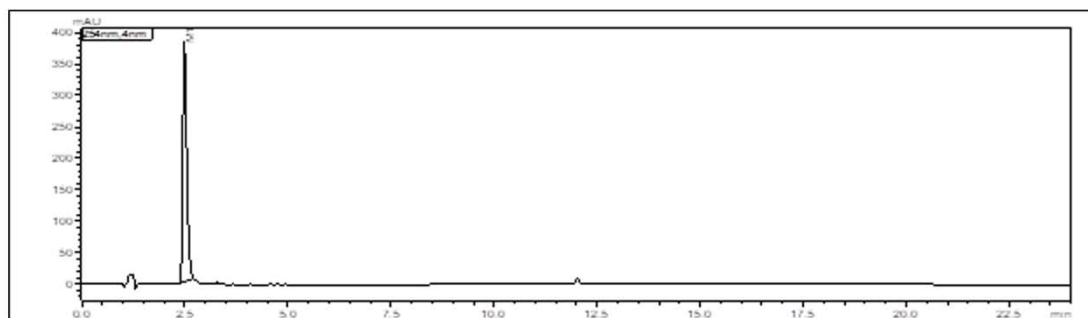


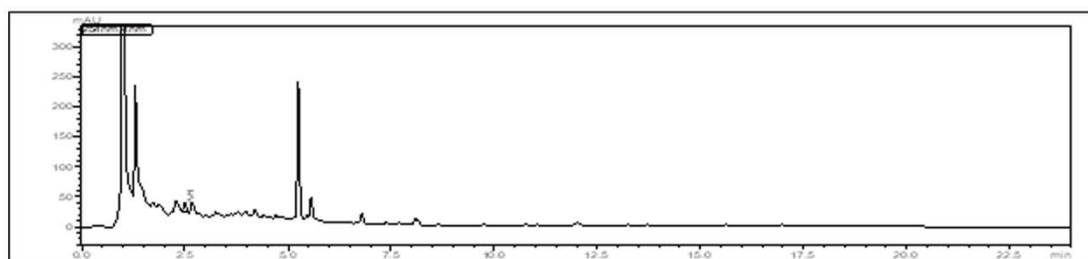
## Figure S1

UHPLC-PDA identification of SOE chromatogram at 254nm

[A] M1 at 254 nm



[B] Sample chromatogram at 254 nm

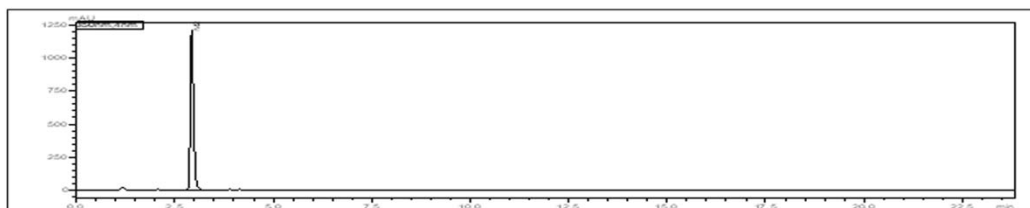


**Fig. S1 UHPLC-PDA identification of *Spinacia oleracea* extract (SOE) and M1 chromatogram at 254 nm. [A] M1 at 254 nm [B] Sample Chromatogram *Spinacia oleracea* Extract (SOE) at 254 nm.**

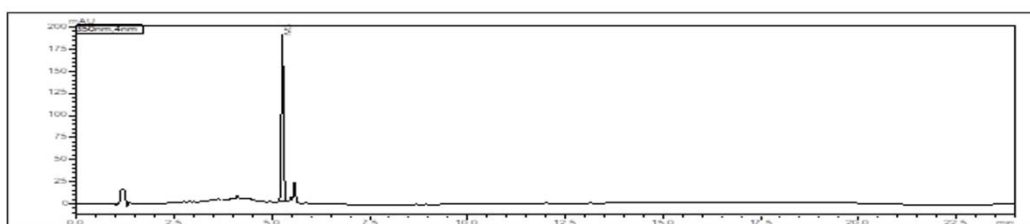
**Figure S2**

UHPLC-PDA identification of SOE chromatogram at 350 nm

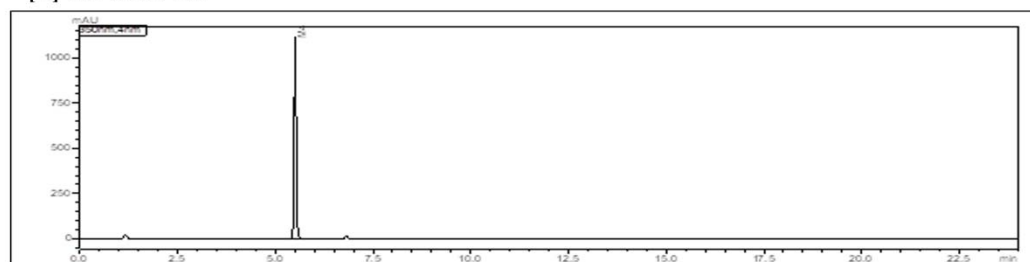
[A] M2 at 350 nm



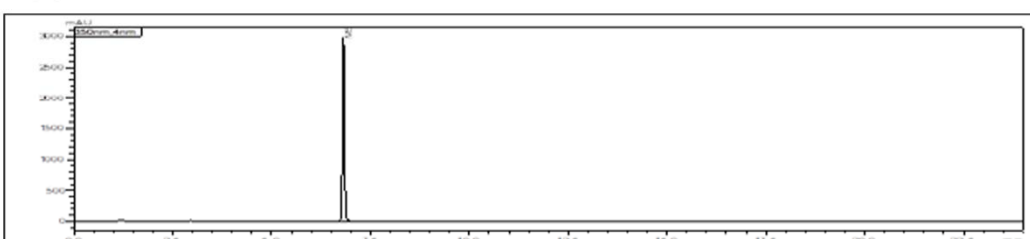
[B] M3 at 350 nm



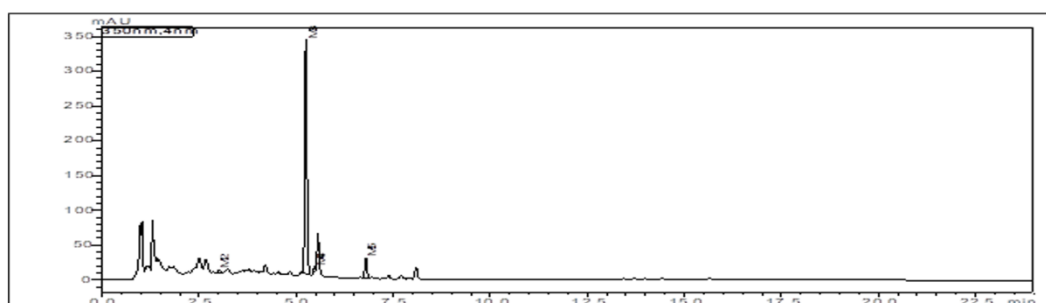
[C] M4 at 350 nm



[D] M5 at 350 nm



[E] Sample chromatogram of SOE at 350 nm

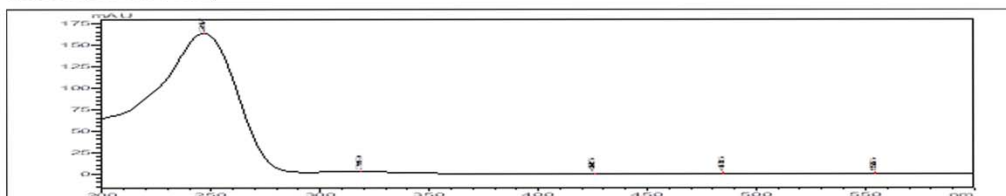


**Fig. S2** UHPLC-PDA identification of compound M2-M5 and *Spinacia oleracea* extract (SOE) chromatogram at 350 nm. [A] M2 [B] M3 [C] M4 [D] M5 [E] Sample Chromatogram-*Spinacia oleracea* Extract (SOE).

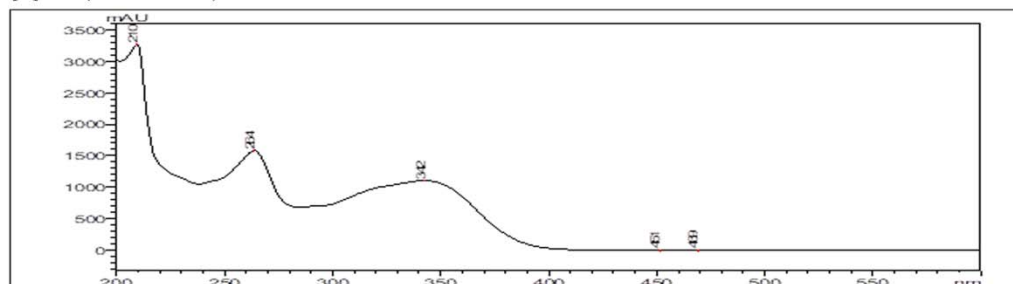
**Figure S3**

UV spectrum identification of compounds in SOE in UHPLC-PDA/UV

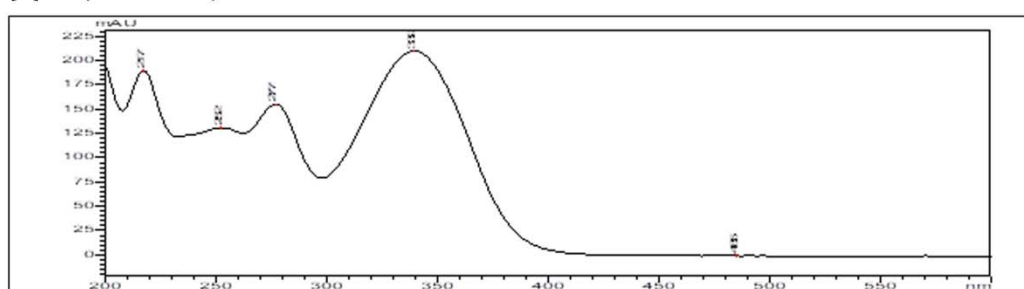
[A] M1 (RT=2.50 min)



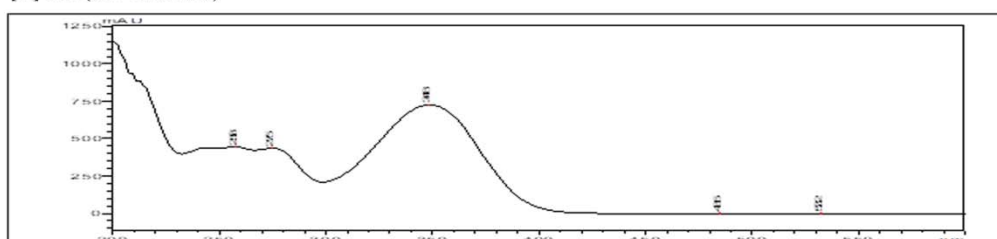
[B] M2 (RT=2.86 min)



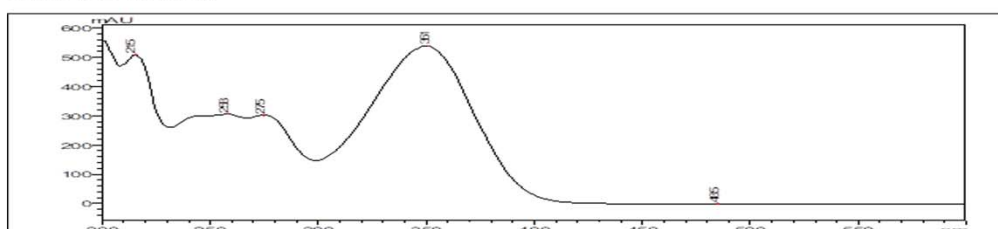
[C] M3 (RT=5.26 min)



[D] M4 (RT=5.50 min)



[E] M5 (RT=6.81 min)

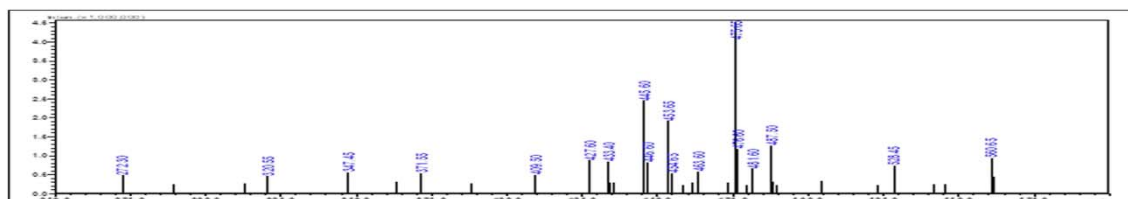


**Fig. S3** UV spectrum identification of compounds in *Spinacia oleracea* extract (SOE) M1-M5 by UHPLC-PDA/UV. All compound are mentioned with their RT values. [A] M1 (RT=2.50 min), [B] M2 (RT=2.86 min), [C] M3 (RT=5.26 min), [D] M4 (RT=5.50 min), M5 (RT=6.81 min).

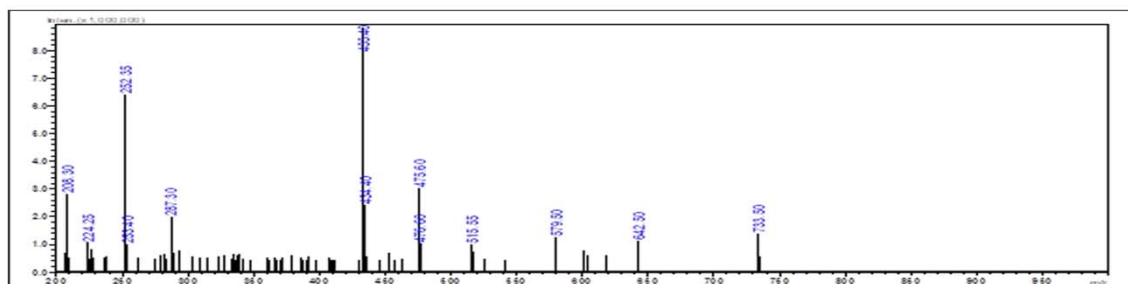
**Figure S4**

**UHPLC-PDA/MS identification and confirmation of compounds in SOE**

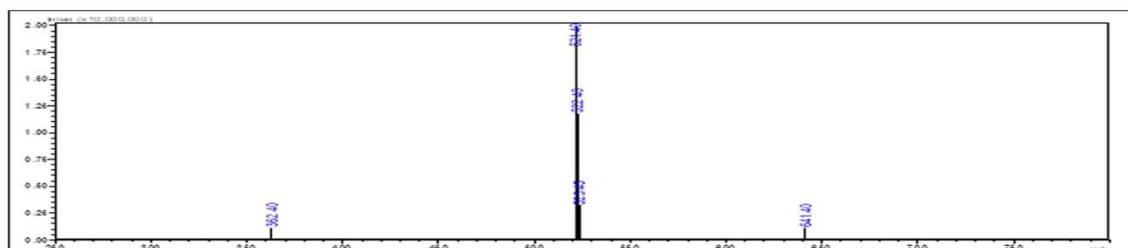
**[A] M1 (RT=2.50 min)**



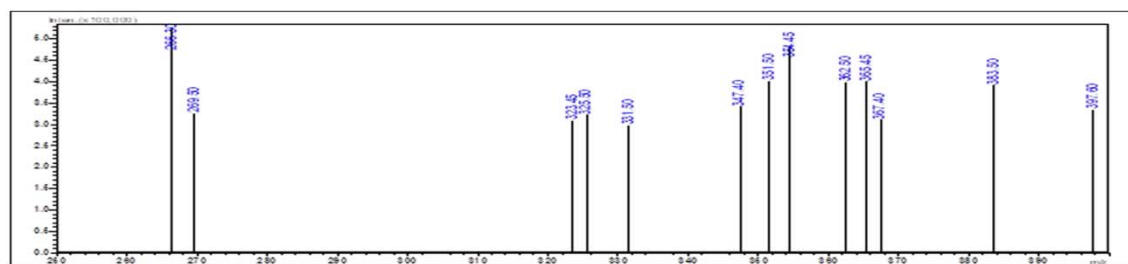
**[B] M2 (RT=2.86 min)**



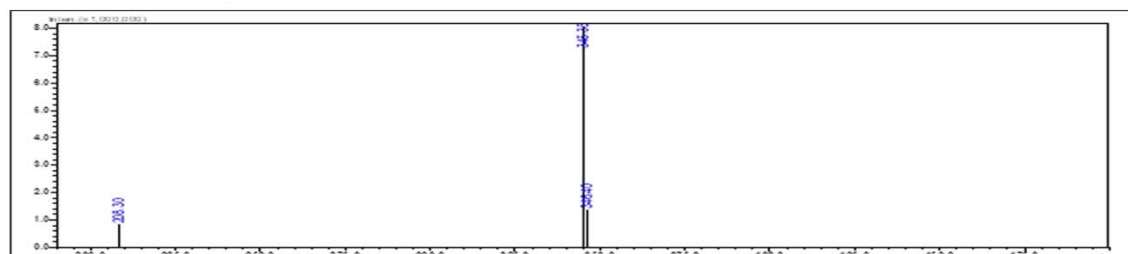
**[C] M3 (RT=5.26 min)**



**[D] M4 (RT=5.50 min)**



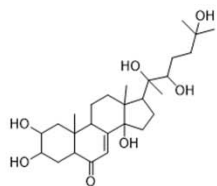
**[E] M5 (RT=6.81 min)**



**Fig. S4 UHPLC-PDA/MS identification and confirmation of compounds M1-M5 in *Spinacia oleracea* extract. [A] M1 (RT=2.50 min), [B] M2 (RT=2.86 min), [C] M3 (RT=5.26 min), [D] M4 (RT=5.50 min), M5 (RT=6.81 min).**

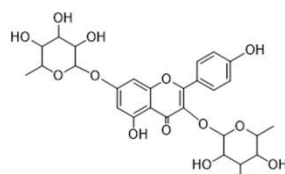
**Figure S5**

[A]



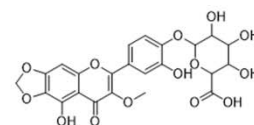
20  $\beta$ -Hydroxyecdysone (M1)

[B]



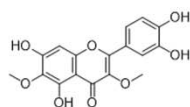
Kaempferitrin (M2)

[C]



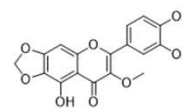
5,3',4'-Trihydroxy-3-methoxy-6,7-methylenedioxy-4'glucuronide(M3)

[D]



5,7,3',4'-Tetrahydroxy-3,6-dimethoxy-flavone (M4)

[E]



5,3',4'-Trihydroxy-3-methoxy-6,7-methylenedioxy-flavone (M5)

**Fig. S5 Chemical structure of compounds isolated from SOE. [A] M1, [B] M2, [C] M3, [D] M4 and [E] M5.**