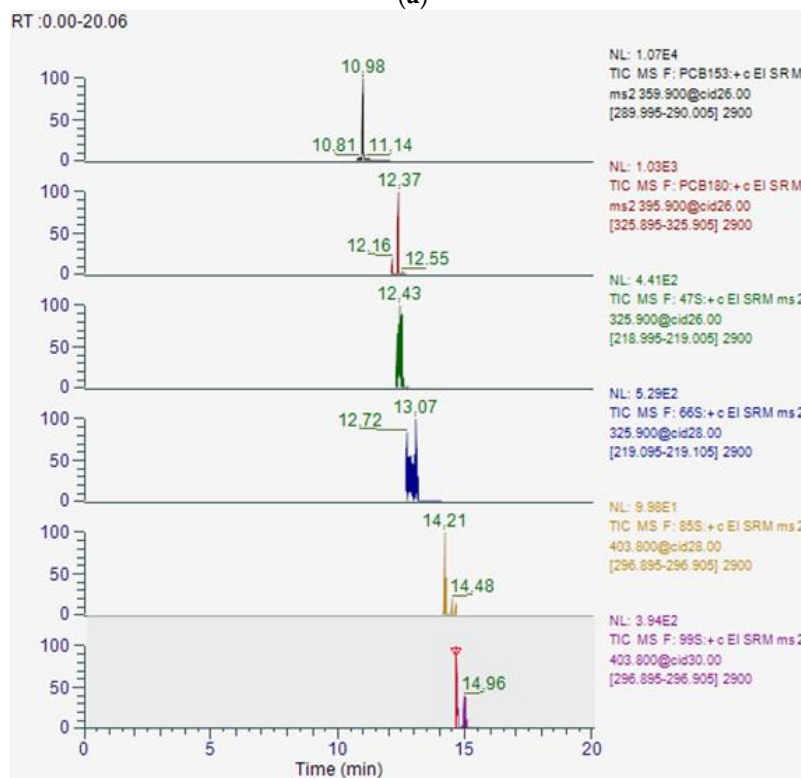
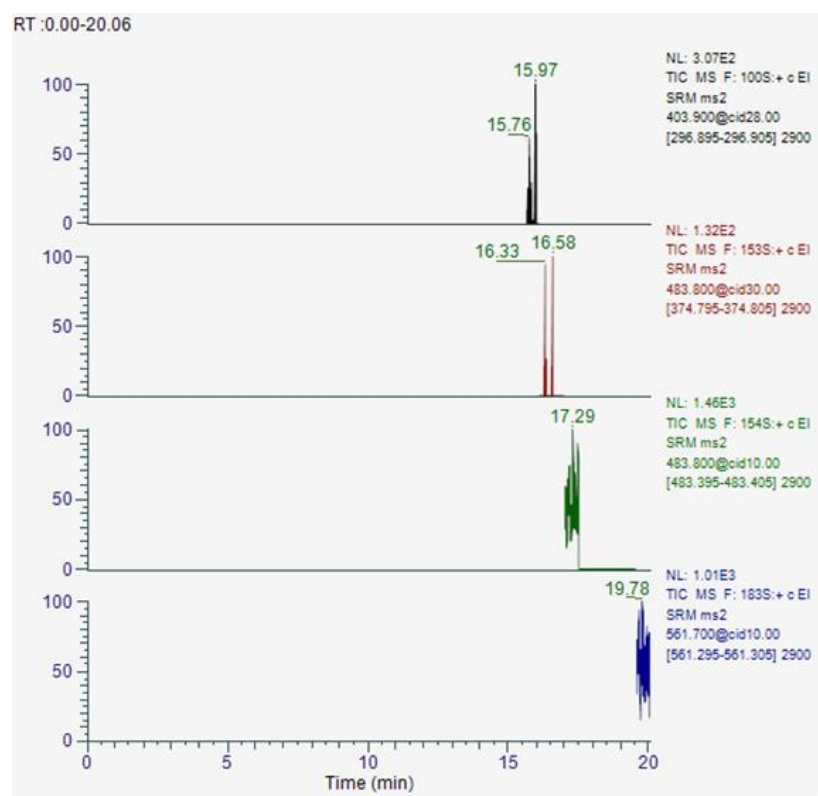


(a)



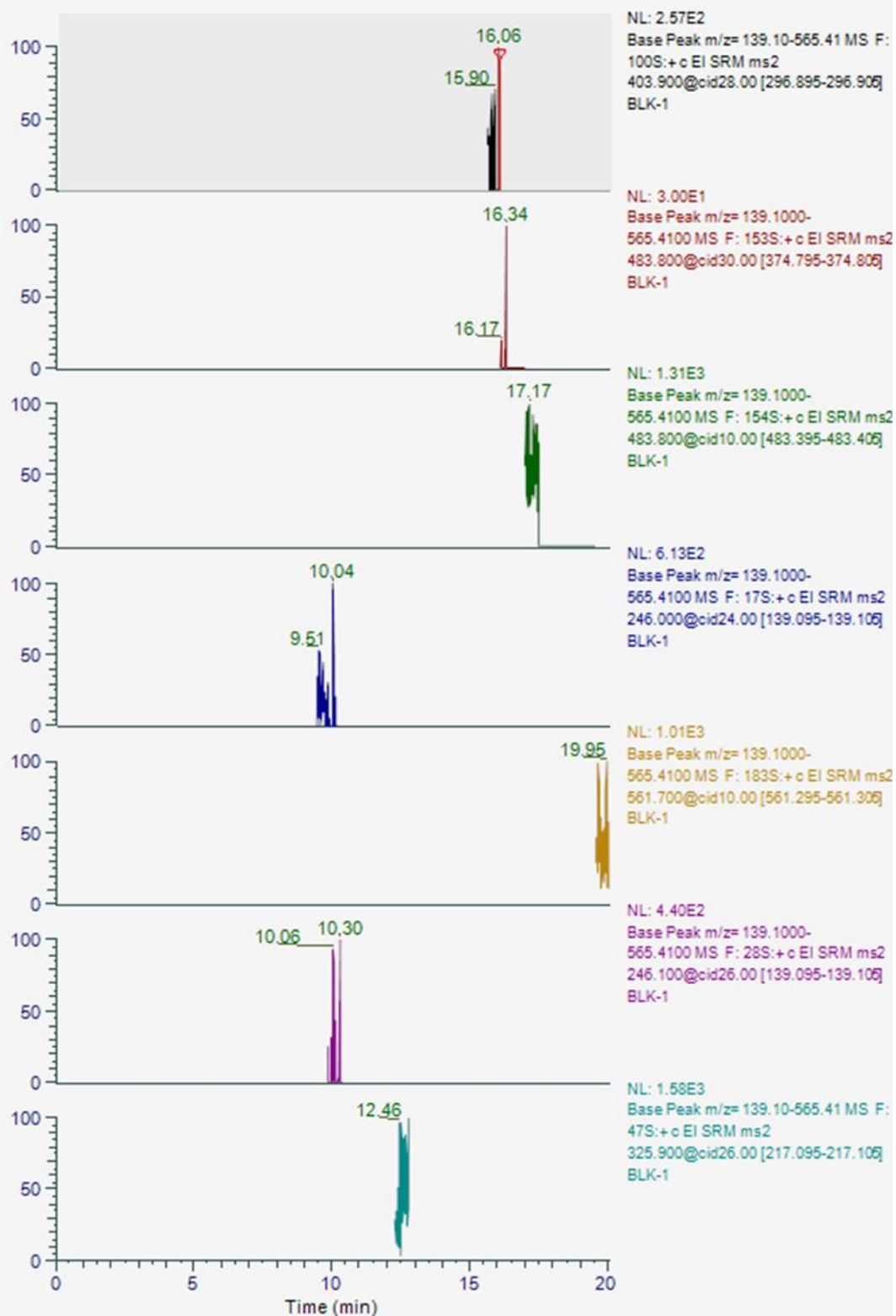
(b)



(c)

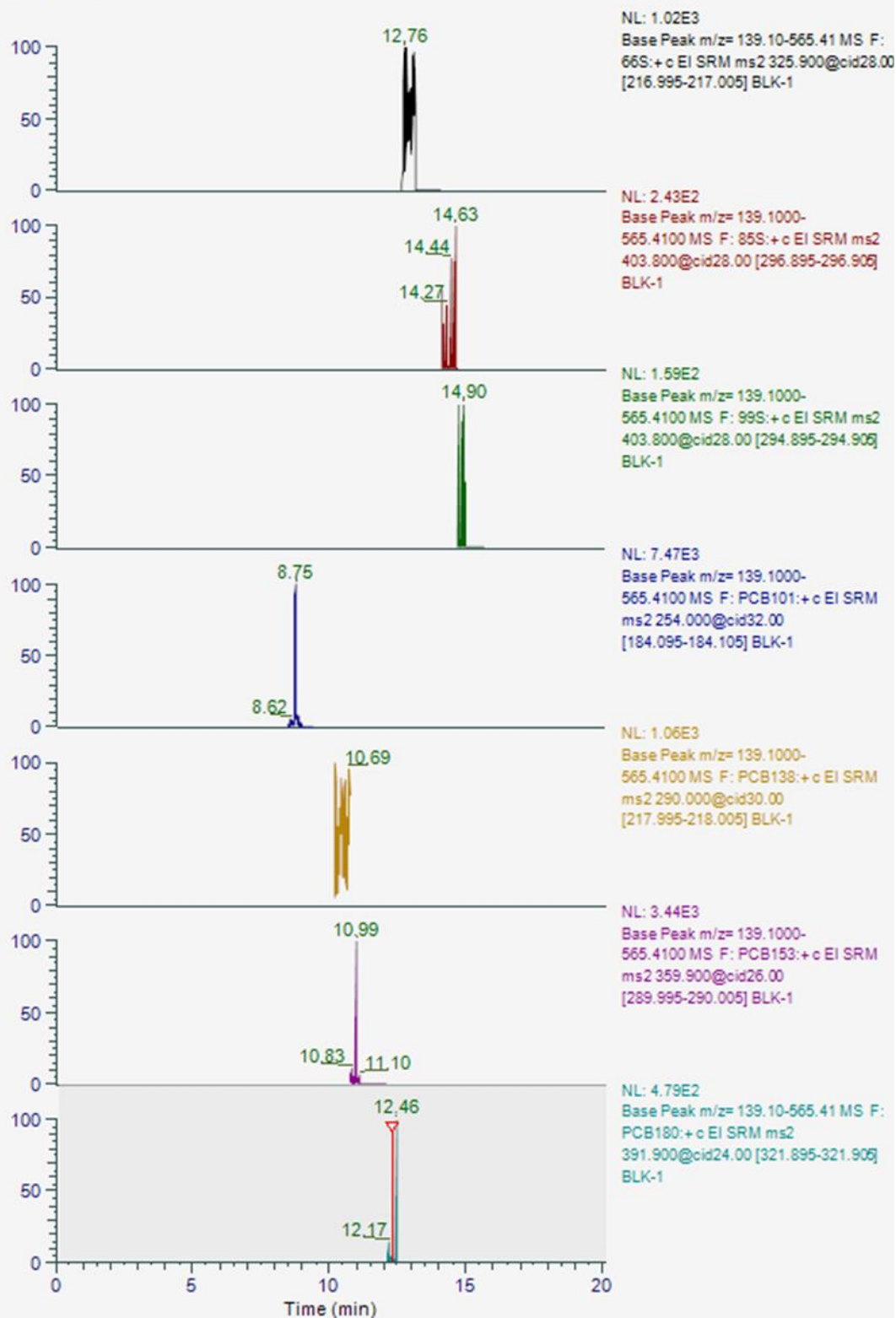
**Figure S1.** The chromatogram of a real sample.

RT :0.00-20.06

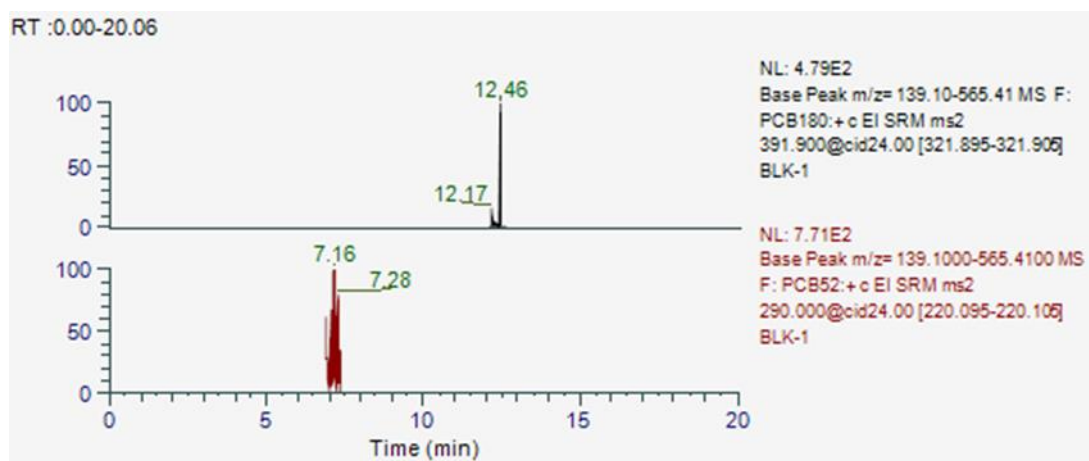


(a)

RT :0.00-20.06



(b)



(c)

Figure S2. The chromatogram of a blank sample.

Table S1. Final SEM path coefficients showed the association among 4 PCBs (PCB 28, PCB 101, PCB 138, PCB 153), cognitive dysfunction and covariates for female participants.

Path	Path coefficient		<i>p</i>
	Estimate	Standard Error (SE)	
Females & Age ≤ 80 (N=125)			
a			
Age → CoD	0.059	0.029	0.044
Education level → CoD	-0.591	0.333	0.076
Monthly income → CoD	-0.052	0.303	0.864
Marriage → CoD	-0.197	0.447	0.659
Children → CoD	-0.265	0.282	0.347
Sleep duration → CoD	0.152	0.153	0.321
Sleep quality → CoD	-0.348	0.134	0.010*
Headache → CoD	0.321	0.128	0.012*
PCB 28 → CoD	0.670	0.339	0.048*
PCB 101 → CoD	0.168	0.295	0.570
PCB 138 → CoD	-0.423	1.103	0.701
PCB 153 → CoD	-0.236	1.114	0.832
PCB 28 → Headache	-0.509	0.415	0.220
PCB 101 → Headache	-0.177	0.307	0.565
PCB 138 → Headache	-0.342	0.476	0.473
PCB 153 → Headache	0.140	0.540	0.795

Age → Sleep quality	0.032	0.027	0.236
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a: model fit index ( $X^2$   $p$  value = 0.463, CFI = 1.000, RMSEA = 0.000).

Criterion for good fit:  $X^2$   $p$  value > 0.05, CFI > 0.95, RMSEA < 0.05.

\*  $p$  < 0.05