Supporting Information

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Phenolic Contents, *in vitro* Antioxidant and Cytotoxicity Activities of *Salvia aethiopis* L. and *S. ceratophylla* L. (Lamiaceae)

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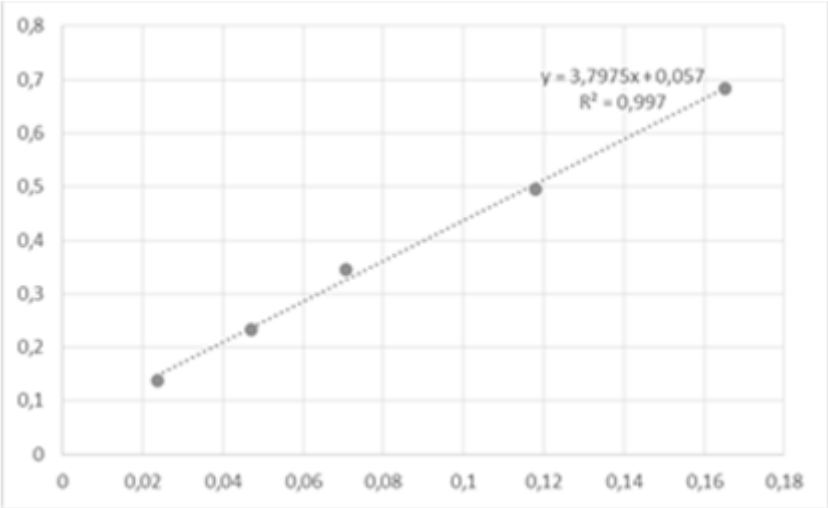


S1. Gallic acid calibration curve.

HPLC method

The precision tests were conducted by preparing a fixed concentration of phenolic acids and IS, injected into the HPLC. The results were evaluated with regard to the areas of the peaks and peak normalizations (PN = peak area/peak retention time) and the rate of the peak normalizations (R = PNacids/PNIS). Most of the phenolic acids have absorption maxima in the ultraviolet absorption spectra at a wavelength of 280 nm, and they were identified by matching their retention times (peak normalization) and ultraviolet spectra of samples with those of authentic standards, using the HPLC–diode array detection system. The standard solutions of phenolic acids were under the examination, fixed amount of IS were prepared and they were injected into the HPLC. The calibration equations were constructed employing rate of peak normalization values against phenolic acid concentrations at 280 nm (S1). The rate of peak normalizations of the phenolic acids and IS values were calculated as mentioned in the precision tests. The precision of the experiments increased by using the IS instead of simple areas of the peaks. It can be attributed to the employment of peak normalization and the processing of the internal standard become more repeatable by the use of the internal standard method. The results are very repeatable; the values for precision are in the 0.35–1.65 range which supports reliability. The phenolic acids in methanol and ethyl acetate extracts of two *Salvia* species were analyzed by gradient elution using a validated HPLC method that has a good repeatability using the internal standard technique in the range of 0.35%–1.65% relative standard deviation (RSD); as percent they have limits of detection (LOD) values in the range of 2.49×10^{-6}–9.69×10^{-6} M and limits of quantification (LOQ) values of 1.27×10^{-6}– 2.93×10^{-5} M as reported [17, 18].

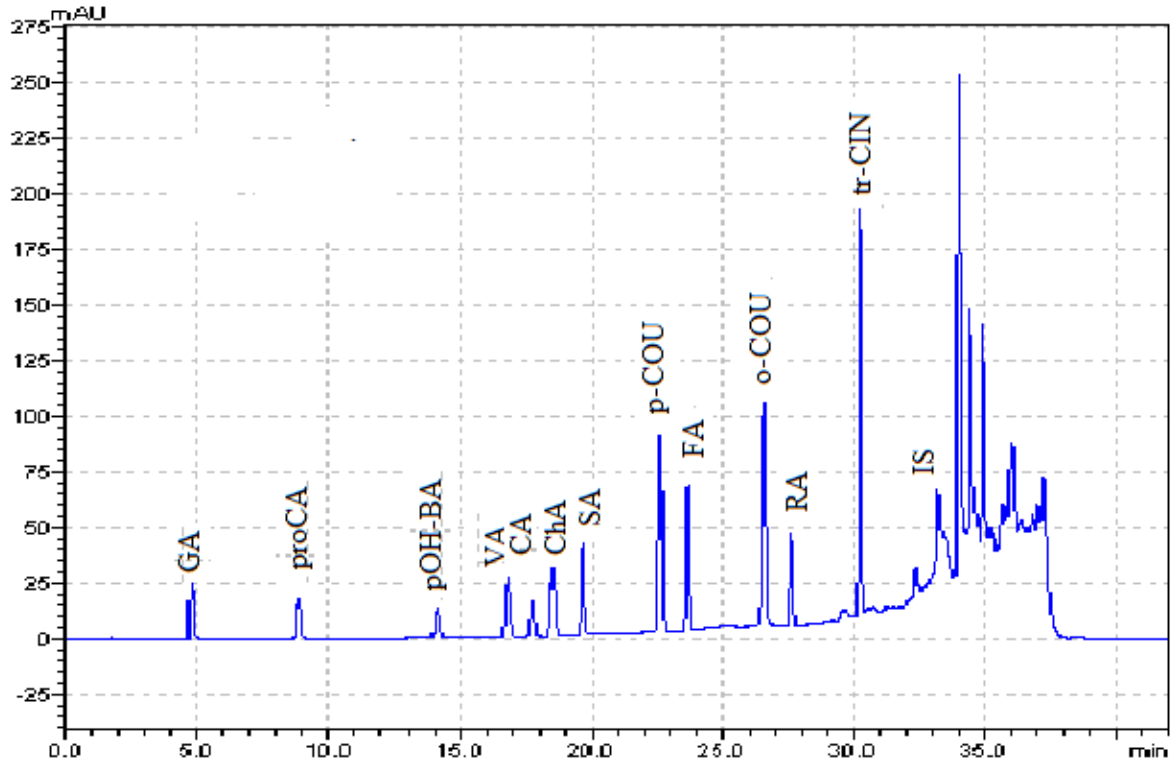
The standard chromatogram (S1) and the original chromatograms of ethyl acetate extract of *S. aethiopis* (S2) and *S. ceratophylla* (S3) are shown.

Phenolic acids	**a ± SD**	**b ± SD**	**r^2**	**LOD (molarity)**	**LOQ (molarity)**
GA	555100 ± 1306	–1.30 ± 0.66	0.9972	3.94×10^{-6}	1.2×10^{-5}
protoCA	116700 ± 1244	–0.25 ± 0.09	0.9998	3.94×10^{-6}	3.94×10^{-6}
p-hydBA	36800 ± 724.8	–0.13 ± 0.06	0.9974	5.14×10^{-6}	1.56×10^{-5}
ChA	121900 ± 2362	–0.31 ± 0.10	0.9979	2.81×10^{-6}	8.53×10^{-6}
SA	102100 ± 3168	–0.14 ± 0.01	0.9999	9.69×10^{-6}	2.93×10^{-5}
VA	64280 ± 878.3	–0.09 ± 0.05	0.9987	2.49×10^{-6}	7.55×10^{-6}
CA	125700 ± 5639	–0.17 ± 0.26	0.9970	6.71×10^{-6}	2.03×10^{-5}
p-COU	119900 ± 2396	–0.26 ± 0.16	0.9973	4.51×10^{-6}	1.37×10^{-5}
FA	71770 ± 1358	–0.12 ± 0.09	0.9980	4.20×10^{-6}	1.27×10^{-6}
RA	84310 ± 527.2	–0.10 ± 0.02	0.9995	1.60×10^{-6}	4.80×10^{-6}

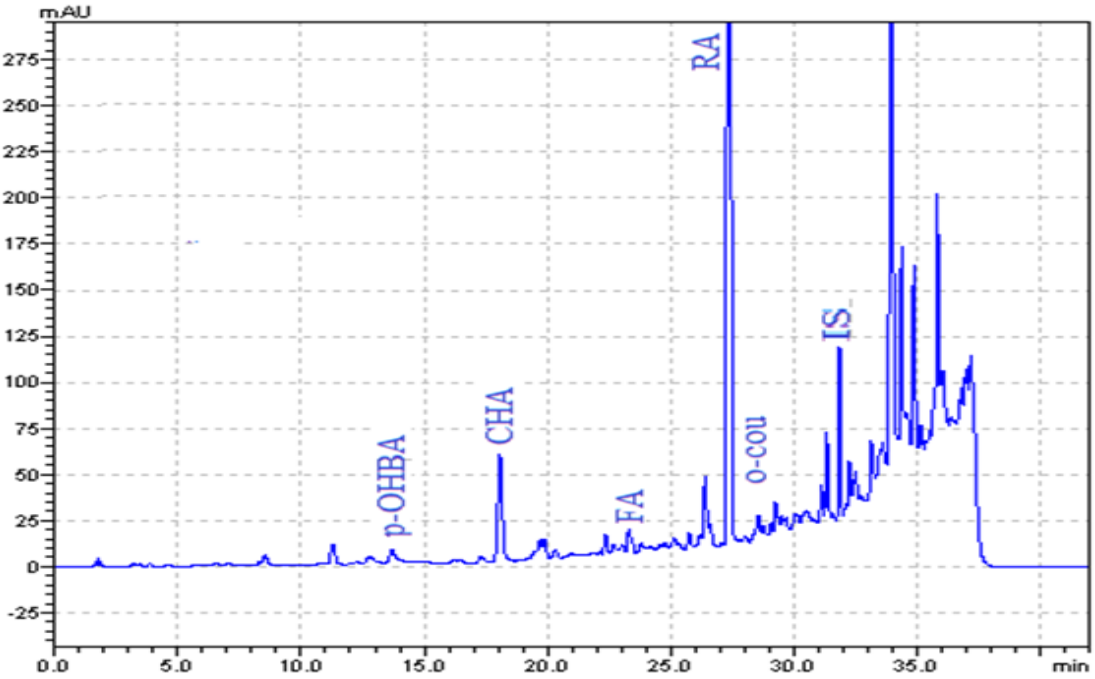
o-COU	113400 ± 2469	–0.22 ± 0.18	0.9969	5.40×10^{-6}	1.64×10^{-5}
tr-CIN	154300 ± 4711	–0.62 ± 0.26	0.9976	5.56×10^{-6}	1.68×10^{-6}

Abbreviations: a is slope; b is intercept; SD is standard deviation.

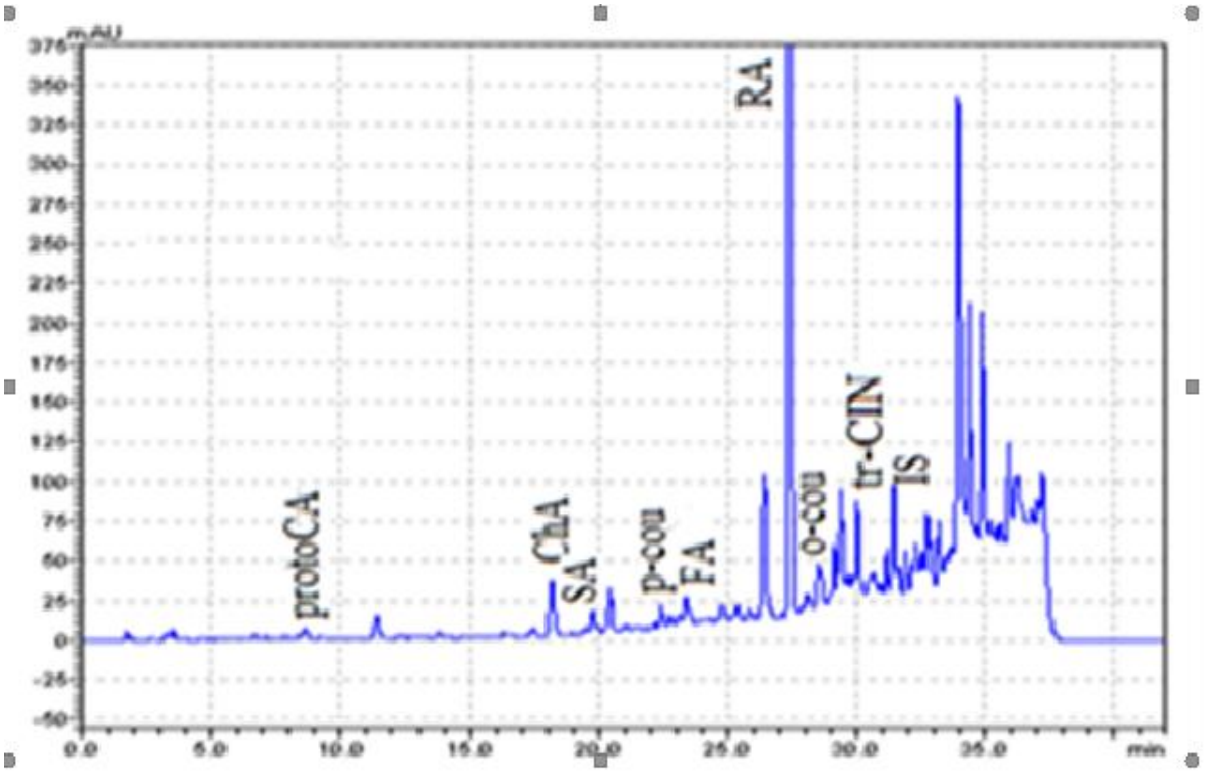
S1: The calibration parameters of phenolic acids at 280 nm using rate of peak normalizations, with their correlation coefficient (r^2), LOD and LOQ values.



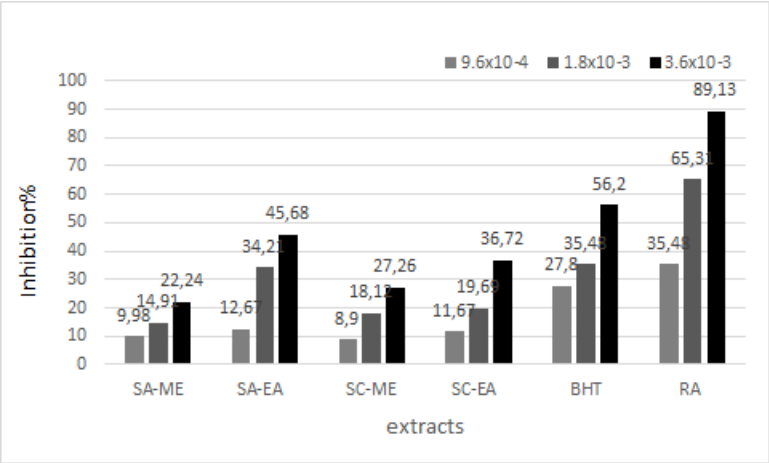
S3: Standard chromatogram of certain phenolic acids in the optimum HPLC conditions presented in the experimental. Their symbols and retention times GA: 4.93, protoCA: 8.89, p-hydBA: 13.96, VA: 16.88, CA: 17.65, ChA: 18.73, SA: 19.79, p-COU: 22.67, FA: 23.78, o-COU: 26.47, RA: 27.59, tr-CIN: 30.01, IS: 33.99.



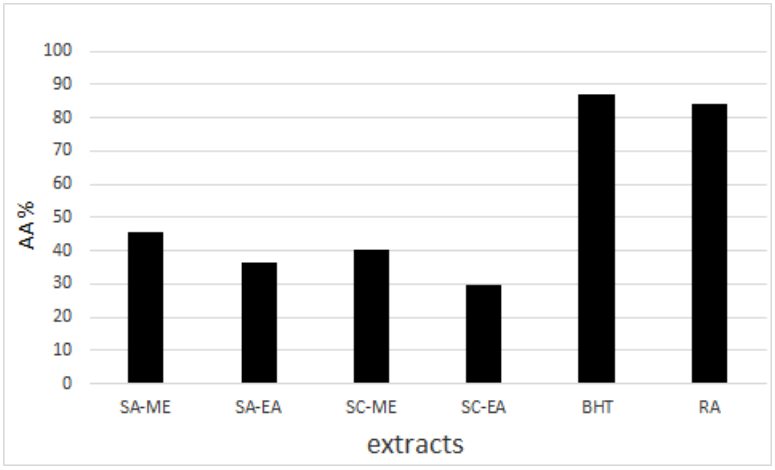
S4: Chromatogram of ethyl acetate extract of *S. aethiopis*.



S5: Chromatogram of ethyl acetate extract of *S. ceratophylla*.



S6: Radical-scavenging activities (Inhibition %) of the studied *Salvia* sp. extracts*.
**S. aethiopis* L. and *S. ceratophylla* L. methanol (SA-ME and SC-ME) and ethyl acetate (SA-EA and SC-EA) extracts; BHT: Butylated hydroxytoluene, RA: Rosmarinic acid.



S7: Antioxidant activities (AA%) of the extracts of studied *Salvia* sp. on *β*-Carotene/Linoleic acid co-oxidation*.

**S. aethiopis* L. and *S. ceratophylla* L. methanol (SA-ME and SC-ME) and ethyl acetate (SA-EA and SC-EA) extracts; BHT: Butylated hydroxytoluene, RA: Rosmarinic acid.