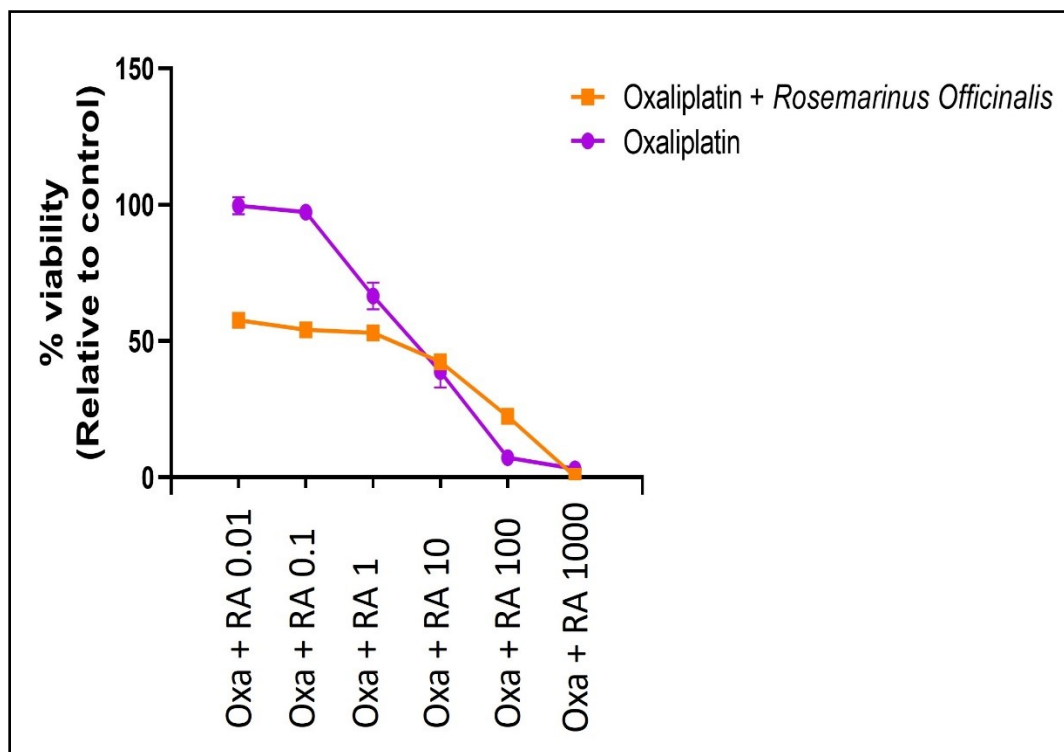


Fig. S20. SRB cytotoxicity assay of Oxaliplatin and Oxaliplatin + *R. officinalis* combination at different concentrations (0.01, 0.1, 1, 10, 100, and 1000 μ M) on human HCT-116 colorectal cancer cells.