

Supporting Information

Growth-Inhibiting, Bactericidal, Antibiofilm and Urease Inhibitory Activities of *Hibiscus rosa sinensis* L. Flower Constituents toward Antibiotic Sensitive- and Resistant-Strains of *Helicobacter pylori*

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Supporting information content

Table S1. ^1H -NMR, ^{13}C -NMR, and HMBC data of four principles isolated from *H. rosa sinensis* flower

Figure S1. ^1H - ^{13}C HMBC-correlations of protocatechuic acid (PCA) (A), naringenin (NRG) (B), luteolin (LUT) (C), and myricetin MCT) (D)

Figure S2. Scheme of isolation of four principles derived from *H. rosa sinensis* flower

Table S1. ¹H-NMR, ¹³C-NMR, and HMBC data of four principles isolated from *H. rosa sinensis* flower

Position	Principle 1 (PCA)			Principle 2 (NRG)		
	¹³ C (ppm)	¹ H (ppm, <i>J</i> = Hz)	HMBC ¹ H → ¹³ C	¹³ C (ppm)	¹ H (ppm, <i>J</i> = Hz)	HMBC ¹ H → ¹³ C
1	124.01	-	-			
2	116.50	7.46 (s)	3, 4, 6, 7	78.86	5.37 (dd, 12.9, 3.0)	1', 3, 4, 9
3	144.43	-	-	42.64	3.10 (dd, 17.0, 12.9) 2.66 (dd, 17.0, 3.0)	1', 2, 4 1', 4, 10
4	149.36	-	-	195.58	-	-
5	114.33	6.79 (d, 8)	1, 3, 4	164.45	-	-
6	122.35	7.42 (d, 8)	2, 4, 7	96.55	5.93 (d, 2.1)	5, 7, 8, 10
7	170.59	-	-	169.15	-	-
8				95.55	5.92 (d, 2.1)	6, 7, 9, 10
9				163.39	-	-
10				101.59	-	-
1'				128.04	-	-
2'				129.99	7.35 (d, 8.5)	3', 4', 6'
3'				115.34	6.88 (d, 8.5)	1', 2', 4', 5'
4'				157.91	-	-
5'				115.34	6.88 (d, 8.5)	1', 3', 4', 6'
6'				129.99	7.35 (d, 8.5)	2', 4', 5'

Table S1. (cont.)

Position	Principle 3 (LUT)			Principle 4 (MCT)		
	¹³ C (ppm)	¹ H (ppm, <i>J</i> = Hz)	HMBC ¹ H → ¹³ C	¹³ C (ppm)	¹ H (ppm, <i>J</i> = Hz)	HMBC ¹ H → ¹³ C
2	164.38	-	-	147.34	-	-
3	103.36	6.63 (s)	2, 4, 10, 1'	136.36	-	-
4	182.11	-	-	176.21	-	-
5	157.78	-	-	161.21	-	-
6	99.31	6.17 (d, 2.0)	7, 8, 9, 10	98.64	6.16 (d, 2.0)	5, 7, 8, 10
7	164.61	-	-	164.38	-	-
8	94.31	6.42 (d, 2.0)	5, 6, 7, 10	93.67	6.35 (d, 2.0)	6, 7, 9, 10
9	161.96	-	-	156.57	-	-
10	104.19	-	-	103.45	-	-
1'	119.44	-	-	121.28	-	-
2'	122.03	7.40 (d, 2.2)	2, 1', 4', 5' 6	107.68	7.22 (s)	2, 1', 3', 4', 6'
3'	116.51	6.88 (d, 8.1)	1', 4', 5'	146.20	-	-
4'	150.17	-	-	136.32	-	-
5'	146.22	-	-	146.20	-	-
6'	113.87	7.38 (s)	2, 1', 2', 4', 5'	107.68	7.22 (s)	2, 1', 2', 4', 5'
5-OH	-	12.94 (s)	6, 9, 10	-	12.46 (s)	5, 6, 10

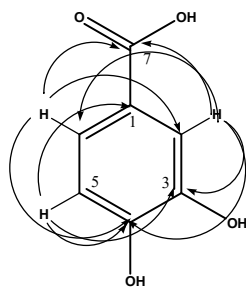
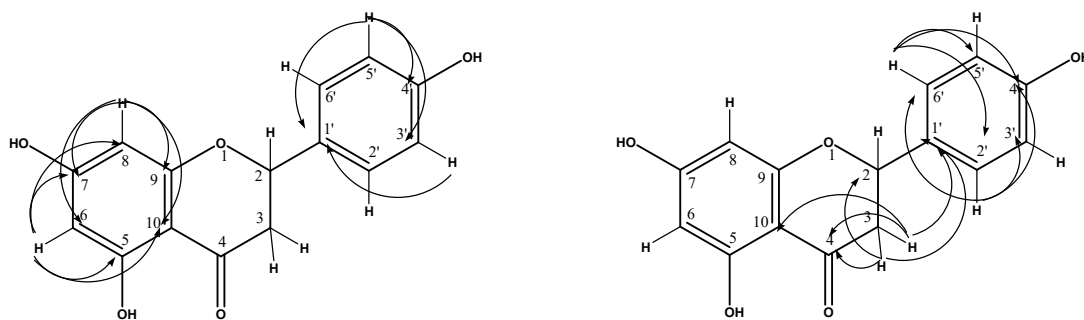
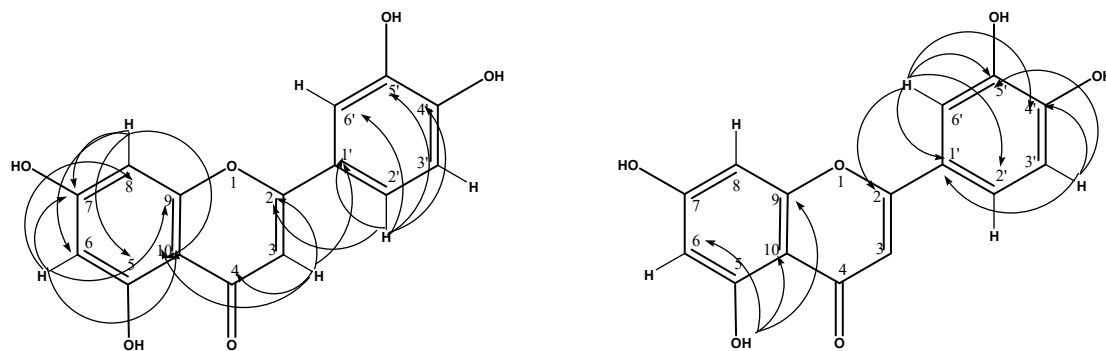
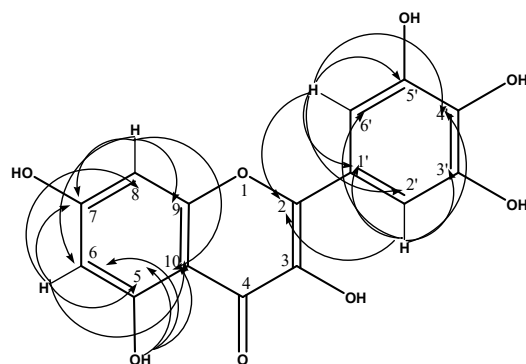
A**B****C****D**

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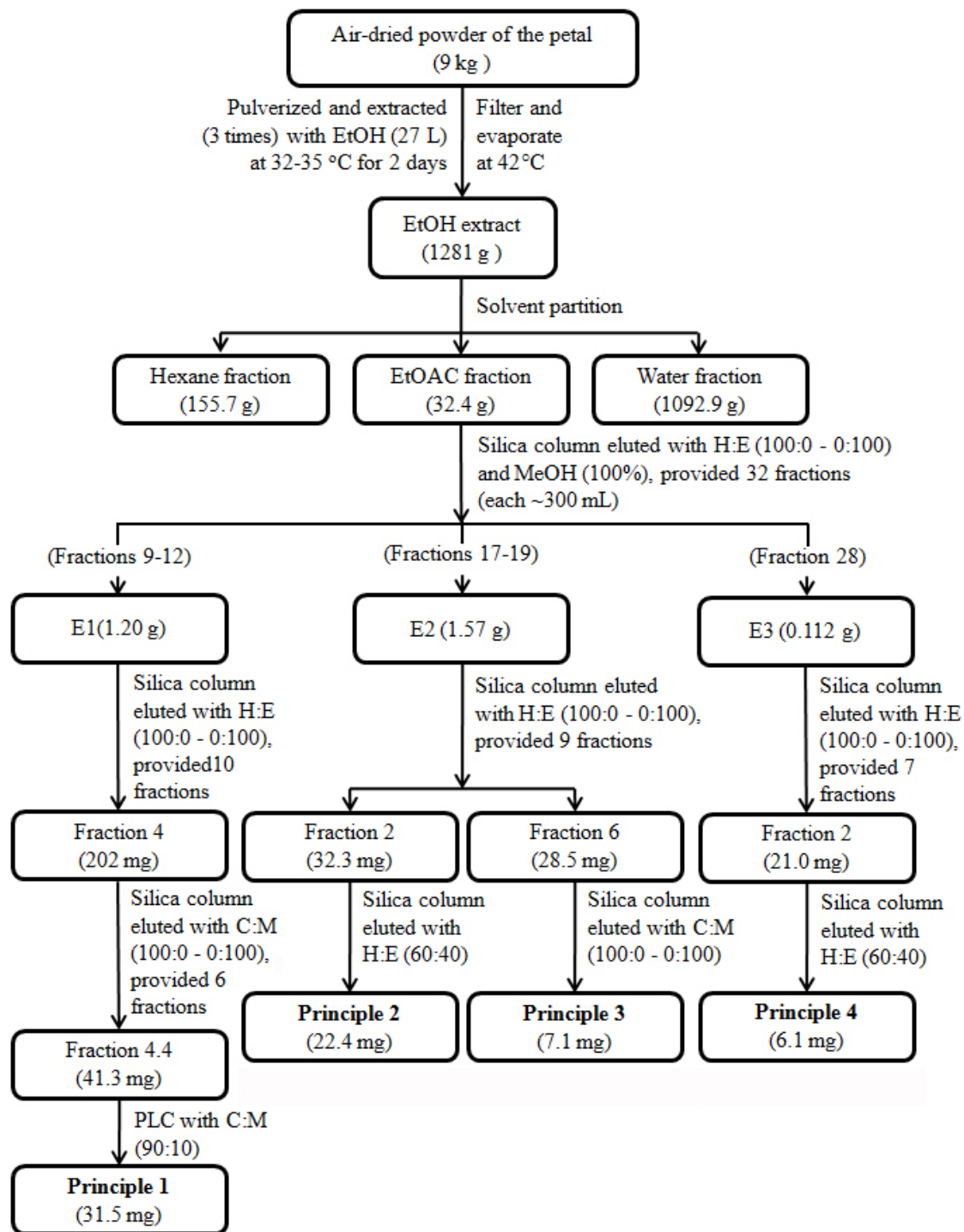


Figure S2. Scheme of isolation of four principles derived from *H. rosa sinensis* flower