Supporting Information.

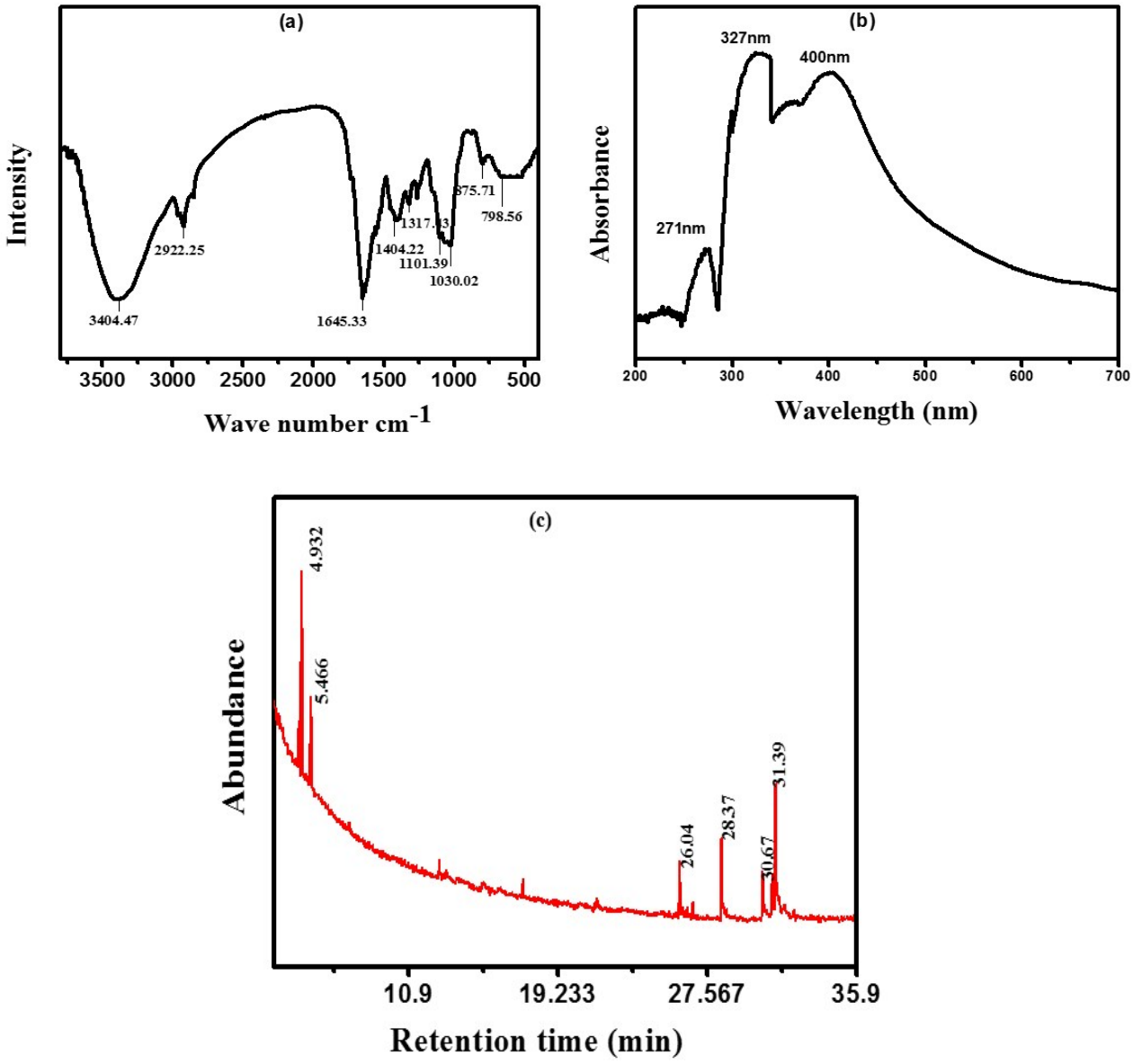
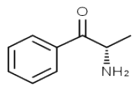
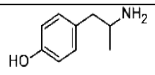
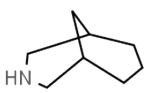


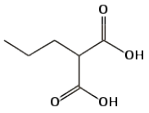
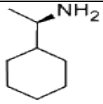
Figure (S-1) Phytochemical analysis of *Olea ferruginea* Royle leaf extract (a) FTIR spectra (b) UV-vis spectra (c) GCMS chromatogram

Table (S-1). FTIR peak values and Functional groups and UV-vis absorbance and wavelength of *O.ferruginea* Royle plant

	Peaks	Bond	Functional group
O.ferruginea Royle	3404.47	O-H stretch, H bonded	Alcohols, phenols
	2922.25	C-H strech	Alkanes
	1645.33	-C=C- stretch	Alkenes
	1404.22	-C-C stretch (in ring)	Aromatics
	1317.43	N–O asymmetric stretch	Nitro compounds
	1261.49	C-N stretch, C-O, C-H wag	Amines, alcohols, carboxylic acids, esters, ethers alkyl halides
	1101.39	C-N stretch C-O, C-H wag	Amines, alcohols, carboxylic acids, esters, ethers alkyl halides
	1030.02	C-N strech	Aliphatic amines
	875.71	=C-H bend	Alkenes
	748.56	=C-H bend, C-Cl stretch	alkyl halides

Table (S2). Phytochemical anlysis of ethanolic extract of *O. feruginea* Royle leaf extract by GCMS

Retention time	**Area (%)**	**Height (%)**	**F. wt (g/mol)**	**Formula**	**Compound name**	**Structure**
4.932	27.03	24.65	149	$C_9H_{11}NO$	Cathinone	
5.46	12.47	10.91	151	$C_9H_{13}NO$	Benzenemethanol	
26.04	4.68	7.63	125	$C_8H_{15}N$	3-Azabicyclo nonane	

28.36	9.45	11.46	146	$C_6H_{10}O_4$	Propanedioic acid	
31.391	19.43	18.20	127	$C_8H_{17}N$	1-cyclohexylethylamine	

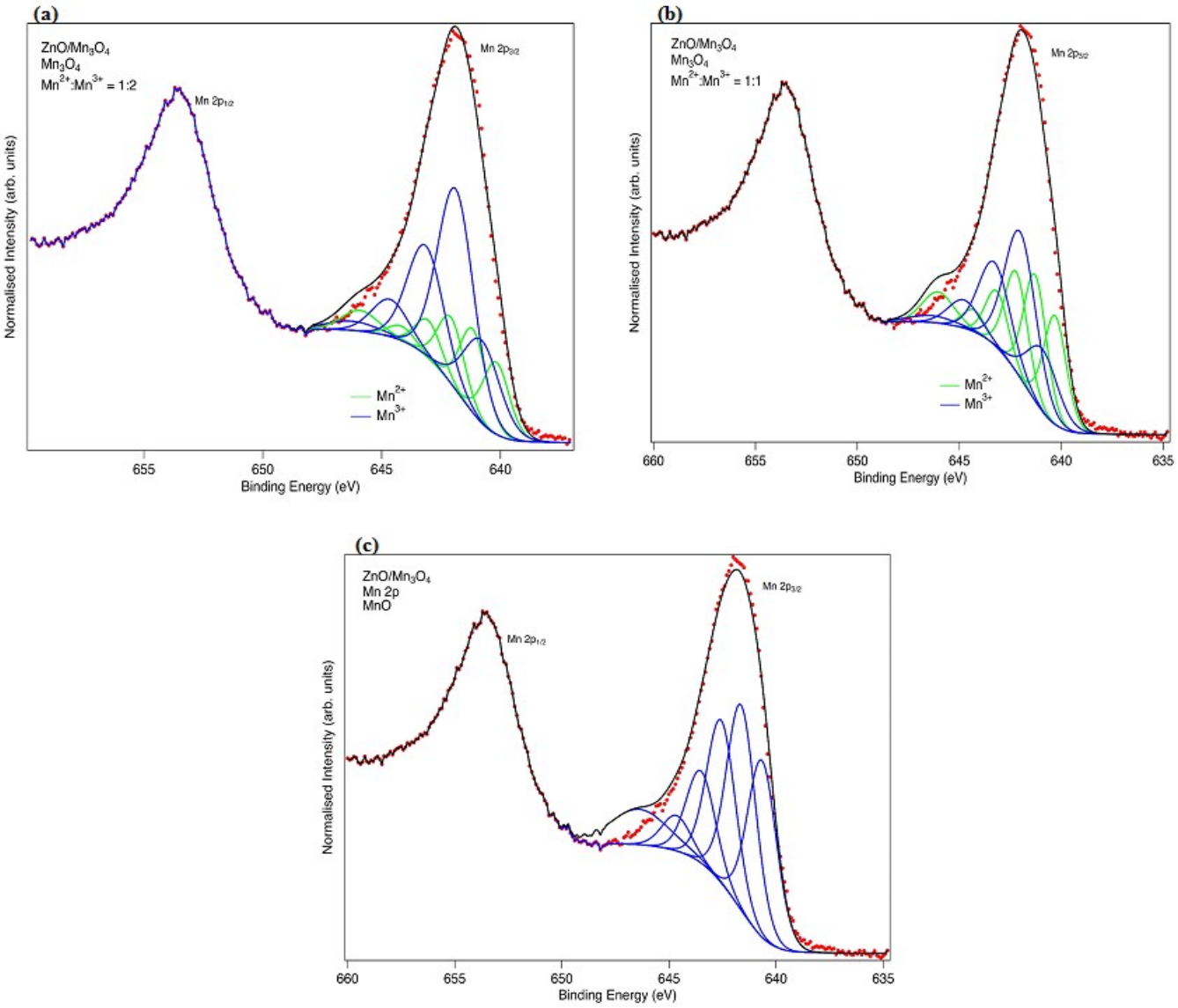


Figure S-2. XPS spectra recorded from ZnO/Mn_3O_4 NPs: (a) Mn_3O_4 1:2, (b) Mn_3O_4 1:1, (c) Mn2p: MnO