Supplementary information

A novel EI-GC/MS method for the quantification of anti-aging compound oleoyl ethanolamine in C. elegans

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Table S1: Comparison of previous OEA quantification methodologies using GC/MS and LC-MS

Derivatization	Ionization	Mass analyzer	Diagnostic fragment	Biological sample	LOQ	Precision	References
BSTFA	CI(+)	QQQ	470, 398, 308	Mice brain	N.R.	N.R.	1
BSTFA	EI	Ion trap	$[M+H-90]^+$	*C. elegans*	N.R.	N.R.	2
Acetylation	EI	QQQ	[M+H-43]+ [M+H-60]+	Cell culture	5 pmol	N.R.	3
	ESI (-)	QQQ	$[M+H]^+$ $[M+Na]^+$	Rat blood plasma	1.25 pmol	14%	4
	ESI(+)	QQQ	$[M+H]^+$	Standards	34 pmol	N.R.	5
	ESI(+)	QQQ	62	Human plasma	1.12 pmol	12%	6
	ESI(+)	QQQ	62	Human brain	500 pmol	7.9%	7

N.R. indicate not reported.

Figure S1: ESI MS/MS spectrum of OEA. The tandem mass spectra is composed by only three ions, the precursor ion of OEA at *m/z* 326.31, the ion at *m/z* 309.28 is formed after the water loss

Figure S2: GC separation of OEA isomers. The three isomers (100ng) were injected into the GC-MS. A targeted SIM was performed at *m/z* 397.3 Chromatograms are reported for PeEA(blue), OEA (red) and VAE(green).

Figure S1

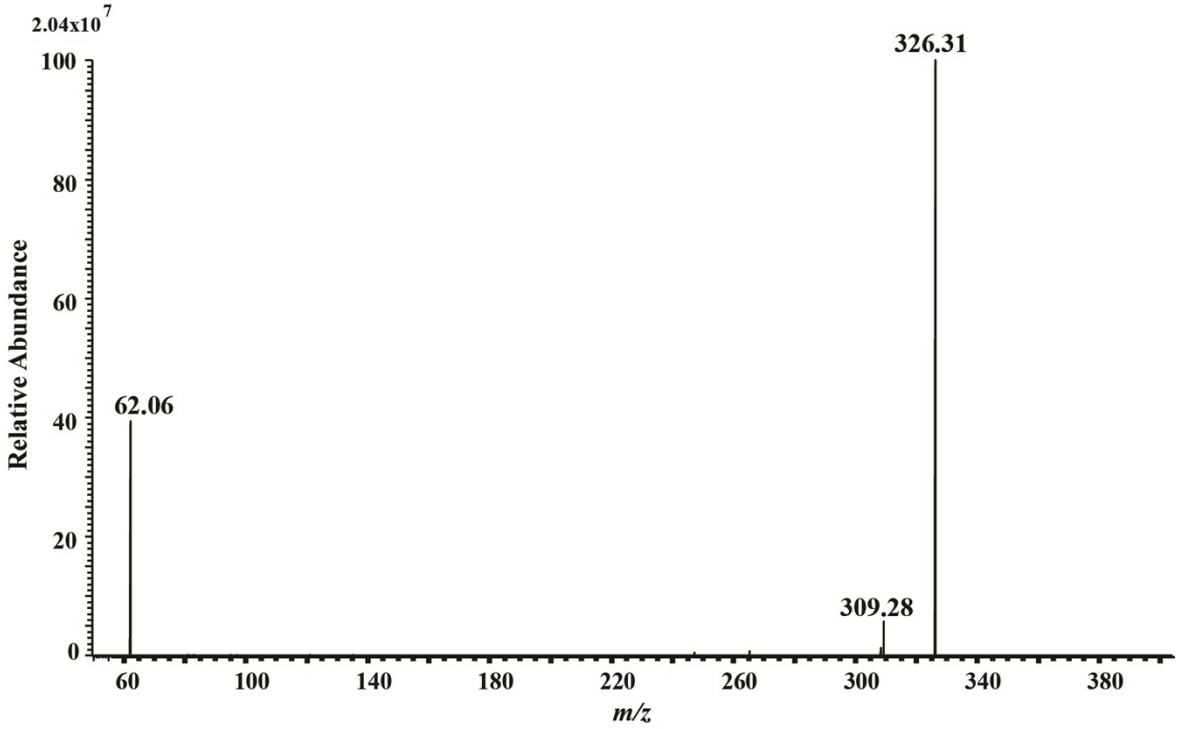
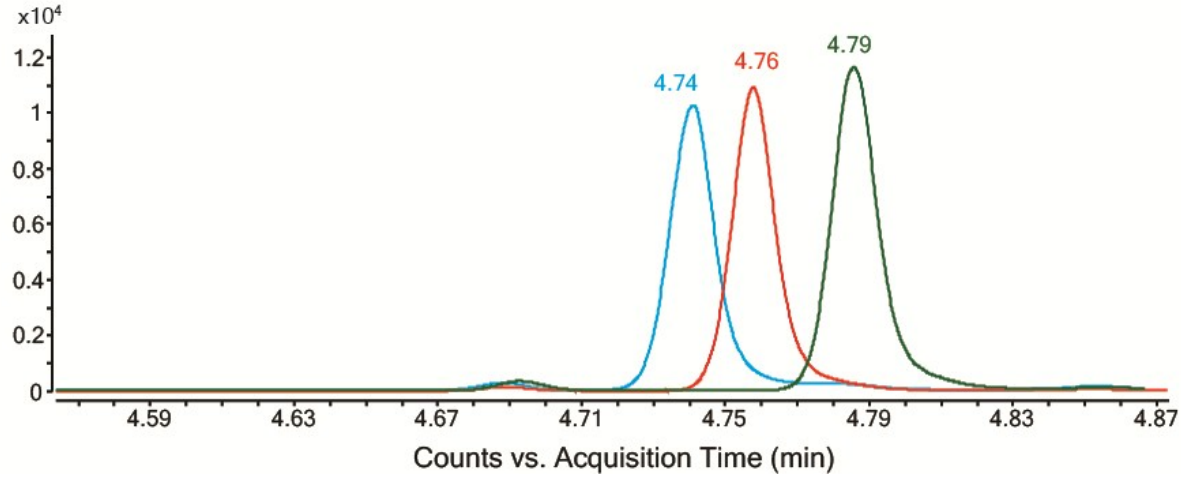


Figure S2



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