Supplementary materials

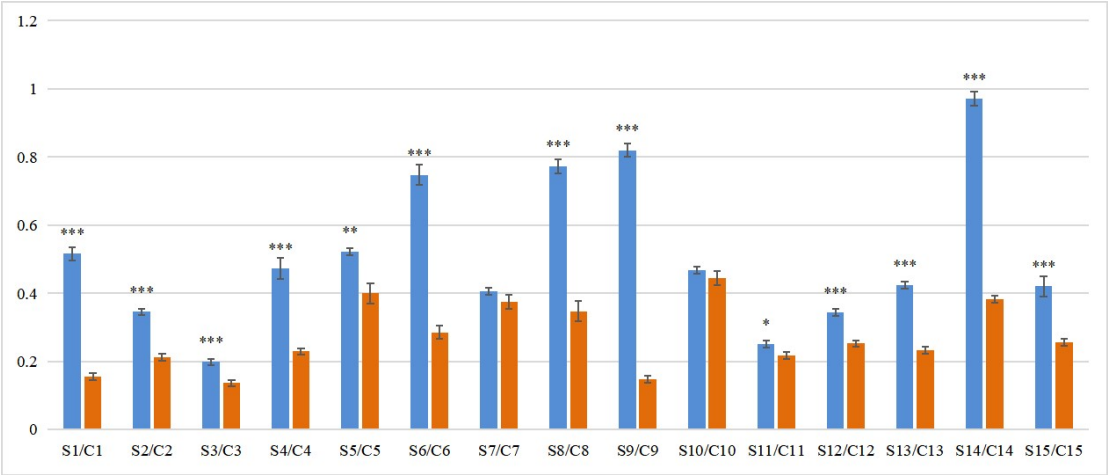
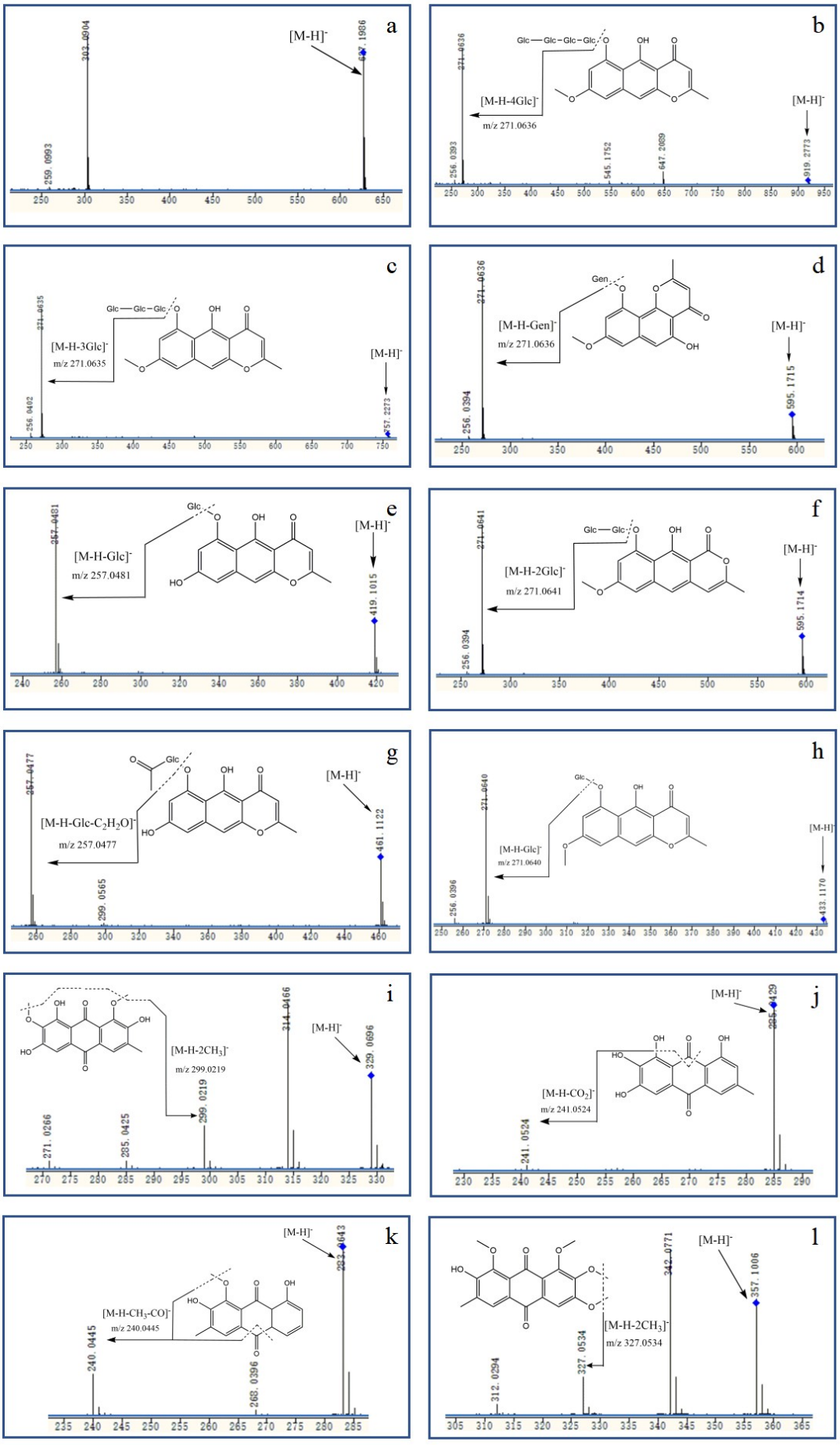


Fig. S1 The α-glucosidase inhibition activity of 30 batches of raw and fried Cassiae Semen samples. (**P*<0.05, ***P*<0.01, ****P*<0.001)


a
[M-H]-
303.0504
647.1936
259.0993
b
Glc—Glc—Glc
OH
271.0636
[M-H-4Glc]-
m/z 271.0636
[M-H]-
256.0393
545.1752
647.2089
919.2773
c
Glc—Glc—Glc
OH
271.0635
[M-H-3Glc]-
m/z 271.0635
[M-H]-
256.0402
757.2273
d
Gen
271.0636
[M-H-Gen]-
m/z 271.0636
[M-H]-
256.0394
595.1715
e
Glc
OH
257.0481
[M-H-Glc]-
m/z 257.0481
HO
[M-H]-
419.1015
f
Glc—Glc
OH
271.0641
[M-H-2Glc]-
m/z 271.0641
[M-H]-
256.0394
595.1714
g
Glc
OH
257.0477
[M-H-Glc-C2H2O]-
m/z 257.0477
HO
[M-H]-
461.1122
299.0565
h
Glc
OH
271.0640
[M-H-Glc]-
m/z 271.0640
[M-H]-
256.0396
433.1170
i
OH
HO
[M-H-2CH3]-
m/z 299.0219
314.0466
[M-H]-
329.0696
299.0219
271.0266
285.0425
j
[M-H]-
285.0429
OH
HO
[M-H-CO2]-
m/z 241.0524
241.0524
k
[M-H]-
283.0643
[M-H-CH3-CO]-
m/z 240.0445
240.0445
268.0396
l
HO
342.0771
[M-H]-
357.1006
[M-H-2CH3]-
m/z 327.0534
327.0534
312.0294

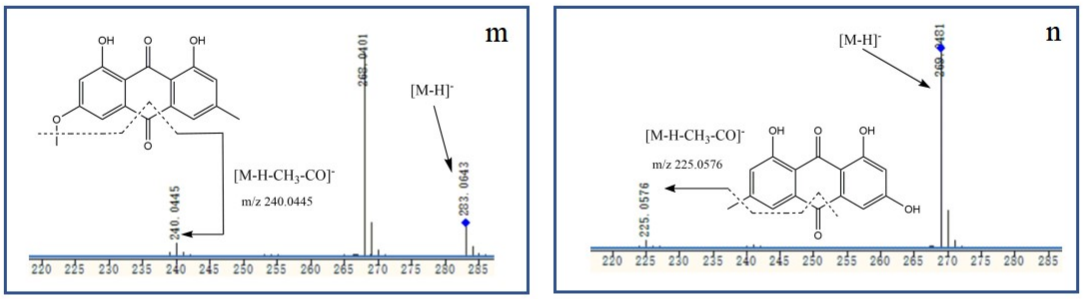


Fig. S2 The mass spectrum for 14 peaks obtained in negative mode.

a. Cassialactone gentiobioside b. Cassiaside B_2 c. Rubrofusatin triglucoside

d. Isorubrofusarin-6-*O*-β-gentiobioside e. Cassiaside f. Cassiaside C

g. Nor-rubrofusarin-6-*O*-β-D-(6-*O*-acetyl)-glucopyranoside

h. Rubrofusarin-6-*O*-β-D- glucopyranoside i. Aurantio-obtusin j. Alaternin

k. Obtusifolin l. Chrsoobtusin m. Physcion n. Emodin

Table S1 The 30 batches of raw and fried Cassiae Semen samples from different sources and collection time.

Sample number	Sample name	Sample number	Sample name	Sample sources	Collection time
S1	Raw Cassiae Semen	C1	Fried Cassiae Semen	Guangxi	20210705
S2	Raw Cassiae Semen	C2	Fried Cassiae Semen	Hebei	20210705
S3	Raw Cassiae Semen	C3	Fried Cassiae Semen	Hubei	20210705
S4	Raw Cassiae Semen	C4	Fried Cassiae Semen	Gansu	20210705
S5	Raw Cassiae Semen	C5	Fried Cassiae Semen	Zhejiang	20210705
S6	Raw Cassiae Semen	C6	Fried Cassiae Semen	Ningxia	20210705
S7	Raw Cassiae Semen	C7	Fried Cassiae Semen	Guangdong	20210705
S8	Raw Cassiae Semen	C8	Fried Cassiae Semen	Anhui	20210705
S9	Raw Cassiae Semen	C9	Fried Cassiae Semen	Shandong	20210705
S10	Raw Cassiae Semen	C10	Fried Cassiae Semen	Zhejiang	20210716
S11	Raw Cassiae Semen	C11	Fried Cassiae Semen	Henan	20210717
S12	Raw Cassiae Semen	C12	Fried Cassiae Semen	Anhui	20210718
S13	Raw Cassiae Semen	C13	Fried Cassiae Semen	Anhui	20210718
S14	Raw Cassiae Semen	C14	Fried Cassiae Semen	Ningxia	20210718
S15	Raw Cassiae Semen	C15	Fried Cassiae Semen	Shandong	20210721

Table S2 Identification of 13 potential hypoglycemic compounds from 15 batches of raw Cassiae Semen by UHPLC-QTOF-MS/MS

Common peaks	t_R(min)	$[M-H]^-$	Formula	MS fragments	Peak identification	References
P3	11.203	627.1955	$C_{28}H_{36}O_{16}$	304.9148	Cassialactone gentiobioside	42
P4	12.436	595.1704	$C_{27}H_{32}O_{15}$	271.0628	Isorubrofusarin-6-*O*-β-gentiobioside	41
P7	15.216	757.2210	$C_{33}H_{42}O_{20}$	271.9638, 256.9107	Rubrofusatin triglucoside	41
P10	17.703	419.0994	$C_{20}H_{20}O_{10}$	257.0454	Cassiaside	41
P13	20.043	595.1685	$C_{27}H_{32}O_{15}$	271.0611, 256.9103	Cassiaside C	41
P15	24.336	461.1101	$C_{22}H_{22}O_{11}$	299.1306, 257.0459	Nor-rubrofusarin-6-*O*-β-D-(6-*O*-acetyl)-glucopyranoside	41
P17	25.970	433.1143	$C_{21}H_{22}O_{10}$	271.0610, 256.9106, 228.9615	Rubrofusarin-6-*O*-β-D-glucopyranoside	41
P21	32.078	329.0703	$C_{17}H_{14}O_7$	314.0455, 285.0743	Aurantio-obtusin	43
P22	32.576	285.0433	$C_{15}H_{10}O_6$	271.0617, 257.0784, 242.9440	Alaternin	42
P23	33.619	283.0630	$C_{16}H_{12}O_5$	268.0403, 240.1548	Obtusifolin	43
P24	34.392	357.1014	$C_{19}H_{18}O_7$	342.0749, 242.9439	Chrysoobtusin	43
P26	36.320	283.0630	$C_{16}H_{12}O_5$	268.0389, 240.3601, 212.4320	Physcion	41
P27	37.226	269.0474	$C_{15}H_{10}O_5$	253.9064, 241.0625	Emodin	41

Table S3 Identification of 14 potential hypoglycemic compounds from 15 batches of fried Cassiae Semen by UHPLC-QTOF-MS/MS

Common peaks	t_R(min)	$[M-H]^-$	Formula	MS fragments	Peak identification	References
P2	11.145	627.1985	$C_{28}H_{36}O_{16}$	304.9167	Cassialactone gentiobioside	42
P4	13.372	919.2804	$C_{39}H_{52}O_{25}$	942.2644, 921.2856, 273.0712	Cassiaside B_2	41
P5	15.172	757.2255	$C_{33}H_{42}O_{20}$	271.9653, 256.9122	Rubrofusatin triglucoside	41
P6	16.672	595.1722	$C_{27}H_{32}O_{15}$	271.0633	Isorubrofusarin-6-*O*-β-gentiobioside	41
P7	17.732	419.1024	$C_{20}H_{20}O_{10}$	271.0271, 257.0476	Cassiaside	41
P10	20.078	595.1722	$C_{27}H_{32}O_{15}$	271.0634, 256.0276	Cassiaside C	41
P11	24.305	461.1101	$C_{22}H_{22}O_{11}$	299.1330, 257.0472	Nor-rubrofusarin-6-*O*-β-D-(6-*O*-acetyl)-glucopyranoside	41
P13	25.978	433.1143	$C_{21}H_{22}O_{10}$	271.0630, 256.9124, 228.9622	Rubrofusarin-6-*O*-β-D- glucopyranoside	41
P18	32.078	329.0703	$C_{17}H_{14}O_7$	314.0456, 285.0744	Aurantio-obtusin	43
P19	32.572	285.0433	$C_{15}H_{10}O_6$	271.0617, 257.0784, 242.9440	Alaternin	42
P20	33.620	283.0644	$C_{16}H_{12}O_5$	268.0415, 240.1557	Obtusifolin	43
P21	34.425	357.1015	$C_{19}H_{18}O_7$	342.0771, 242.9479	Chrysoobtusin	43
P23	36.320	283.0646	$C_{16}H_{12}O_5$	268.0405, 240.3601, 212.4320	Physcion	41
P24	37.210	269.0493	$C_{15}H_{10}O_5$	253.9084, 241.0647	Emodin	41