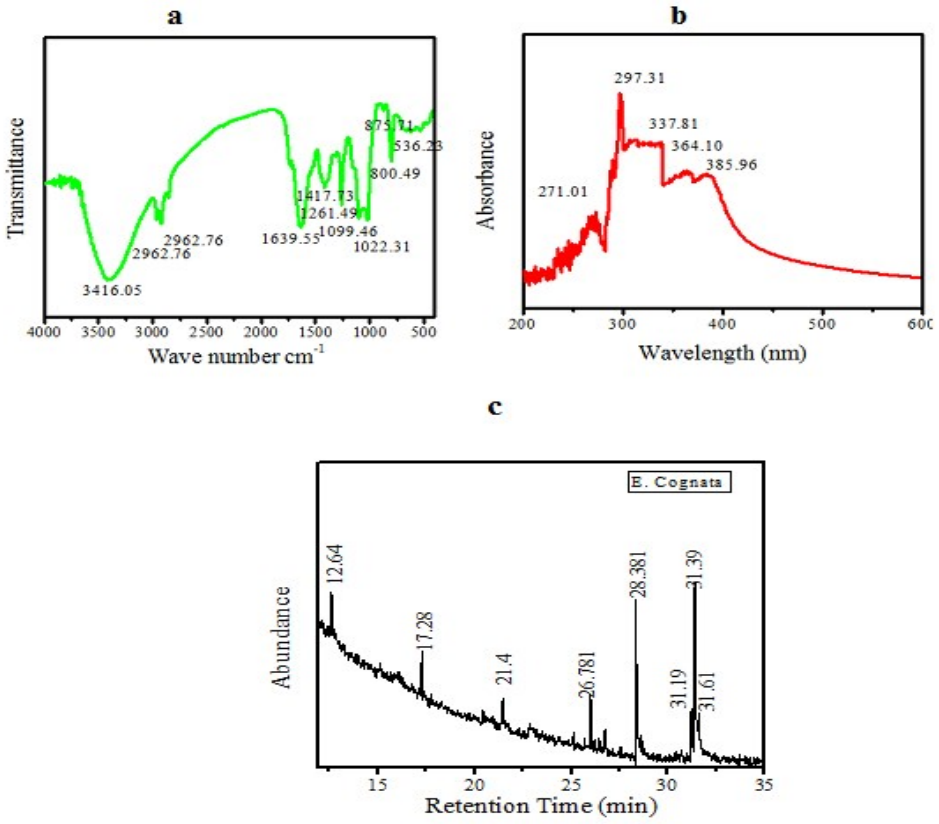
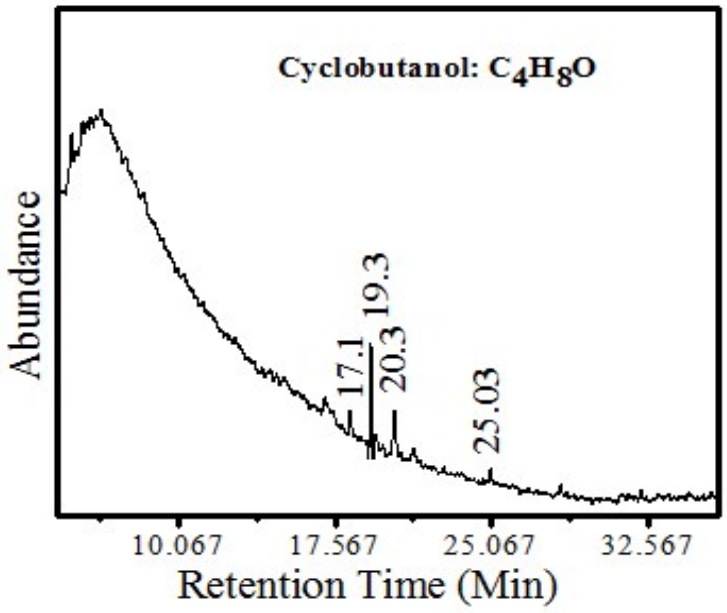
Electronic Supplementary Material (ESI) for New Journal of Chemistry.



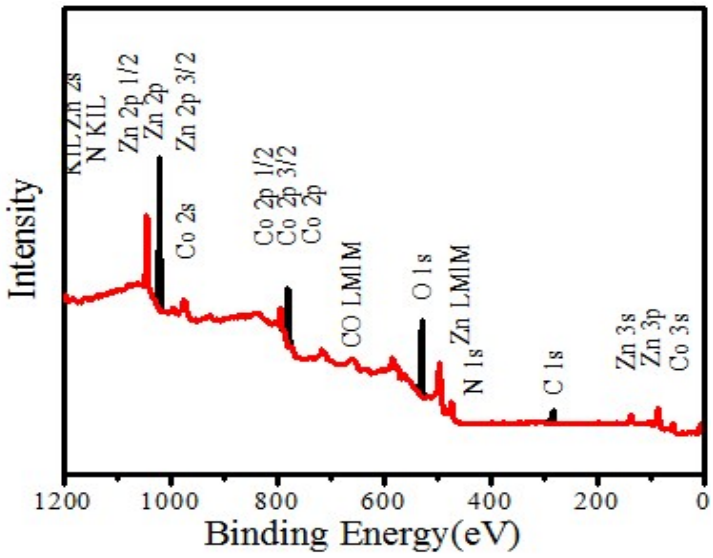
S1 Figure 1: (a) Fourier Transform Infrared Spectra of the Plant, (b) UV-Vis Spectra of plant Leaf Extract, And (c) GC-MS Chromatogram of the Methanolic Extract of *E. Cognata* Leaves

S2 .Table 1: Phytochemicals of methanolic leaf extract of *E. Cognata* Individualized by GC-MS.

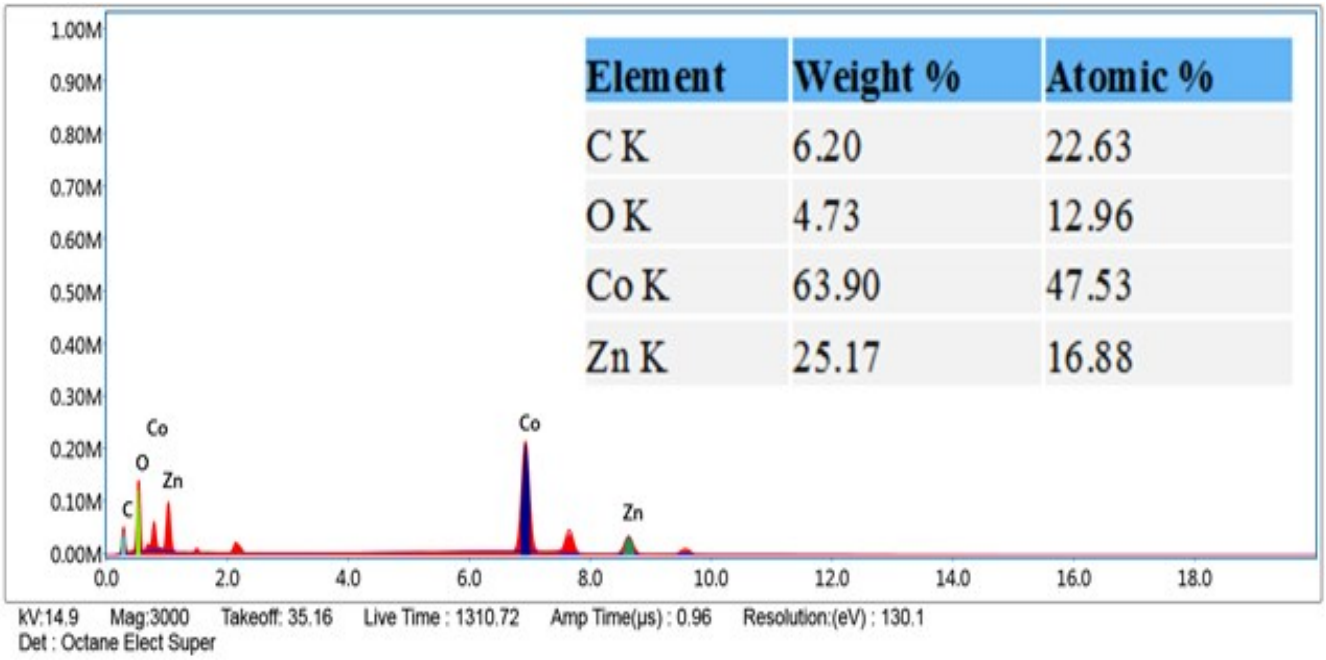
R. Time	Area (%)	Height (%)	Mol. weight	Chemical Formula	Name
12.64	3.70	7.49	129	C8H19N	Octodrine
17.28	0.88	1.41	72.11	C4H8O	cyclobutanol
21.4	0.79	0.98	171	C11H25N	1-Methyldecylamine
26.78	0.98	1.51	89	C3H7NO2	d-Alanine
28.38	12.92	24.95	172	C10H20O2	Decanoic acid
31.39	16.95	29.44	125	C8H15N	Azabicyclo[3.2.2]nonane
31.19	0.65	0.79	125	C8H15N	Azabicyclo[3.2.2]nonane
31.61	7.2	7.10	127	C8H17N	Cyclohexylethylamine



S3 Figure 2: GC-MS Chromatogram of synthesized nanocomposite presenting incorporated organic compound.



S4 Figure 3 : survey scan of ZnO-Co_3O_4 nanocomposite



S5 Figure 4: Elemental analysis of ZnO-Co_3O_4 nanocomposite by Energy-dispersive X-ray spectroscopy

S6 Table 2: Functional groups of foliar mediated ZnO-Co_3O_4 identified by FTIR.

Sr. No	Material	Peaks (cm^{-1})	Bond	Functional groups	References
1	ZnO-Co_3O_4 at 95 ^oC	3610	O–H stretching, hydroxyl	Alcohols/phenols	23-25
		2448	C-H stretching	aromatics	40-41
		1736	C=O stretch	Aldehydes, saturated aliphatic, carboxylic acid	39, 41
		1488	C-C stretch (in ring)	aromatics	40-42
		1221	C-N stretch	aliphatic amines	24
		928	O-H bend	carboxylic acid	42
		533	M- O	Metal oxides	36-38
2.	ZnO-Co_3O_4 at 450 ^oC	3610	O–H stretch	alcohols, phenols, carboxylic acid	23, 24
		1739	C=O stretch	Aldehydes, saturated aliphatic, carboxylic acid	42
		1483	C-C stretch (in ring)	aromatics	39-42
		976	O-H bend	carboxylic acid	42