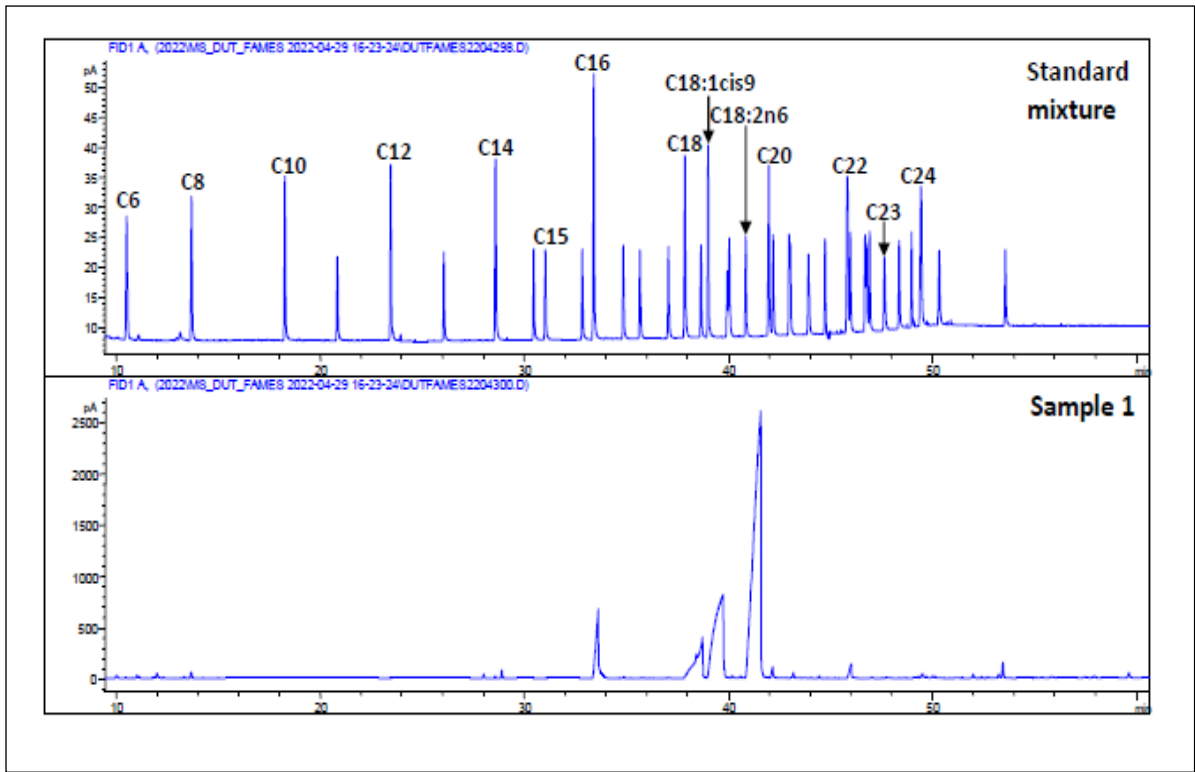


Supplementary Table S1. Docking scores result of SSEO compounds and standards complexed with respective targets or genes (PPARA, FABP4, PPARD, PPARG and CPT2)

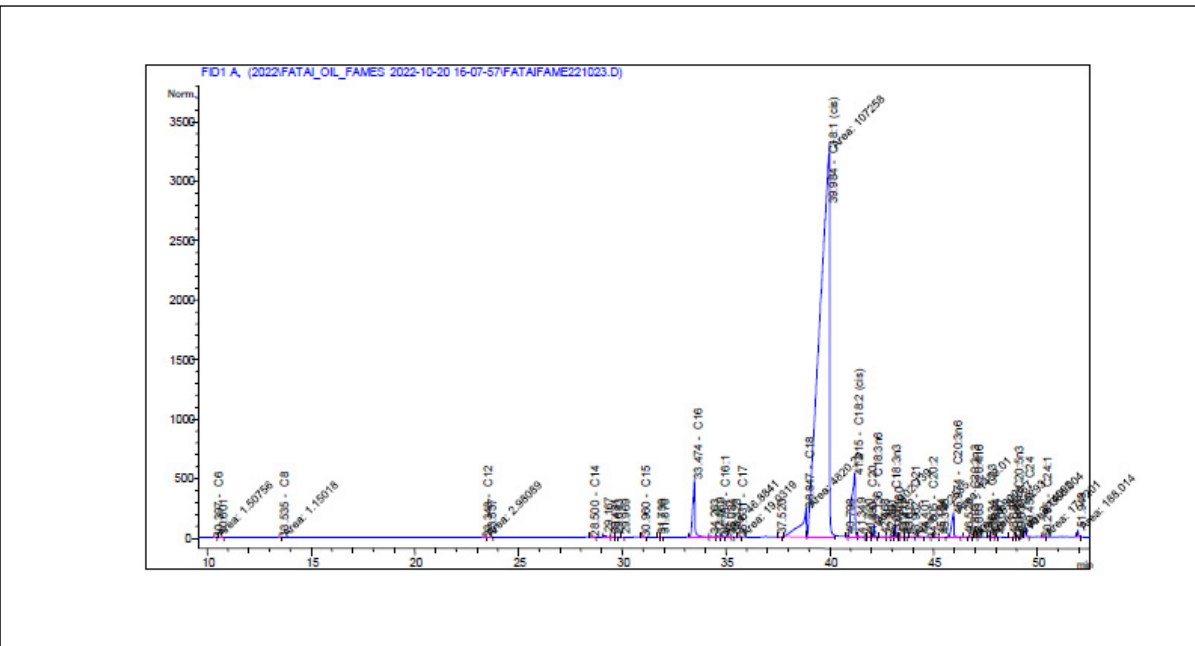
Targets	Compounds	Docking scores (kcal/mol)
PPARA	Capric acid	-5.6
	Caproic acid	-4.8
	Caprylic acid	-5.3
	Lauric acid	-6.0
	Linoleic acid	-6.3
	Lignoceric acid	-6.7
	Myristic acid	-5.6
	Arachidic acid	-5.9
	Behenic acid	-6.5
	Palmitic acid	-6.1
	Pentadecyclic acid	-5.8
	Phylloquinone	-9.2
	Stearic acid	-5.7
	Oleic acid	-6.0
	Tricosylic acid	-6.6
	Rosiglitazone	-8.6
	Metformin	-5.2
FABP4	Capric acid	-4.6
	Caproic acid	-4.6
	Caprylic acid	-5.2
	Lauric acid	-5.4
	Linoleic acid	-6.3
	Lignoceric acid	-6.0
	Myristic acid	-5.6
	Arachidic acid	-5.9
	Behenic acid	-5.9
	Palmitic acid	-5.6
	Pentadecyclic acid	-5.2
	Stearic acid	-5.8
	Oleic acid	-5.9
	Tricosylic acid	-6.0
	Rosiglitazone	-8.3
	Metformin	-4.5
PPARD	Capric acid	-4.8
	Caproic acid	-4.8
	Caprylic acid	-5.1
	Lauric acid	-5.5
	Linoleic acid	5.9
	Lignoceric acid	-6.4
	Myristic acid	-5.9
	Arachidic acid	-6.1

	Behenic acid	-5.7
	Palmitic acid	-5.8
	Pentadecyclic acid	-6.3
	Stearic acid	-6.3
	Oleic acid	-6.4
	Tricosylic acid	-7.1
	Rosiglitazone	-8.7
	Metformin	-5.2
PPARG	Capric acid	-4.4
	Caproic acid	-4.4
	Caprylic acid	-5.0
	Lauric acid	-5.5
	Lignoceric acid	-6.1
	Myristic acid	-5.5
	Arachidic acid	-5.8
	Behenic acid	-5.4
	Palmitic acid	-5.8
	Pentadecyclic acid	-5.6
	Stearic acid	-5.8
	Oleic acid	-4.2
	Tricosylic acid	-5.7
	Rosiglitazone	-8.2
	Metformin	-4.9
CPT2	Capric acid	-4.9
	Caproic acid	-5.1
	Caprylic acid	-4.8
	Lauric acid	-5.1
	Lignoceric acid	-5.7
	Myristic acid	-5.2
	Arachidic acid	-6.2
	Behenic acid	-6.1
	Palmitic acid	-5.6
	Pentadecyclic acid	-5.4
	Stearic acid	-6.3
	Tricosylic acid	-5.7
	Rosiglitazone	-9.4
	Metformin	-5.3

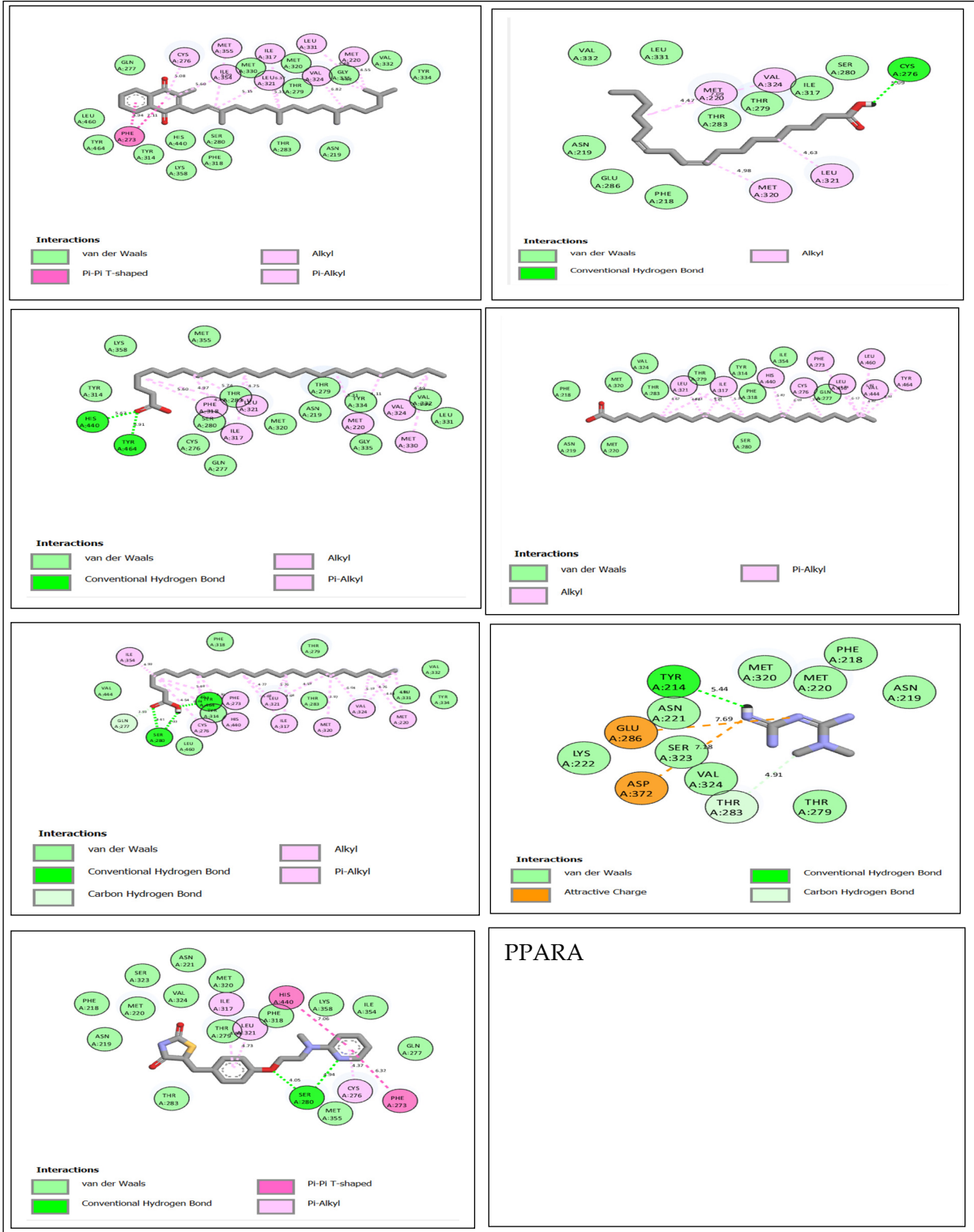
Supplementary Figure S1. GCMS-FAMES chromatogram identifying the sunflower seed essential oil components (Sample 1).

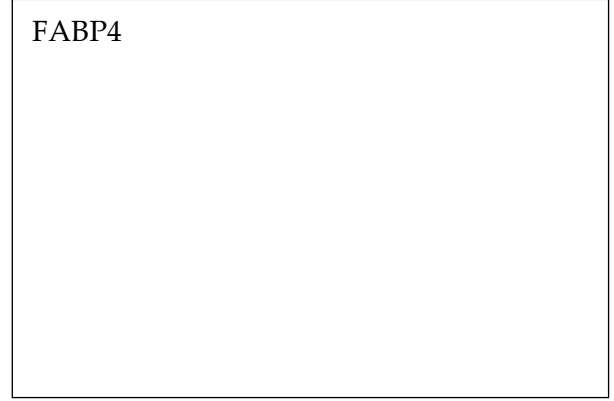
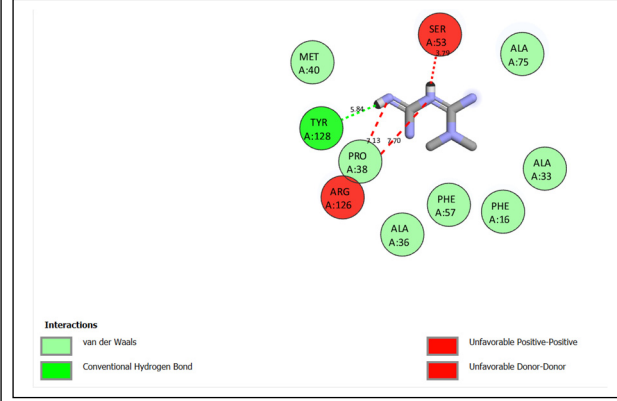
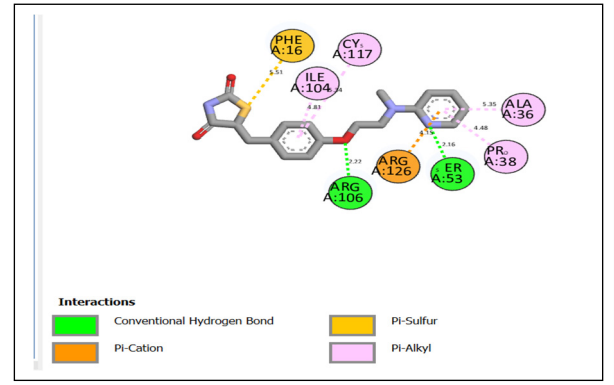
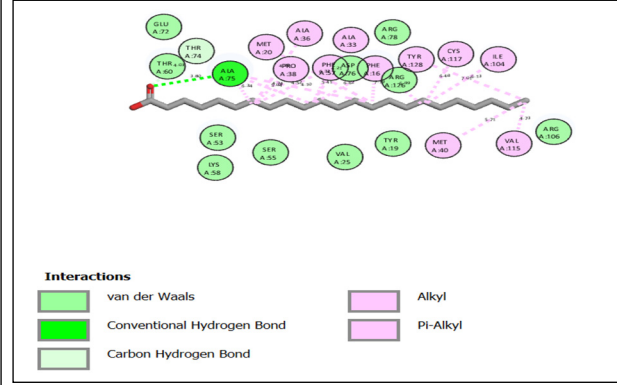
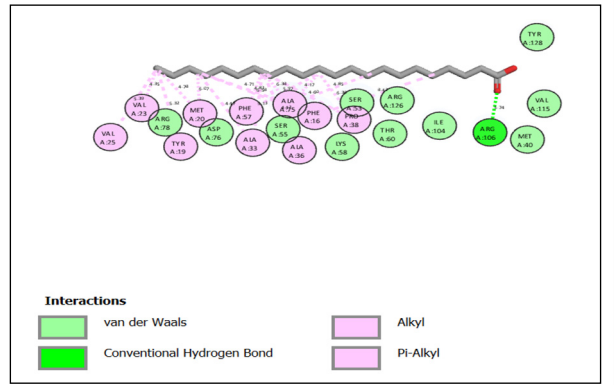
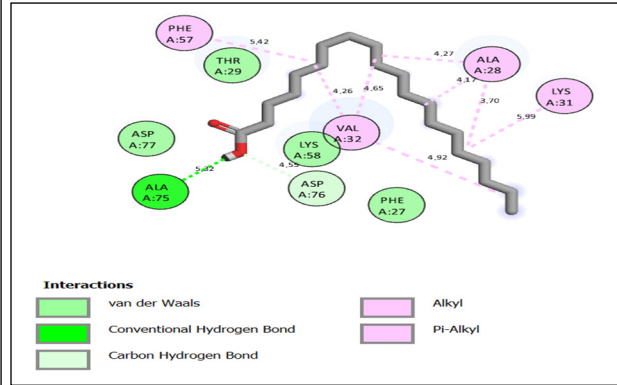
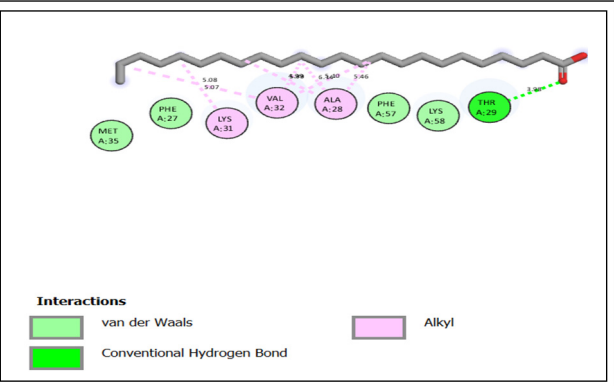
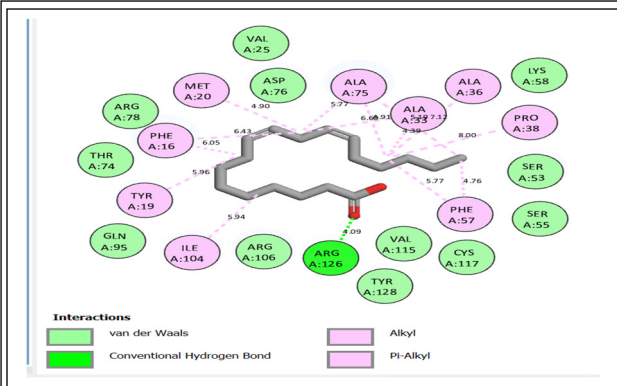


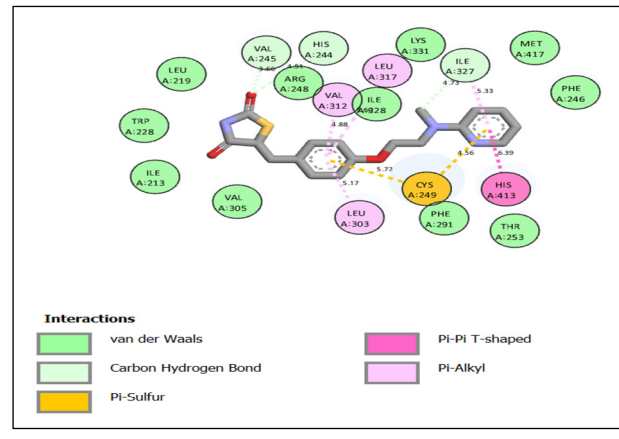
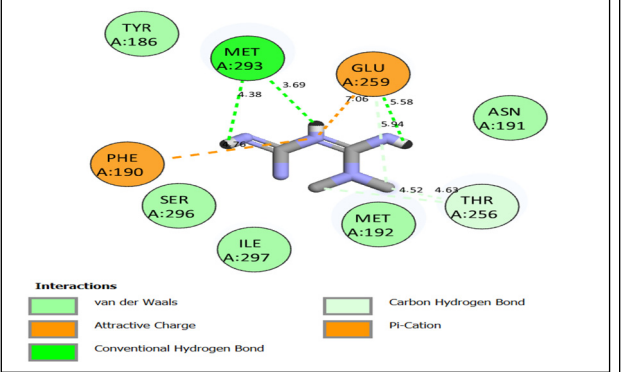
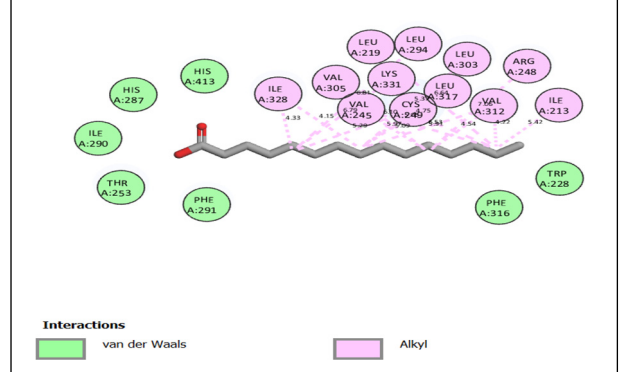
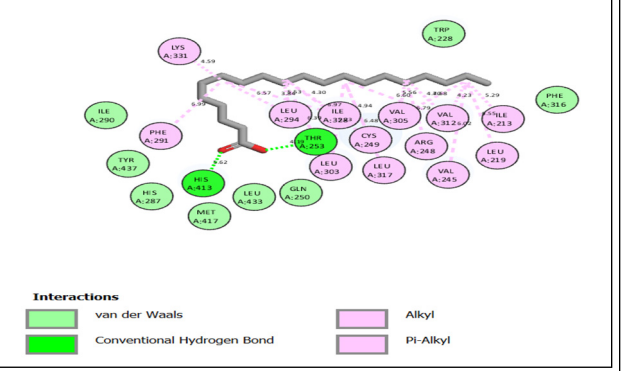
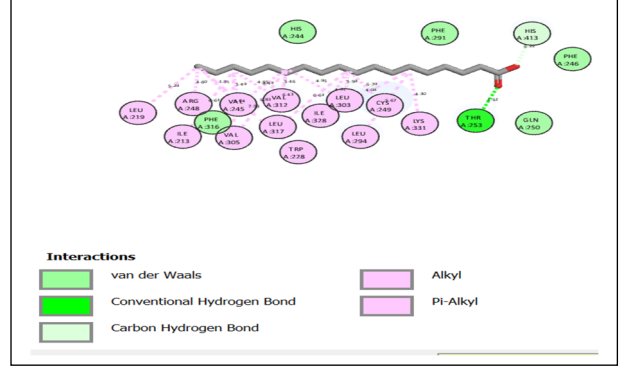
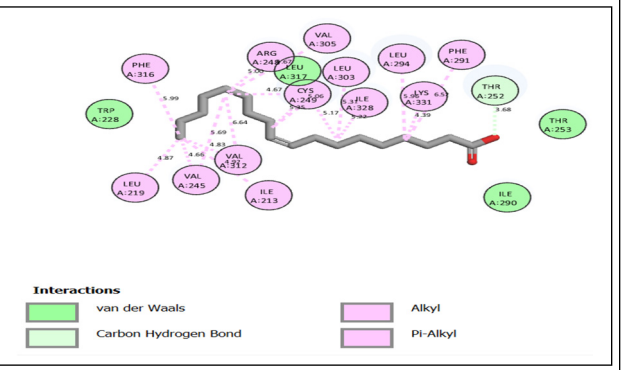
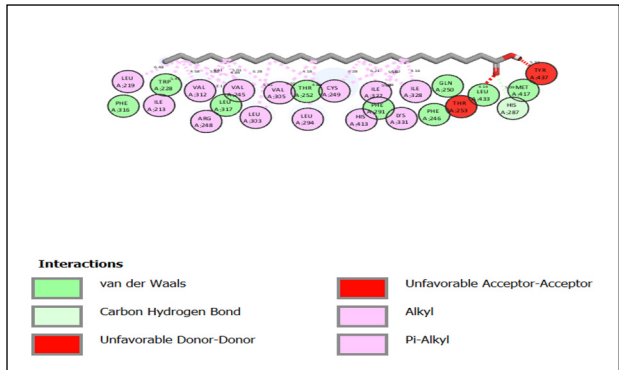
Supplementary Figure S2. GCMS-FAMES chromatogram identifying the sunflower seed essential oil components (Sample 1) with retention times (mins).



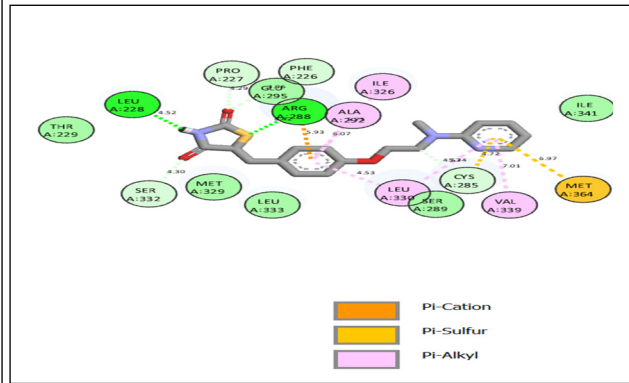
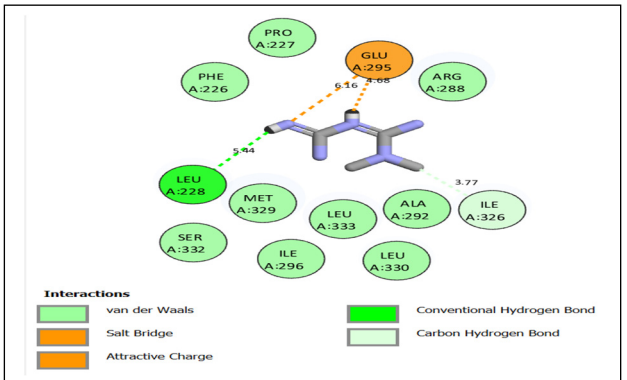
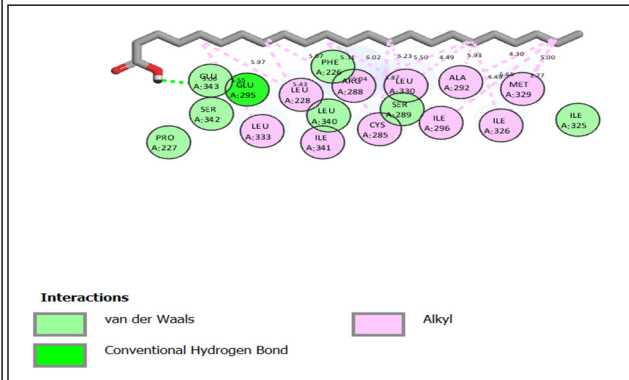
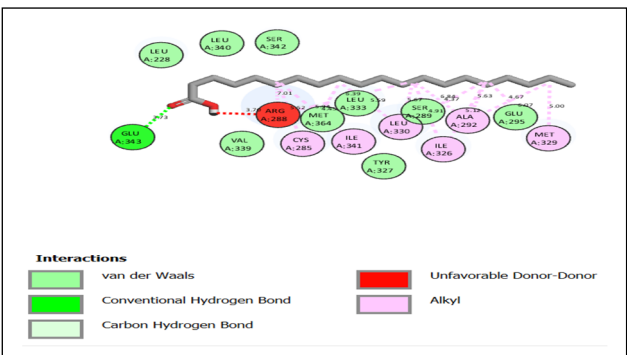
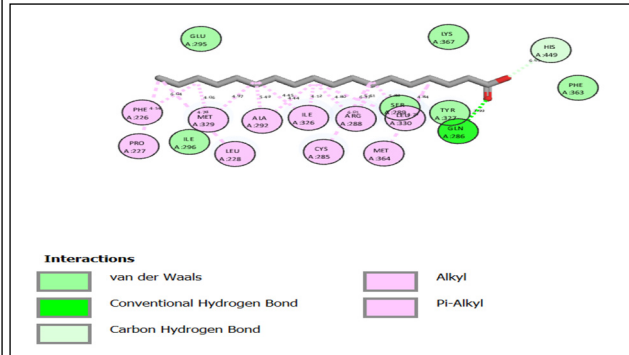
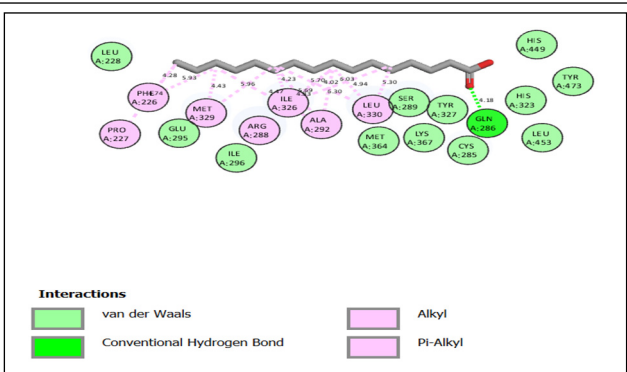
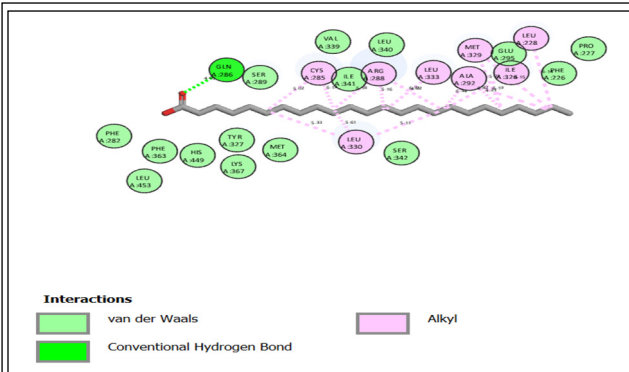
Supplementary Figure S3. Interaction plots between SSEO compounds, metformin, and respective genes over 100 ns.



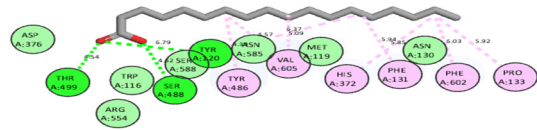




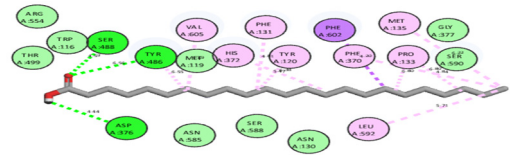
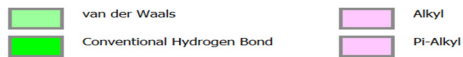
PPARD



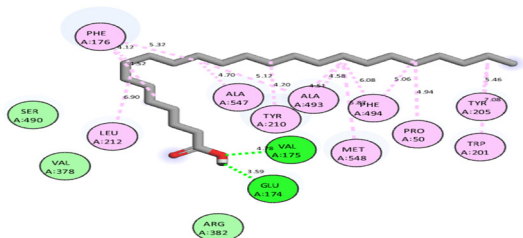
PPARG



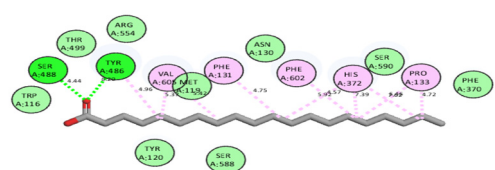
Interactions



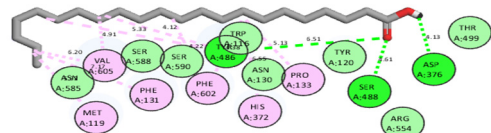
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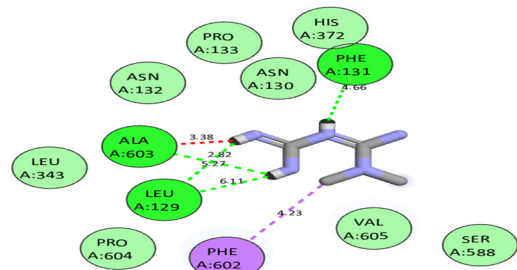
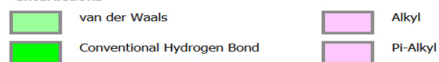
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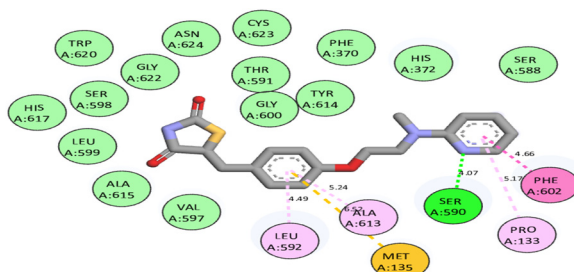
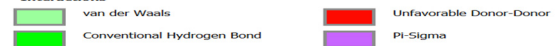
Interactions



Interactions



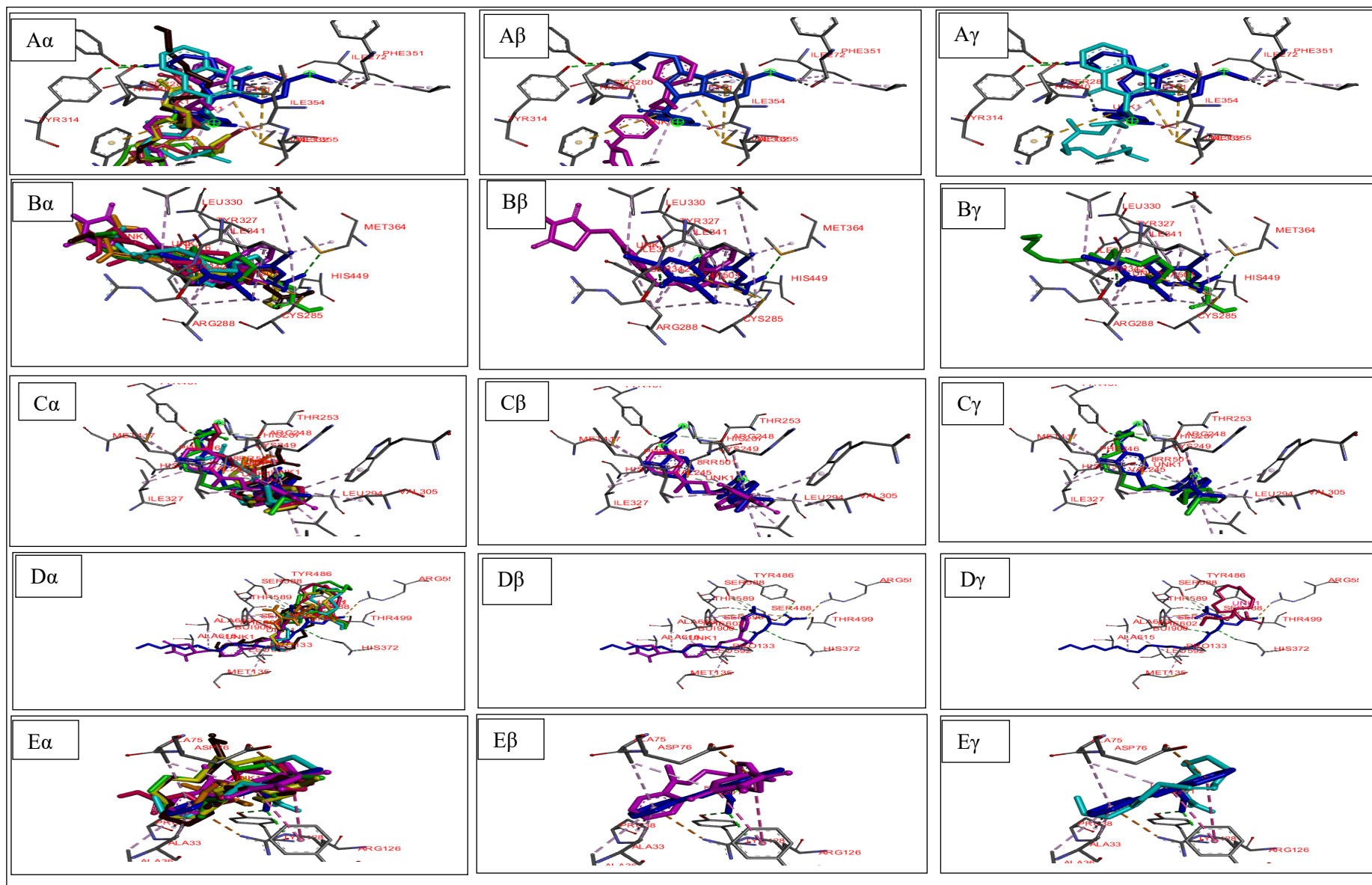
Interactions



Interactions



CPT2



Appendix 1A–E.