

Table S1 Genes and primers for PCR.

Gene	Primer	Accession numbers
Nrf2		
Forward	5'-GCCTTCCTCTGCTGCCATTAGTC-3'	NM_001399173
Reverse	5'-TGCCTTCAGTGTGCTTCTGGTTG-3'	
HO-1		
Forward	5'-CAGGTGTCCAGGGAAGGCTTTAAG-3'	NM_012580
Reverse	5'-TGGGTTCTGCTTGTTCGCTCTATC-3'	
Keap1		
Forward	5'-TGCTCAACCGCTTGCTGTATGC-3'	NM_057152
Reverse	5'-TCATCCGCCACTCATTCCTCTCC-3'	
p38		
Forward	5'-GATAAGAGGATCACAGCAGCCCAAG-3'	NM_031020
Reverse	5'-TCGTAGGTCAGGCTCTTCCATTCTG-3'	
JNK		
Forward	5'-CCACCACCAAAGATCCCTGACAAG-3'	NM_053829
Reverse	5'-GACGCCATTCTTAGTTCGCTCCTC-3'	
ERK		
Forward	5'-CTGGCTGCTAGGAACATTCTGGTG-3'	NM_001104528
Reverse	5'-GTCATCCTGGAGGTAGCGAGAGAG-3'	
GADPH		
Forward	5'-GACATGCCGCCTGGAGAAAC-3'	NM_017008
Reverse	5'-AGCCCAGGATGCCCTTTAGT -3'	

Table S2 Effects of different resin types on adsorption and desorption of MOP. Values with different letters are significantly different ($P < 0.05$).

Resin type	D201	AB-8	NKA-II	NKA-9	X-5
Moisture content (%)	50-60%	60-70%	42-52%	65-75%	45-60%
Partical size (mm)	0.315-1.25	0.3-1.25	0.3-1.25	0.3-1.25	0.3-1.25
Category	negion	low-pole	polarity	polarity	nonpolar
Adsorption rate (%)	56.07±0.52 ^a	22.42±0.38 ^d	36.58±0.45 ^c	54.65±0.54 ^a	46.43±0.35 ^b
Desorption rate (%)	5.81±0.36 ^d	80.03±1.59 ^b	73.15±1.18 ^c	92.35±1.86 ^a	82.29±1.32 ^b

Table S3 Identification of chemical compounds by UHPLC/Q-TOF-MS/MS.

NO	Retention time(min)	Experimental(m/z) [M+H] ⁺	Theoretical (m/z)	Mass error (mDa)	Fragment s (m/z)	Molecular formula	Tentative Identification
1	4.81	476.0973	476.0955	1.8	219.0294; 453.0090	C ₂₂ H ₂₀ O ₁₂	Kaempferol 3-O-β-D-glucuronopyranosyl methyl ester
2	5.57	318.0739	318.074	-0.1	277.0351	C ₁₆ H ₁₄ O ₇	6,8-Dihydroxy-1,2,4-trimethoxyanthone
3	6.06	322.0326	322.0325	0.1	260.0312; 303.0567	C ₁₄ H ₁₀ O ₉	Digallic acid
4	6.40	530.1764	530.1788	-2.4	329.0662; 415.0297	C ₂₇ H ₃₀ O ₁₁	Icariside-I
5	7.01	564.1489	564.1479	1	299.0556; 449.10768	C ₂₆ H ₂₈ O ₁₄	Corymboside
6	7.06	318.0379	318.0376	0.3	299.0556	C ₁₅ H ₁₀ O ₈	Myricetin
7	7.59	580.1433	580.1428	0.5	303.0145; 337.0197	C ₂₆ H ₂₈ O ₁₅	Kaempferol-3-O-β-D-glucoside-7-O-α-L-arabinofuranoside
8	8.48	580.1787	580.1792	-0.5	283.0607; 313.0713; 415.1026	C ₂₇ H ₃₂ O ₁₄	Narirutin
9	8.59	382.1423	382.1416	0.7	283.0607; 313.0713	C ₂₂ H ₂₂ O ₆	Licoricone
10	9.39	610.5168	610.5180	-1.2	303.0489; 147.0632	C ₂₇ H ₃₀ O ₁₆	Rutin
11	9.41	302.0432	302.0427	0.6	153.0187; 195.0286	C ₁₅ H ₁₀ O ₇	Quercetin
12	9.42	465.0955	465.0955	0	303.0502	C ₂₁ H ₂₀ O ₁₂	Isoquercitrin
13	9.54	414.095	414.0951	-0.1	313.0712; 397.0922	C ₂₁ H ₁₈ O ₉	Pinnatifinoside A
14	10.19	432.1061	432.1057	0.4	283.0607; 313.07127	C ₂₁ H ₂₀ O ₁₀	Vitexin
15	10.23	464.0956	464.0955	0.1	313.0713; 433.1130	C ₂₁ H ₂₀ O ₁₂	6-Hydroxykaempferol-7-O-glucoside
16	11.01	464.0952	464.0955	-0.2	293.0297; 303.0509	C ₂₁ H ₂₀ O ₁₂	Quercetin-3-O-β-D-glucopyranoside
17	11.47	286.0482	286.0477	0.5	271.1005	C ₁₅ H ₁₀ O ₆	Luteolin
18	11.50	422.0822	422.0849	-2.7	219.0292; 247.0242	C ₁₉ H ₁₈ O ₁₁	Isomangiferin

19	12.50	286.0484	286.0477	0.7	287.0558; 331.1004	C ₂₁ H ₂₀ O ₁₀	Kaempferol
NO	Retention time(min)	Experimental(m/z) [M+H] ⁺	Theoretical (m/z)	Mass error (mDa)	Fragment s (m/z)	Molecular formula	Tentative Identification
20	13.19	358.1415	358.1416	-0.1	174.067; 219.1018	C ₂₀ H ₂₂ O ₆	3'-O-Angeloylhamaudol
21	14.15	340.1314	340.1311	0.4	174.067; 219.1018	C ₂₀ H ₂₀ O ₅	Kushenol S
22	14.56	384.1575	384.1573	0.2	219.1018	C ₂₂ H ₂₄ O ₆	Sophoflavescenol
23	16.23	624.1702	624.169	1.1	287.0560	C ₂₈ H ₃₂ O ₁₆	Isorhamnetin-3-O-β- rutoside_1
24	16.82	448.1003	448.1006	-0.3	433.1129	C ₂₁ H ₂₀ O ₁₁	Kaempferol-3-O-β-D- glucopyranoside
25	20.11	594.1591	594.1585	0.6	433.1131	C ₂₇ H ₃₀ O ₁₅	Kaempferol-3-O- rutoside
26	22.76	676.2366	676.2367	-0.2	153.018; 207.065; 467.0828	C ₃₃ H ₄₀ O ₁₅	Icariin
27	23.19	492.0898	492.0904	-0.6	209.154; 331.0453	C ₂₂ H ₂₀ O ₁₃	Quercetin-3-O-glucuronide 6"-methylester
28	27.10	290.0795	290.0790	0.5	153.0187	C ₁₅ H ₁₄ O ₆	D-catechin
29	28.56	506.1058	506.106	-0.2	285.039; 313.034; 330.037; 345.0608	C ₂₃ H ₂₂ O ₁₃	Quercetin-3-O-(6"-O- acetyl)-β-D- glucopyranoside
30	32.08	170.0217	170.0215	0.2	153.0186	C ₇ H ₆ O ₅	Gallic acid
31	34.83	500.1661	500.1682	-2.1	277.034; 303.0142	C ₂₆ H ₂₈ O ₁₀	Baohuoside II
32	35.16	356.1273	356.126	1.3	153.018; 207.0659	C ₂₀ H ₂₀ O ₆	Leachianone G
33	35.26	386.1362	386.1366	-0.4	153.018; 207.0659	C ₂₁ H ₂₂ O ₇	Kushenol W
34	35.62	354.1107	354.1103	0.4	153.018; 325.1069	C ₂₀ H ₁₈ O ₆	8-C-Prenylkaempferol
35	35.67	344.1264	344.126	0.4	153.0189	C ₁₉ H ₂₀ O ₆	3-(4'-Methoxy-benzyl)- 5,7-dihydroxy-6-methyl-8- methoxy-chroman-4-one
36	35.70	312.0970	312.0998	-2.8	153.0189	C ₁₈ H ₁₆ O ₅	8-Methoxybonducellin
37	35.72	802.2191	802.2168	2.3	467.082; 717.2138	C ₃₄ H ₄₂ O ₂₂	Isorhamnetin-3- gentiobioside-7-glucoside

38	35.82	272.0689	272.0685	0.4	181.0501	C ₂₀ H ₂₀ O ₆	Naringenin
39	36.72	270.0534	270.0528	0.6	160.0708	C ₁₅ H ₁₀ O ₅	Resokaempferol

NO	Retention time(min)	Experimental(m/z) [M+H] ⁺	Theoretical (m/z)	Mass error (mDa)	Fragment(s) (m/z)	Molecular formula	Tentative Identification
40	39.79	446.1213	446.1213	0	341.0662; 385.0925; 429.11827	C ₂₂ H ₂₂ O ₁₀	3'-Methoxy-5'-hydroxyisoflavone-7-O-β-D-glucoside
41	39.81	484.0768	484.0772	-0.4	341.0662; 385.0925	C ₂₁ H ₂₁ O ₁₁	Cyanidin 3-glucoside
42	51.49	538.1867	538.1839	2.8	301.1414	C ₂₉ H ₃₀ O ₁₀	Aloeresin G
43	55.59	424.2838					Undefined
44	58.55	446.1213	446.1181	3.2	281.0517	C ₂₂ H ₂₂ O ₁₀	Rhamnocitrin-3-O-rhamnoside
45	59.13	281.2726					Undefined
46	62.31	470.2301	470.2305	-0.4	267.1231; 323.1857	C ₂₇ H ₃₄ O ₇	Neokurarinol
47	64.50	283.3380					Undefined
48	65.18	309.2910					Undefined
49	66.19	422.2115	422.2093	2.1	267.0003; 355.0705	C ₂₆ H ₃₀ O ₅	Kushenol U
50	67.56	335.3797					Undefined