LC-MS/MS Analysis Method

E. debile crude extract were dissolved in DMSO at the concentration of 5 µg/ml and analyzed using Agilent 6545 LC/Q-TOF (Santa Clara, CA, USA) with Agilent Porshell 120 EC-C18 column (2.7 µm, 2.1x100 mm). The 3 µl of sample solution was injected using gradient system of two mobile phases (A) water and 0.1% acetic acid and (B) acetonitrile (CAN) and 0.1% acetic acid for 60 min. The gradient elution program was 100% A (0-30 min), 50% A (30-40 min), 0% A (40-51 min), 50% A (51-60 min). This was followed by a 10 min equilibrium period prior to the injection of next sample. Conditions for MS analysis of each HPLC peak included MS positive mode, Dual AJS ESI ion source, 320 °C gas temperature, 8 l/min drying gas, 35 psig nebulizer, 350 °C sheath gas temperature, 11 l/min sheath gas flow.

E. debile compounds were determined by analyzing the data against the library of approximately 5,000 reference compounds and then evaluated by 6200 series TOF/6500 series Q-TOF B.08.00 (B8058.0) acquisition software version. Only the phenolic compounds with a match score higher than 97 were reported in this study (Table S1). The asterisk (*) indicates the proposed phenolic compounds suggested as being the most highly potentials in *E. debile* for further study.

Table S1. Proposed phenolic compounds in *E. debile* by LCMS qualitative identification.

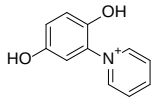
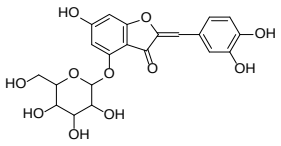
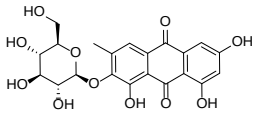
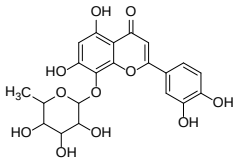
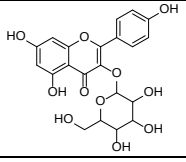
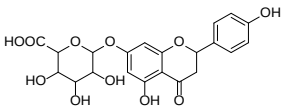
Compound Name	RT	Mass	Difference DB (ppm)	Structure
N-(2,5-Dihydroxyphenyl)pyridinium*	1.69	188.0711	0.21	
Cernuoside*	24.378	448.1016	-1.07	
1,2,6,8-Tetrahydroxy-3-methylanthraquinone 2-O-β-D-glucoside*	24.378	448.1016	-2.38	
Hypolaetin 8-rhamnoside	24.378	448.1016	-1.07	
Astragalin	24.378	448.1016	-1.07	
Naringenin-7-O-β-D-Glucuronide	24.378	448.1016	-1.07	

Table S1. (continued) Proposed phenolic compounds in *E. debile* by LCMS qualitative identification.

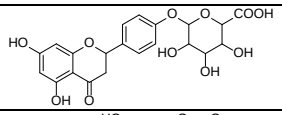
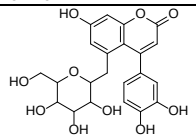
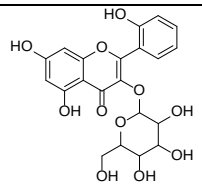
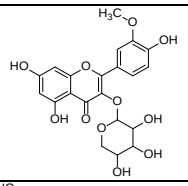
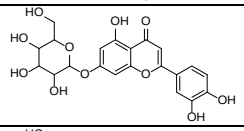
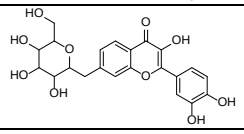
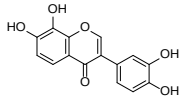
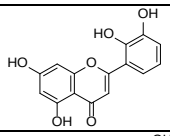
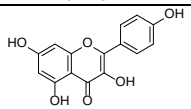
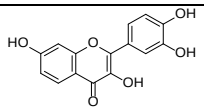
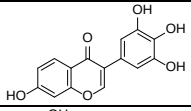
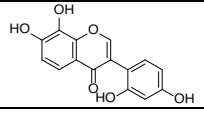
Compound Name	RT	Mass	Difference DB (ppm)	Structure
Naringenin-4'-O-β-D-Glucuronide	24.378	448.1016	-1.07	
5,7,3',4'-Tetrahydroxy-4-phenylcoumarin 5-O-glucoside	24.378	448.1016	-1.07	
Datiscanin	24.378	448.1016	-1.07	
Isorhamnetin 3-xyloside	24.378	448.1016	-1.07	
Luteolin 7-glucoside	24.378	448.1016	-1.07	
Fisetin 7-glucoside	24.378	448.1016	-1.07	
7,8,3',4'-Tetrahydroxyisoflavone*	24.378	286.0483	-0.55	
5,7,2',3'-Tetrahydroxyflavone	24.775	286.0483	-0.55	
Kaempferol	24.775	286.0483	-0.55	
Fisetin	24.775	286.0483	-0.55	
Baptigenin	24.775	286.0483	-0.55	
7,8,2',4'-Tetrahydroxyisoflavone	24.775	286.0483	-0.55	

Table S1. (continued) Proposed phenolic compounds in *E. debile* by LCMS qualitative identification.

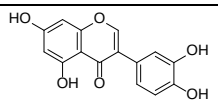
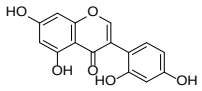
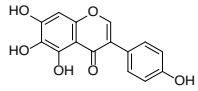
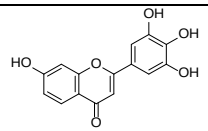
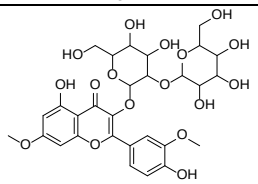
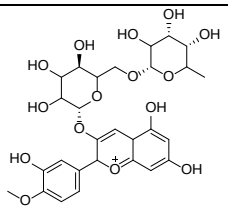
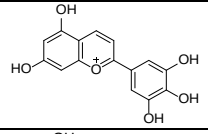
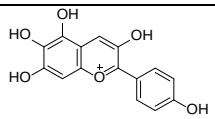
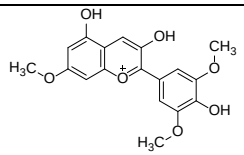
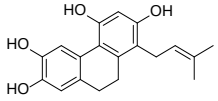
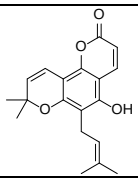
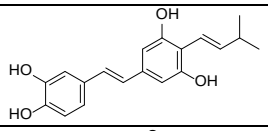
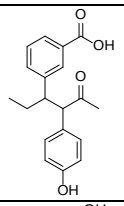
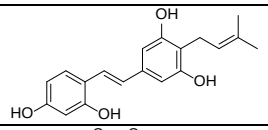
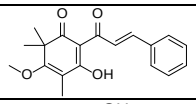
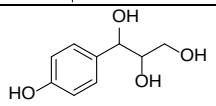
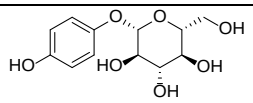
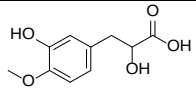
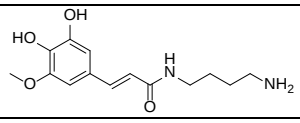
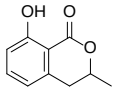
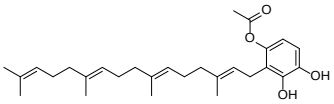
Compound Name	RT	Mass	Difference DB (ppm)	Structure
Orobol	24.775	286.0483	-0.55	
2'-Hydroxygenistein	24.775	286.0483	-0.55	
6-Hydroxygenistein	24.775	286.0483	-0.55	
7,3',4',5'-Tetrahydroxyflavone	24.775	286.0483	-0.55	
Rhamnazin 3-sophoroside*	27.405	654.1809	-1.94	
Isopeonidin 3-rutinoside*	29.129	609.1834	-2.41	
Tricetanidin*	34.81	287.056	-1.53	
Aurantinidin	34.81	287.056	-0.44	
Hirsutidin*	35.476	345.0981	-1.85	
Gancaonin V*	40.229	312.137	-2.83	
Honyudisin	40.229	312.137	-0.88	

Table S1. (continued) Proposed phenolic compounds in *E. debile* by LCMS qualitative identification.

Compound Name	RT	Mass	Difference DB (ppm)	Structure
4-(3-Methyl-1-butenyl)-3,3',4',5-tetrahydroxystilbene	40.229	312.137	-0.88	
m-(beta-Acetyl-alpha-ethyl-p hydroxyphenethyl)benzoic acid	40.229	312.137	-0.88	
4'-Prenyloxyresveratrol	40.229	312.137	-0.88	
Desmosdumotin C	40.229	312.137	-0.88	
(±)-threo-1-(4-Hydroxyphenyl)-1,2,3-propanetriol*	40.491	184.0738	-1.22	
Arbutin*	41.182	272.0899	-1.24	
3-Hydroxy-4-methoxyphenyllactic acid*	41.184	212.0688	-1.43	
Sinapoylputrescine*	41.953	294.1571	2.95	
(R)-(-)-Mellein*	42.561	178.0634	-2.02	
Suillin*	44.575	440.2915	2.55	
3-(10-Heptadecenyl)phenol*	53.076	330.2922	0.25