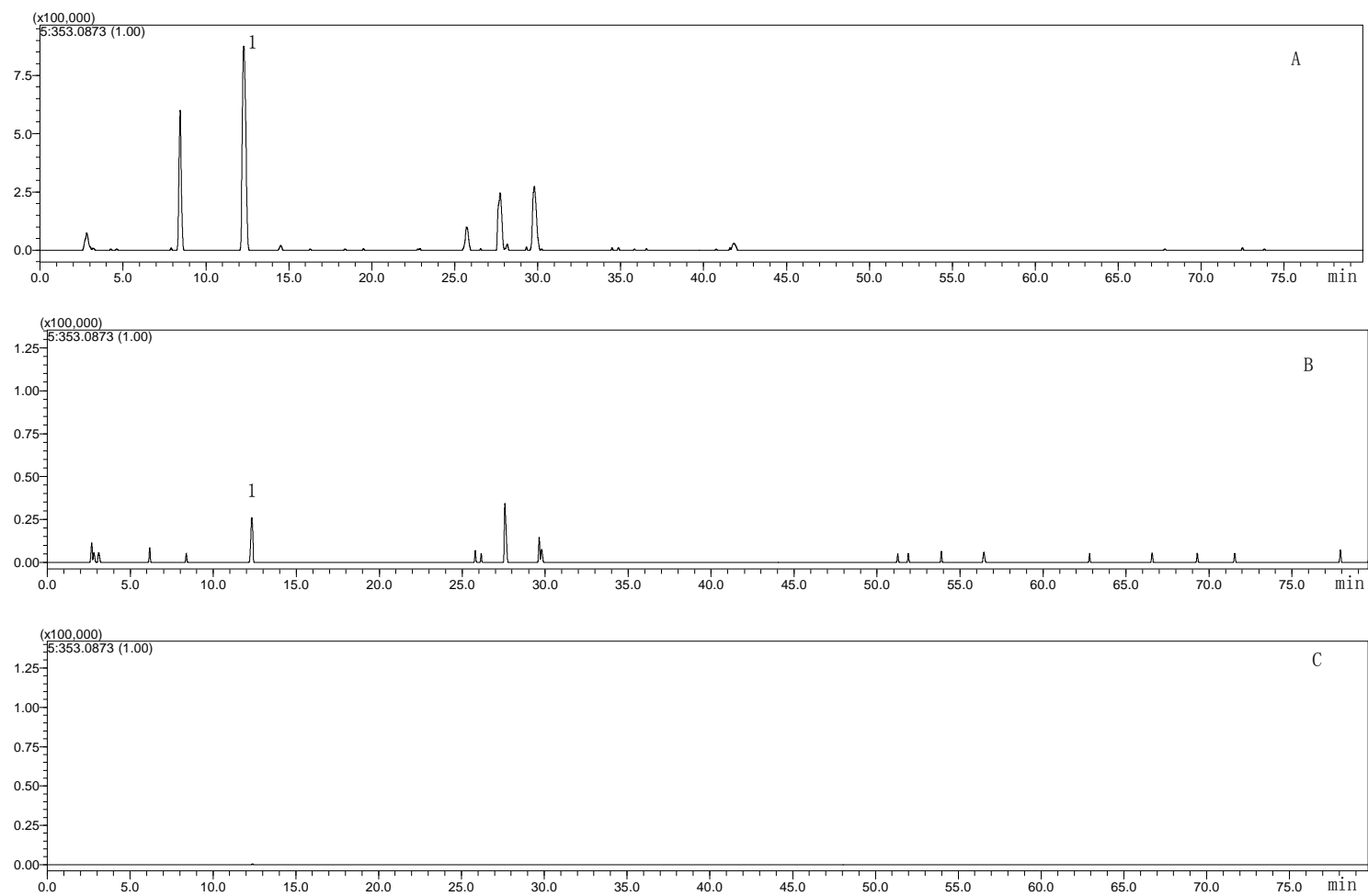


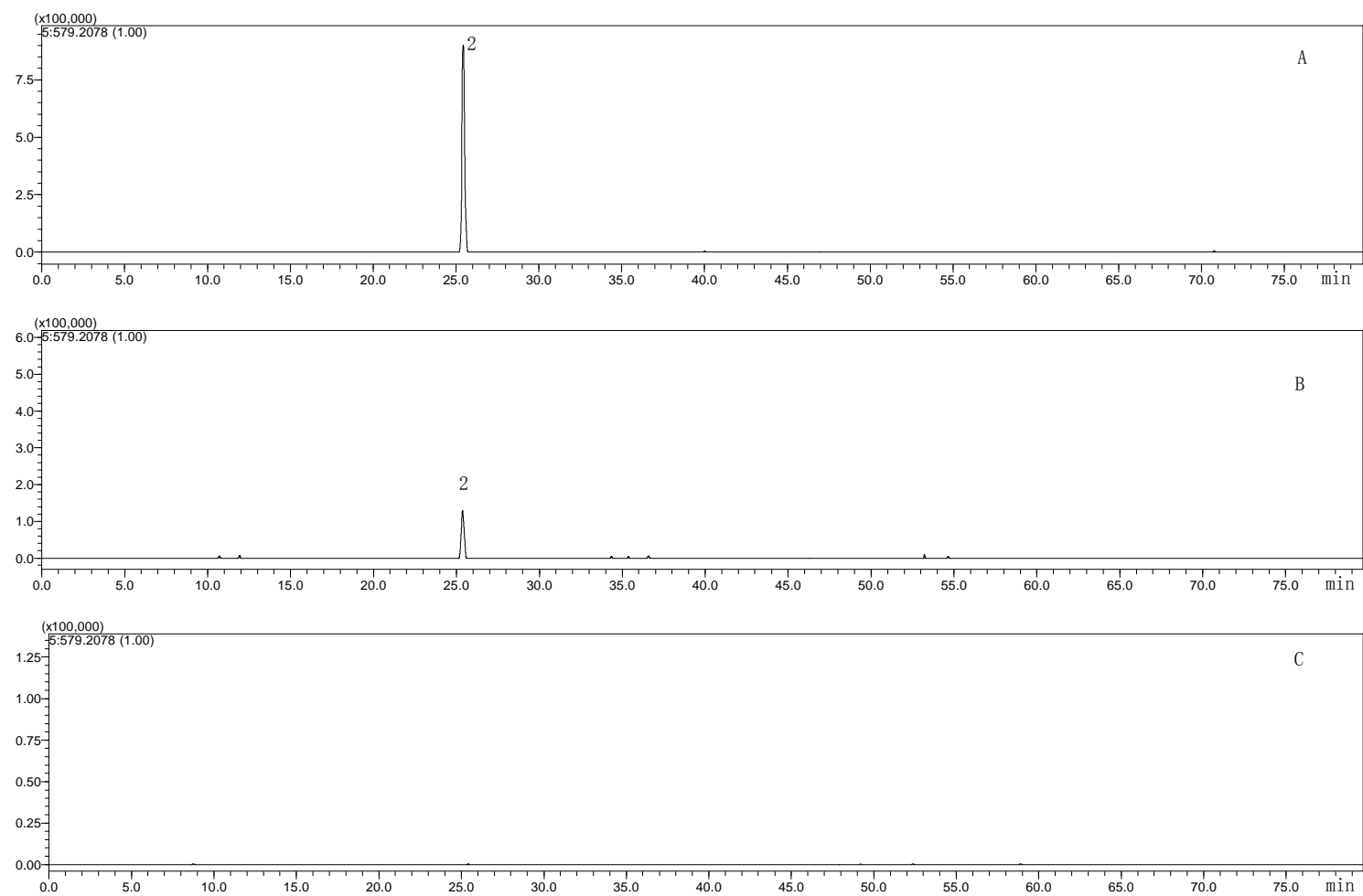
# Supplementary data

**Table S1.** LC–MS data comparison of *I. pubescens* roots extract and ultrafiltrate.

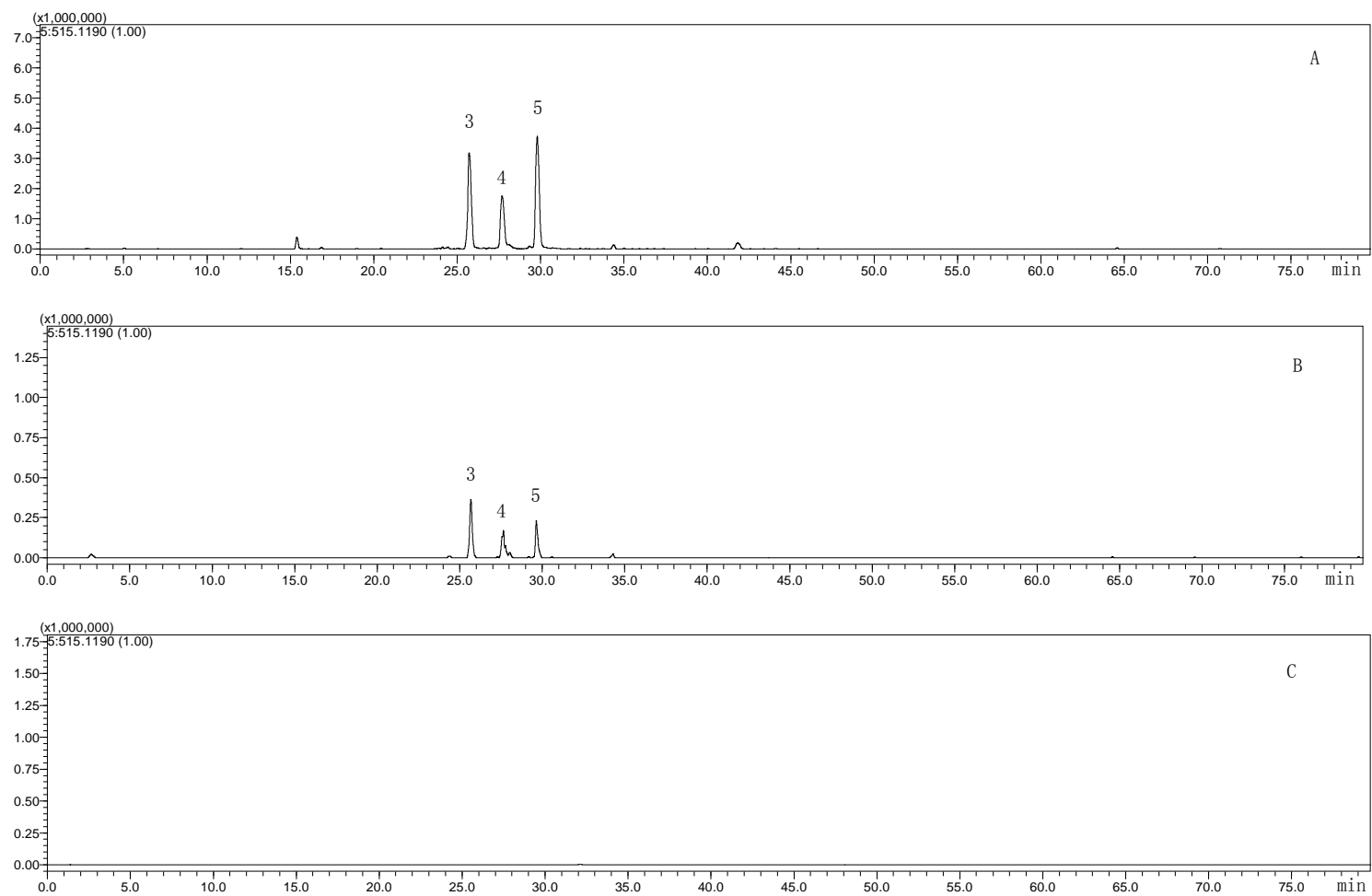
No.	Formula	Compound	Theoretical ([M-H] <sup>-</sup> )	t <sub>R</sub> (min)			Experimental <i>m/z</i> (error)		
				extract	ultrafiltrate	Standard	extract	ultrafiltrate	Standard
1	C <sub>16</sub> H <sub>18</sub> O <sub>9</sub>	Chlorogenic acid	353.0873	12.312	12.505	12.348	353.0882 (2.5 ppm)	353.0883 (2.8 ppm)	353.0874 (0.3 ppm)
2	C <sub>28</sub> H <sub>36</sub> O <sub>13</sub>	Tortoside A	579.2078	25.468	25.467		579.2095 (2.9 ppm)	579.2040 (-6.4 ppm)	
3	C <sub>25</sub> H <sub>24</sub> O <sub>12</sub>	Isochlorogenic acid B	515.1190	25.630	25.622	25.630	515.1230 (7.8 ppm)	515.1199 (1.7 ppm)	515.1212 (4.3 ppm)
4	C <sub>25</sub> H <sub>24</sub> O <sub>12</sub>	Isochlorogenic acid A	515.1190	27.838	27.653		515.1190 (0.0 ppm)	515.1163 (-5.2 ppm)	
5	C <sub>25</sub> H <sub>24</sub> O <sub>12</sub>	Isochlorogenic acid C	515.1190	29.895	29.787	29.643	515.1215 (4.9 ppm)	515.1189 (-0.2 ppm)	515.1194 (0.8 ppm)
6	C <sub>34</sub> H <sub>30</sub> O <sub>15</sub>	3,4,5-Tricaffeoylquinic acid	677.1507	41.972	41.710		677.1533 (3.8 ppm)	677.1494 (-1.9 ppm)	
7	C <sub>47</sub> H <sub>76</sub> O <sub>18</sub>	Ilexsaponin B <sub>3</sub>	927.4953	45.220	45.182		927.4996 (4.6 ppm)	927.4965 (1.3 ppm)	
8	C <sub>47</sub> H <sub>76</sub> O <sub>17</sub>	Ilexsaponin B <sub>2</sub>	911.5004	56.657	56.435	56.463	911.5049 (4.9 ppm)	911.4976 (-3.1 ppm)	911.4960 (-4.8 ppm)
9	C <sub>36</sub> H <sub>56</sub> O <sub>11</sub>	Ilexsaponin A <sub>1</sub>	663.3744	57.873	57.787	57.868	663.3766 (3.3 ppm)	663.3747 (0.5 ppm)	663.3709 (-5.3 ppm)
10	C <sub>41</sub> H <sub>66</sub> O <sub>13</sub>	Ilexsaponin B <sub>1</sub>	765.4425	60.828	60.597	60.572	765.4400 (-3.3 ppm)	765.4444 (2.5 ppm)	765.4437 (1.6 ppm)
11	C <sub>30</sub> H <sub>46</sub> O <sub>6</sub>	Ilexgenin A	501.3216	75.675	75.628	75.567	501.3239 (4.6 ppm)	501.3227 (2.2 ppm)	501.3195 (-4.2 ppm)



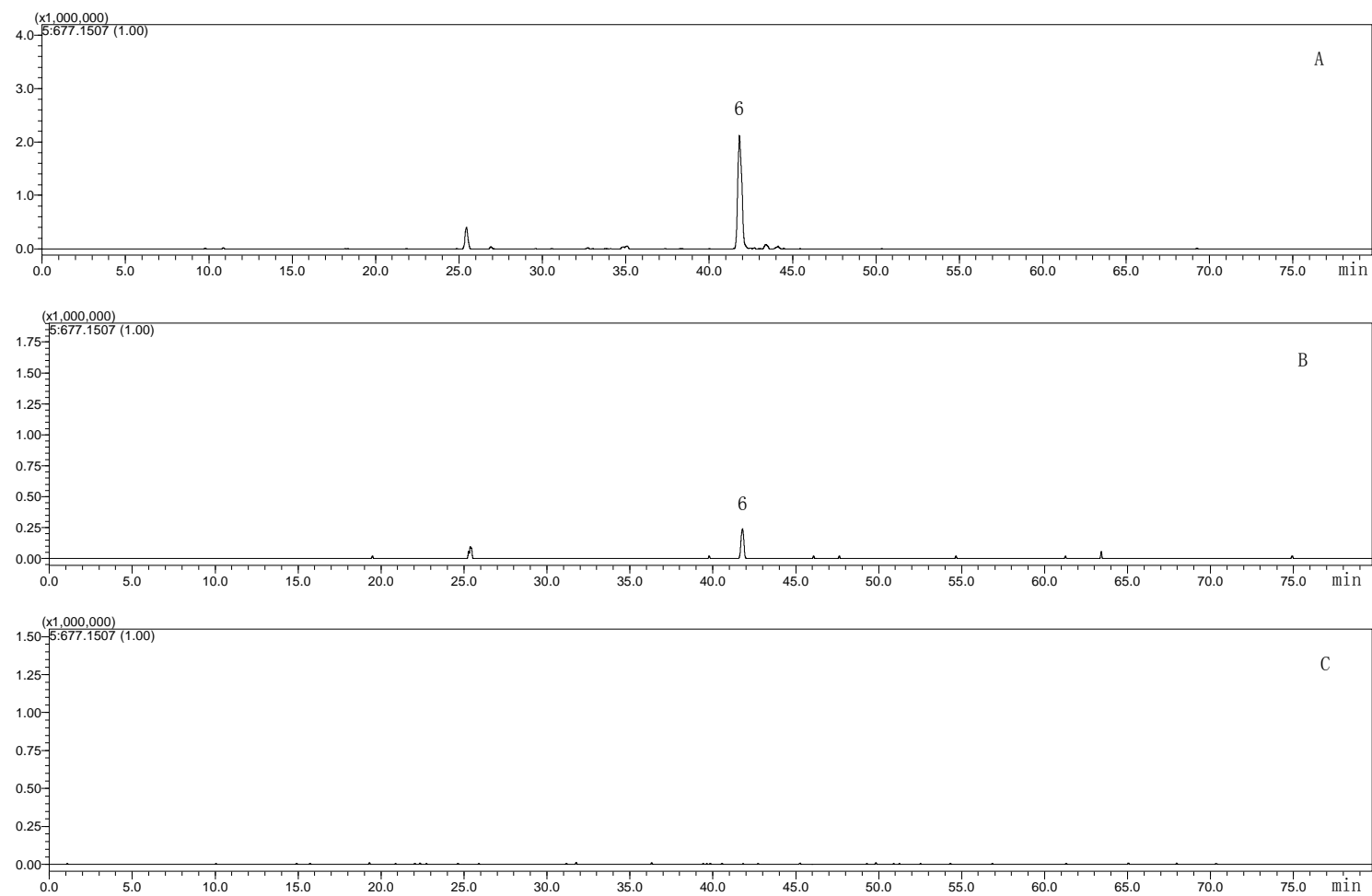
**Figure S1.** EIC chromatograms of compound **1** in negative mode at  $m/z$  353.0873 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



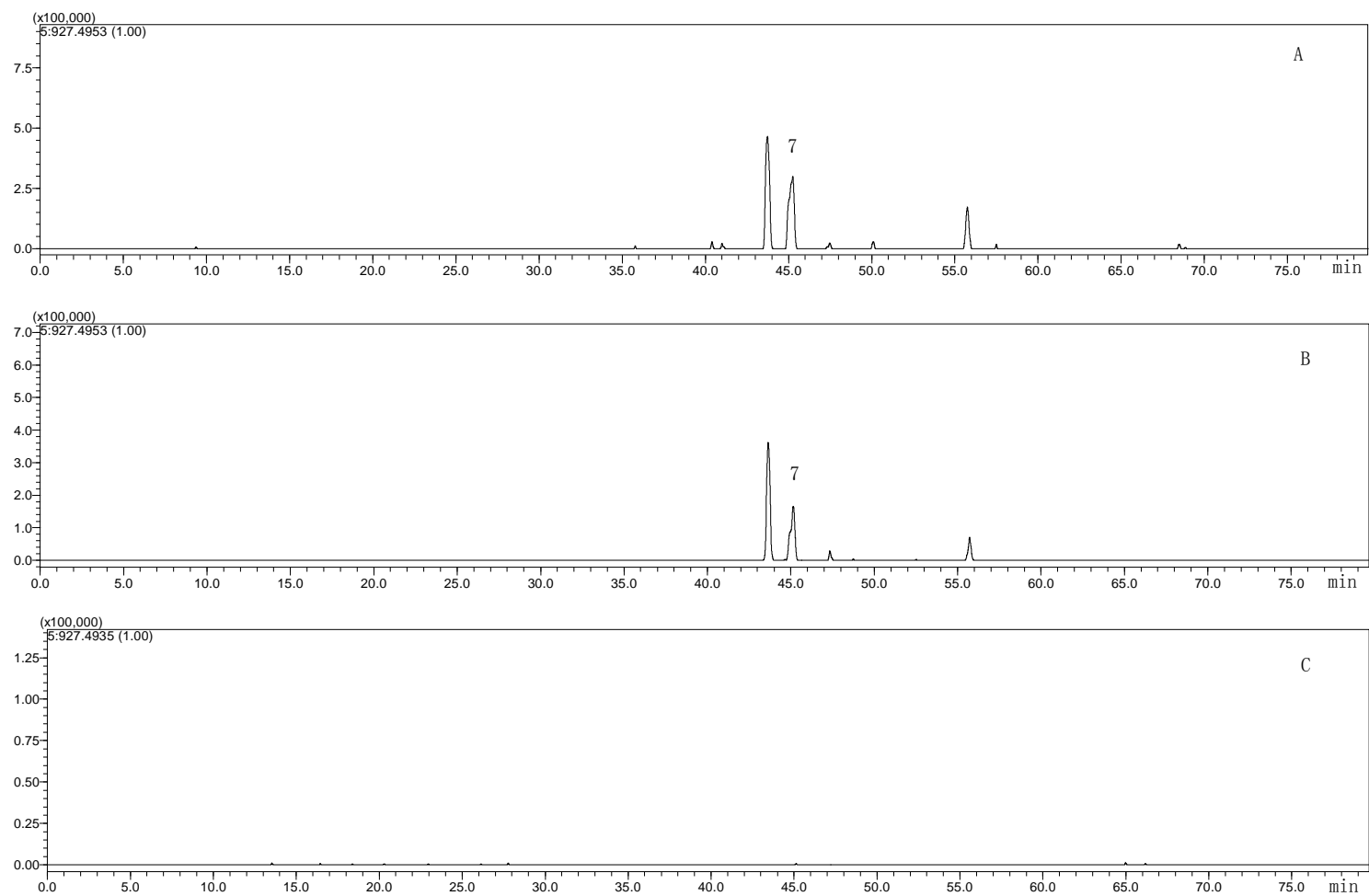
**Figure S2.** EIC chromatograms of compound **2** in negative mode at  $m/z$  579.2078 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



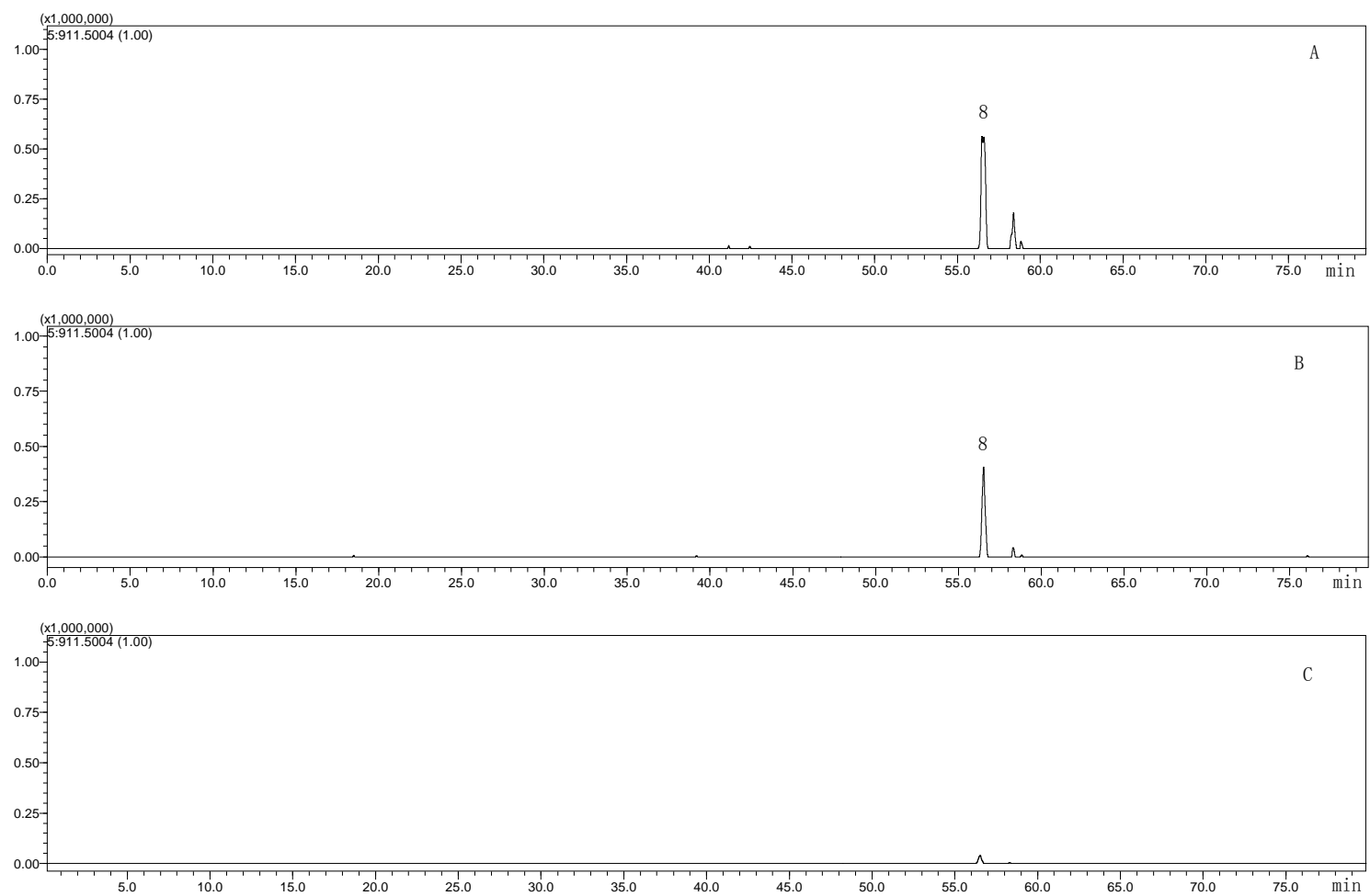
**Figure S3.** EIC chromatograms of compound **3**, **4**, **5** in negative mode at  $m/z$  515.1190 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



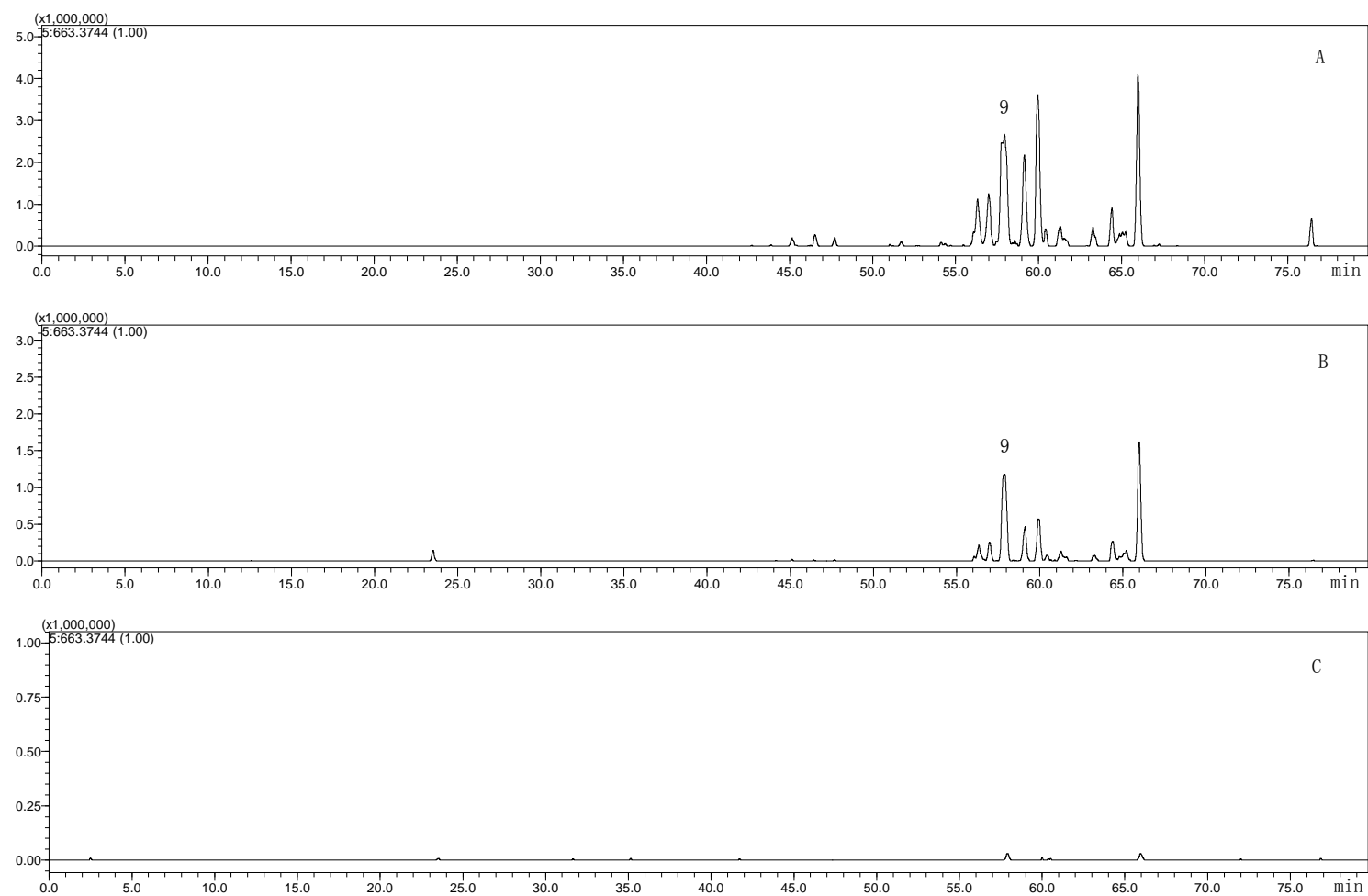
**Figure S4.** EIC chromatograms of compound **6** in negative mode at  $m/z$  677.1507 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



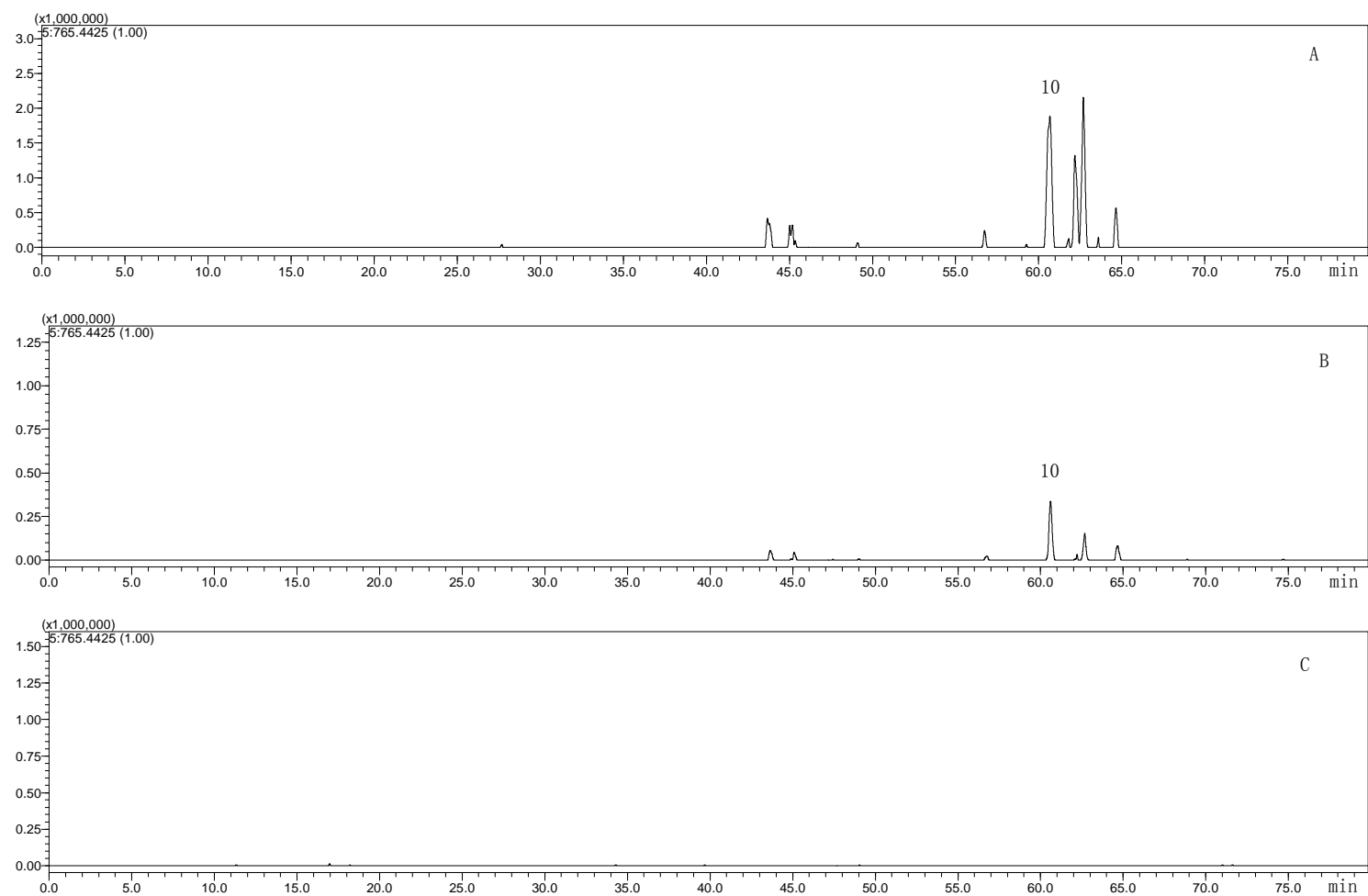
**Figure S5.** EIC chromatograms of compound **7** in negative mode at  $m/z$  927.4953 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



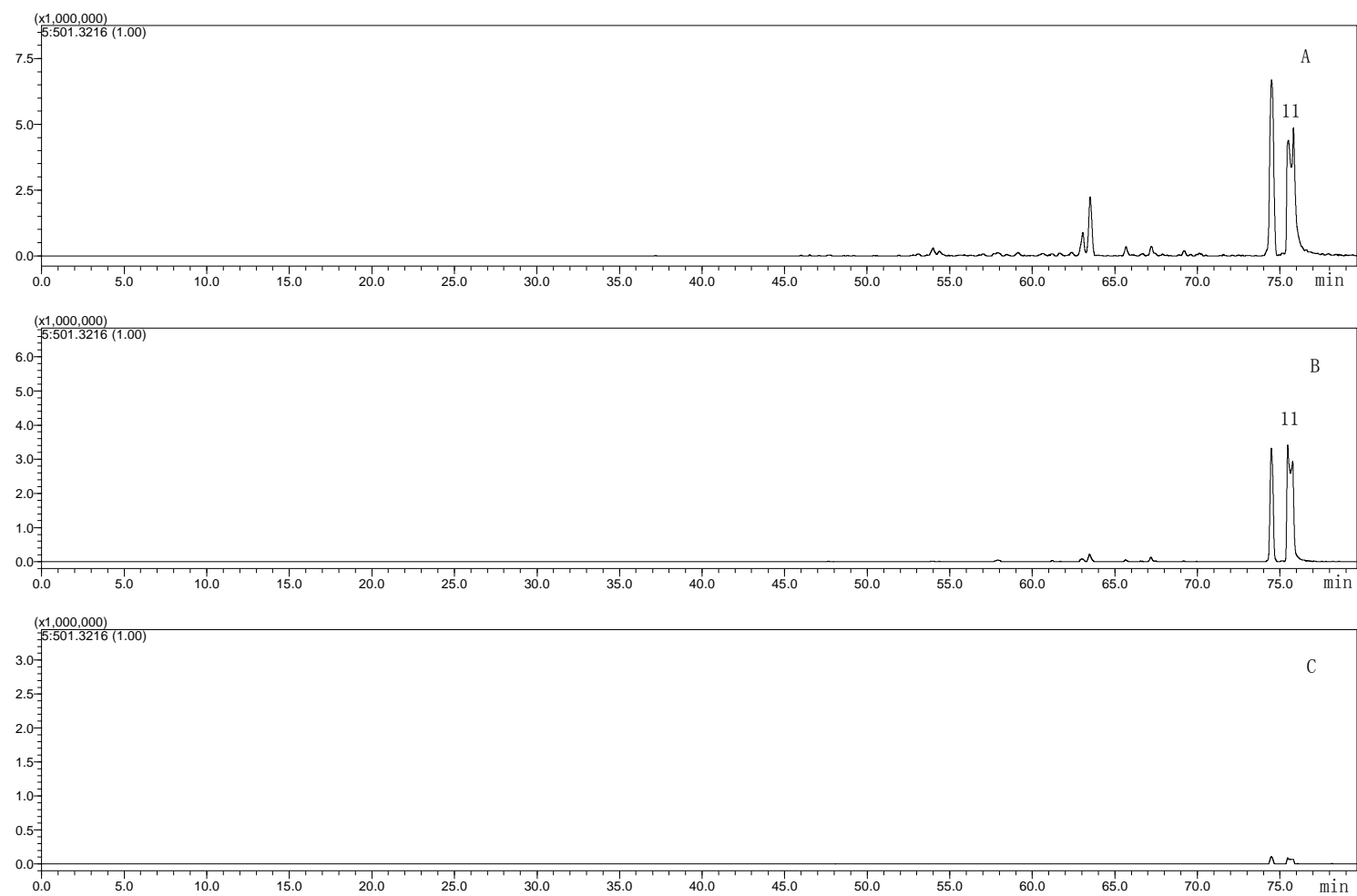
**Figure S6.** EIC chromatograms of compound **8** in negative mode at  $m/z$  911.5004 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



**Figure S7.** EIC chromatograms of compound **9** in negative mode at  $m/z$  663.3744 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



**Figure S8.** EIC chromatograms of compound **10** in negative mode at  $m/z$  765.4425 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).



**Figure S9.** EIC chromatograms of compound **11** in negative mode at  $m/z$  501.3216 from *I. pubescens* roots extract (A), ultrafiltrate (B) and blank sample (C).