Electronic Supplementary Information

Phenolic compounds, fatty acid composition and antioxidant activities of some flaxseed (*Linum usitatissimum* L.) varieties: A comprehensive analysis

Content

Table S1. DPPH$^{\bullet}$ radical scavenging activities of flaxseeds and standards

Varieties	0.67	1.33	2	2.68	3.35
1	11,30 c	38.44 f	54.52 d	74.37 e	87.68 i
2	13.56 g	20.85 d	31.4 o	33.16 p	35.67 o
3	12.31 f	22.61 h	31.65 e	39.69 i	40.2 m
4	21.6 a	35.42 a	47.73 a	59.04 a	66.08 a
5	10.8 e	22.86 e	31.9 i	39.94 k	49.49 k
6	9.29 n	18.34 o	21.35 l	32.16 r	38.69 n
7	9.29 m	11.8 m	20.85 m	26.88 n	28.14 p
8	6.03 o	17.58 n	23.11 n	34.67 m	33.16 l
9	11.55 f	15.82 l	22.86 k	36.18 l	45.92 g
10	16.33 b	31.4 b	45.72 b	59.04 b	69.09 b
11	12.56 l	20.6 i	25.12 f	35.42 f	45.87 f
12	13.31 k	21.6 k	33.16 h	45.47 h	52.26 h
13	13.56 d	23.11 g	28.64 g	33.41 g	44.22 d
14	13.56 i	21.1 c	24.87 b	31.9 c	29.64 c
15	15.82 h	24.87 e	35.42 c	52.26 d	48.99 e

Table S2. ABTS$^{\bullet+}$ radical scavenging activities of flaxseeds and standards

Varieties	0.2	0.4	0.6	0.8	1
1	11.75 c	17.7 f	24.07 e	30.59 e	27.05 i
2	9.63 g	18.83 d	14.58 p	19.54 o	21.95 p
3	9.91 f	16.57 h	23.93 f	25.67 i	24.22 m
4	25.77 a	40.93 a	52.97 a	58.49 a	70.25 a
5	10.19 e	18.41 e	20.39 k	25.35 k	26.06 k
6	6.94 n	11.47 o	18.69 m	19.26 p	23.79 n
7	7.22 m	13.31 l	17.56 n	21.81 n	23.67 o
8	6.09 a	13.03 n	16.85 o	22.37 m	24.64 l
9	9.91 f	13.59 m	19.83 l	23.79 l	32.66 g
10	13.31 b	23.22 b	31.01 b	37.81 b	45.41 b
11	8.35 l	15.29 i	22.94 g	29.03 f	33.14 f
12	8.64 k	14.02 k	20.67 i	25.92 h	30.35 h
13	10.33 d	16.85 g	22.66 h	28.61 g	36.77 d
14	9.34 i	22.52 c	30.59 c	32.57 c	37.81 c
15	9.49 h	18.41 e	25.63 d	31.3 d	35.12 e

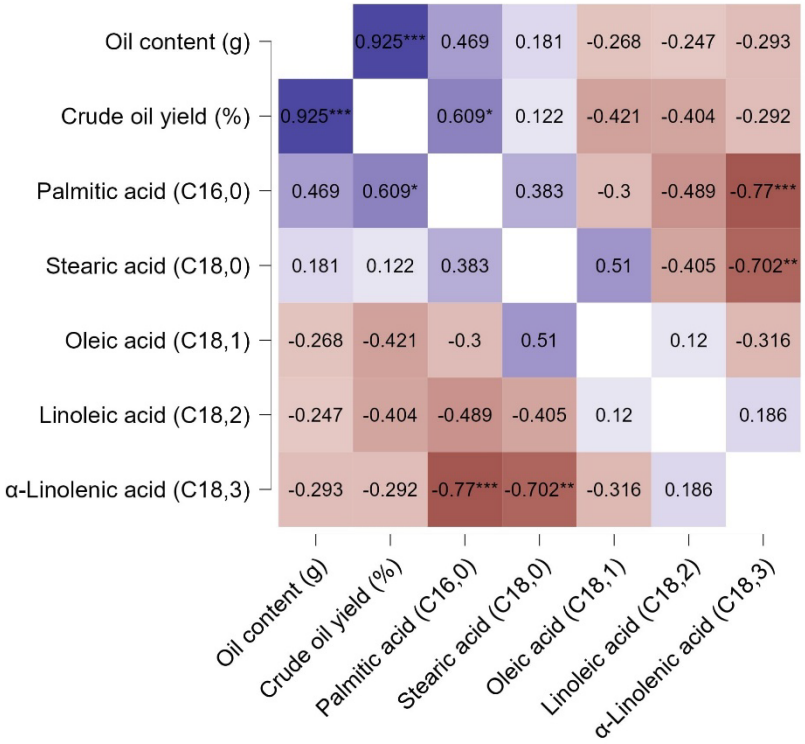


Fig. S1a. Correlation analysis of fatty acid of flaxseed cultivars

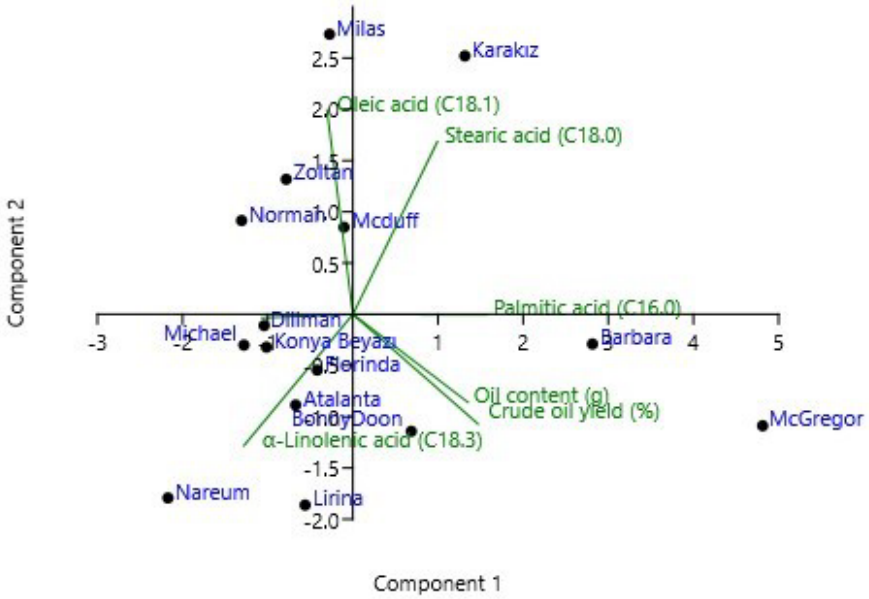


Fig. S2a. Principal Component Analysis (PCA) of fatty acid of flaxseed cultivars

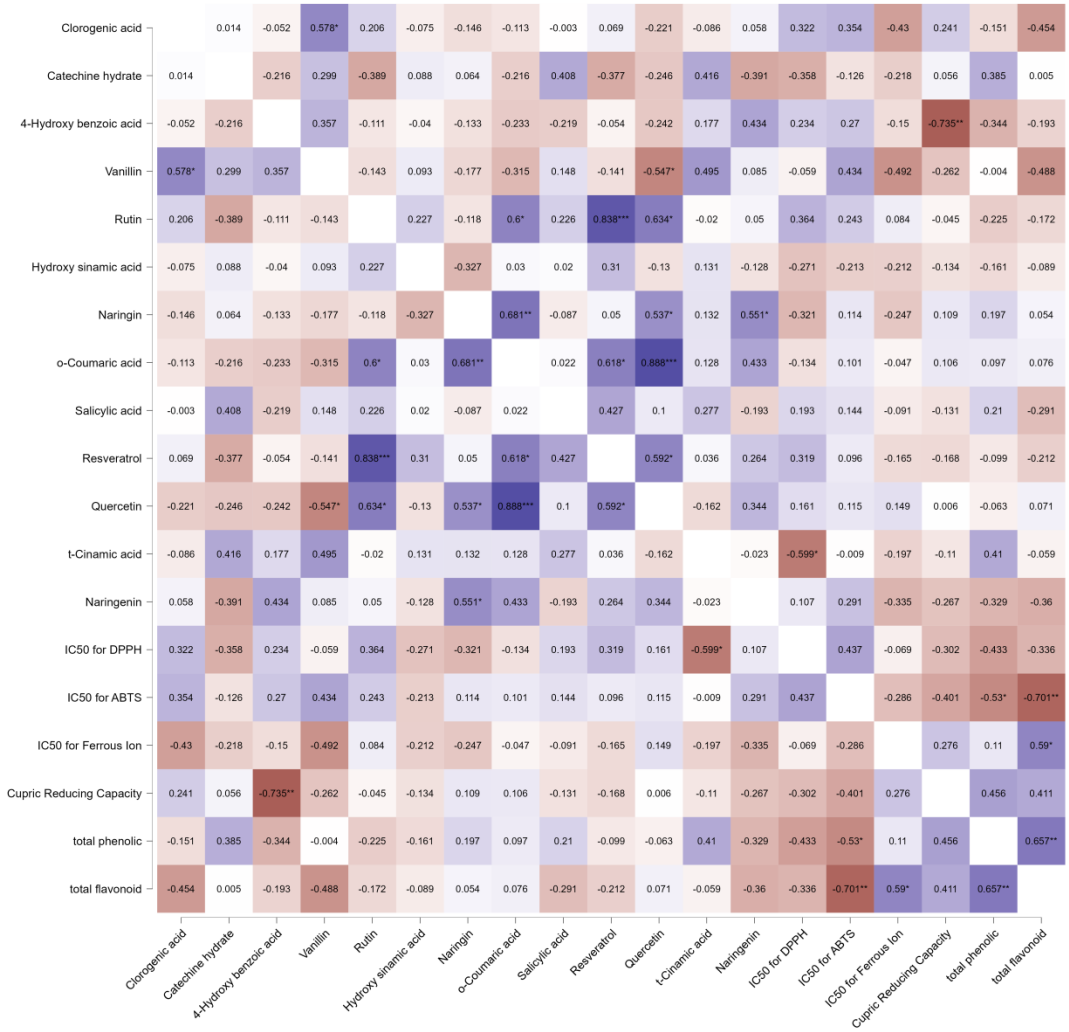


Fig. S3a. Correlation analysis of phenolic compounds of flaxseed cultivars

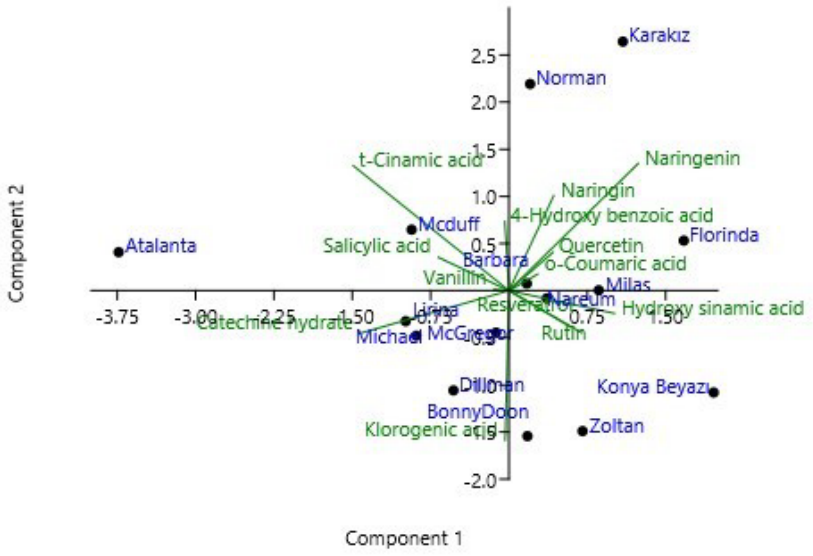


Fig. S4a. Principal Component Analysis (PCA) of phenolic compounds of flaxseed cultivars

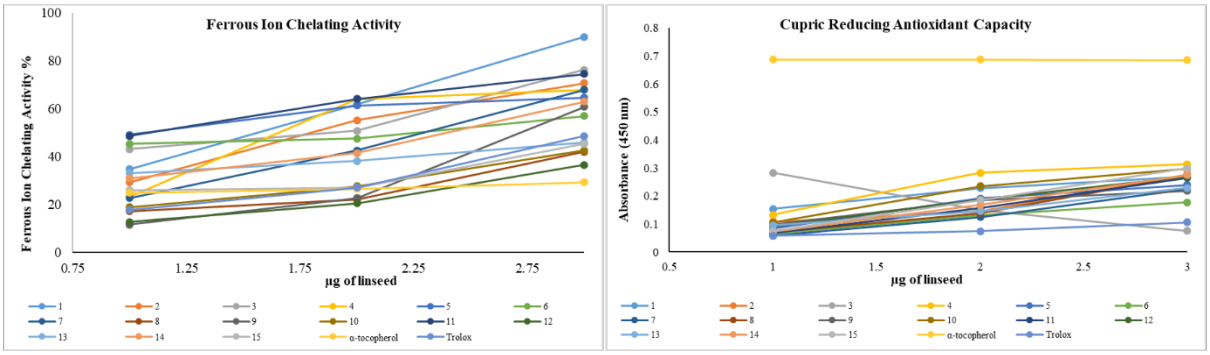


Fig. S5a. Ferrous ion chelating activity and Cupric ion reducing antioxidant capacity of flaxseed extracts

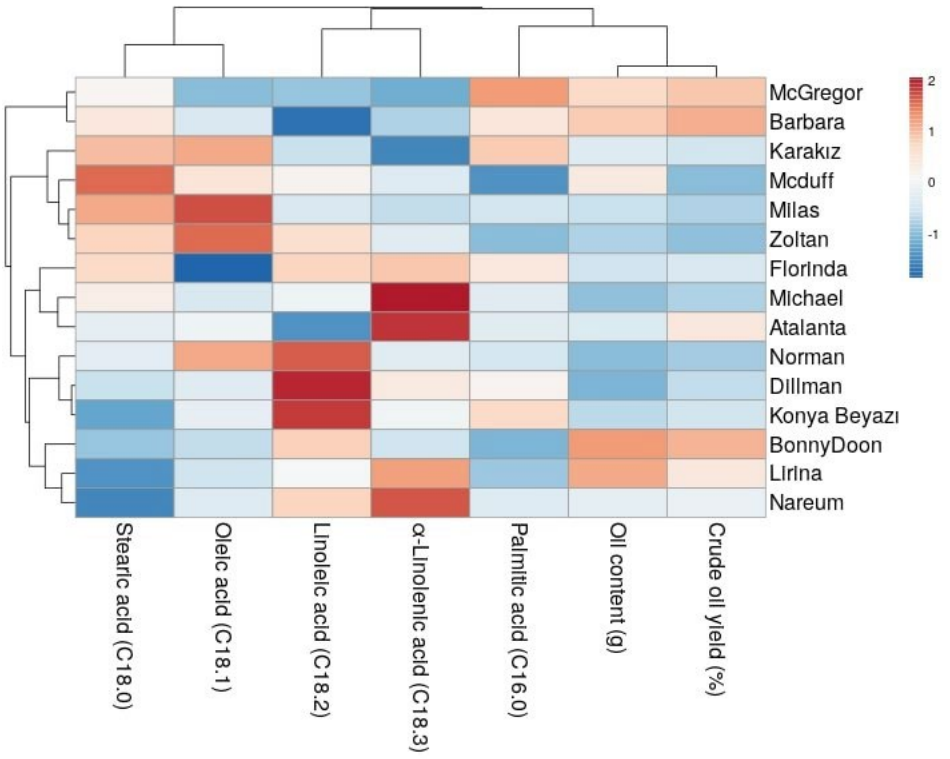


Fig. S6a. Heat-map clustering of fatty acid of flaxseed cultivars

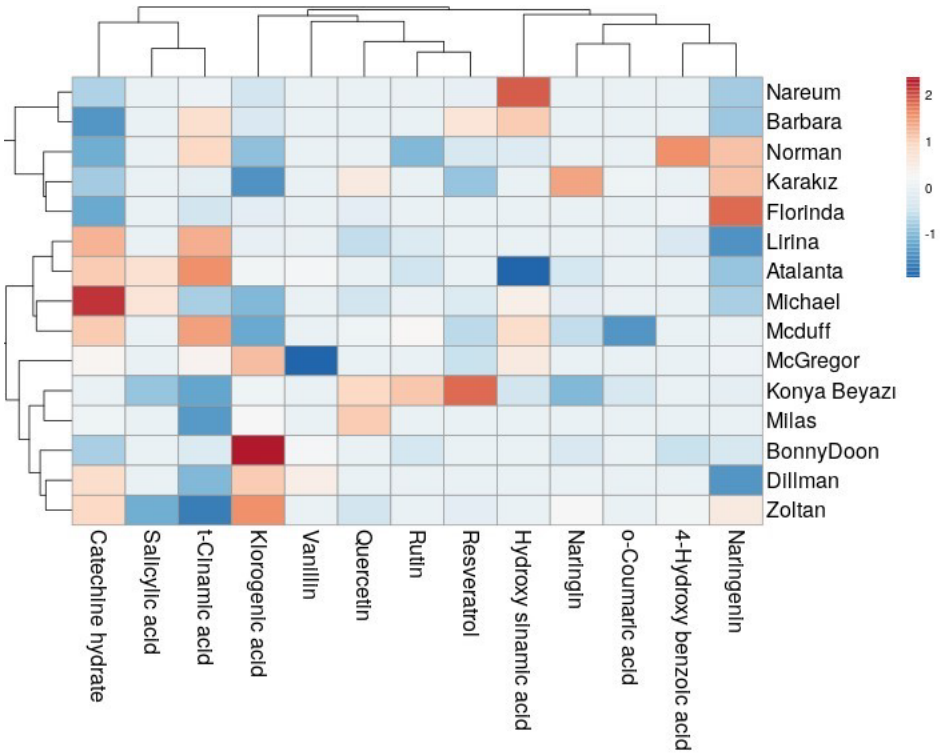


Fig. S7a. Heat-map clustering of phenolic compounds of flaxseed cultivars

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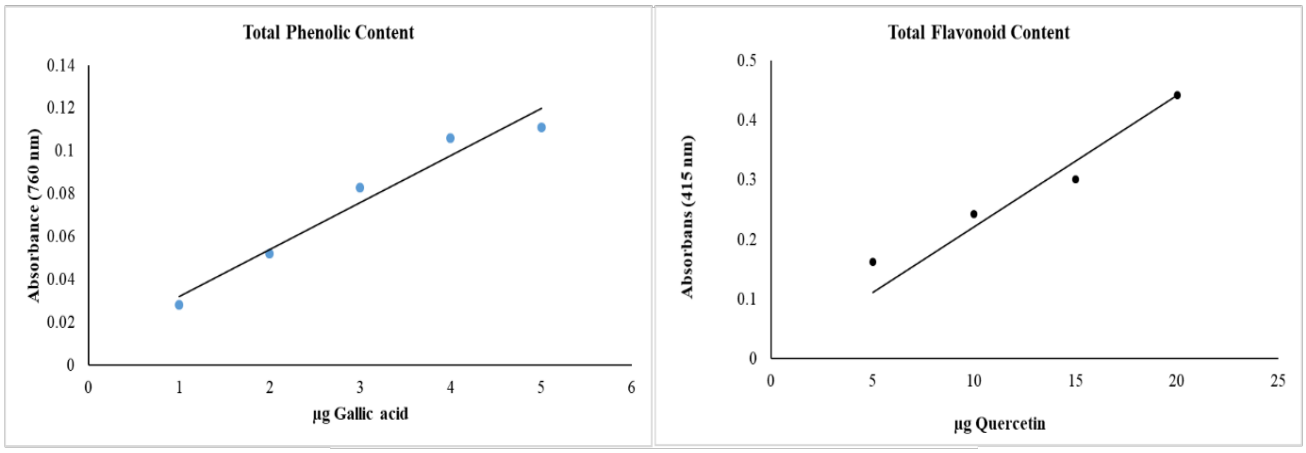


Figure S1. Total phenolic content and total flavonoid content of flaxseed extracts

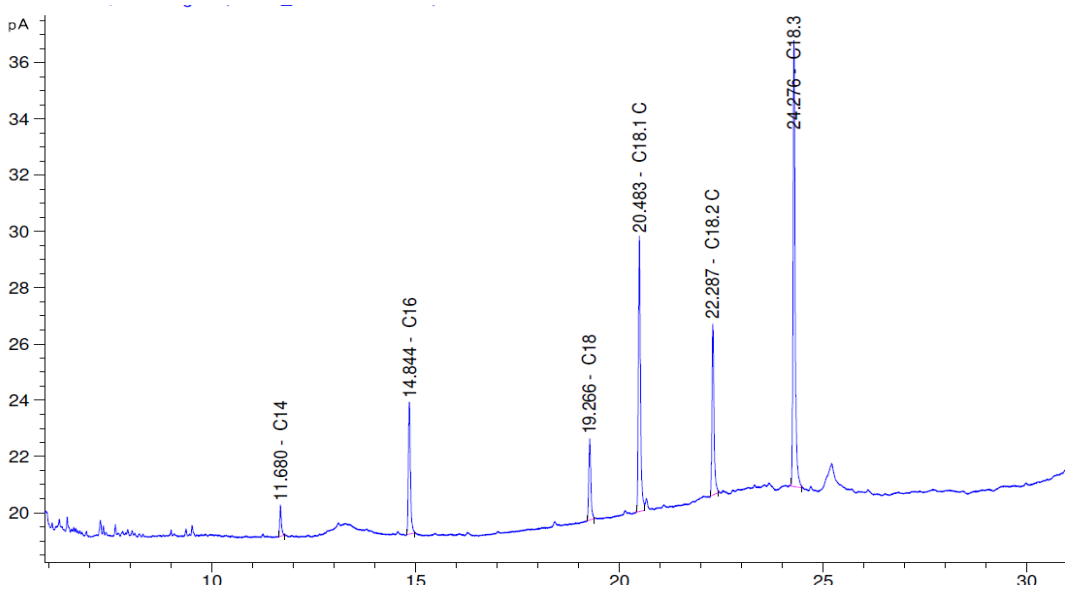


Figure S2. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Karakız

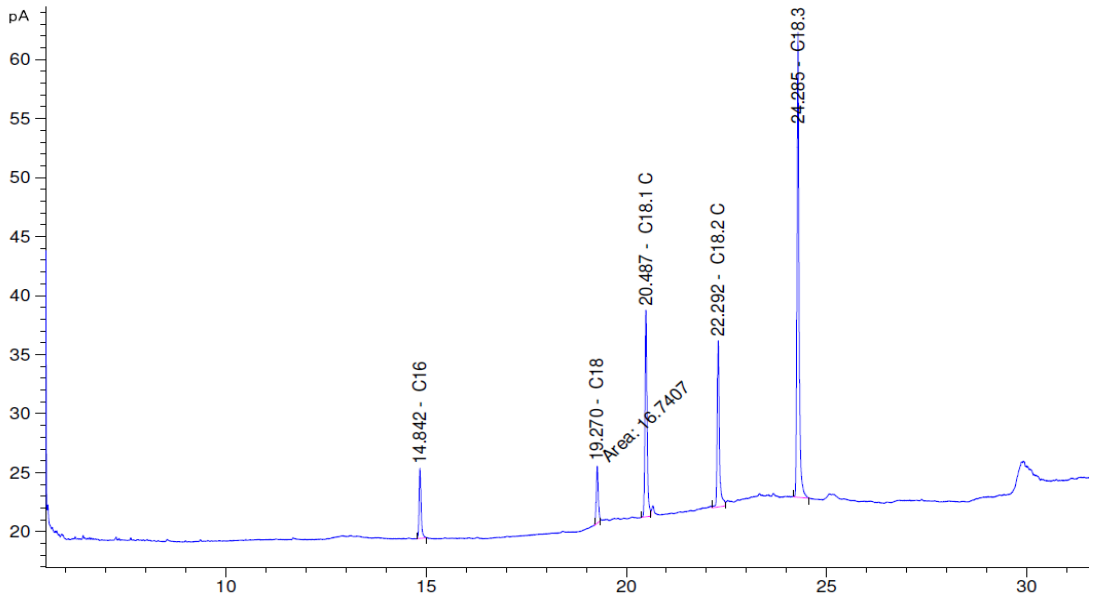


Figure S3. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, BonnyDoon

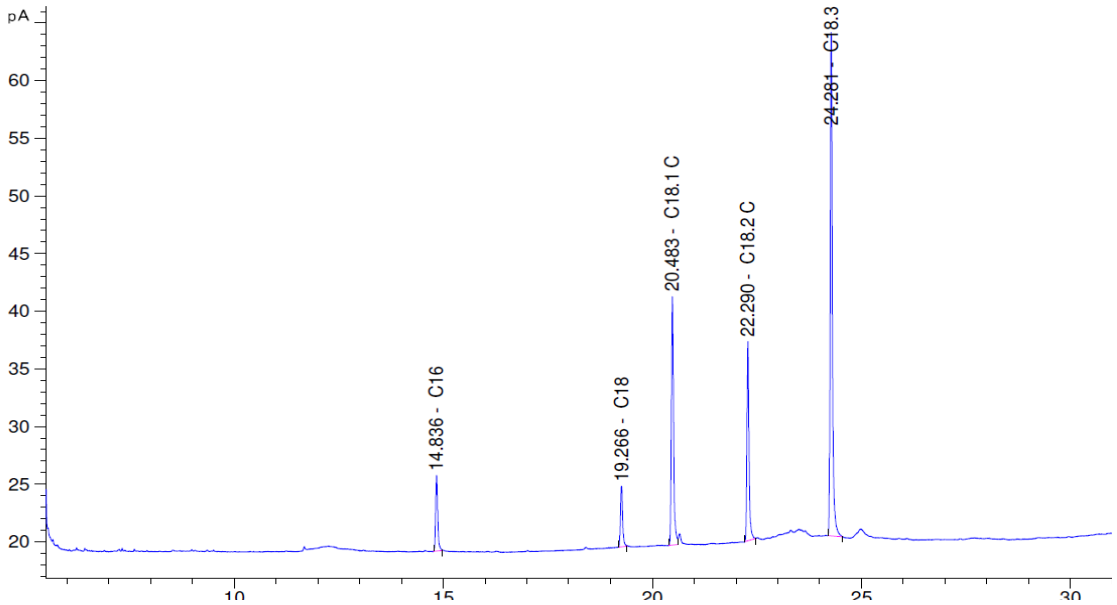


Figure S4. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Norman

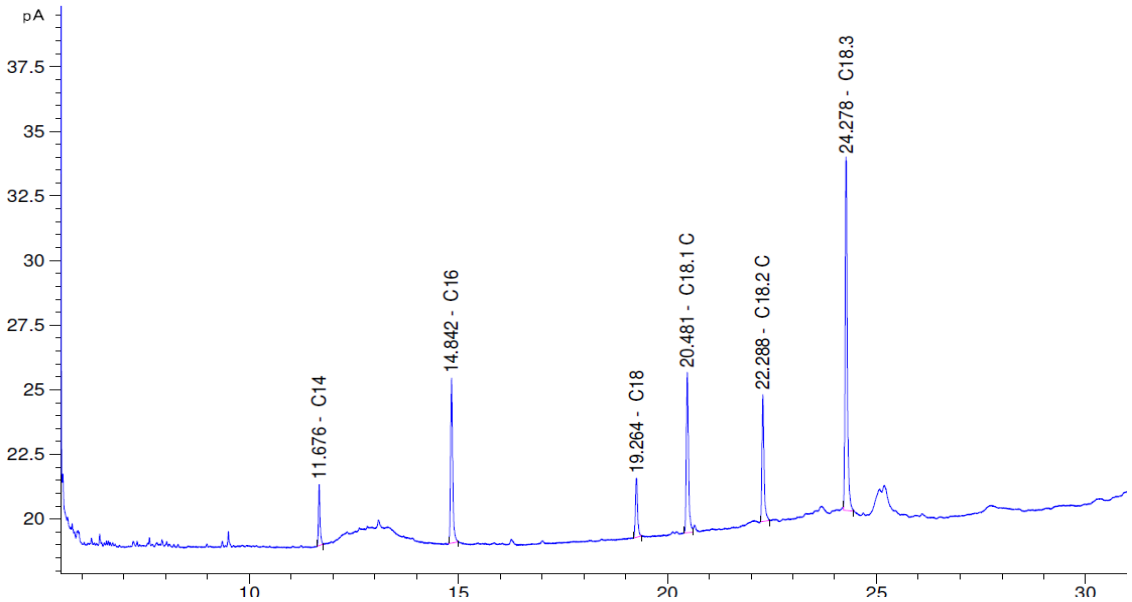


Figure S5. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, McGregor

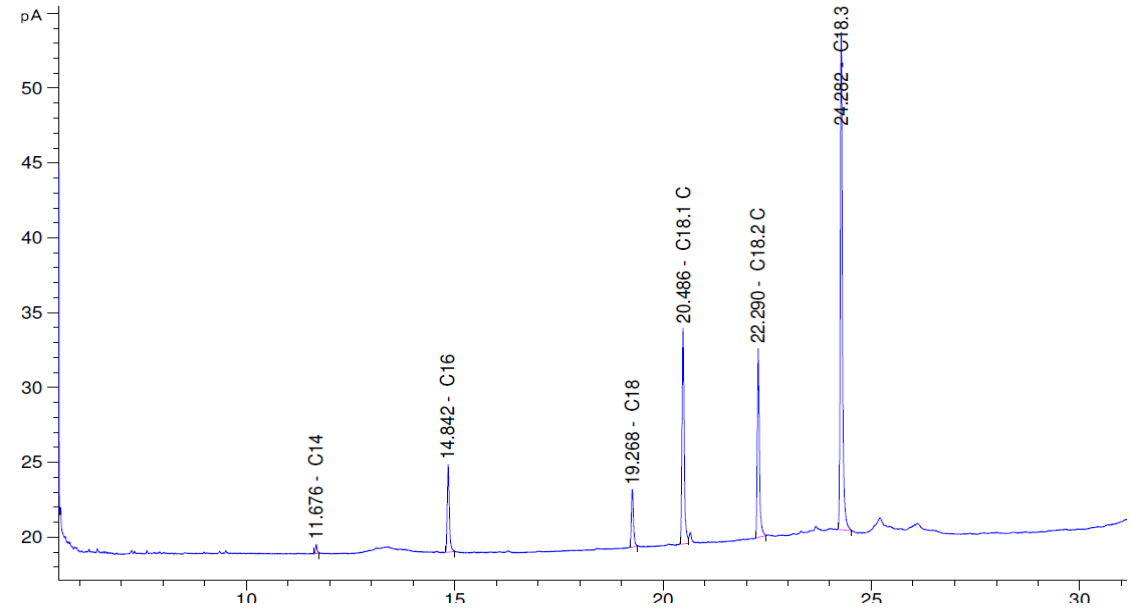


Figure S6. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Dillman

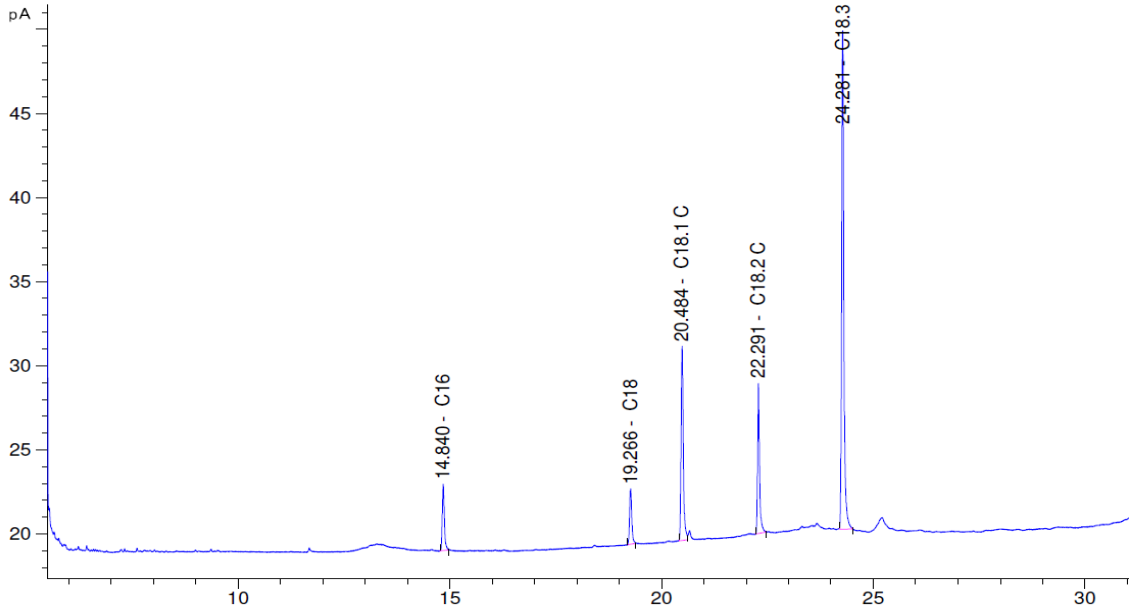


Figure S7. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Michael

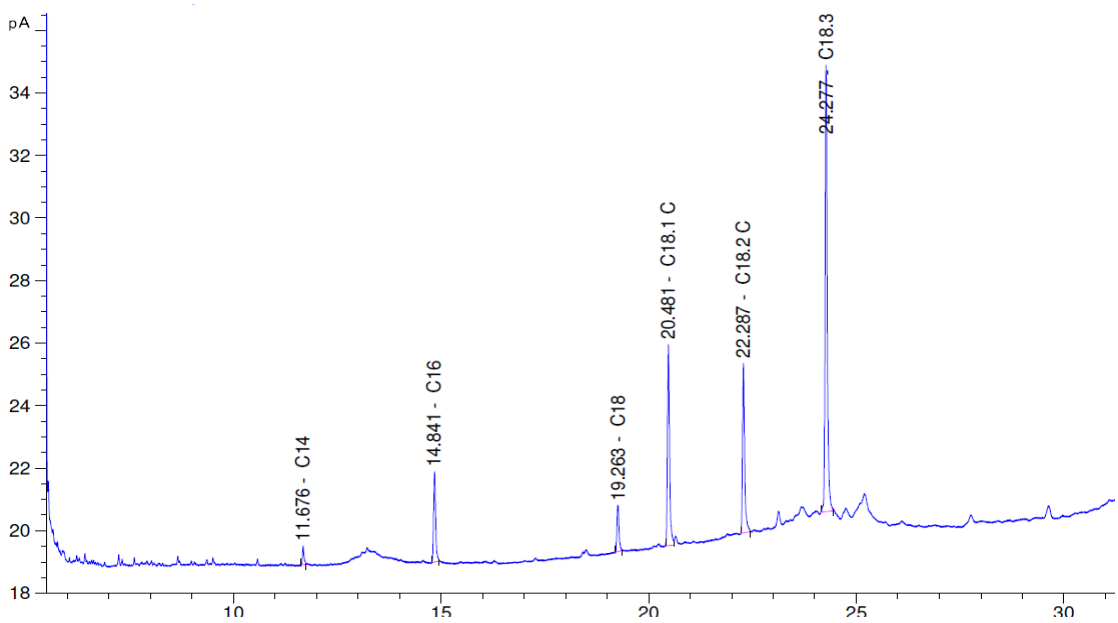


Figure S8. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Konya Beyazı

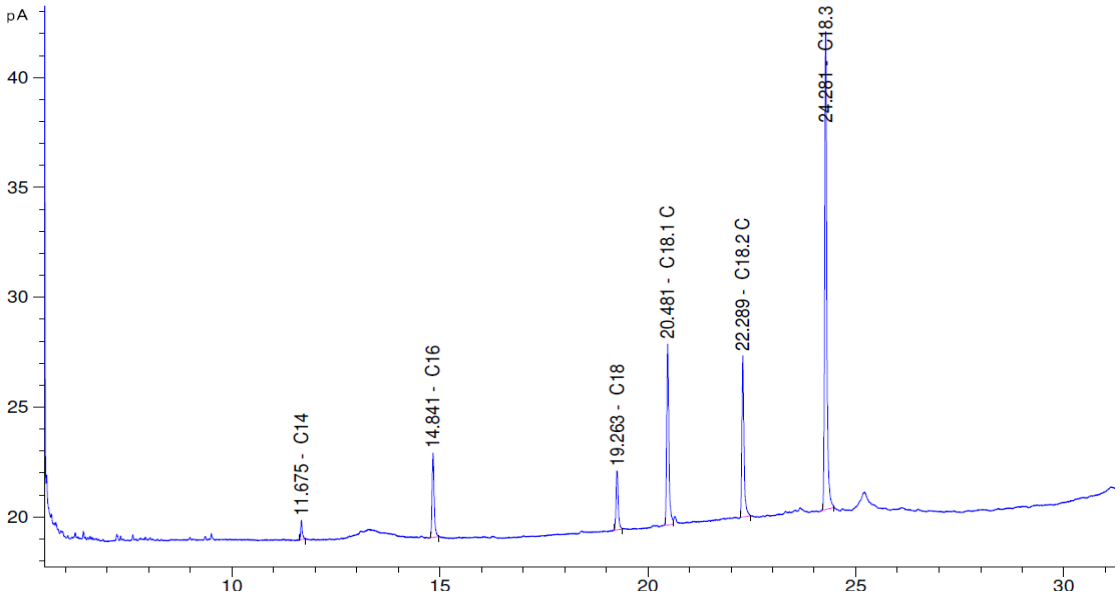


Figure S9. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Florinda

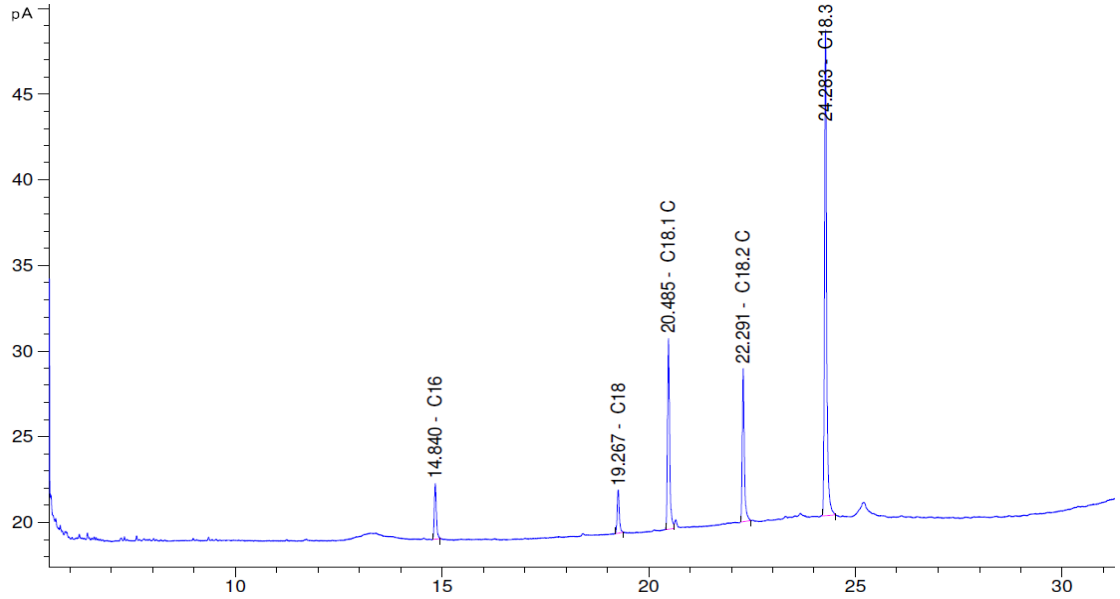


Figure S10. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Lirina

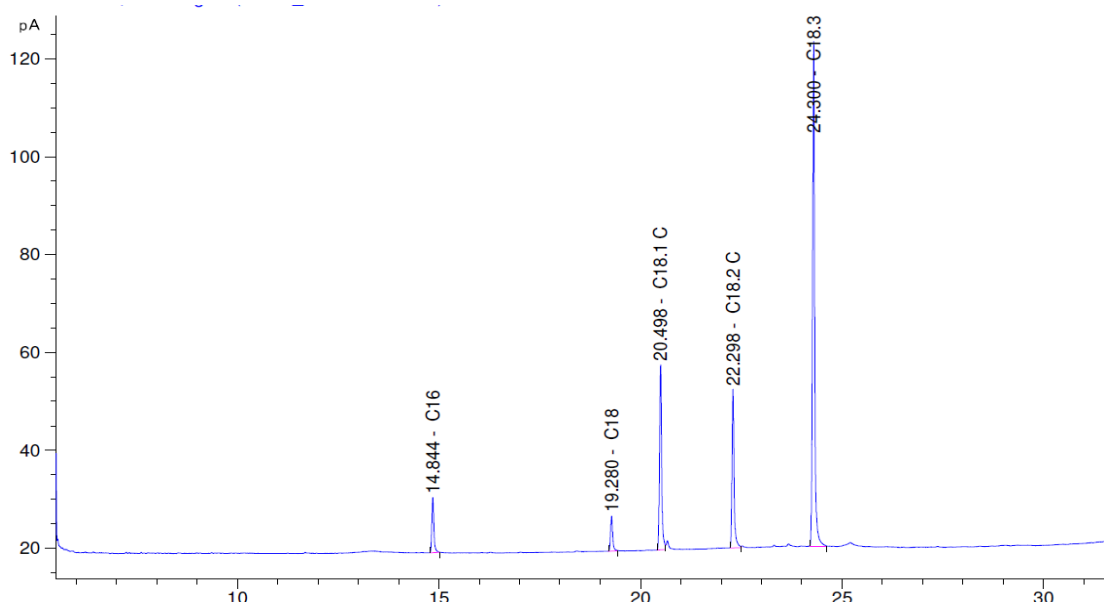


Figure S11. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Nareum

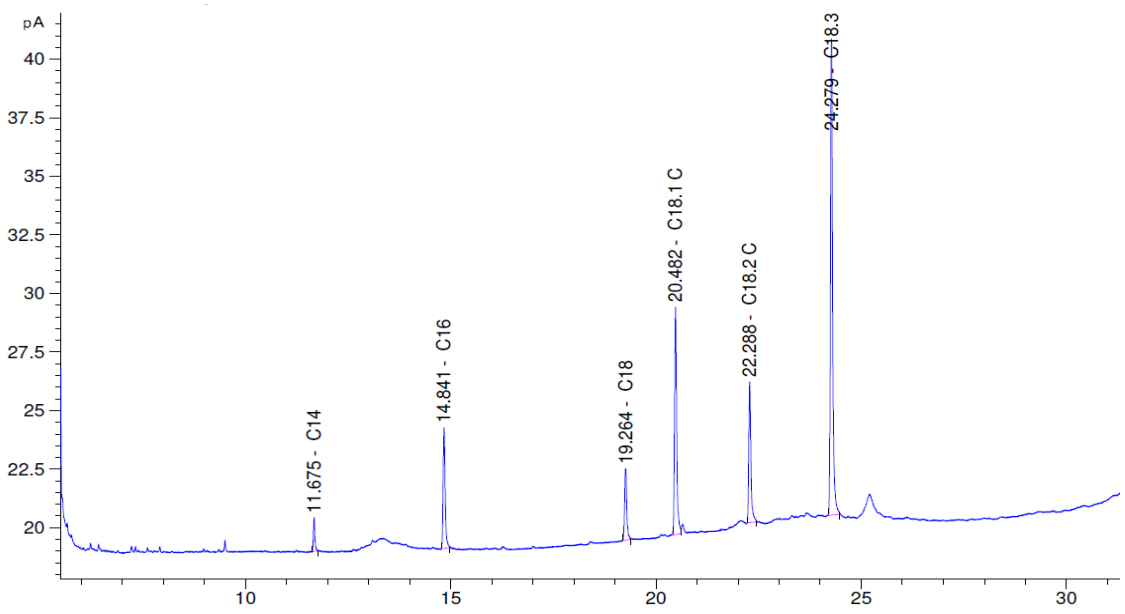


Figure S12. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Barbara

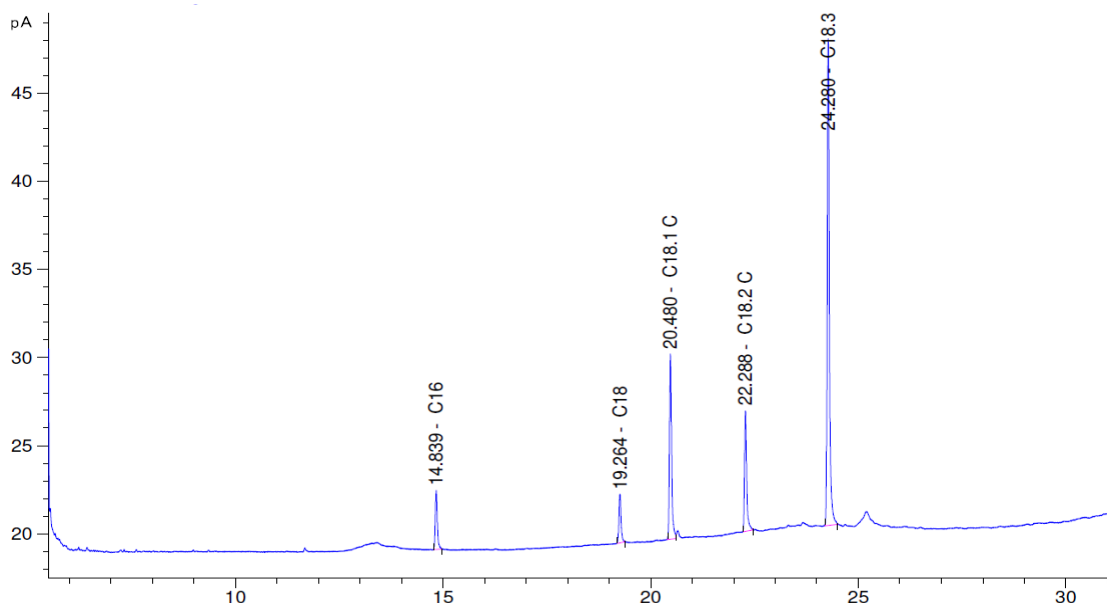


Figure S13. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Atalanta

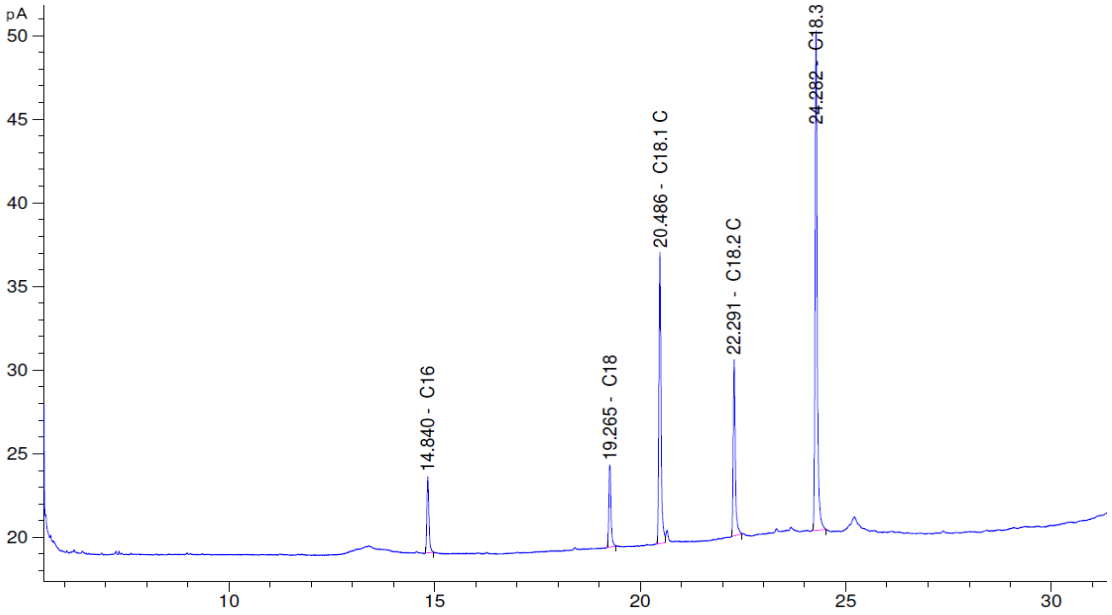


Figure S14. GC-FID graphics of fatty acid of flaxseed (*Linum usitatissimum* L.) cultivar, Milas

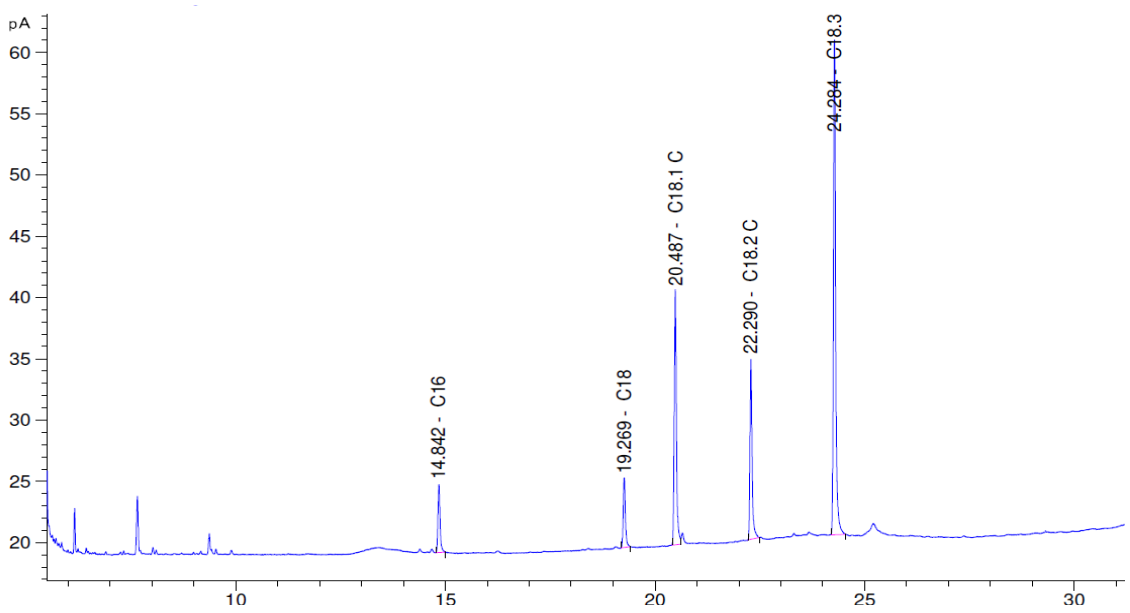


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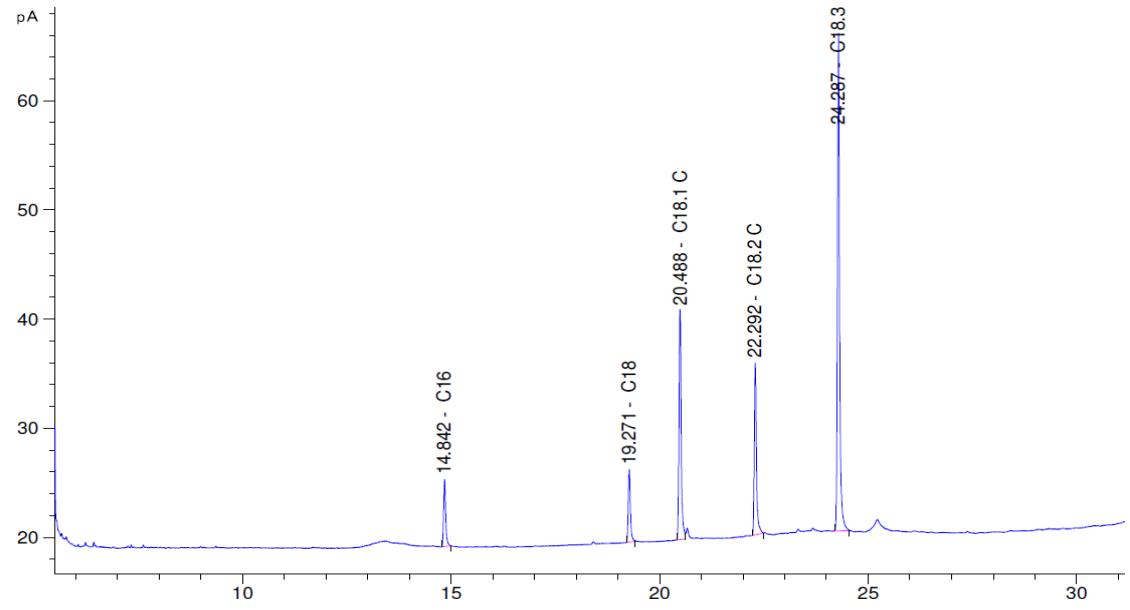


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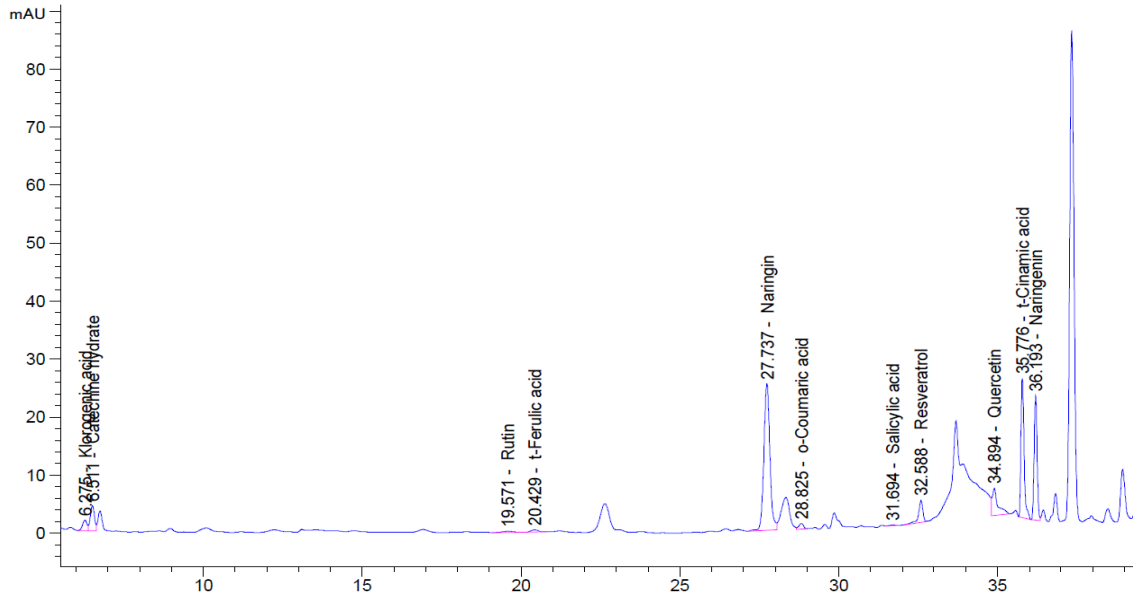


Figure S17. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Karakız

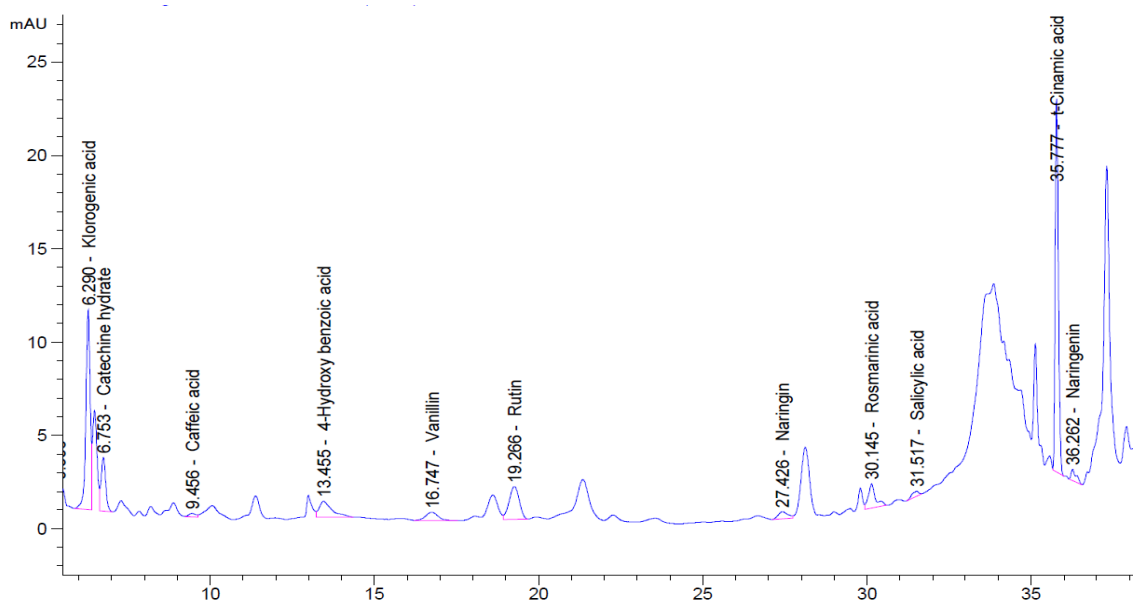


Figure S18. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, BonnyDoon

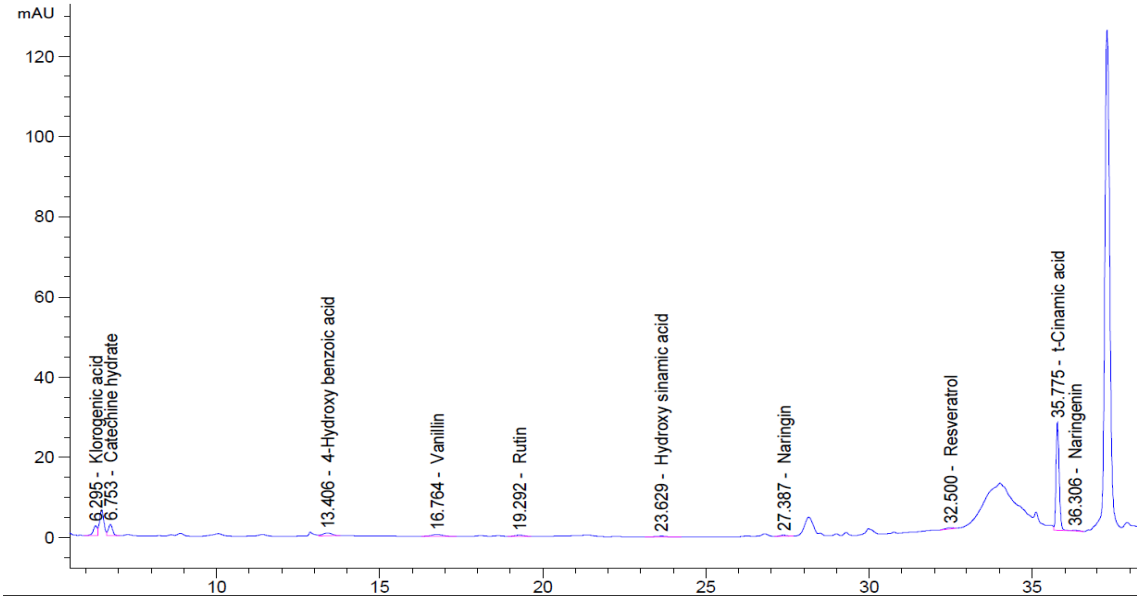


Figure S19. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Norman

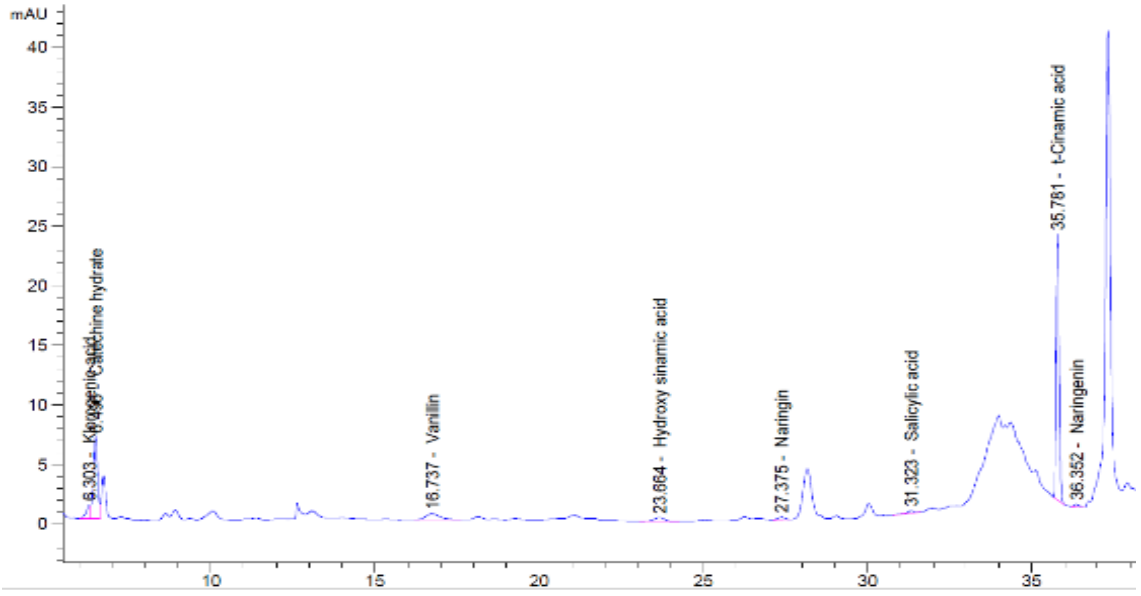


Figure S20. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, McGregor

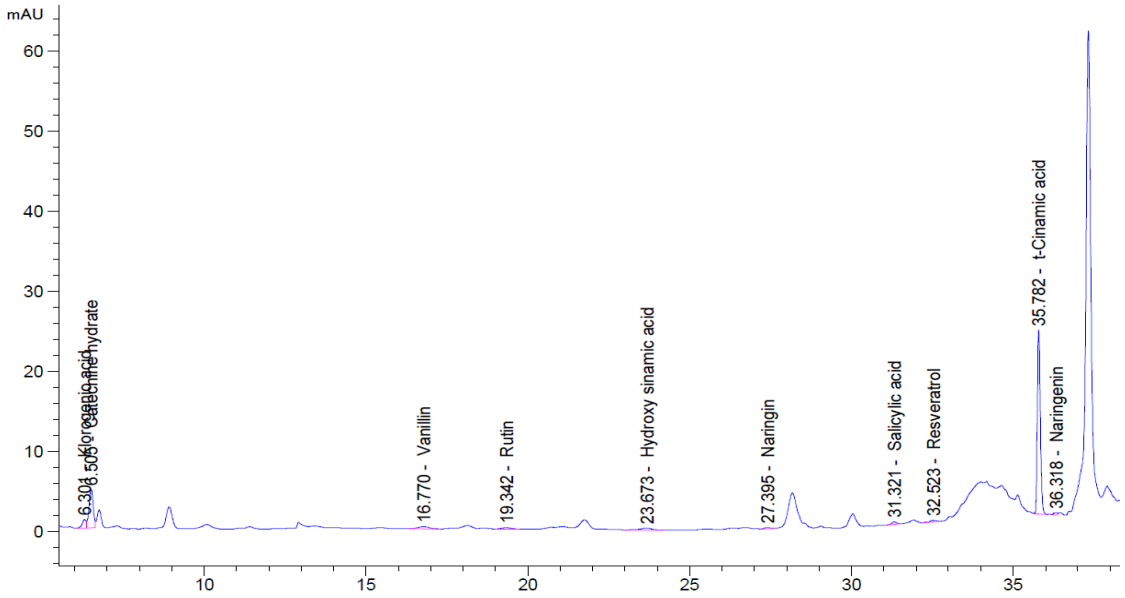


Figure S21. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Dillman

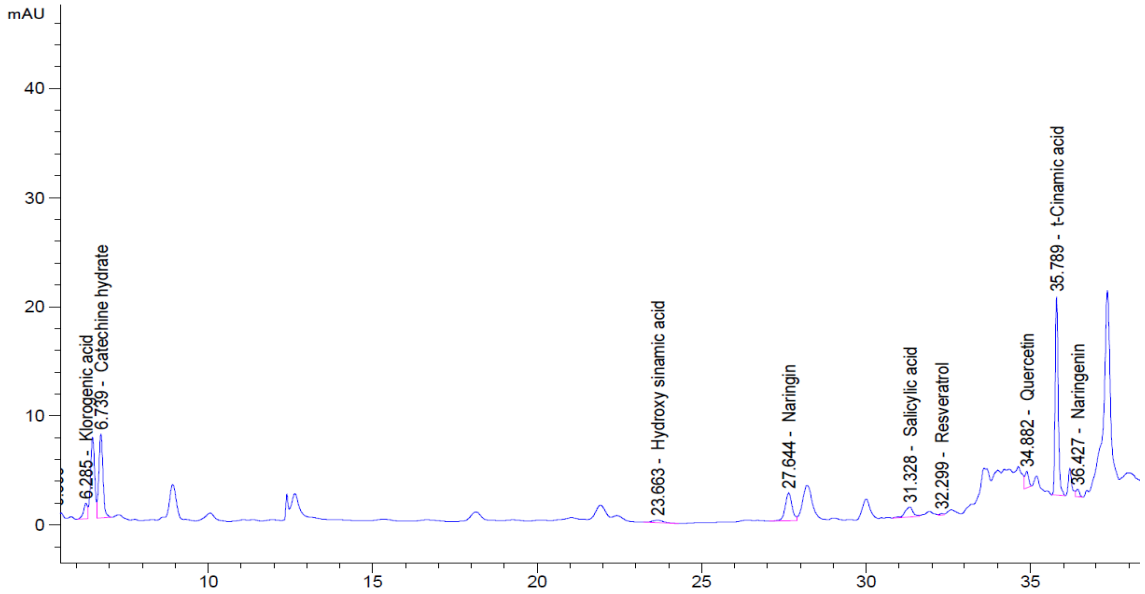


Figure S22. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Michael

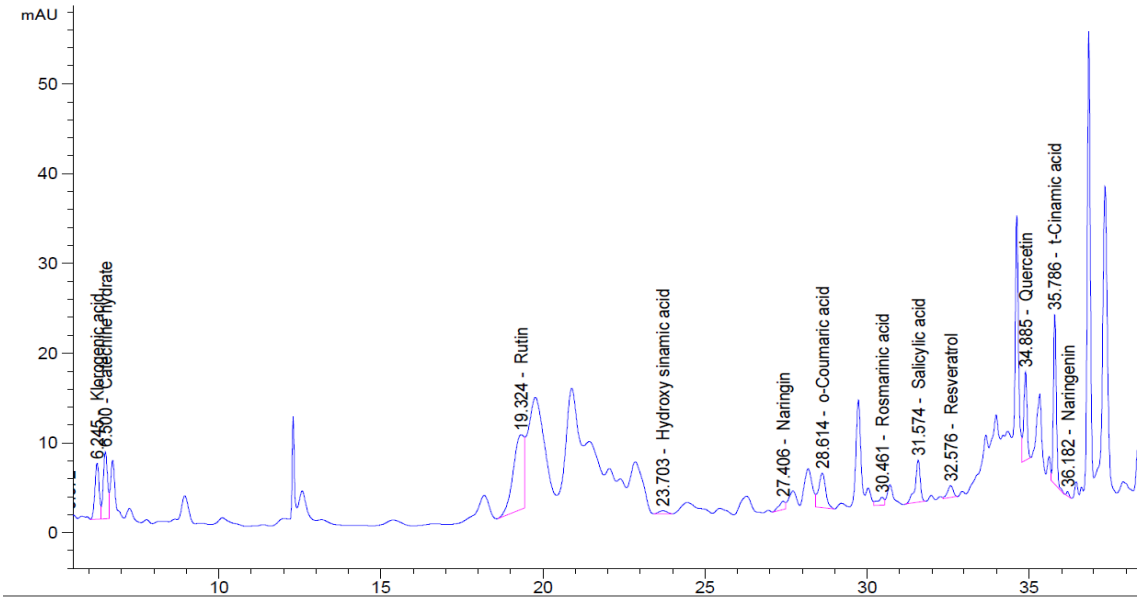


Figure S23. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Konya Beyazı

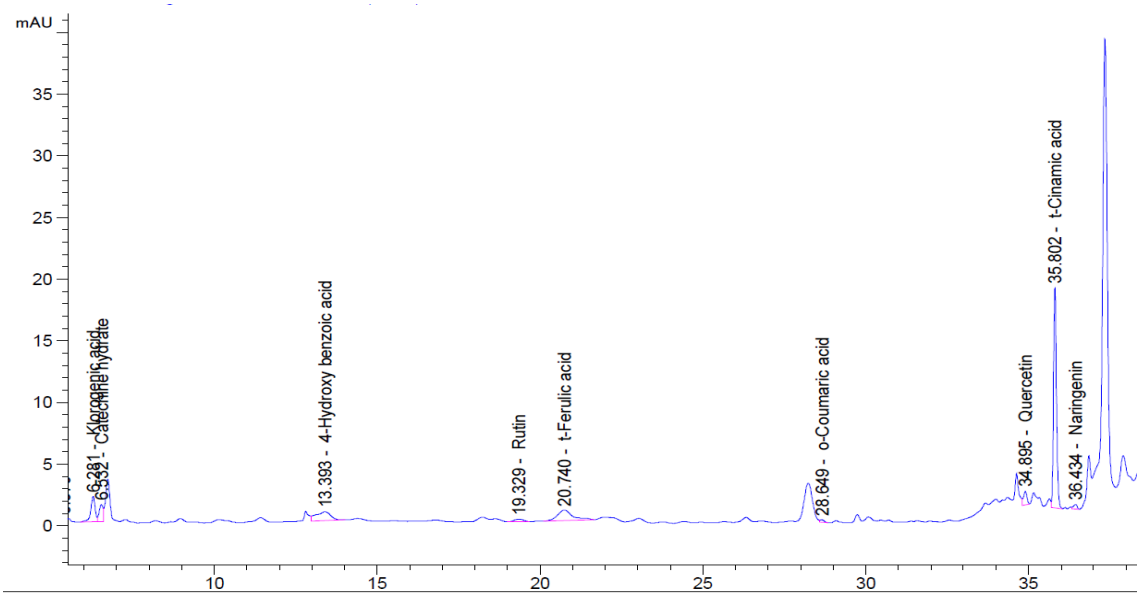


Figure S24. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Florinda

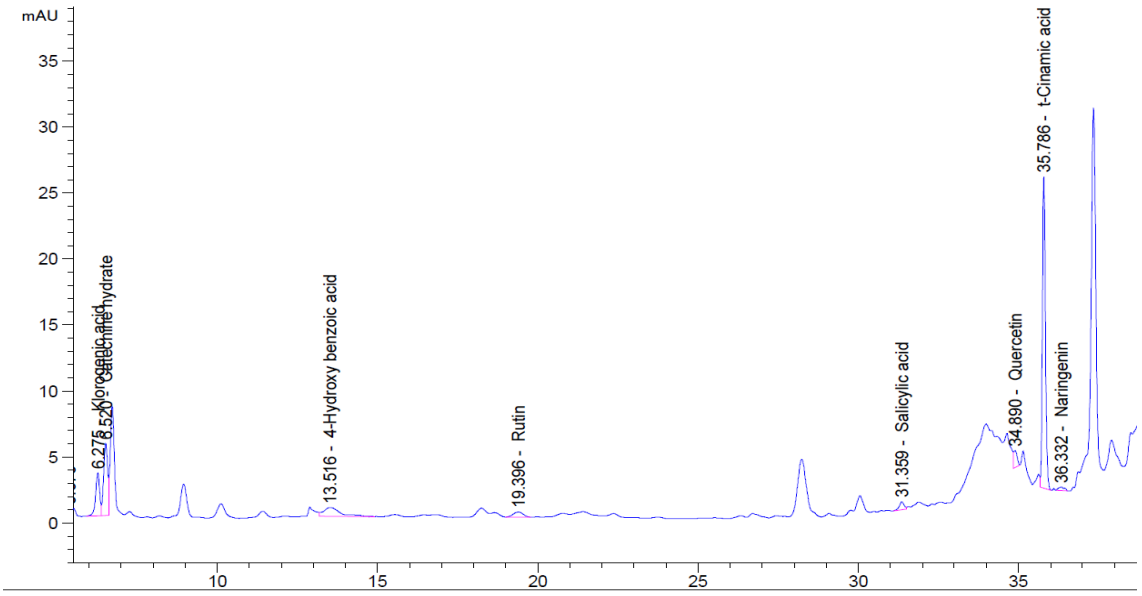


Figure S25. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Lirina

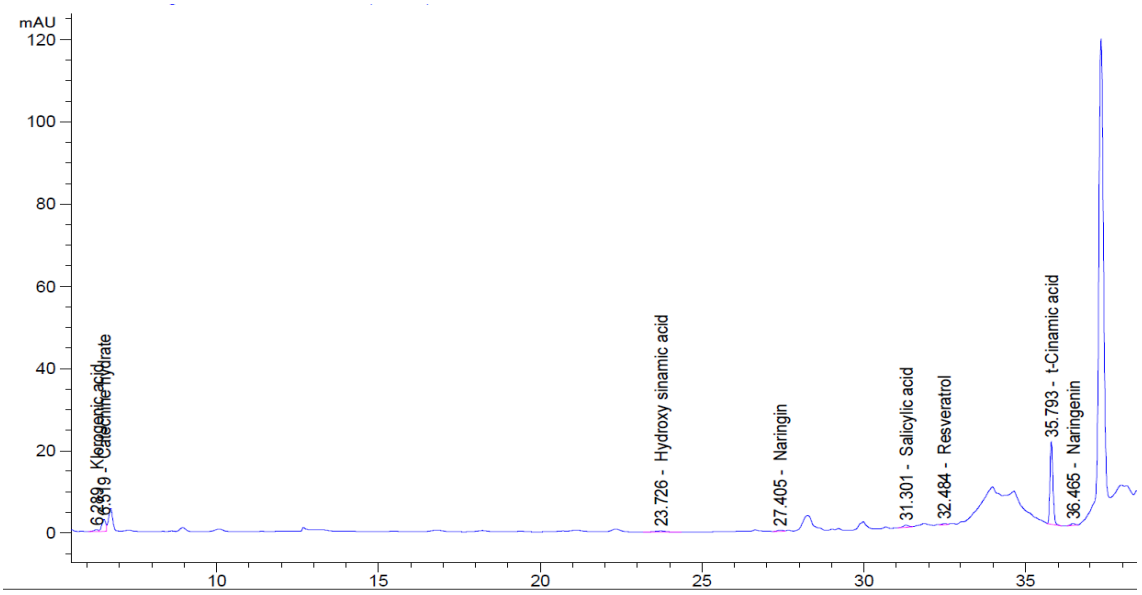


Figure S26. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Nareum

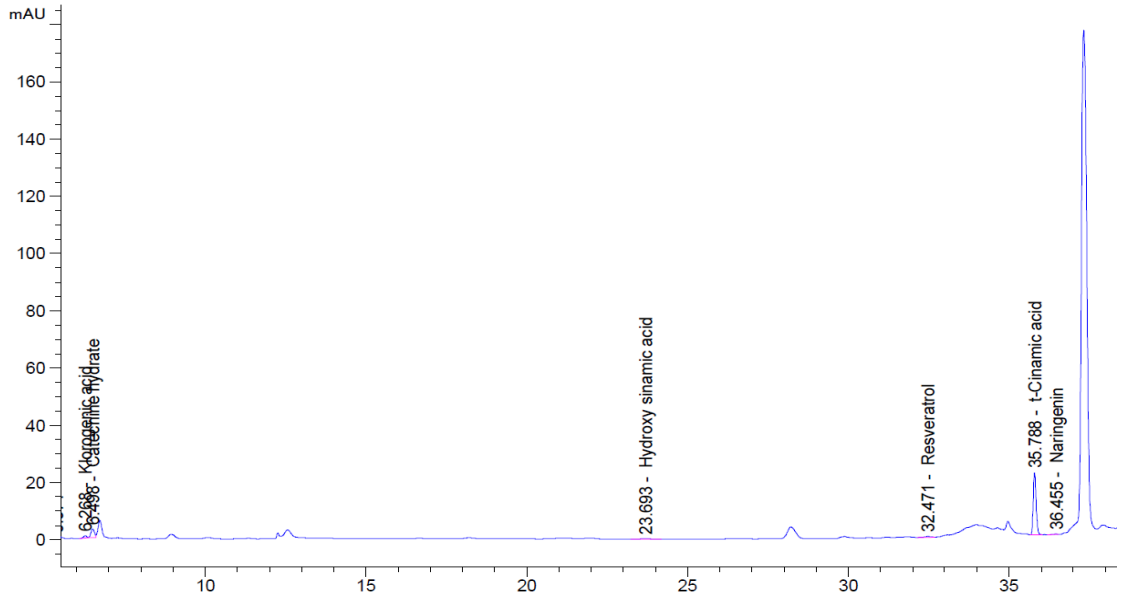


Figure S27. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Barbara

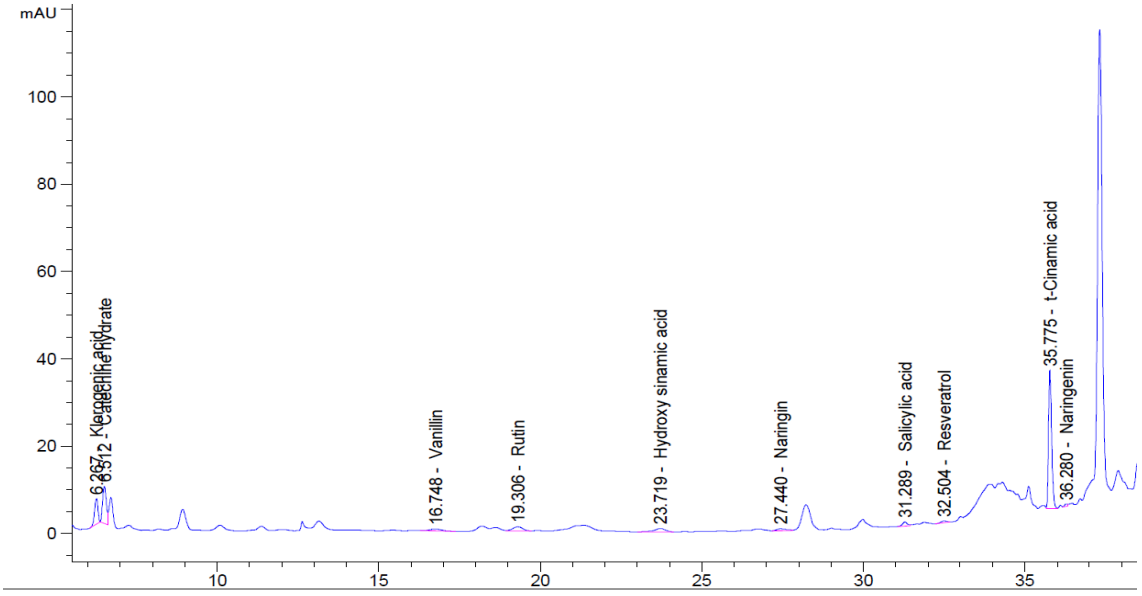


Figure S28. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Atalanta

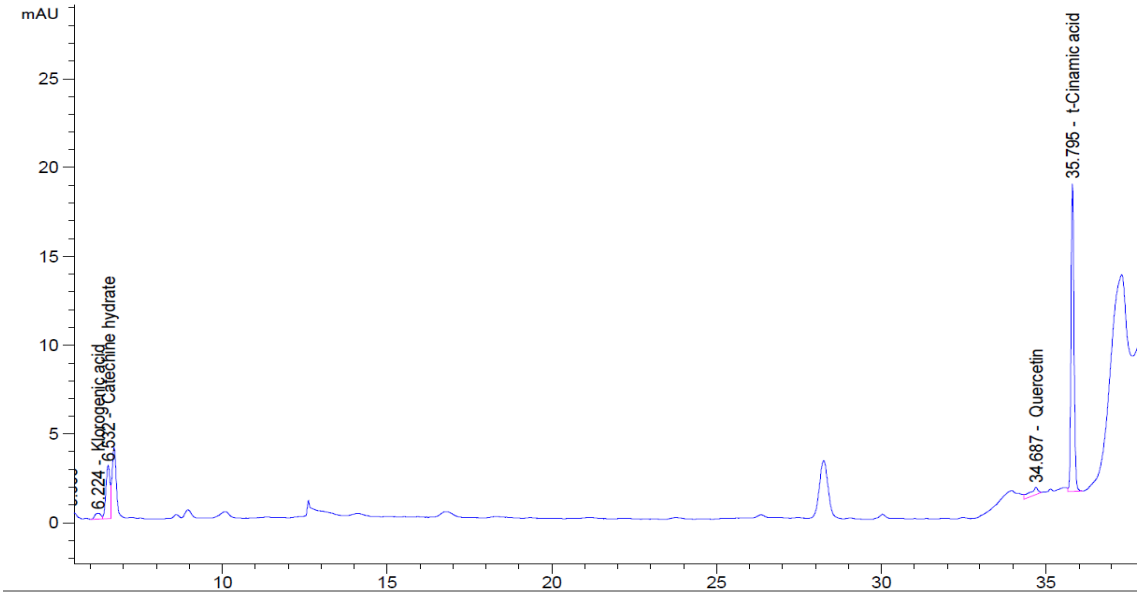


Figure S29. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Milas

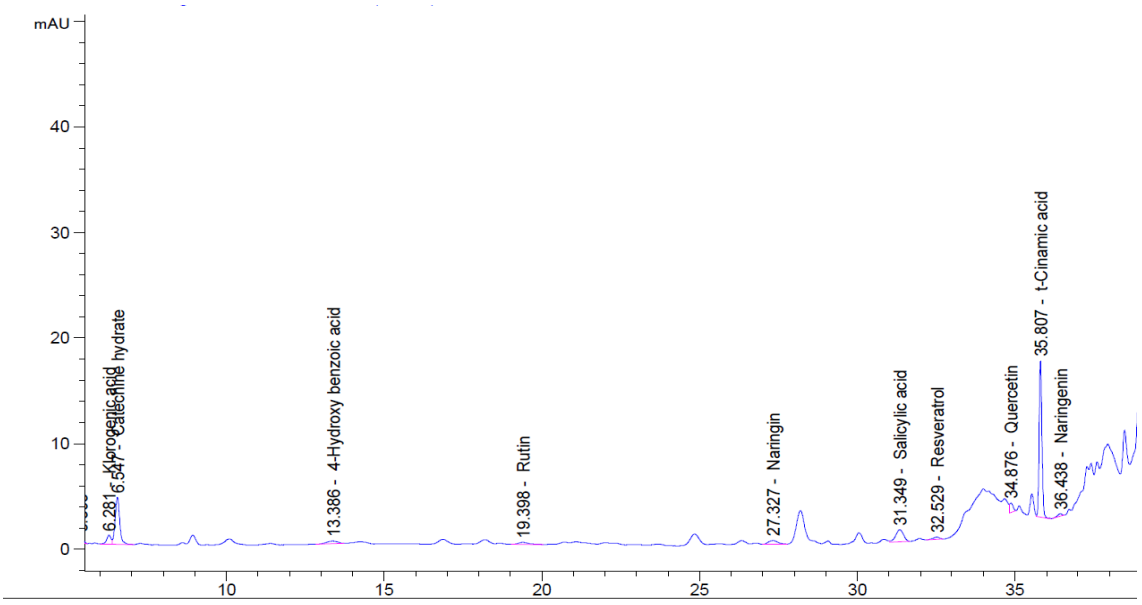


Figure S30. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Zoltan

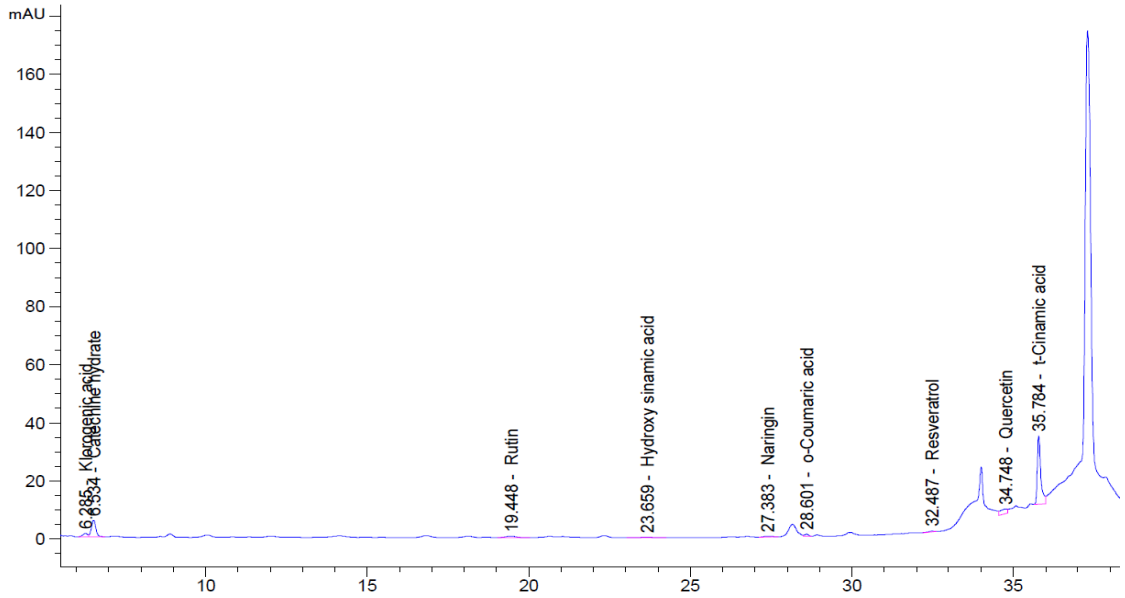


Figure S31. HPLC graphics of phenolic compounds of flaxseed (*Linum usitatissimum* L.) cultivar, Mcduff