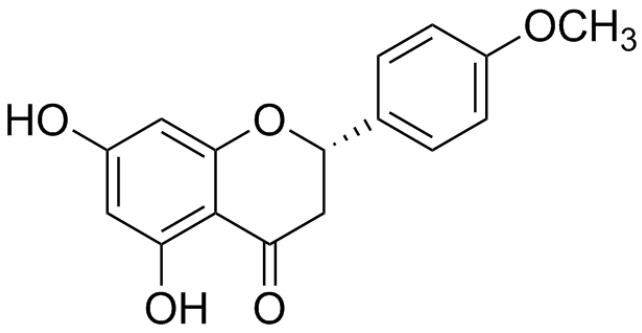
Isoakuranetin

5,7-Dihydroxy-4'-methoxyflavanone



CAS-Number: 480-43-3

Formula: $C_{16}H_{14}O_5$ Exact mass: 286.08412

Molecular mass: 286.28

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	27.68	24.35	12.16
Rel. RetentionTime (k') :	22.46	22.41	21.94
k' rel. to Rutin :	1.70	1.81	1.84

MS1: 285.3 MS2: 270.1 MS3: 164.1

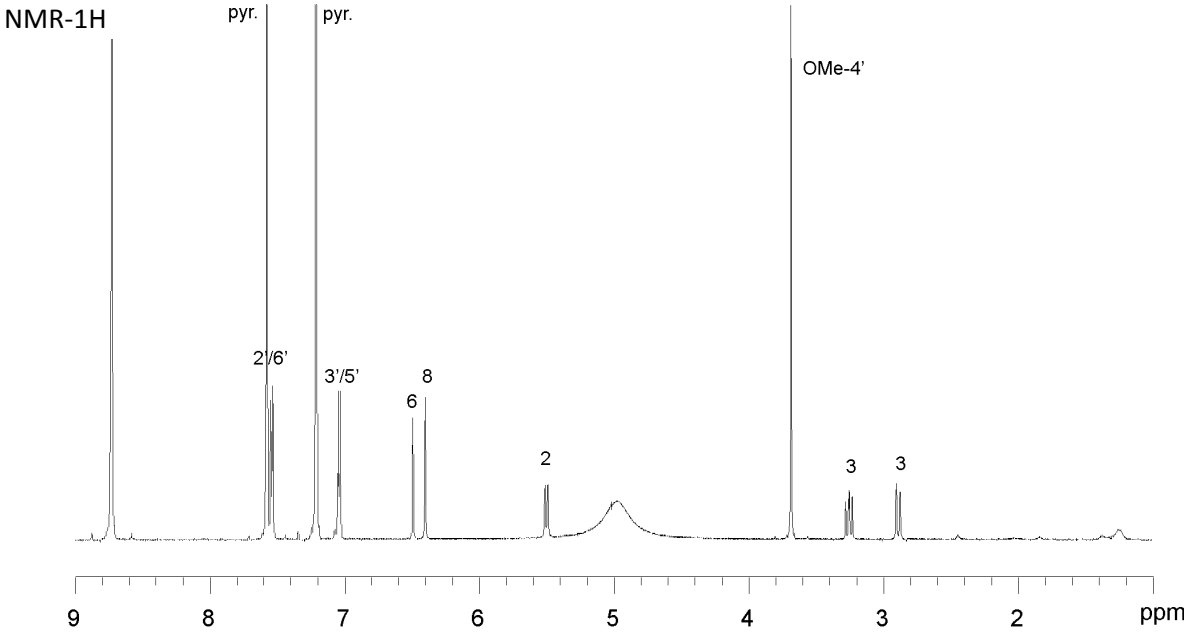
UV/Vis: 290, 330(sh)

NMR - Resonance Assignments:

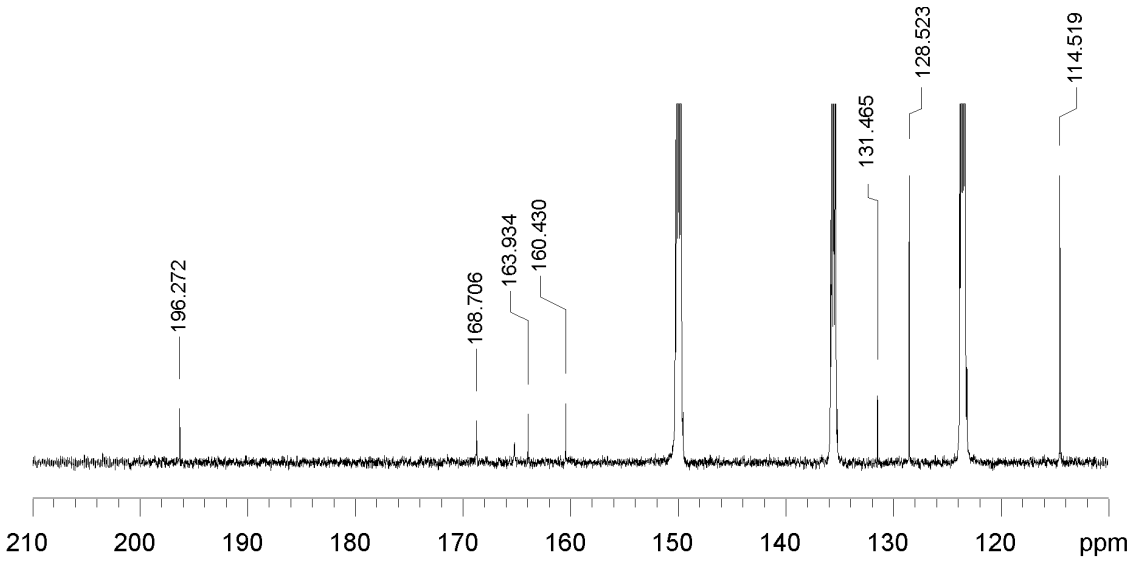
Flavone Core Sugar

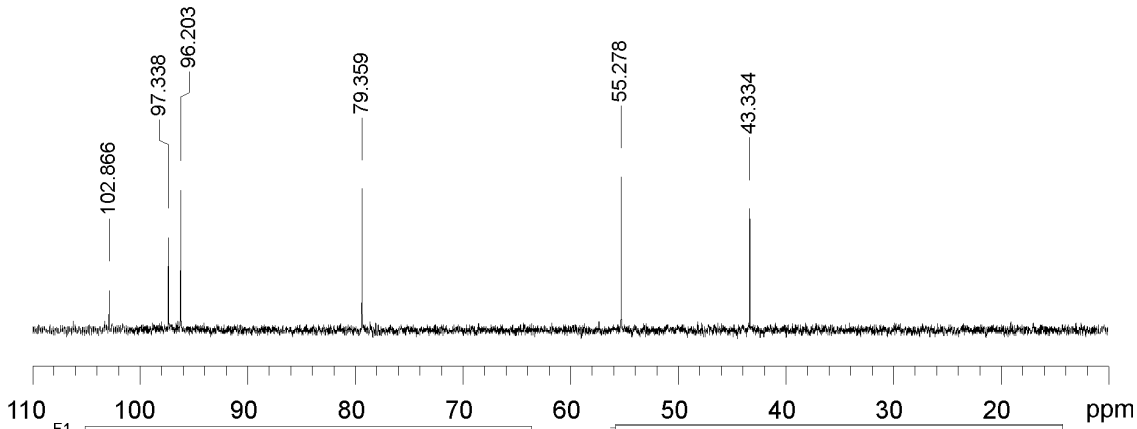
	δ_C	δ_H
2	79.4d	5.5
3	43.3t	2.89/3.25
4	196.3s	
4a	102.9s	
5	165.2s	
6	97.3d	6.49
7	168.7s	
8	96.2d	6.4
8a	163.9s	
1'	131.5s	
2'	128.5d	7.54
3'	114.5d	7.04
4'	160.4s	
5'	114.5d	7.04
6'	128.5d	7.54
OMe-4'	55.3q	3.69

NMR-1H

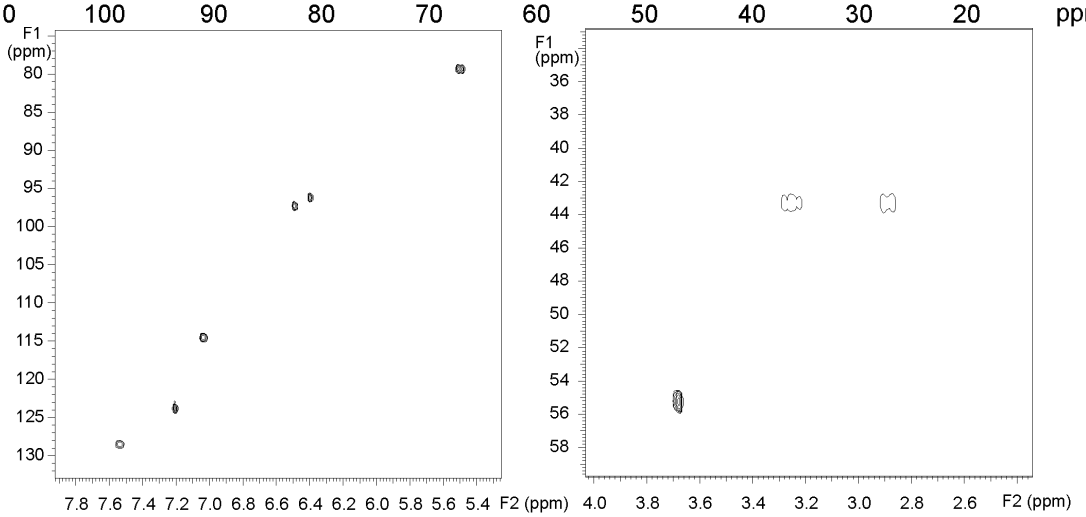


NMR-13C:





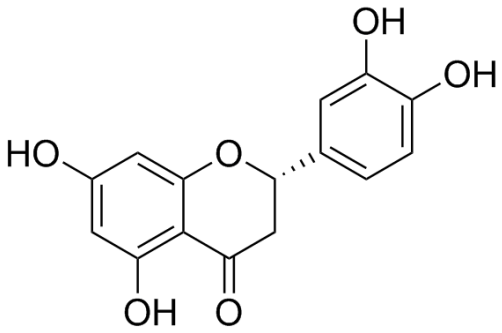
NMR-HSQC:



Names Isoakuranetin; 2,3-dihydro-5,7-dihydroxy-2-(4-methoxyphenyl)-(2S)- 4H-1-benzopyran-4-one; 2,3-dihydro-5,7-dihydroxy-2-(4-methoxyphenyl)-(S)- 4H-1-benzopyran-4-one; 5,7-dihydroxy-4'-methoxy-flavanone; Isosakuranetin; (S)-Isosakuranetin; 4'-Methylnaringenin; 5,7-Dihydroxy-4'-methoxyflavanone; Citrifoliol; Naringenin-4'-methyl ether; Ponciretin

Eriodictyol

5,7,3',4'-Tetrahydroxyflavanone



CAS-Number: 552-58-9

Formula: $C_{15}H_{12}O_6$ Exact mass: 288.06339

Molecular mass: 288.25

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	20.4	17.04	8.41
Rel. RetentionTime (k') :	16.29	15.38	14.87
k' rel. to Rutin :	1.23	1.24	1.24

MS1: 287.1 MS2: 151.1 MS3: 107.1

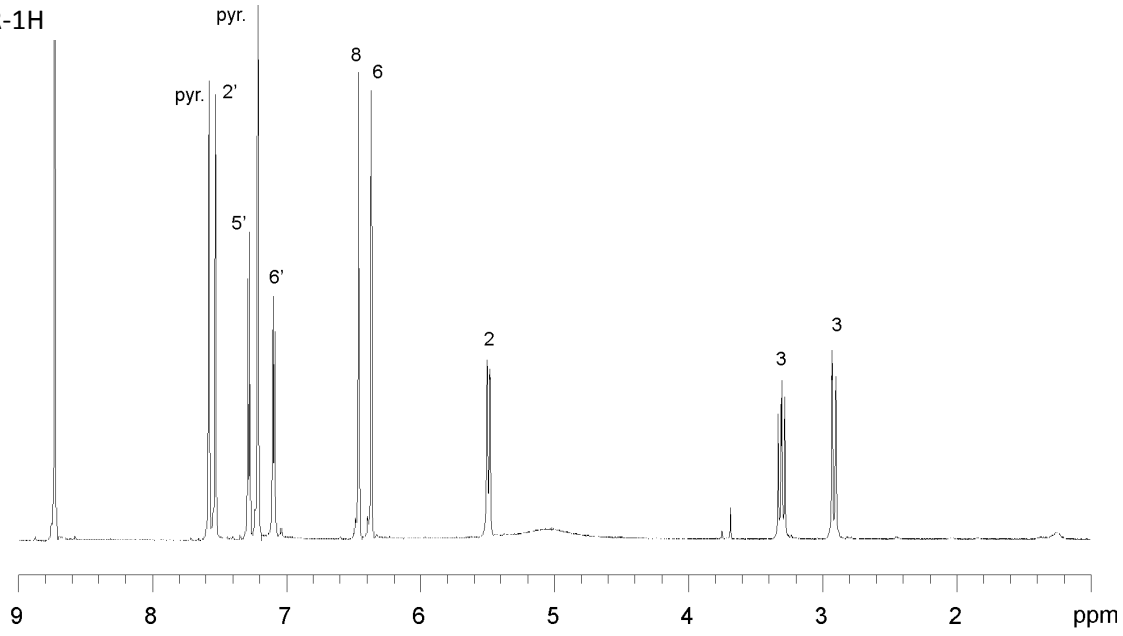
UV/Vis: 285, 330(sh)

NMR - Resonance Assignments:

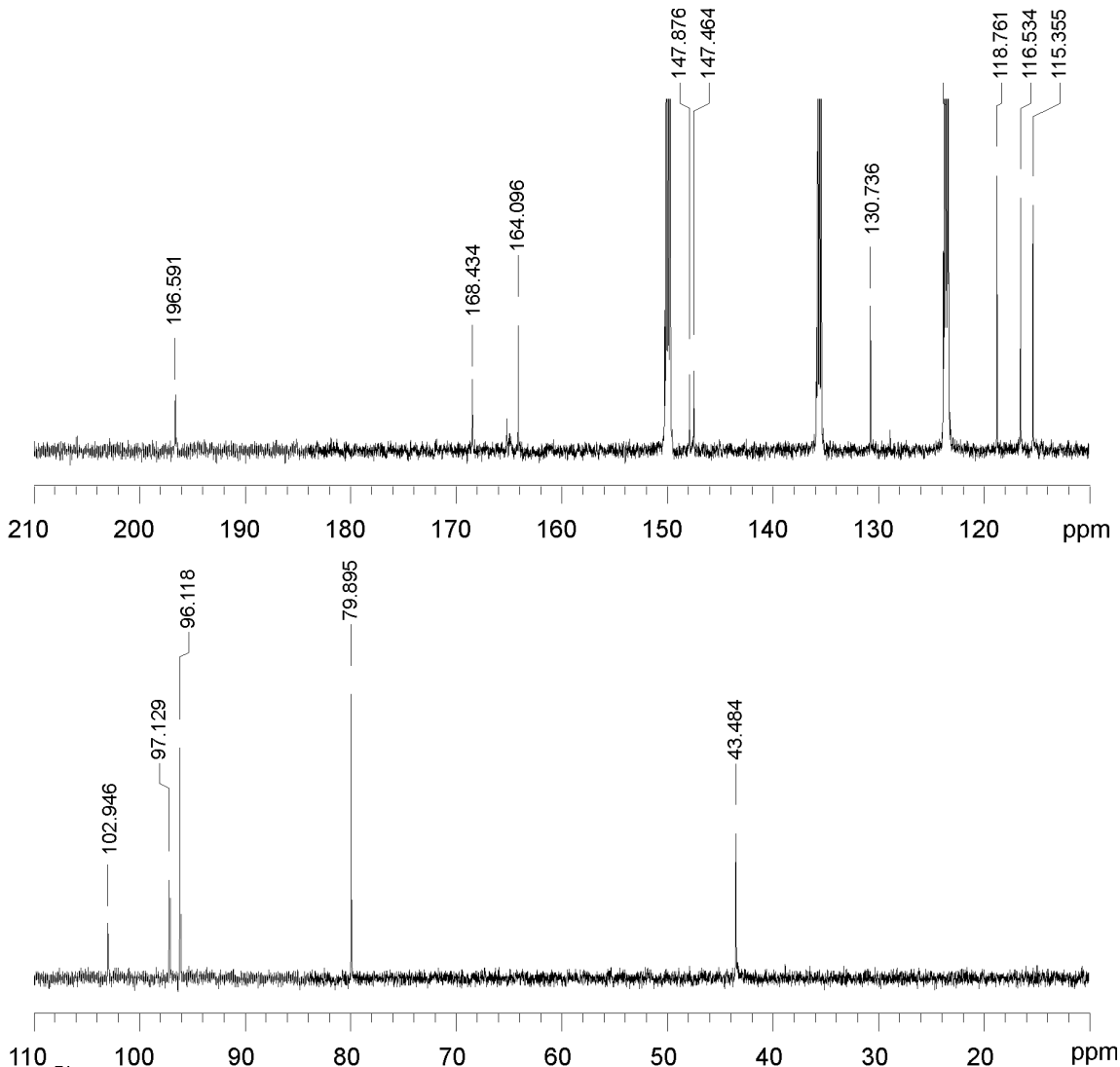
Flavone Core Sugar

	δ_C	δ_H
2	79.9d	5.48
3	43.5t	2.91/3.3
4	196.6s	
4a	102.9s	
5	165.2s	
6	97.1d	6.47
7	168.4s	
8	96.1d	6.36
8a	164.1s	
1'	130.7s	
2'	115.4d	7.53
3'	147.5s	
4'	147.9s	
5'	116.5d	7.28
6'	118.8d	7.09

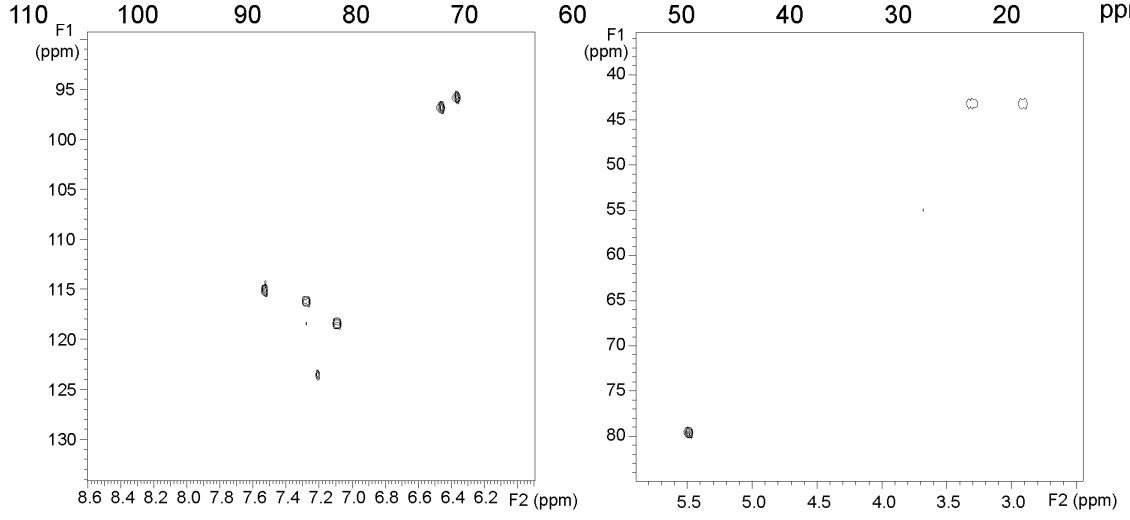
NMR-1H



NMR-13C:



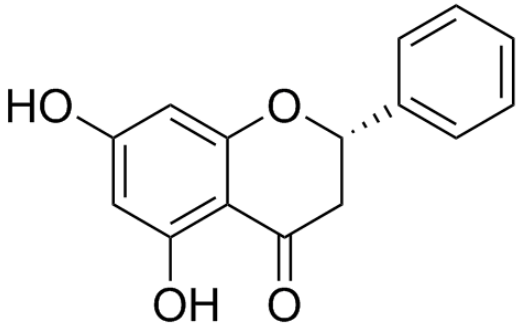
NMR-HSQC:



Names 2-(3,4-dihydroxyphenyl)-2,3-dihydro-5,7-dihydroxy-(2S)- 4H-1-benzopyran-4-one; 2-(3,4-dihydroxyphenyl)-2,3-dihydro-5,7-dihydroxy- (S)-4H-1-benzopyran-4-one; Eriodictyol; 5,7,3’,4’-tetrahydroxy- flavanone; (+)-Eriodictyol; (2S)-Eriodictyol; (S)-5,7,3’,4’-Tetrahydroxyflavanone; 5,7,3’,4’-Tetrahydroxyflavanone; Huazhongilexone

Naringenin

5,7,4'-Trihydroxyflavanone



CAS-Number: 480-41-1

Formula: $C_{15}H_{12}O_5$ Exact mass: 272.06847

Molecular mass: 272.25

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	22.43	19.33	9.57
Rel. RetentionTime (k') :	18.01	17.59	17.06
k' rel. to Rutin :	1.36	1.42	1.43

MS1: 271.3 MS2: 151.1 MS3: 107.1

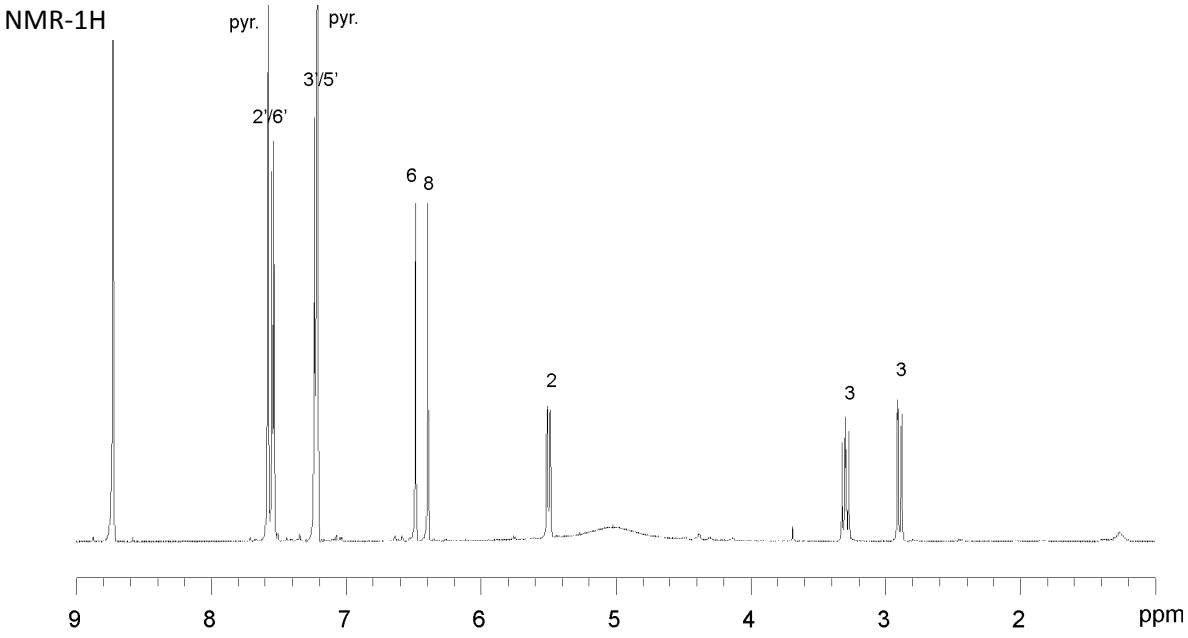
UV/Vis: 290, 330(sh)

NMR - Resonance Assignments:

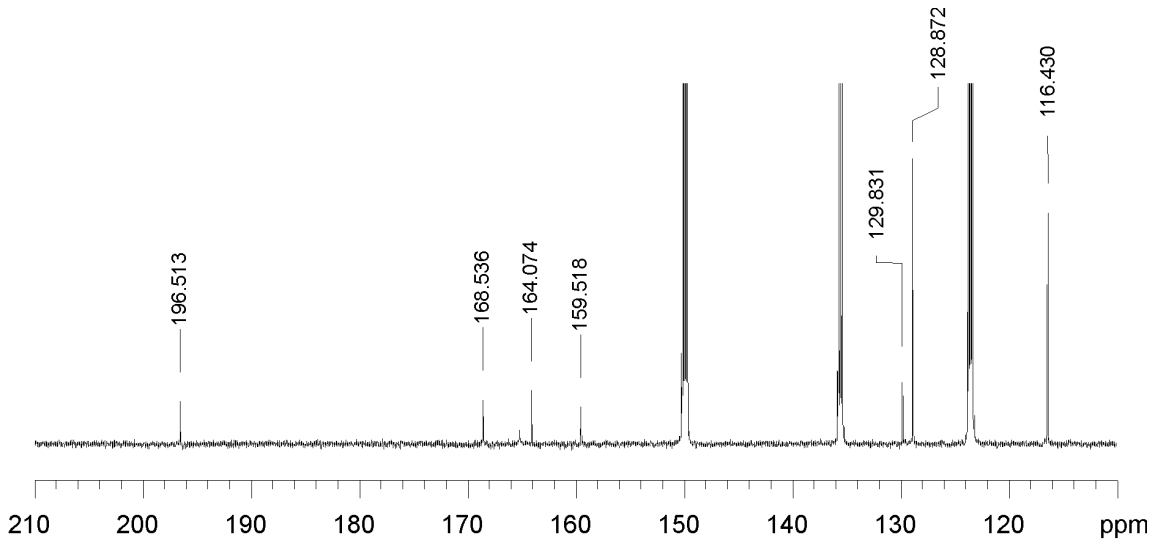
Flavone Core Sugar

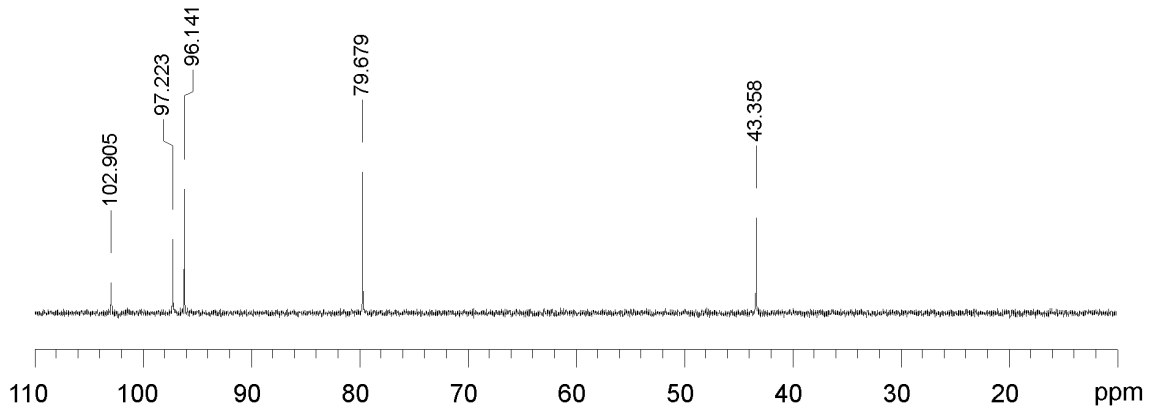
	δ_C	δ_H
2	79.7d	5.49
3	43.4t	2.89/3.29
4	196.5s	
4a	102.9s	
5	165.2s	
6	97.2d	6.49
7	168.5s	
8	96.1d	6.39
8a	164.1s	
1'	129.8s	
2'	128.9d	7.54
3'	116.4d	7.23
4'	159.5s	
5'	116.4d	7.23
6'	128.9d	7.54

NMR-1H

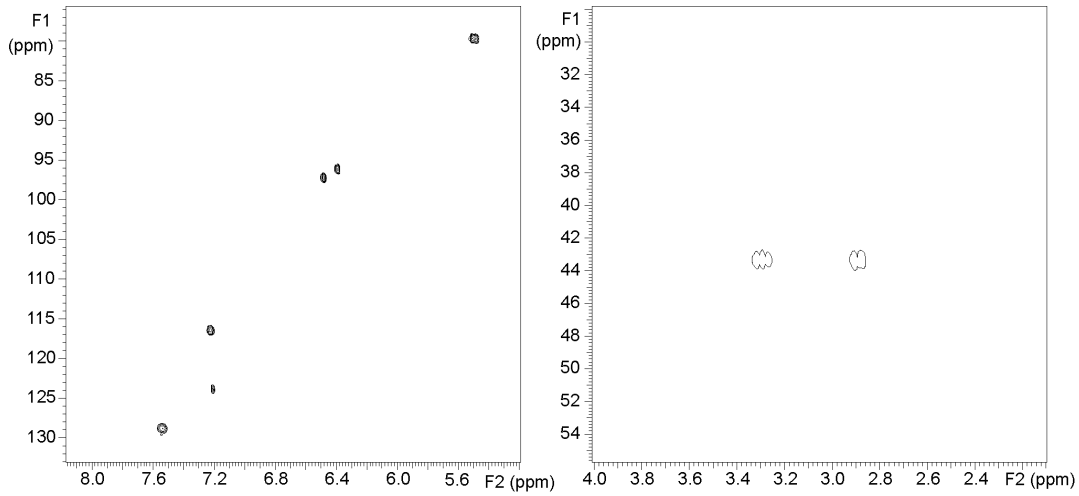


NMR-13C:





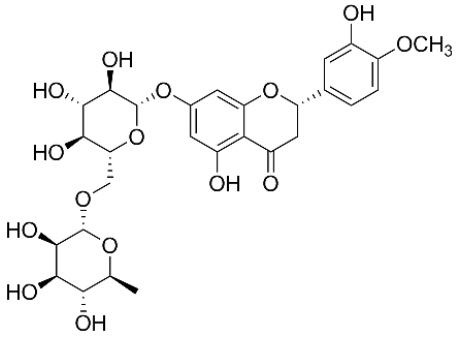
NMR-HSQC:



Names 2,3-dihydro-5,7-dihydroxy-2-(4-hydroxyphenyl)-, (2S)-4H-1-benzopyran-4-one; 2,3-dihydro-5,7-dihydroxy-2-(4-hydroxyphenyl)-, (S)-4H-1-benzopyran-4-one; 5,7,4’-trihydroxy-flavanone; Naringenin; (-)-(2S)-Naringenin; (-)-Naringenin; (2S)-5,7,4’-Trihydroxy-flavanone; (2S)-Naringenin; (S)-Naringenin; NSC 11855; NSC 34875; Naringenine; Naringetol; S-Dihydrogenistein; Salipurol; Salipurpo

Hesperidin

Hesperetin-7-O-β-D-rutinosid



CAS-Number: 520-26-3

Formula: $C_{28}H_{34}O_{15}$ Exact mass: 610.18977

Molecular mass: 610.56

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18.32	14.99	7.43
Rel. RetentionTime (k') :	14.53	13.41	13.02
k' rel. to Rutin :	1.10	1.08	1.09

MS1: 609.3 MS2: 301.2 MS3: 286.1

UV/Vis: 285, 330(sh)

NMR - Resonance Assignments:

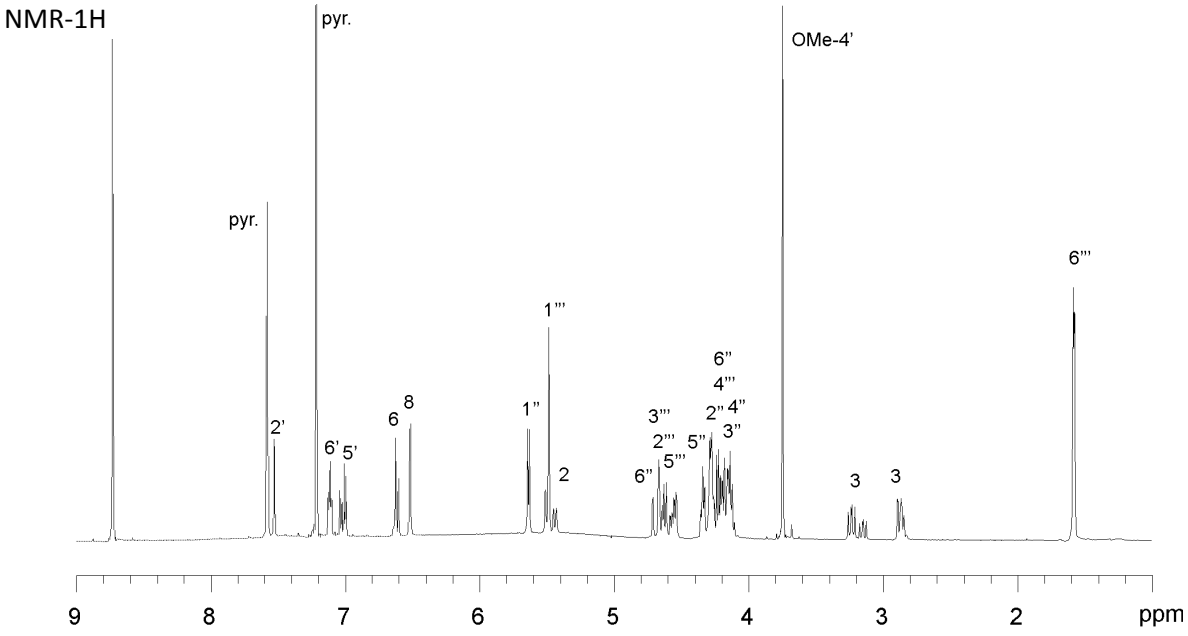
Flavone Core

	δ_C	δ_H
2	79.6d	5.5
3	43.2t	3.24/2.88
4	196.9s	
4a	104.5s	
5	164.8s	
6	98d	6.64
7	166.4s	
8	96.3d	6.51
8a	163.5s	
1'	132.1s	
2'	115.3d	7.52
3'	148.5s	
4'	149s	
5'	112.4d	7
6'	118.1d	7.11
OMe-4'	55.9q	3.75

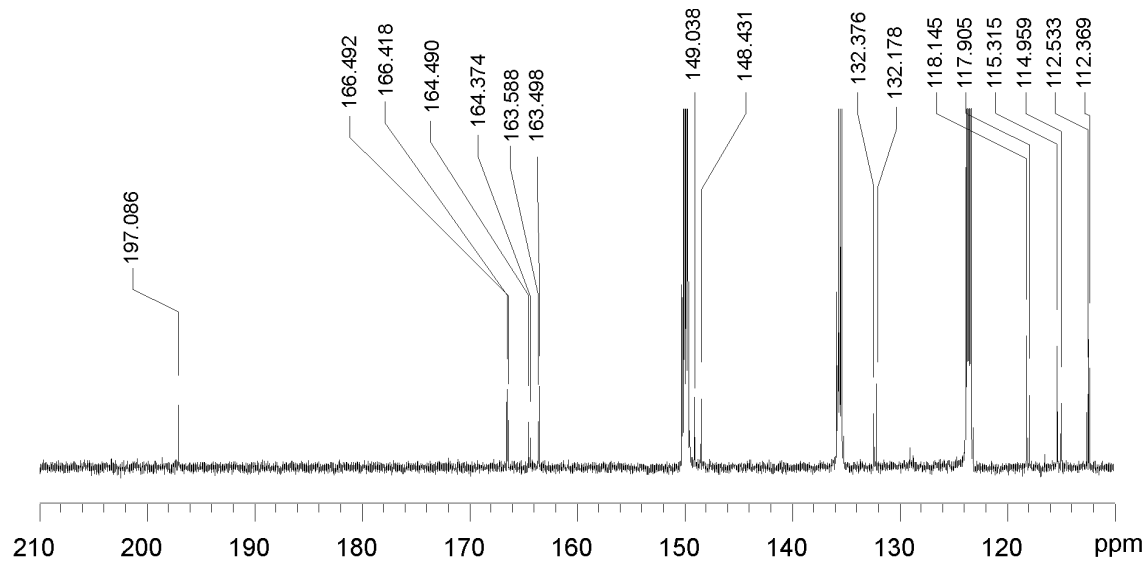
Sugar

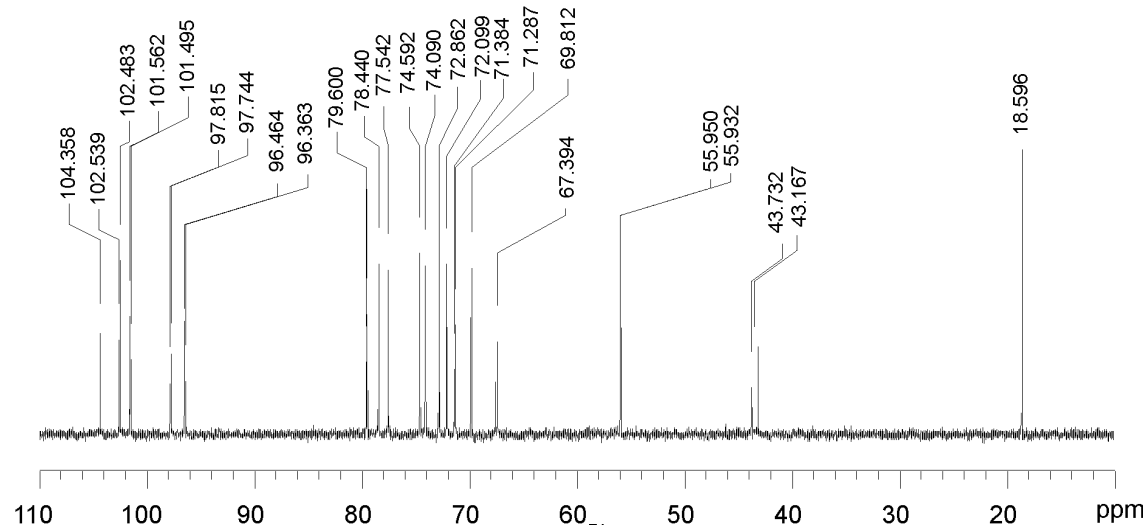
	δ_C	δ_H
1''	101.5d	5.65
2''	74.6d	4.28
3''	77.6d	4.2
4''	71.4d	4.13
5''	78.5d	4.33
6''	67.5t	4.63/4.17
1'''	102.5d	5.49
2'''	72.1d	4.69
3'''	72.7d	4.55
4'''	74.1d	4.22
5'''	69.9d	4.29
6'''	18.6q	1.58

NMR-1H

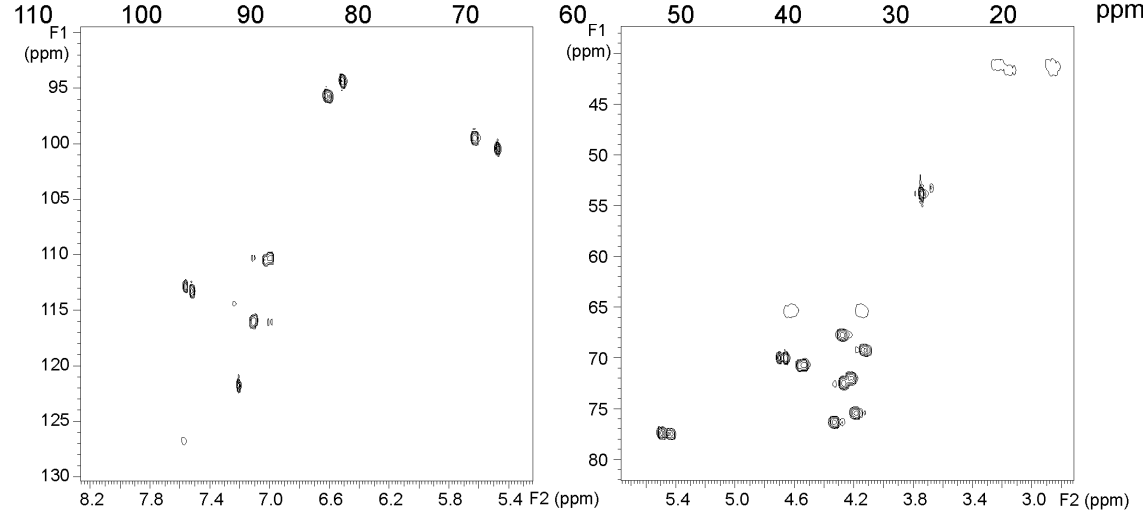


NMR-13C:





NMR-HSQC:

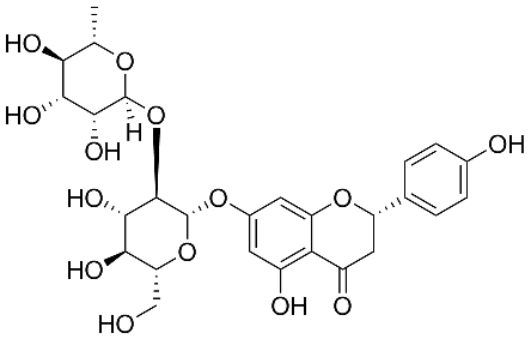


Names

7-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)- (2S)-4H-1-benzopyran-4-one; 7-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)- (S)-4H-1-benzopyran-4-one; 5,7,3’-trihydroxy-4'-methoxy-7-(6-O-α-L-rhamnosyl-D-glucoside)-flavanone; Hesperidin; (2S)-Hesperidin; Atripliside B; Cirantin; Hesperetin 7-rhamnoglucoside; Hesperetin 7-rutinoside; Hesperidine; Hesperidoside; NSC 44184

Naringin

Naringenin-7-O-β-D-neohesperidoside



CAS-Number: 10236-47-2

Formula: $C_{27}H_{32}O_{14}$ Exact mass: 580.17921

Molecular mass: 580.53

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	17.97	14.53	7.21
Rel. RetentionTime (k') :	14.23	12.97	12.60
k' rel. to Rutin :	1.08	1.05	1.06

MS1: 579.3 MS2: 459.2 MS3: 357.2

UV/Vis: 285, 330(sh)

NMR - Resonance Assignments:

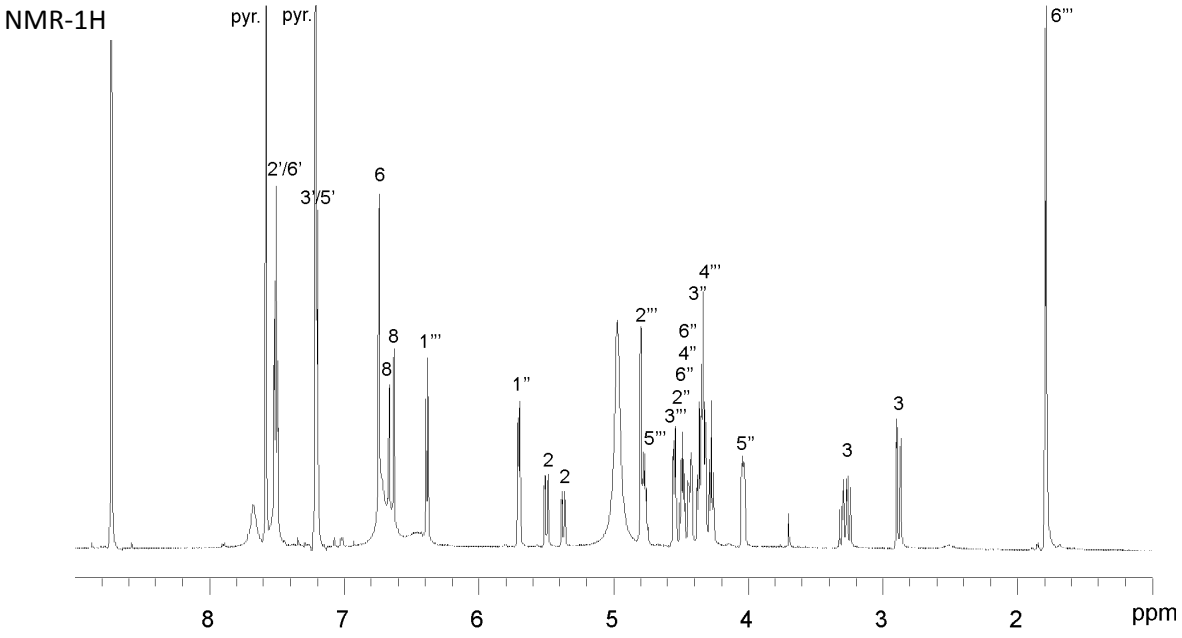
Flavone Core

	δ_C	δ_H
2	79.6d	5.37/5.5
3	43.3t	2.88/3.28
4	197.3s	
4a	104.4s	
5	164.5s	
6	97.7d	6.75
7	166.2s	
8	96.2d	6.67
8a	163.7s	
1'	129.5s	
2'	128.9d	7.51
3'	116.5d	7.2
4'	159.6s	
5'	116.5d	7.2
6'	128.9d	7.51

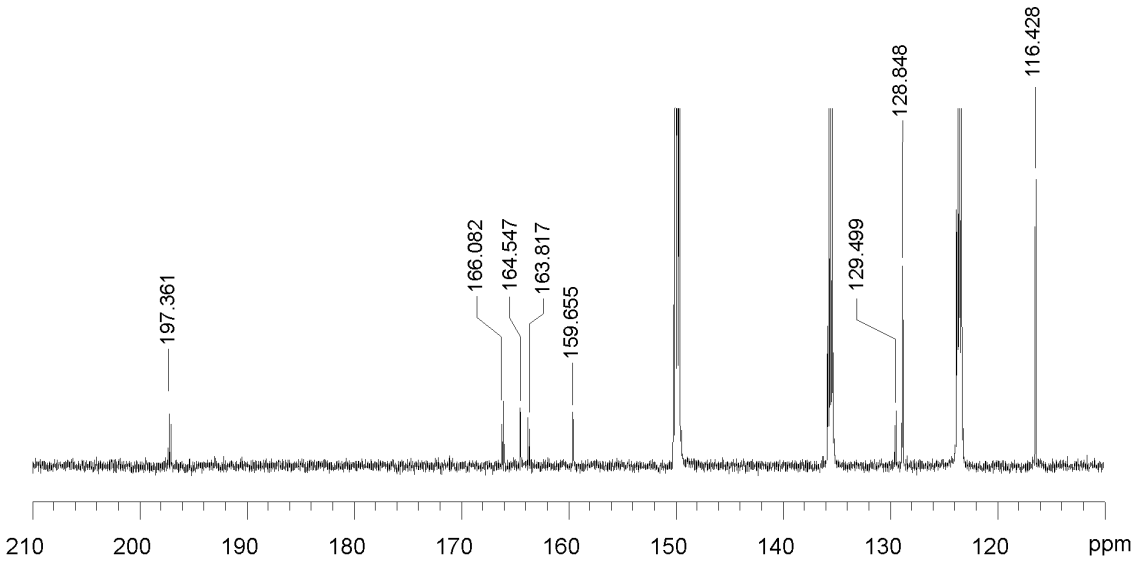
Sugar

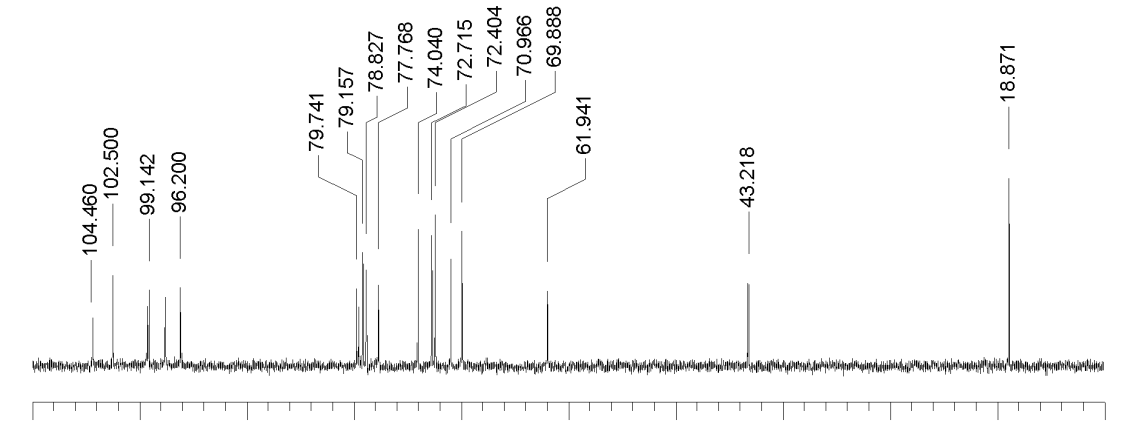
	δ_C	δ_H
1''	99.3d	5.7
2''	77.8d	4.49
3''	79.2d	4.36
4''	71.1d	4.27
5''	78.9d	4.04
6''	62t	4.33/4.44
1'''	102.5d	6.38
2'''	72.5d	4.8
3'''	72.8d	4.55
4'''	74.1d	4.33
5'''	70d	4.77
6'''	19q	1.79

NMR-1H

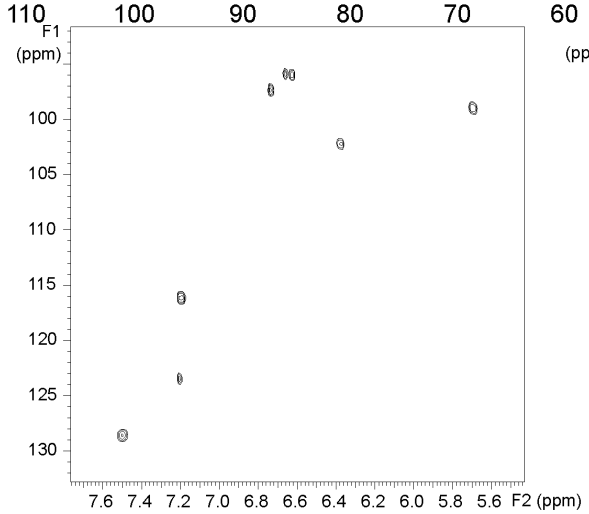


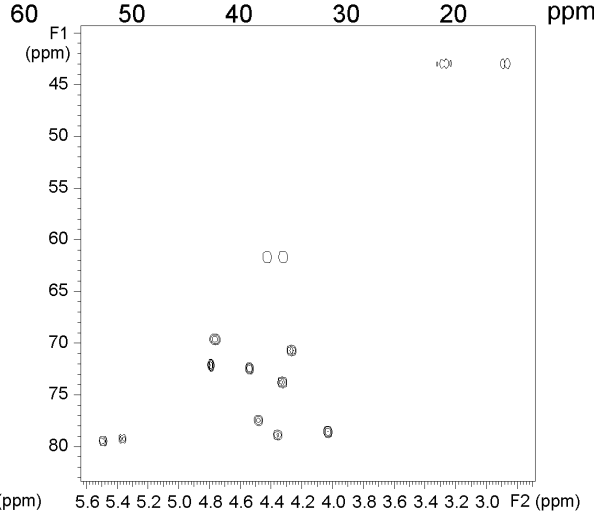
NMR-13C:





NMR-HSQC:



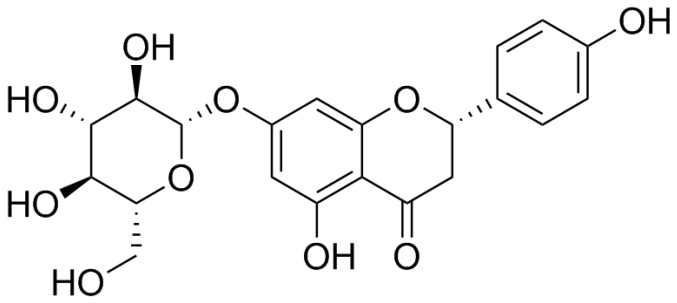


Names

7-[[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(4-hydroxyphenyl)- (2S)-4H-1-benzopyran-4-one; 7-[[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2,3-dihydro-5-hydroxy-2-(4-hydroxyphenyl)- (S)-4H-1-benzopyran-4-one; Naringin; (2S)-Naringin; 7-[2-O-(6-Deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyloxy]-2,3-dihydro-5,7,4'-trihydroxyflavone; Aurantiin; Naringenin 7-O-neohesperidoside; Naringenin 7-O-β-D-neohesperidoside; Naringenin 7-neohesperidoside; Naringenin 7-rhamnoglucoside; Naringenin 7β-neohesperidoside; Naringoside

Naringenin-7-O-glucosid

Naringenin-7-O-β-D-glucopyranoside



CAS-Number: 529-55-5

Formula: $C_{21}H_{22}O_{10}$ Exact mass: 434.12130

Molecular mass: 434.39

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	17.81	14.45	7.07
Rel. RetentionTime (k') :	14.09	12.89	12.34
k' rel. to Rutin :	1.07	1.04	1.03

MS1: 433.2 MS2: 271.2 MS3: 151.1

UV/Vis: 285, 330(sh)

NMR - Resonance Assignments:

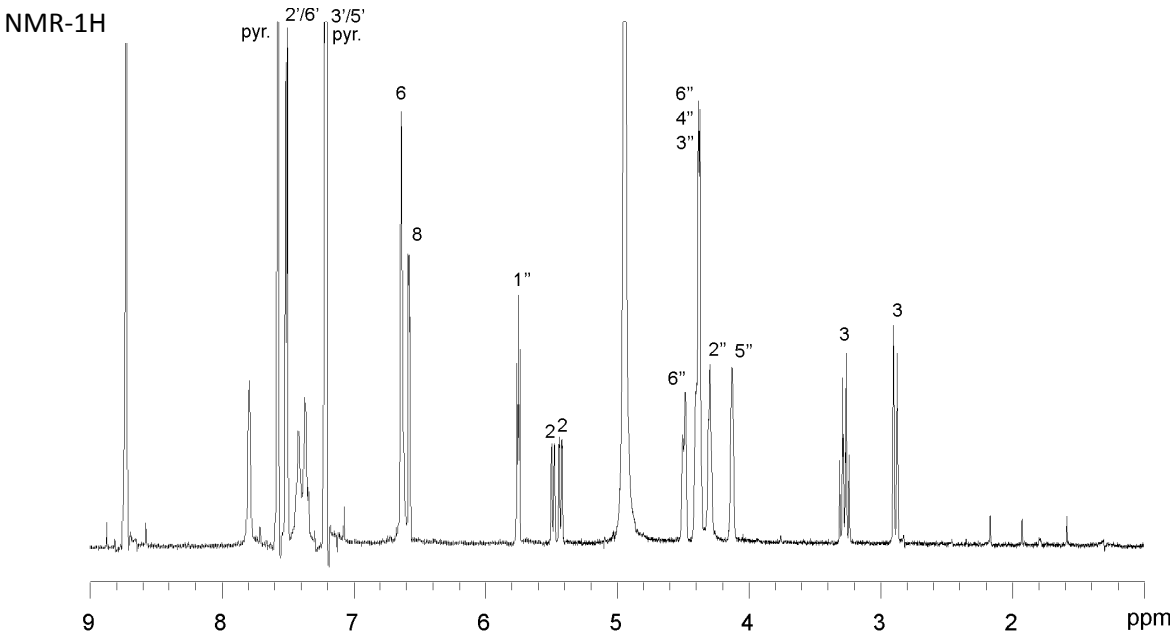
Flavone Core

	δ_C	δ_H
2	79.8d	5.49/5.43
3	43.3t	3.29/2.89
4	197.3s	
4a	104.3s	
5	169.5s	
6	97.6d	6.64
7	166.6s	
8	96.3d	6.58
8a	163.6s	
1'	129.5s	
2'	128.9d	7.51
3'	116.6d	7.22
4'	159.6s	
5'	116.5d	7.22
6'	128.9d	7.51

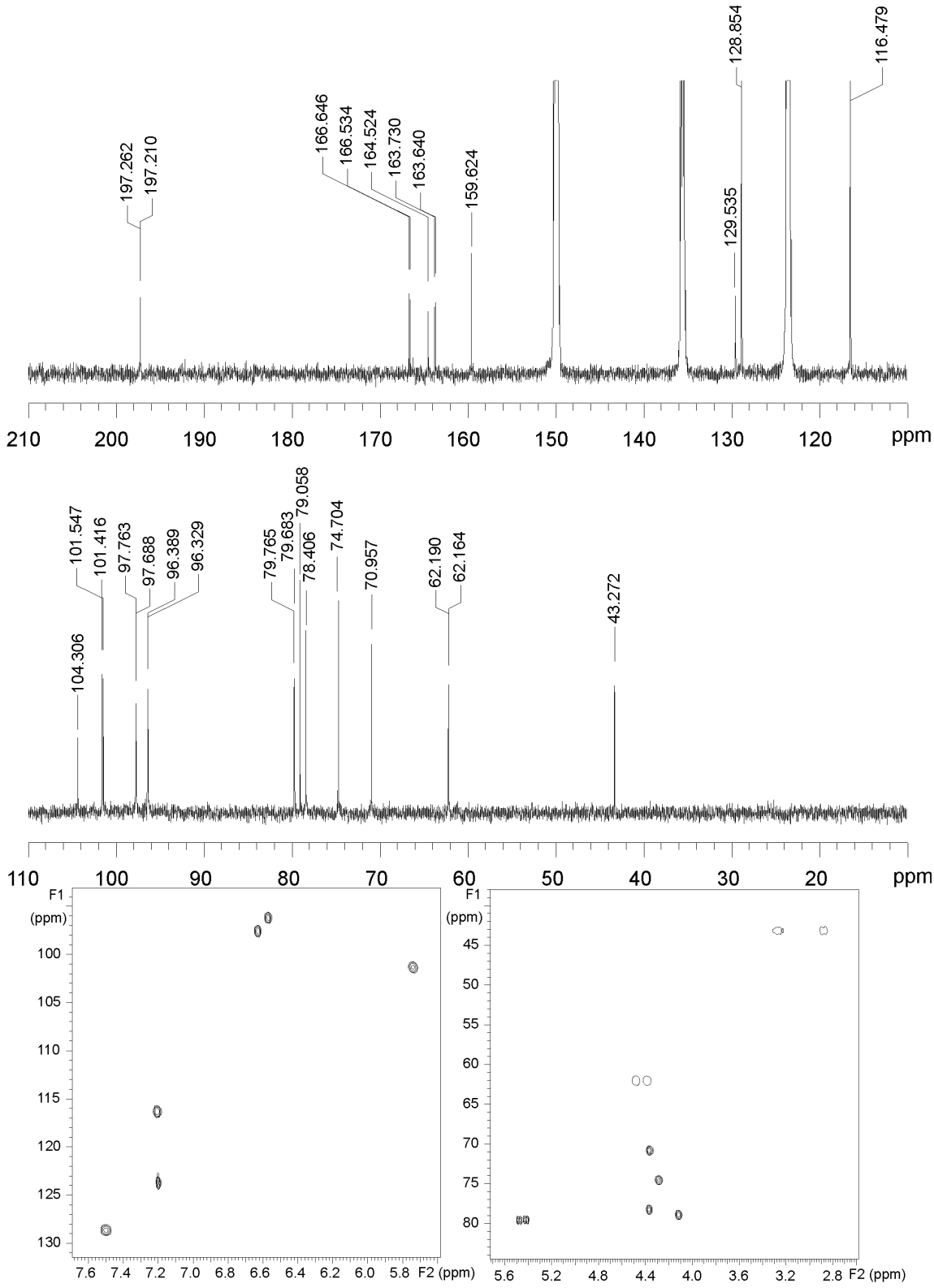
Sugar

	δ_C	δ_H
5''	79.1d	4.12
6''	62.2t	4.45/4.39
1''	101.4d	5.75
2''	74.7d	4.29
3''	78.4d	4.38
4''	71d	4.38

NMR-1H



NMR-13C:



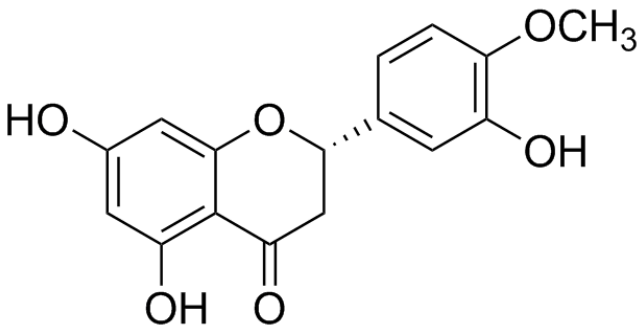
NMR-HSQC:

Names

7-(β-D-glucopyranosyloxy)-2,3-dihydro-5-hydroxy-2-(4-hydroxyphenyl)-, (2S)- 4H-1-benzopyran-4-one; 7-(β-D-glucopyranosyloxy)-2,3-dihydro-5-hydroxy-2-(4-hydroxyphenyl)-(S)-4H-1-benzopyran-4-one; Prunin; (-)-Naringenin 7-β-D-glucoside; 5,7,4′-trihydroxyflavanone 7-O-β-D-glucopyranoside; NSC 135064; Naringenin 7-O-glucoside; Naringenin 7-O-β-D-glucopyranoside; Naringenin 7-O-β-D-glucoside; Naringenin 7-glucoside

Hesperetin

5,7,3'-Trihydroxy-4'-methoxyflavanone



CAS-Number: 520-33-2

Formula: $C_{16}H_{14}O_6$ Exact mass: 302.07904

Molecular mass: 302.28

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	23.33	20.19	10.04
Rel. RetentionTime (k') :	18.77	18.41	17.94
k' rel. to Rutin :	1.42	1.48	1.50

MS1: 301.2 MS2: 286.1 MS3: 258.1

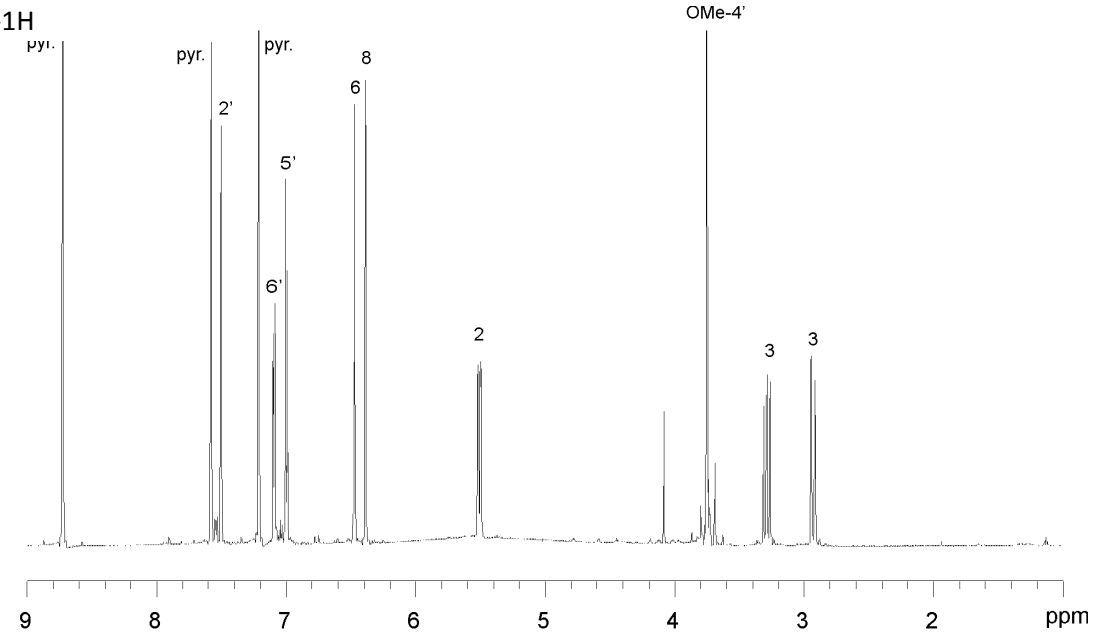
UV/Vis: 285, 330(sh)

NMR - Resonance Assignments:

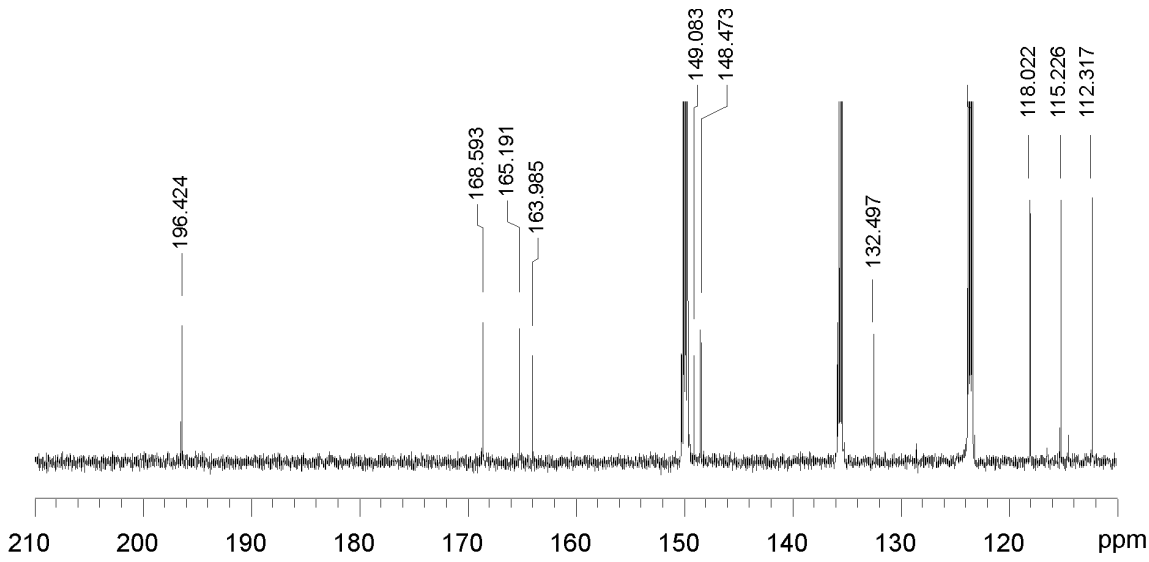
Flavone Core Sugar

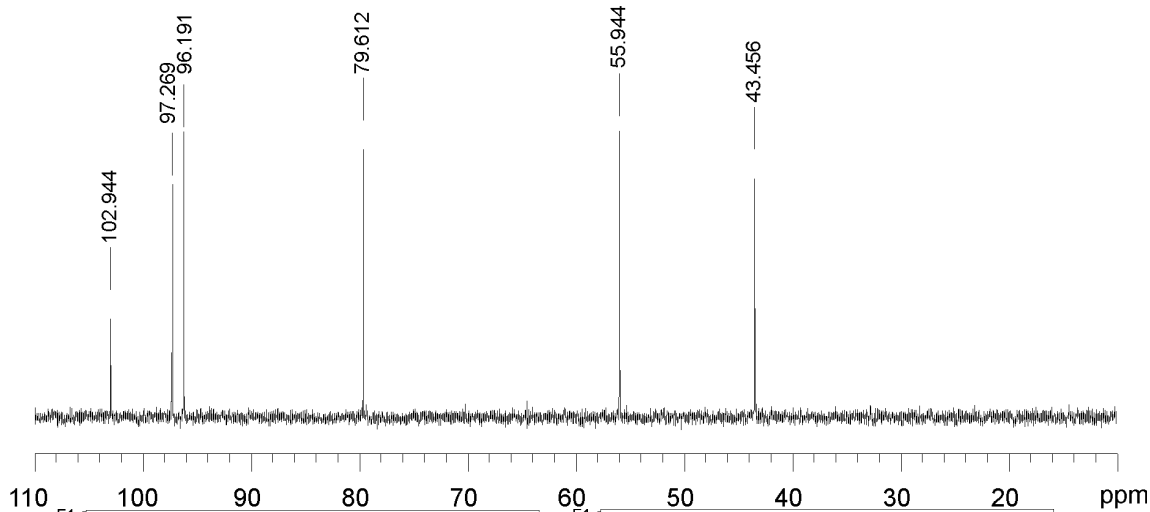
	δ_C	δ_H
2	79.6d	5.51
3	43.4t	3.29/2.93
4	196.4s	
4a	102.9s	
5	165.2s	
6	97.3d	6.47
7	168.6s	
8	96.2d	6.39
8a	164s	
1'	132.5s	
2'	115.2d	7.5
3'	148.5s	
4'	149.1s	
5'	112.3d	6.99
6'	118d	7.09
OMe-4'	55.9q	3.75

NMR-1H

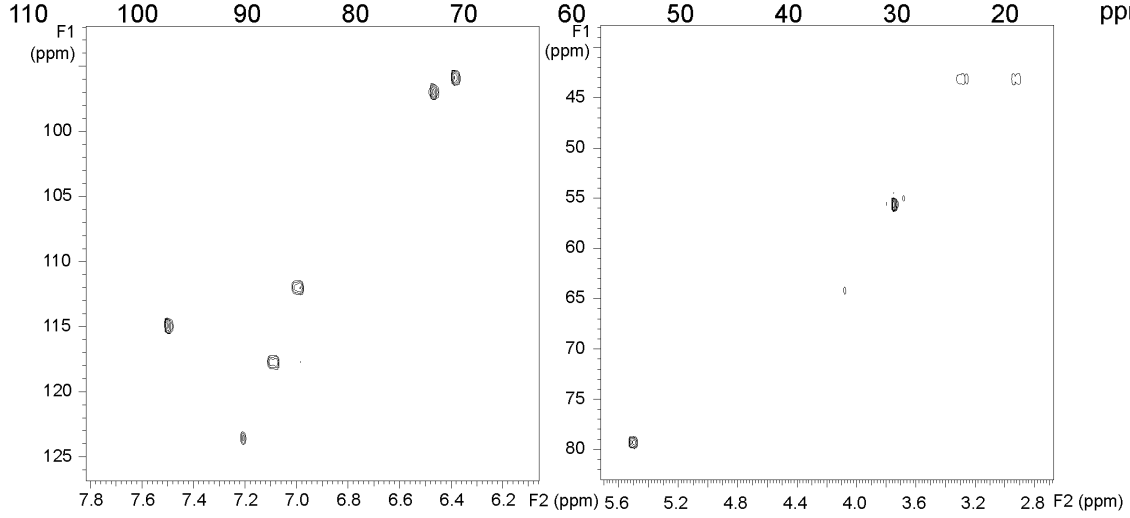


NMR-13C:





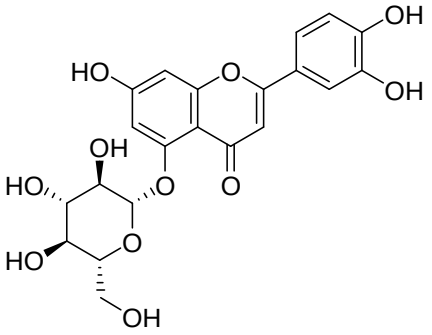
NMR-HSQC:



Names 2,3-dihydro-5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-(2S)- 4H-1-benzopyran-4-one; 2,3-dihydro-5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-(S)-4H-1-benzopyran-4-one; 5,7, 3'-trihydroxy-4'-methoxy-flavanone; Hesperetin; (-)-Hesperetin; 2,3-Dihydro-5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one; 5,7, 3'-Trihydroxy-4'-methoxyflavanone; 5,7,3'-Trihydroxy-4'-methoxyflavanone; Eriodictyol 4'-monomethyl ether; Hesperitin; NSC 57654

Luteolin-5-O-glucosid

Luteolin-5-O-β-D-glucopyranoside



CAS-Number: 20344-46-1

Formula: $C_{21}H_{20}O_{11}$ Exact mass: 448.10056

Molecular mass: 448.38

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	15.84	13.20	6.33
Rel. RetentionTime (k') :	12.42	11.69	10.94
k' rel. to Rutin :	0.94	0.94	0.92

MS1: 447.3 MS2: 285.2 MS3: 241.2

UV/Vis: 255, 305(sh), 3

NMR - Resonance Assignments:

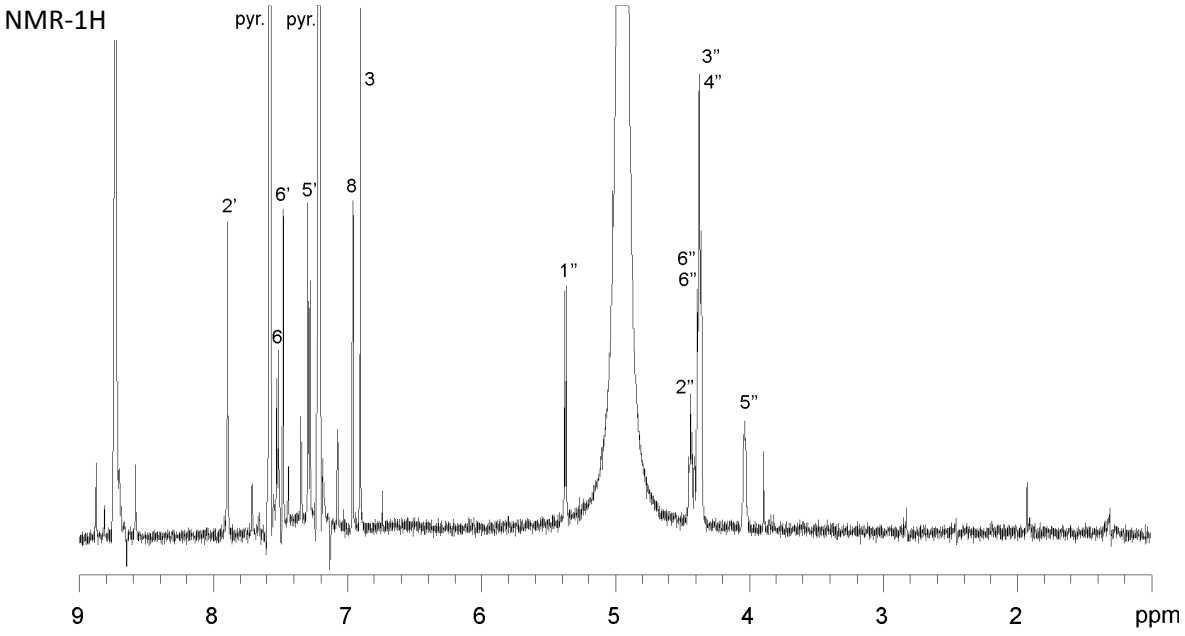
Flavone Core

	δ_C	δ_H
2	162.5s	
3	106.9d	6.9
4	178.3s	
4a	109.7s	
5	160.3s	
6	105.7d	7.48
7	164.3s	
8	99.6d	6.96
8a	159.6s	
1'	123s	
2'	114.5d	7.89
3'	147.8s	
4'	151.3s	
5'	116.9d	7.28
6'	119.2d	7.52

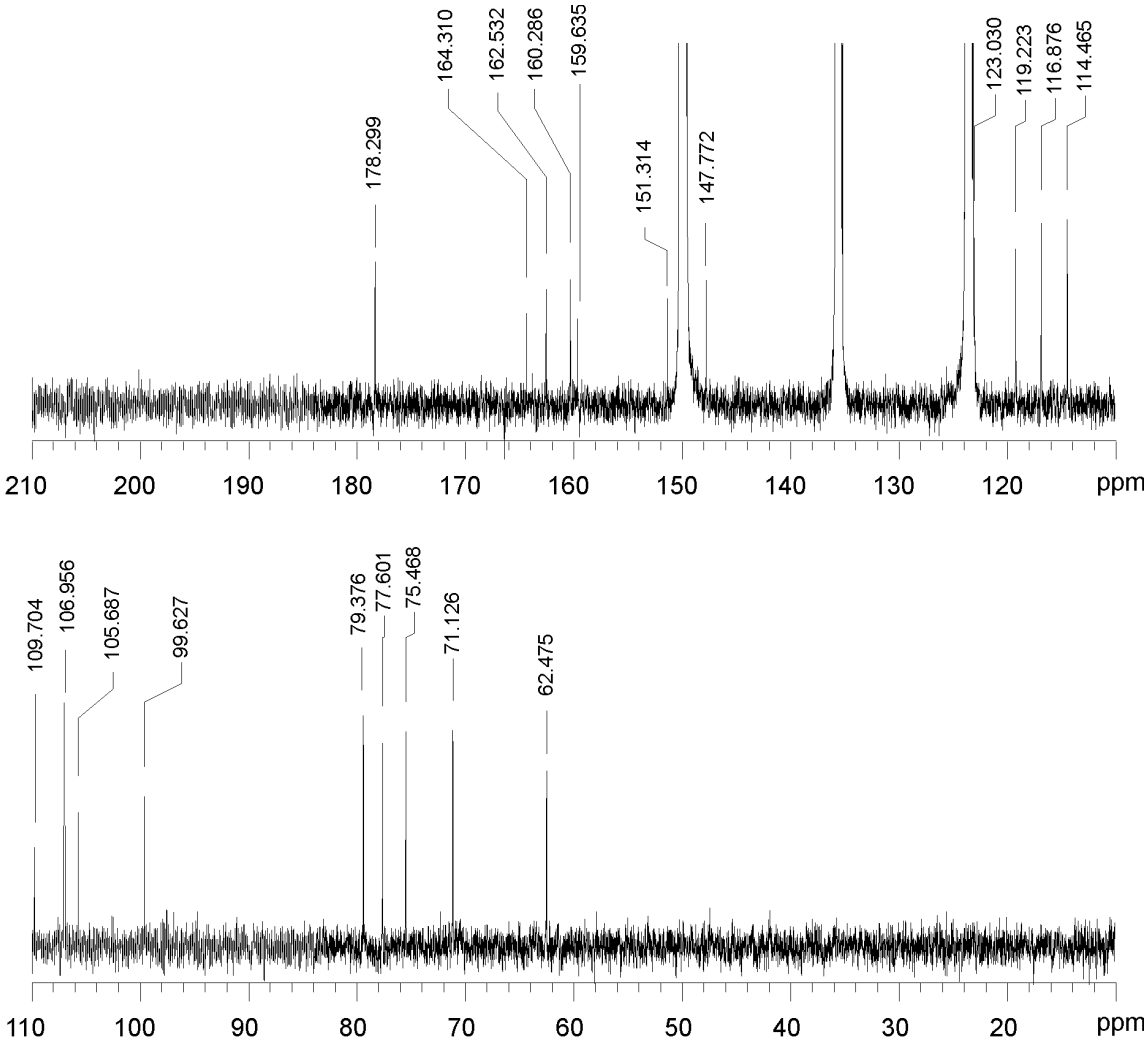
Sugar

	δ_C	δ_H
1''	106.9d	5.37
2''	75.5d	4.43
3''	77.6d	4.35
4''	71.1d	4.35
5''	79.4d	4.03
6''	62.5t	4.37

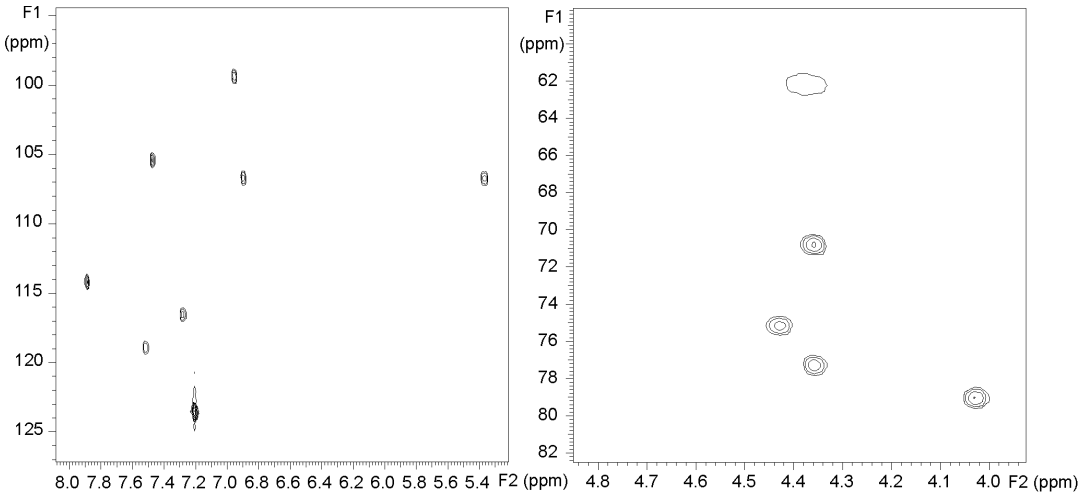
NMR-1H



NMR-13C:



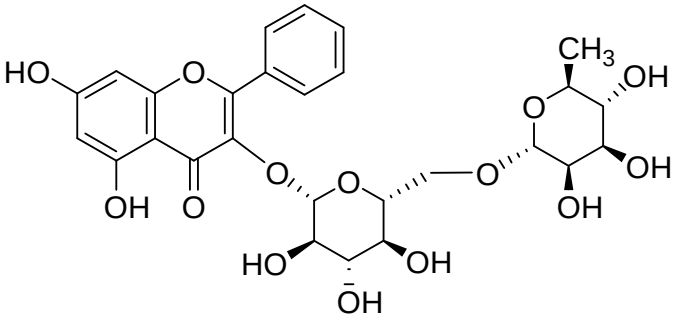
NMR-HSQC:



Names 2-(3,4-dihydroxyphenyl)-5-(β-D-glucopyranosyloxy)-7-hydroxy-flavone-5,7,3',4'-tetrahydroxy- 5-β-D-glucopyranoside-4H-1-benzopyran-4-one; Galuteolin; Luteolin 5-O-β-D-glucopyranoside; Luteolin 5-glucoside; Luteolin 5-β-D-glucopyranoside; Luteolin-5-O-glucoside; Luteolin-5-O-β-D-glucoside

Galangin-3-rutinosid

Galangin-3-O-β-D-rutinoside



CAS-Number: 16268-50-1

Formula: $C_{27}H_{30}O_{14}$ Exact mass: 578.16356

Molecular mass: 578.52

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	19.81	16.96	8.42
Rel. RetentionTime (k') :	15.79	15.31	14.89
k' rel. to Rutin :	1.20	1.23	1.25

MS1: 577.3 MS2: 269.2 MS3: 241.2

UV/Vis: 265, 310(sh)

NMR - Resonance Assignments:

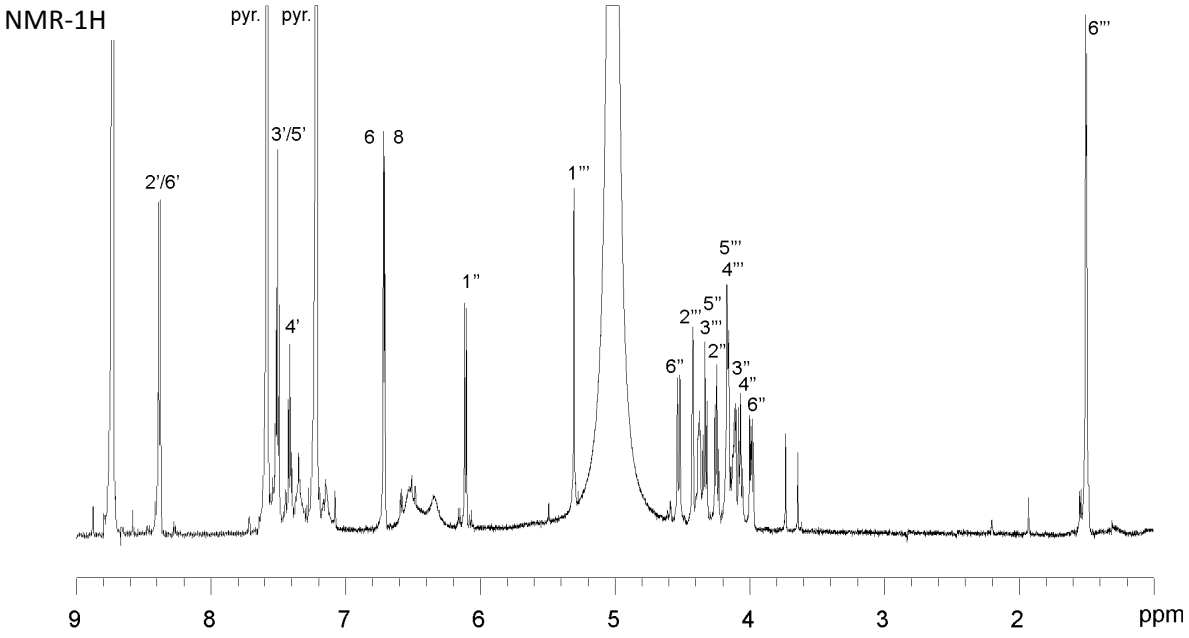
Flavone Core

	δ_C	δ_H
2	157.5s	
3	136s	
4	178.8s	
4a	105.5s	
5	162.8s	
6	100.1d	6.72
7	166.4s	
8	94.8d	6.71
8a	158s	
1'	131.4s	
2'	129.8d	8.38
3'	128.6d	7.5
4'	131d	7.41
5'	128.6d	7.5
6'	129.8d	8.38

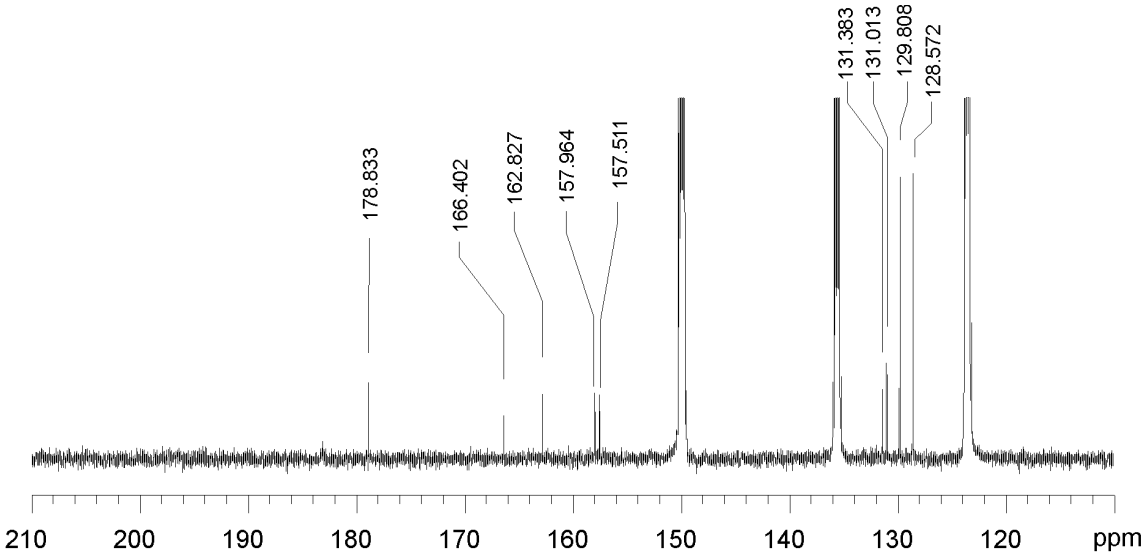
Sugar

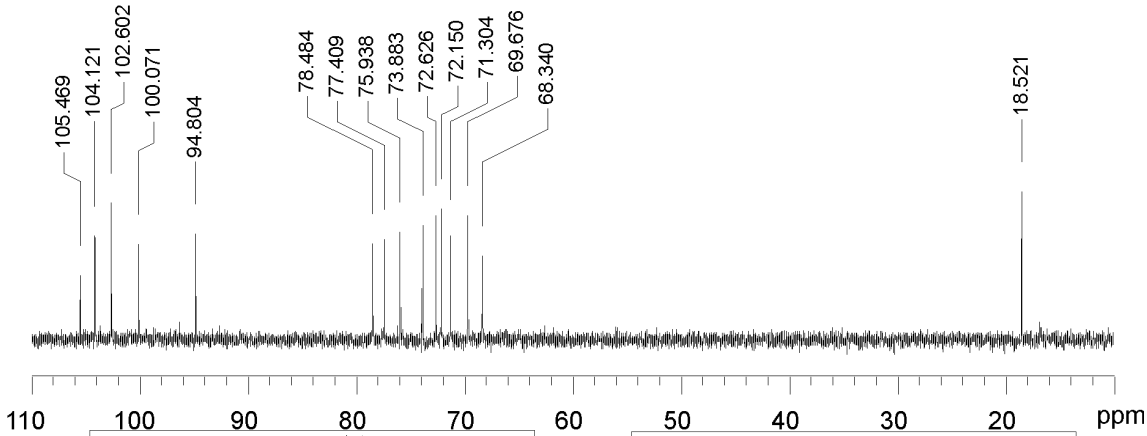
	δ_C	δ_H
1''	104.1d	6.11
2''	75.9d	4.24
3''	77.5d	4.1
4''	71.3d	4.06
5''	78.5d	4.32
6''	68.3t	4.52/3.98
1'''	102.6d	5.3
2'''	72.1d	4.42
3'''	72.6d	4.37
4'''	73.9d	4.16
5'''	69.7d	4.16
6'''	18.5q	1.5

NMR-1H

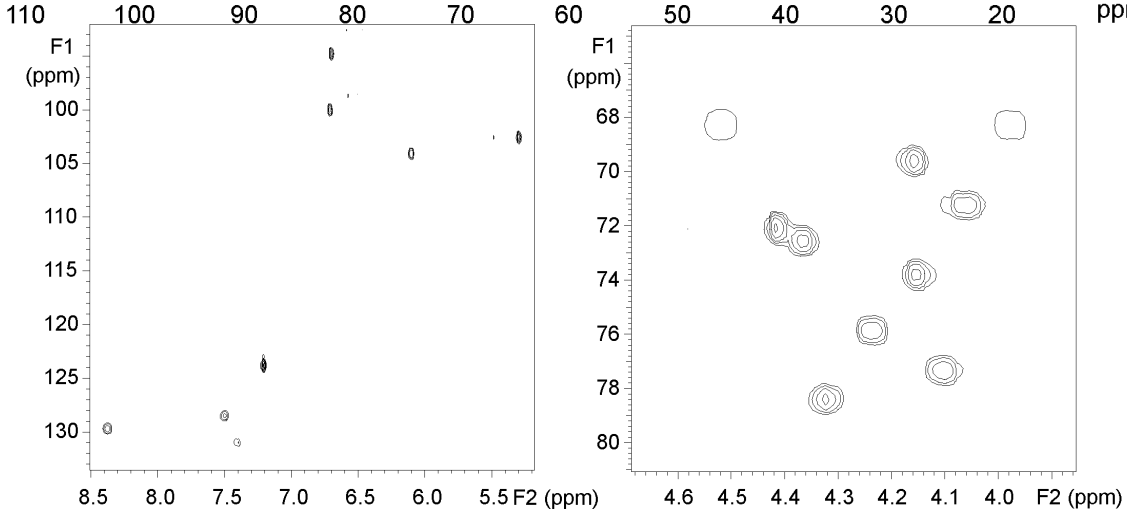


NMR-13C:





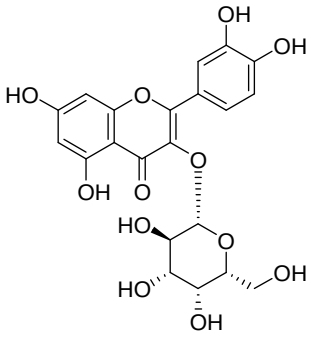
NMR-HSQC:



Names 3-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-5,7-dihydroxy-2-phenyl-4H-1-benzopyran-4-one; 3,5,7-trihydroxy-flavone, 3-[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranoside]; Galangin 3-rutinoside; Galanginoside

Hyperosid

Quercetin-3-O-β-D-galactopyranoside



CAS-Number: 482-36-0

Formula: $C_{21}H_{20}O_{12}$ Exact mass: 464.09548

Molecular mass: 464.38

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.67	14.05	6.83
Rel. RetentionTime (k') :	13.13	12.51	11.89
k' rel. to Rutin :	0.99	1.01	1.00

MS1: 463.2 MS2: 301.2 MS3: 178.9

UV/Vis: 255, 300(sh), 3

NMR - Resonance Assignments:

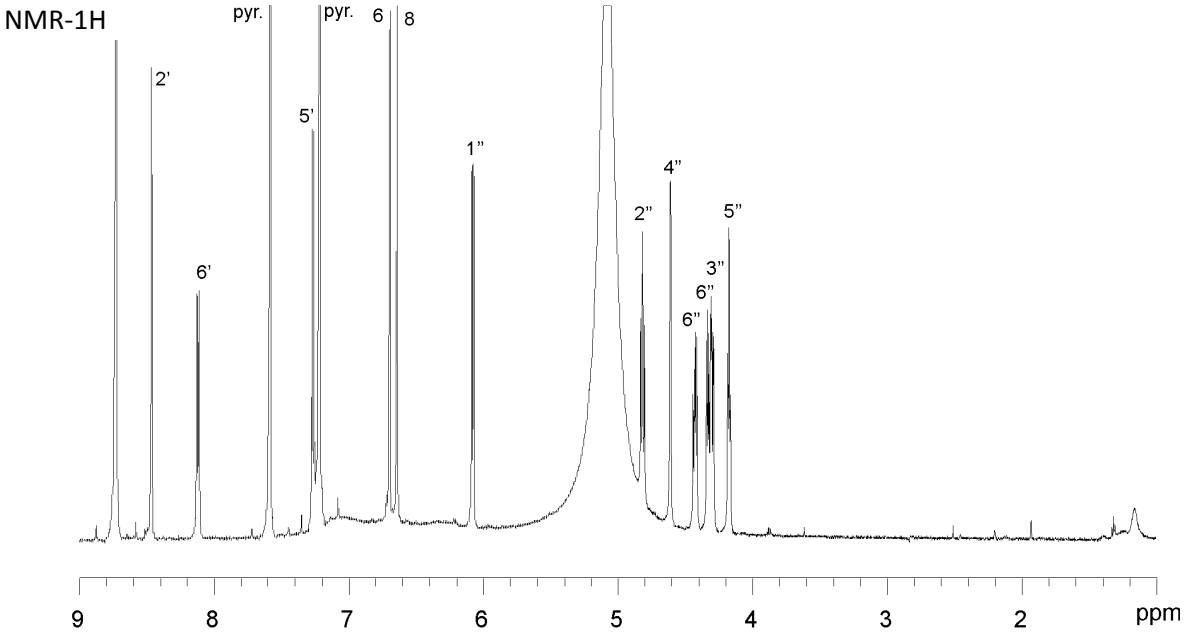
Flavone Core

	δ_C	δ_H
2	157.8s	
3	135.5s	
4	178.8s	
4a	105.2s	
5	162.7s	
6	99.8d	6.68
7	165.9s	
8	94.6d	6.63
8a	157.6s	
1'	122.3s	
2'	117.9d	8.41
3'	146.7s	
4'	150.8s	
5'	116.3d	7.26
6'	122.8d	8.12

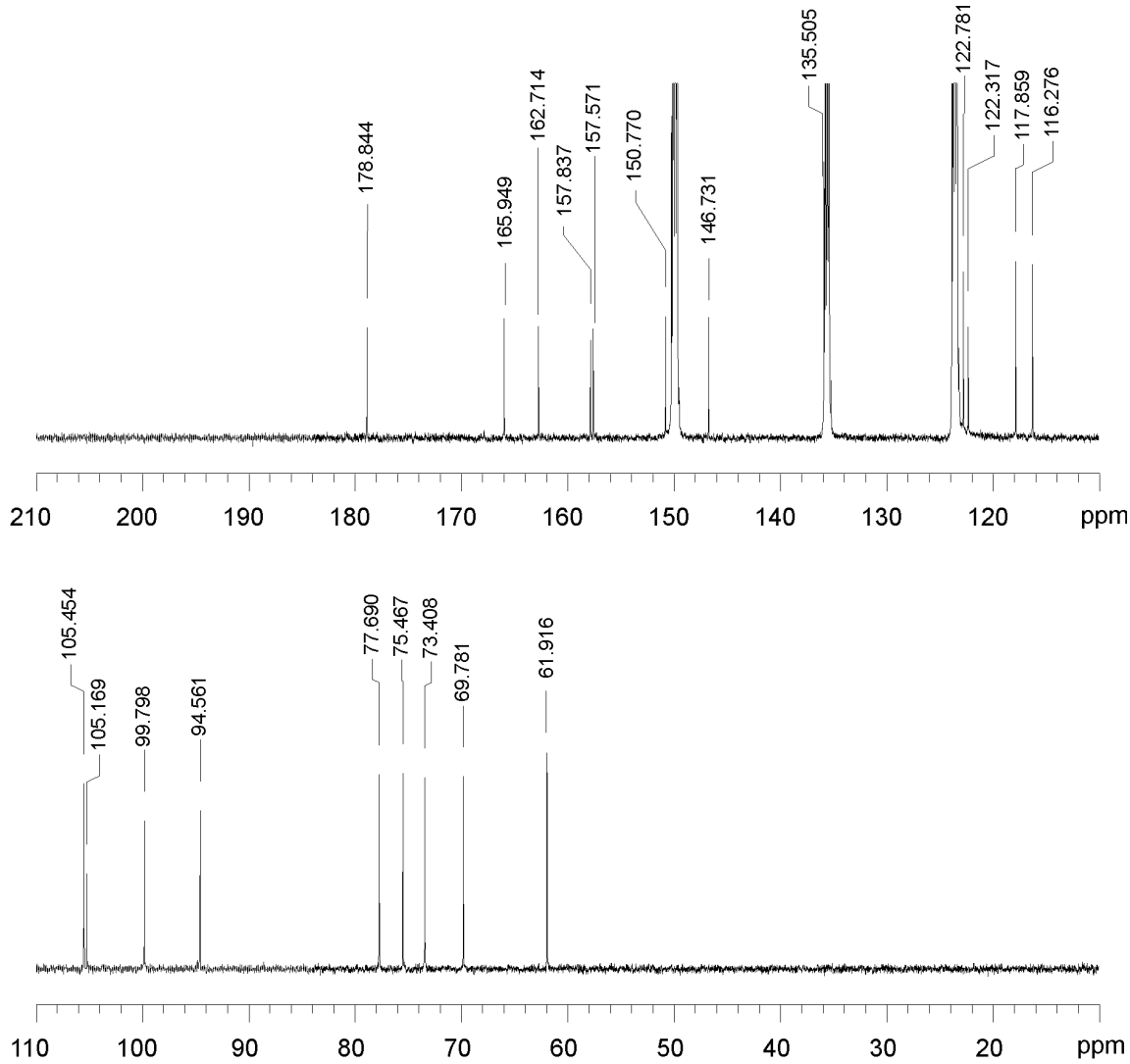
Sugar

	δ_C	δ_H
1''	105.5d	6.07
2''	73.4d	4.8
3''	75.5d	4.29
4''	69.8d	4.6
5''	77.7d	4.17
6''	61.9t	4.42/4.31

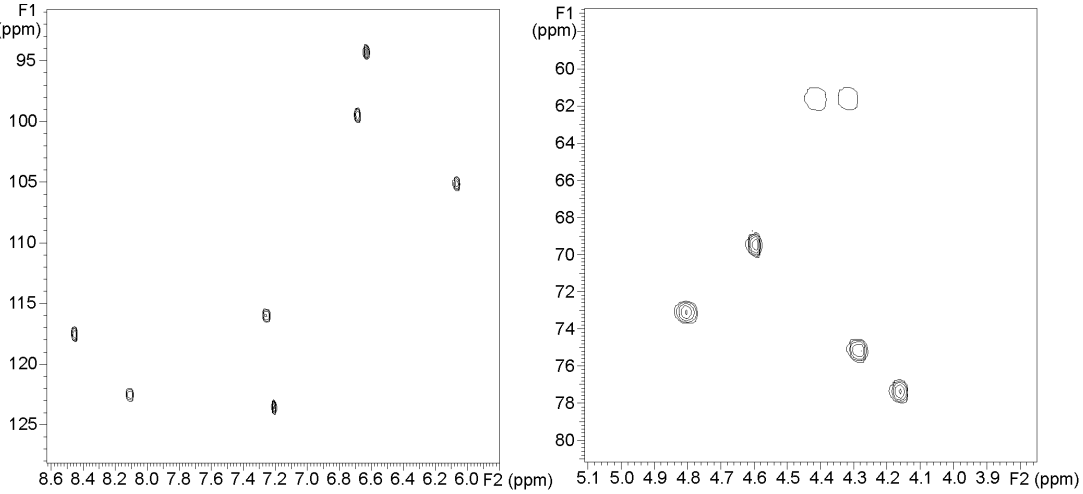
NMR-1H



NMR-13C:



NMR-HSQC:

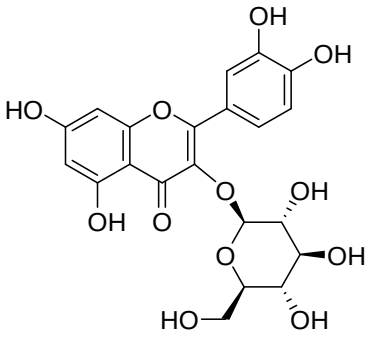


Names

2-(3,4-dihydroxyphenyl)-3-(β-D-galactopyranosyloxy)-5,7-dihydroxy-4H-1-benzopyran-4-one; Hyperin; 3,5,7,3',4'-pentahydroxyflavone 3-O-β-D-galactopyranoside; 3-O-β-D-Galactopyranosyl quercetin; 3-O-β-D-galactopyranosylquercetin; Hyperosid; Hyperoside; NSC 407304; Quercetin 3-O-galactopyranoside; Quercetin 3-O-β-D-galactopyranoside; Quercetin 3-O-β-D-galactoside; Quercetin 3-O-β-galactopyranoside; Quercetin 3-O-β-galactoside; Quercetin 3-galactoside; Quercetin 3-β-D-galactoside; Quercetin 3-β-galactoside

Isoquercitrin

Quercetin-3-O-β-D-glucopyranoside



CAS-Number: 482-35-9

Formula: $C_{21}H_{20}O_{12}$ Exact mass: 464.09548

Molecular mass: 464.38

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.88	14.24	6.96
Rel. RetentionTime (k') :	13.31	12.69	12.13
k' rel. to Rutin :	1.01	1.02	1.02

MS1: 463.2 MS2: 301.2 MS3: 178.9

UV/Vis: 255, 305 (sh), 3

NMR - Resonance Assignments:

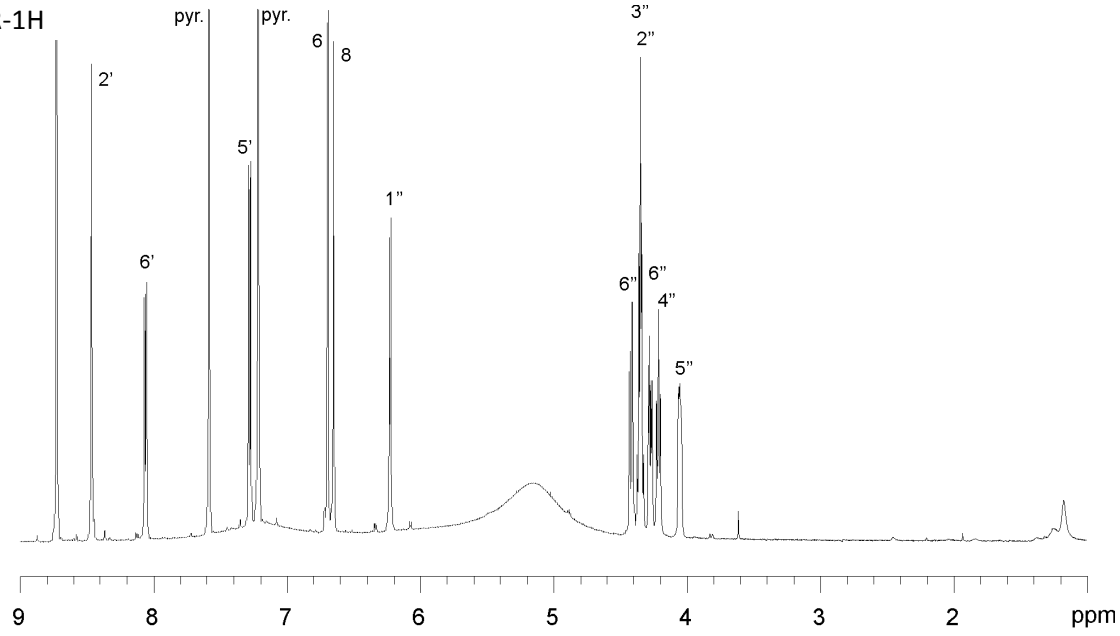
Flavone Core

	δ_C	δ_H
2	157.7s	
3	135.4s	
4	178.7s	
4a	105.2s	
5	162.7s	
6	99.8d	6.69
7	165.9s	
8	94.6d	6.64
8a	157.6s	
1'	122.4s	
2'	117.9d	8.46
3'	146.7s	
4'	150.6s	
5'	116.3d	7.28
6'	122.6d	8.05

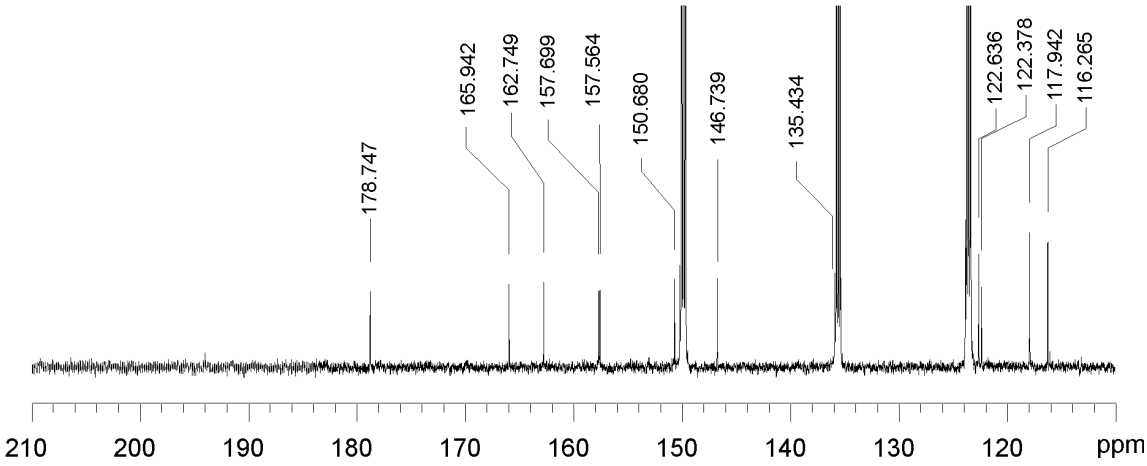
Sugar

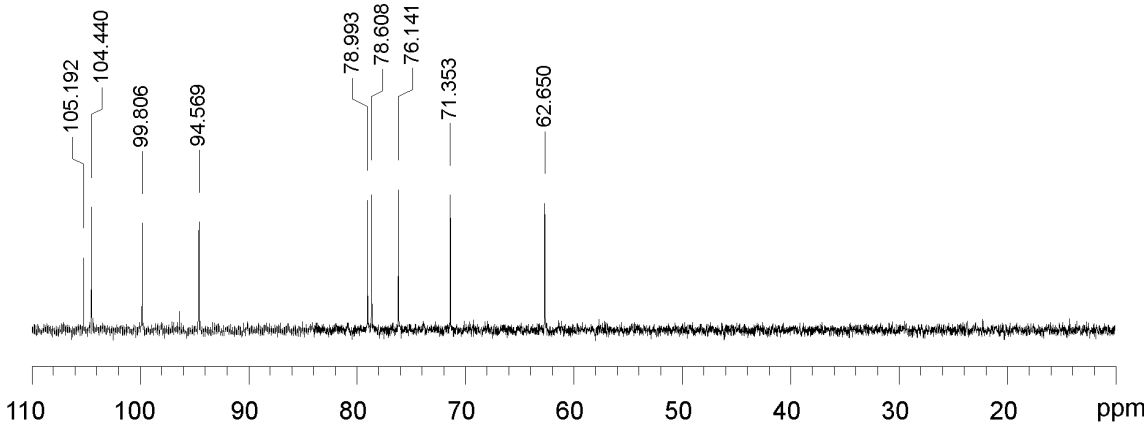
	δ_C	δ_H
1''	104.4d	6.22
2''	76.1d	4.33
3''	78.6d	4.34
4''	71.3d	4.2
5''	79d	4.04
6''	62.6t	4.41/4.27

NMR-1H

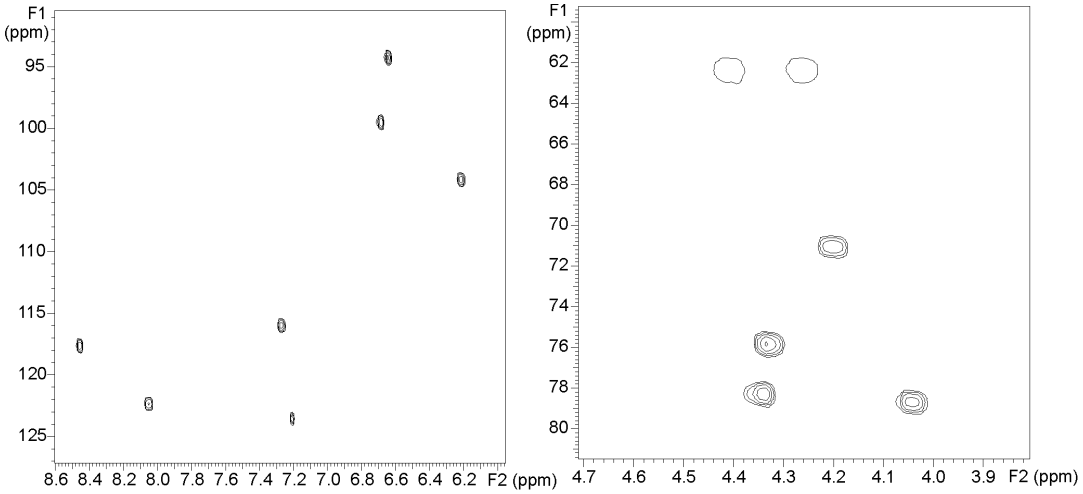


NMR-13C:





NMR-HSQC:

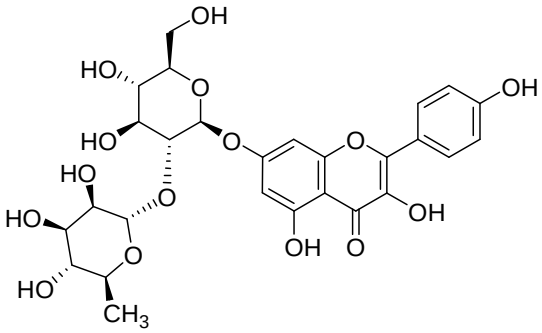


Names

2-(3,4-dihydroxyphenyl)-3-(β-D-glucopyranosyloxy)-5,7-dihydroxy-4H-1-benzopyran-4-one; Hirsutrin; 3-Glucosylquercetin; 3-O-β-D-glucopyranosylquercetin; 5,7,3',4'-tetrahydroxyflavone-3-β-D-glucopyranoside; Contigoside B; Glucosyl-3-quercetin; Isoquercetin; Isoquercetrin; Isoquercitrin; NSC 115918; Q 5; Quercetin 3-D-glucoside; Quercetin 3-O-glucopyranoside; Quercetin 3-O-glucoside; Quercetin 3-O-β-D-glucopyranoside; Quercetin 3-O-β-D-glucoside; Quercetin 3-O-β-glucoside; Quercetin 3-glucoside; Quercetin 3-mono-D-glucoside; Quercetin 3-monoglucoside; Quercetin 3-β-D-glucopyranoside; Quercetin 3-β-D-glucoside; Quercetin 3β-O-glucoside; Quercetin 3β-glucoside; Quercetin glucoside; Quercetin-3-glucose; Quercetin-3-β-glucopyranoside; Quercetol 3-glucoside; Quercetol 3-monoglucoside

Kaempferol-7-neohesperosid

Kaempferol-7-O-β-D-neohesperidoside



CAS-Number: 17353-03-6

Formula: $C_{27}H_{30}O_{15}$ Exact mass: 594.15847

Molecular mass: 594.52

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18	15.20	7.53
Rel. RetentionTime (k') :	14.25	13.62	13.21
k' rel. to Rutin :	1.08	1.10	1.11

MS1: 593.2 MS2: 285.3 MS3: 285.2

UV/Vis: 250, 265(sh), 3

NMR - Resonance Assignments:

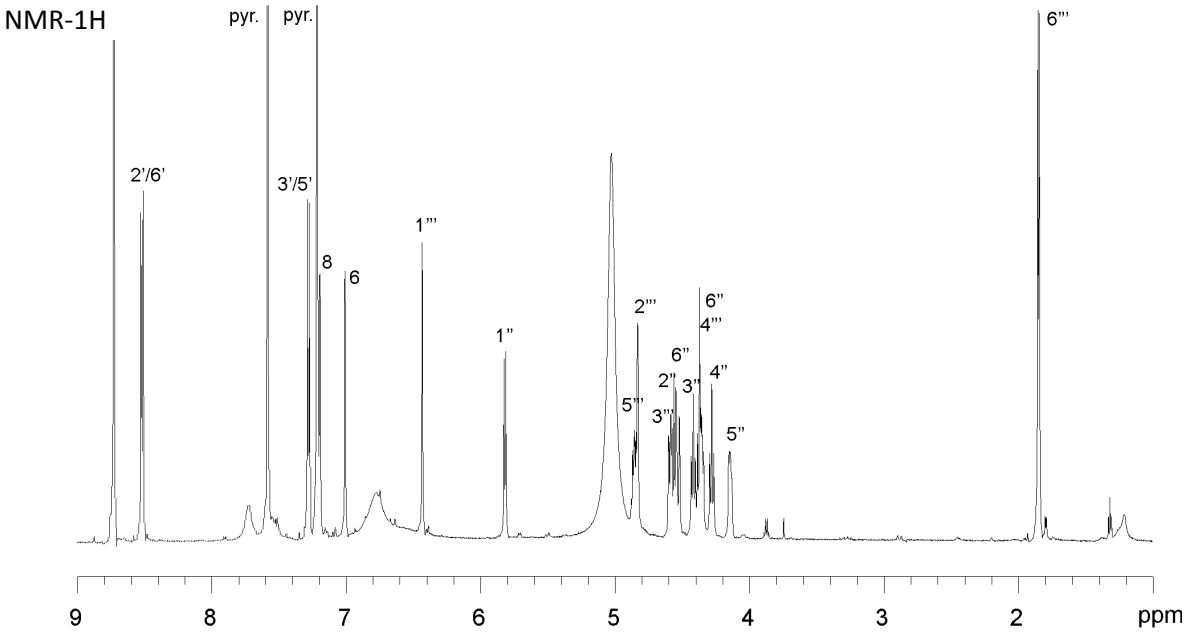
Flavone Core

	δ_C	δ_H
2	148.2s	
3	138.1s	
4	177.4s	
4a	106.1s	
5	162s	
6	99.6d	7.01
7	163.4s	
8	94.8d	7.2
8a	156.7s	
1'	123.1s	
2'	130.6d	8.52
3'	116.4d	7.28
4'	160.9s	
5'	116.4d	7.28
6'	130.6d	8.52

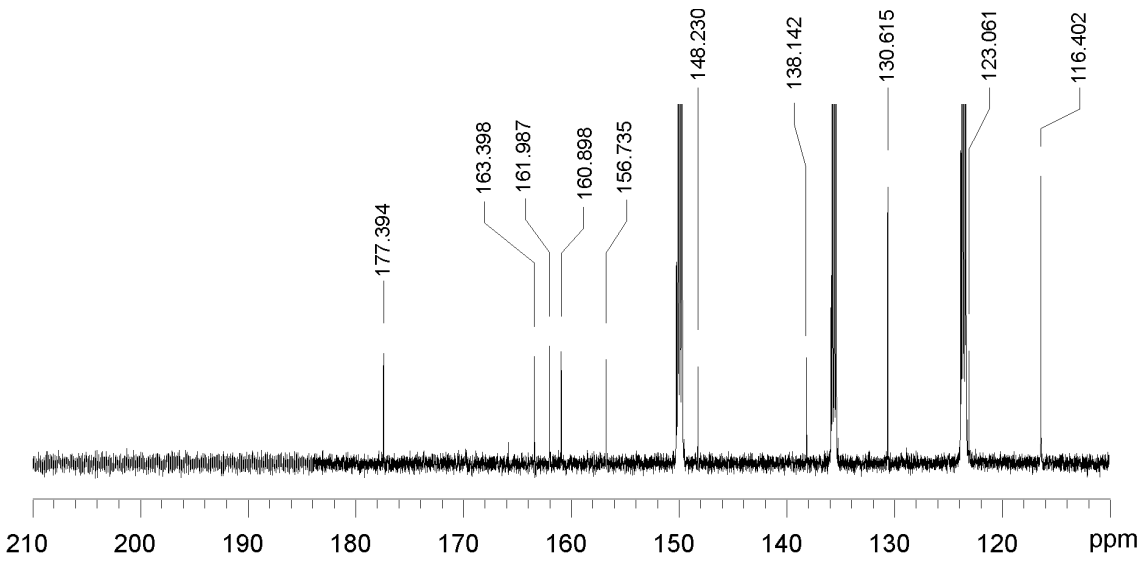
Sugar

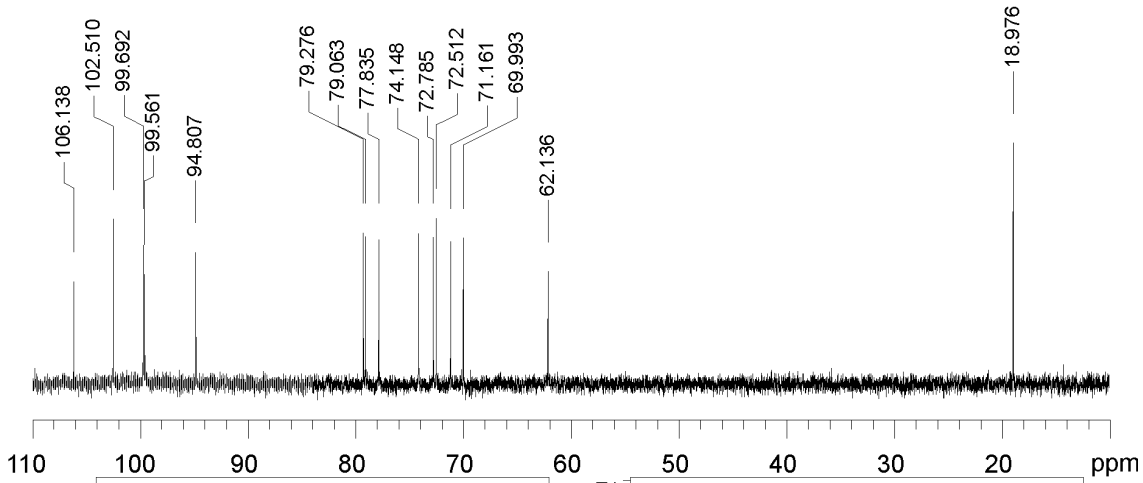
	δ_C	δ_H
1''	99.7d	5.82
2''	77.8d	4.56
3''	79.3d	4.42
4''	71.2d	4.28
5''	79.1d	4.14
6''	62.1t	4.53/4.36
1'''	102.5d	6.43
2'''	72.5d	4.83
3'''	72.8d	4.6
4'''	74.1d	4.37
5'''	70d	4.86
6'''	19q	1.85

NMR-1H

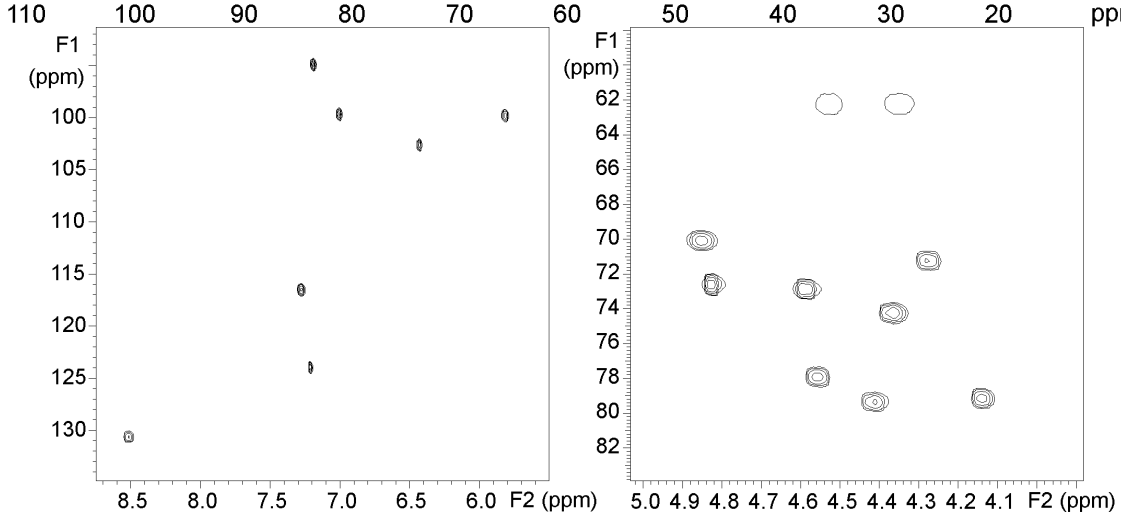


NMR-13C:





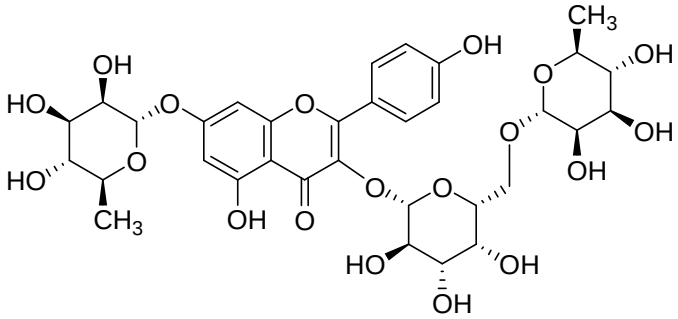
NMR-HSQC:



Names

7-[[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-3,5-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; 3,5,7,4’-tetrahydroxy-7-neohesperidoside-flavone; 3,5,7,4-Tetrahydroxyflavone 7-[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranoside]; Kaempferol 7-O-neohesperidoside; Kaempferol 7-neohesperidoside

Robinin



Kaempferol 3-O-α-L-rhamnopyranosyl-(1→6)-β-D-galactopyranosyl 7-O-α-L-rhamnopyranoside

CAS-Number: 301-19-9

Formula: $C_{33}H_{40}O_{19}$ Exact mass: 740.21638

Molecular mass: 740.66

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	15.95	13.23	6.42
Rel. RetentionTime (k') :	12.52	11.72	11.11
k' rel. to Rutin :	0.95	0.94	0.93

MS1: 739.2 MS2: 593.1 MS3: 285.2

UV/Vis: 265, 320(sh), 3

NMR - Resonance Assignments:

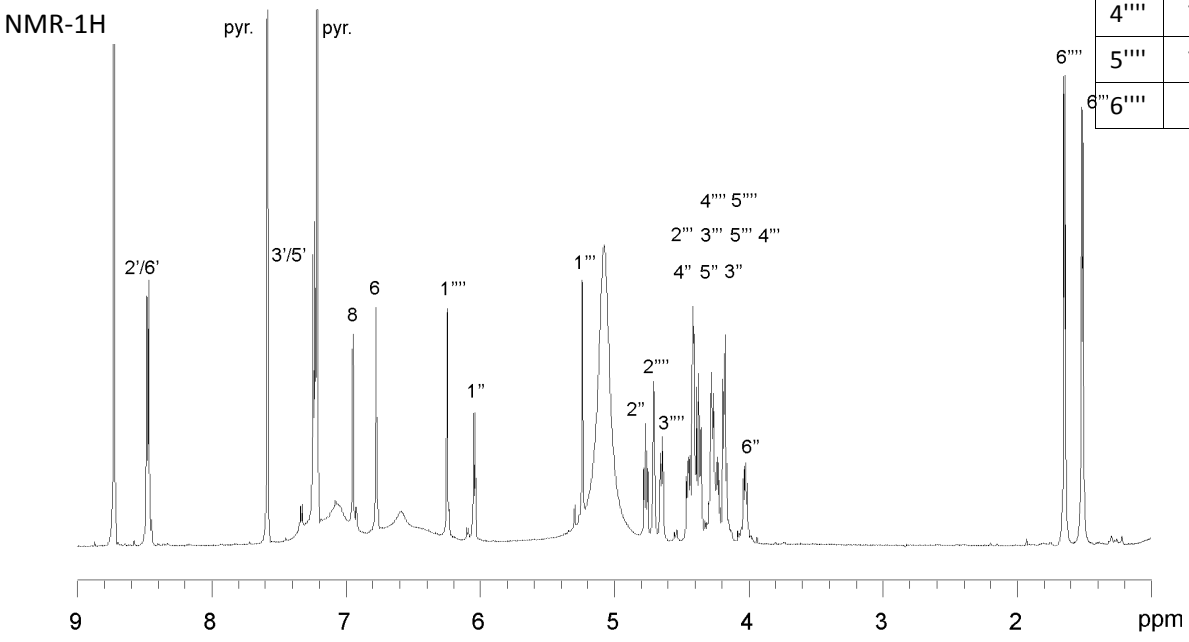
Flavone Core

	δ_C	δ_H
2	158.4s	
3	135.4s	
4	178.9s	
4a	106.8s	
5	162.2s	
6	100.4d	6.78
7	162.8s	
8	94.9d	6.95
8a	157.1s	
1'	121.7s	
2'	132.1d	8.48
3'	116.2d	7.24
4'	162s	
5'	116.2d	7.24
6'	132.1d	8.48

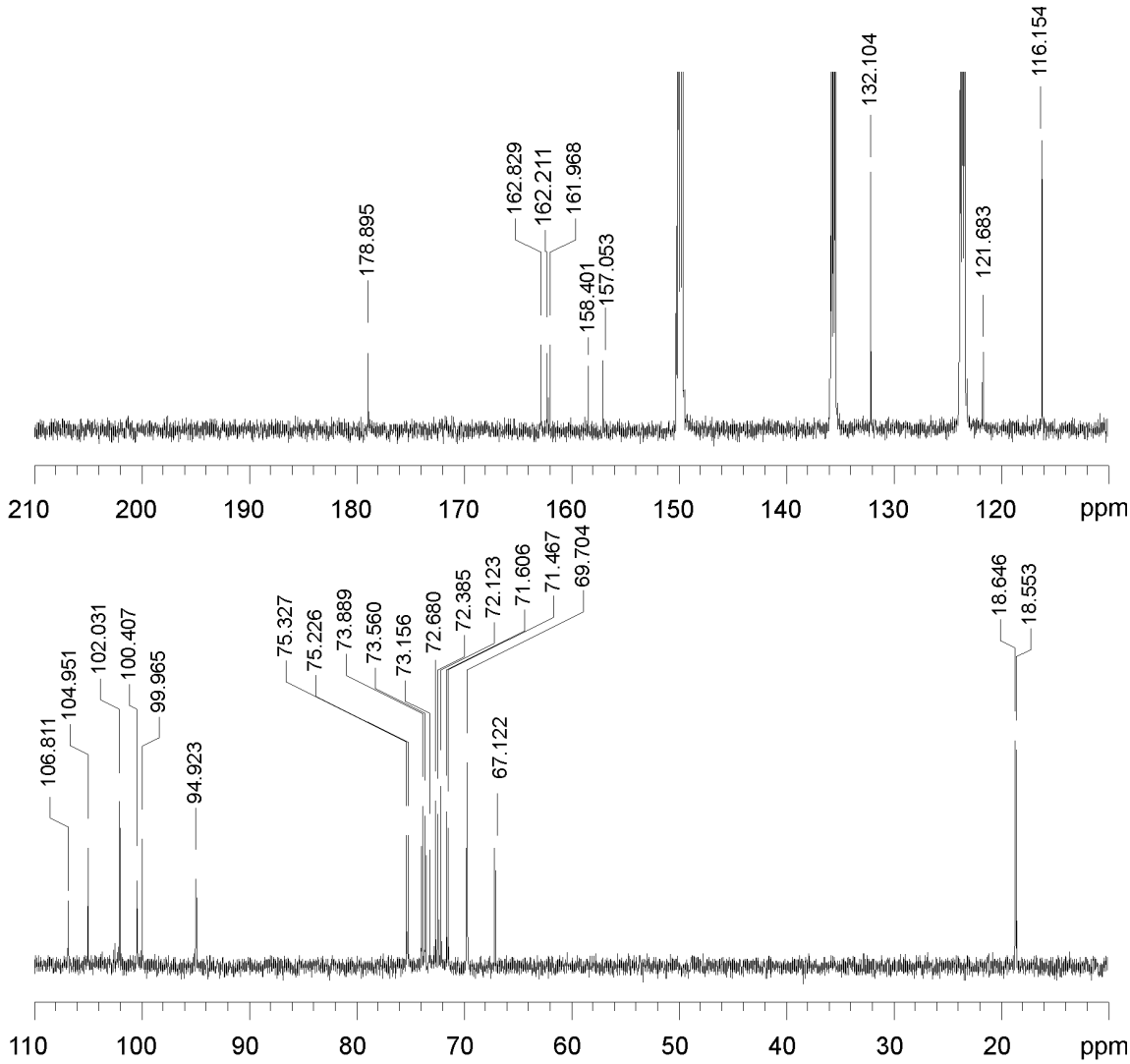
Sugar

	δ_C	δ_H
1''	105	6.05
2''	73.2d	4.77
3''	75.2d	4.27
4''	69.7d	4.41
5''	75.3d	4.19
6''	67.1t	4.45/4.03
1'''	102	5.24
2'''	72.1	4.42
3'''	72.7	4.36
4'''	73.9	4.18
5'''	69.7	4.24
6'''	18.6	1.52
1''''	100d	6.25
2''''	71.6d	4.72
3''''	74d	4.65
4''''	73.6d	4.39
5''''	71.5d	4.28
6''' 6''''	18.7q	1.65

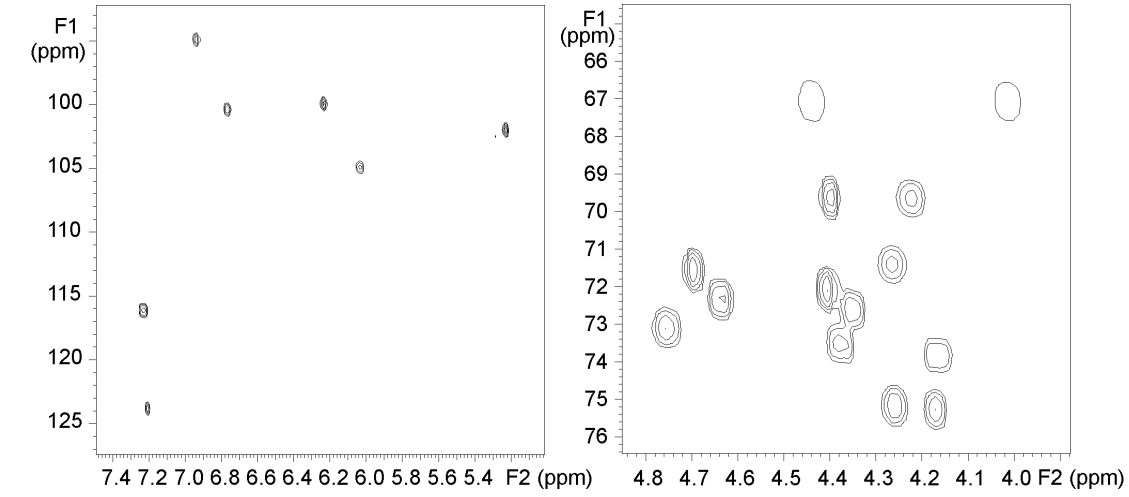
NMR-1H



NMR-13C:

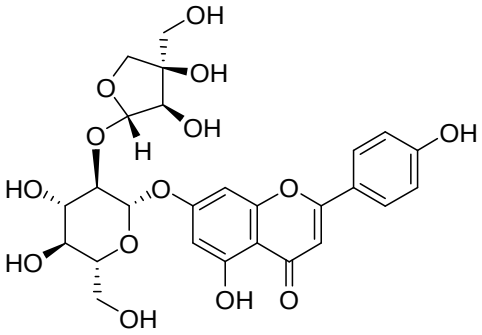


NMR-HSQC:



Names 3-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-galactopyranosyl]oxy]-7-[(6-deoxy-α-L-mannopyranosyl)oxy]-5-hydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; Robinin; 3-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-galactopyranosyl]oxy]-7-[(6-deoxy-α-L-mannopyranosyl)oxy]-5-hydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; Kaempferol 3-O-α-L-rhamnopyranosyl-(1→6)-β-D-galactopyranosyl 7-O-α-L-rhamnopyranoside

Apiin



Apigenin-7-[O-β-D-apiofuranosyl(1→2)-β-D-glucopyranoside]

CAS-Number: 26544-34-3

Formula: $C_{26}H_{28}O_{14}$ Exact mass: 564.14791

Molecular mass: 564.49

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18.03	15.25	7.56
Rel. RetentionTime (k') :	14.28	13.66	13.26
k' rel. to Rutin :	1.08	1.10	1.11

MS1: 563.3 MS2: 269.3 MS3: 225.1

UV/Vis: 265, 335

NMR - Resonance Assignments:

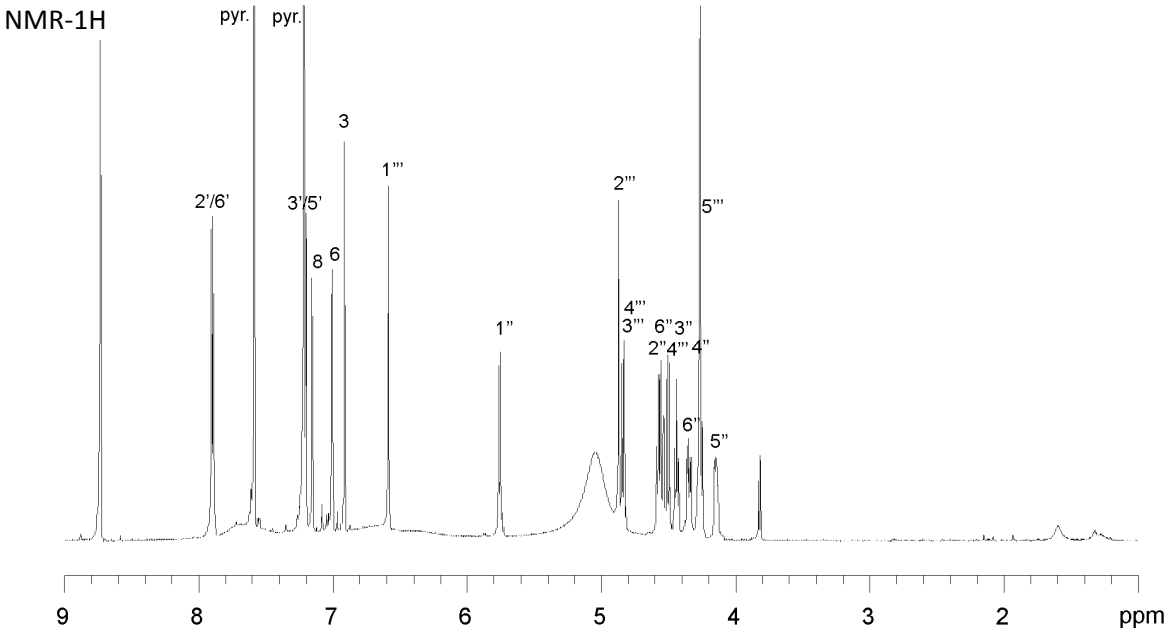
Flavone Core

	δ_C	δ_H
2	165s	
3	104d	6.91
4	182.7s	
4a	106.6s	
5	162.7s	
6	100.5d	7
7	163.8s	
8	95.4d	7.15
8a	157.8s	
1'	122s	
2'	129d	7.9
3'	116.9d	7.2
4'	162.9s	
5'	116.9d	7.2
6'	129d	7.9

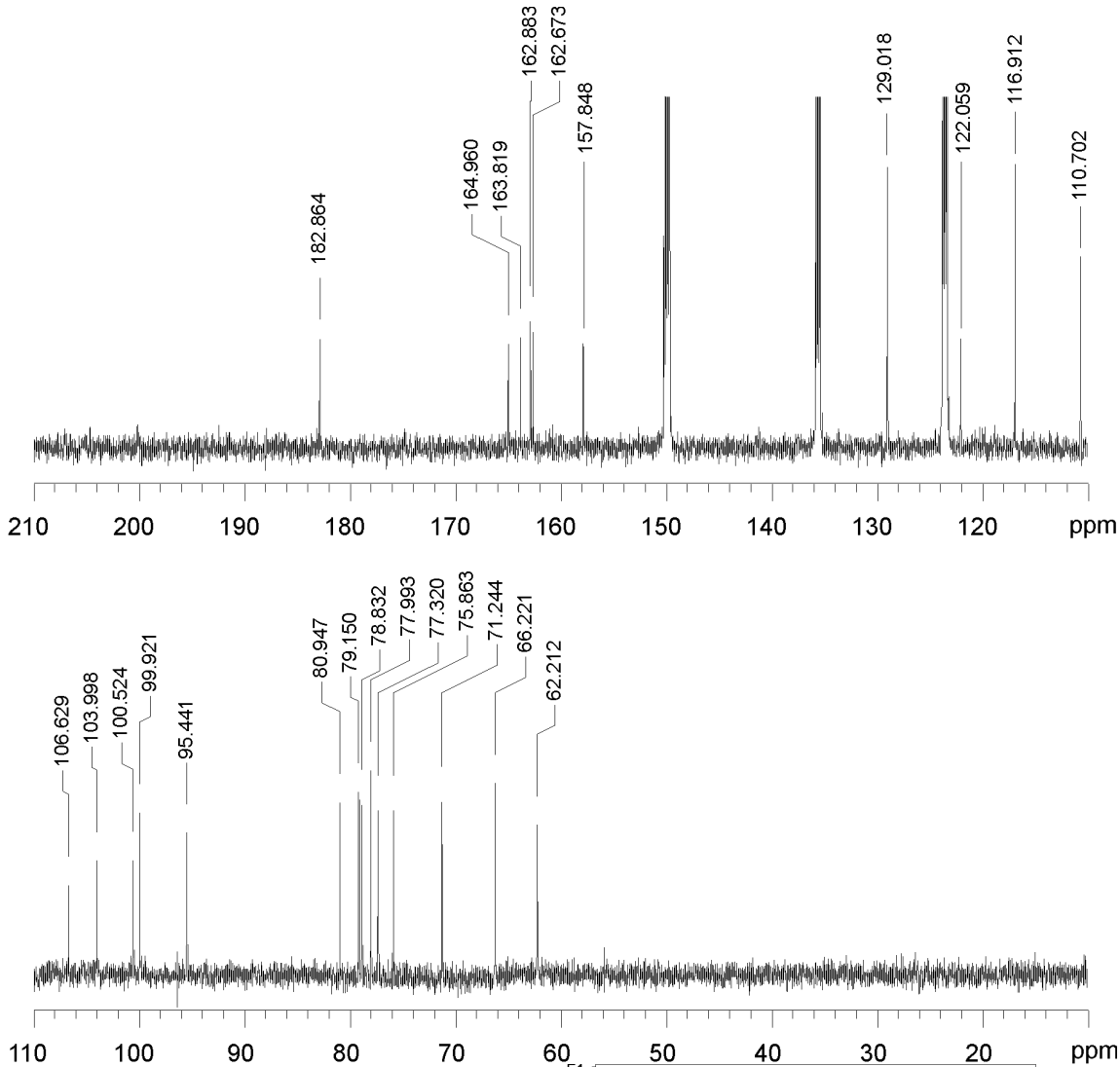
Sugar

	δ_C	δ_H
1''	99.9d	5.75
2''	77.3d	4.56
3''	78.8d	4.42
4''	71.2d	4.23
5''	79.2d	4.13
6''	62.2t	4.53/4.33
1'''	110.7d	6.59
2'''	78d	4.86
3'''	81.1s	
4'''	75.9t	4.83/4.49
5'''	66.2t	4.25/4.25

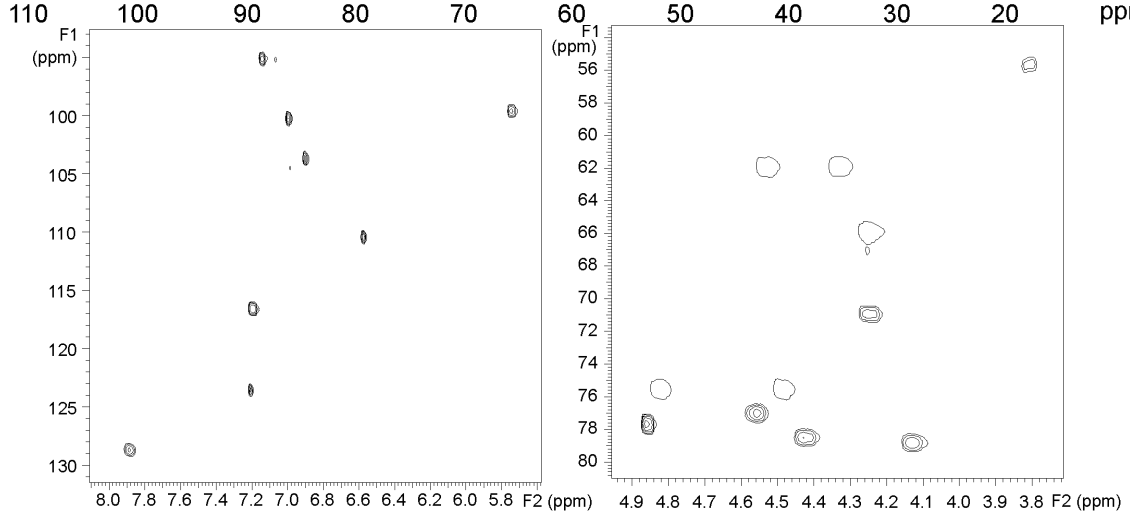
NMR-1H



NMR-13C:



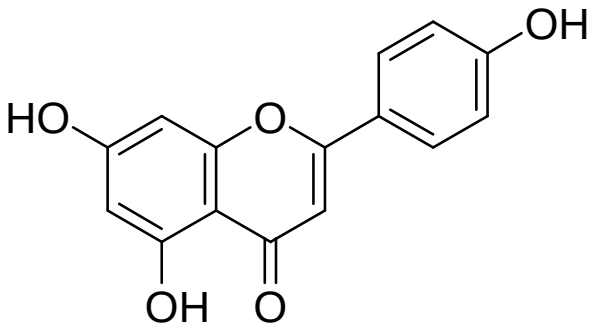
NMR-HSQC:



Names 7-[(2-O-D-apio-β-D-furanosyl-β-D-glucopyranosyl)oxy]-5-hydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; Apiin; Apigenin-7-O-β-D-apiofuranosyl(1→2)-β-D-glucopyranoside

Apigenin

5,7,4'-Trihydroxyflavone



CAS-Number: 520-36-5

Formula: $C_{15}H_{10}O_5$ Exact mass: 270.05282

Molecular mass: 270.24

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	23.57	21.25	10.48
Rel. RetentionTime (k') :	18.97	19.43	18.77
k' rel. to Rutin :	1.44	1.57	1.57

MS1: 269.3 MS2: 225.2 MS3: 181.1

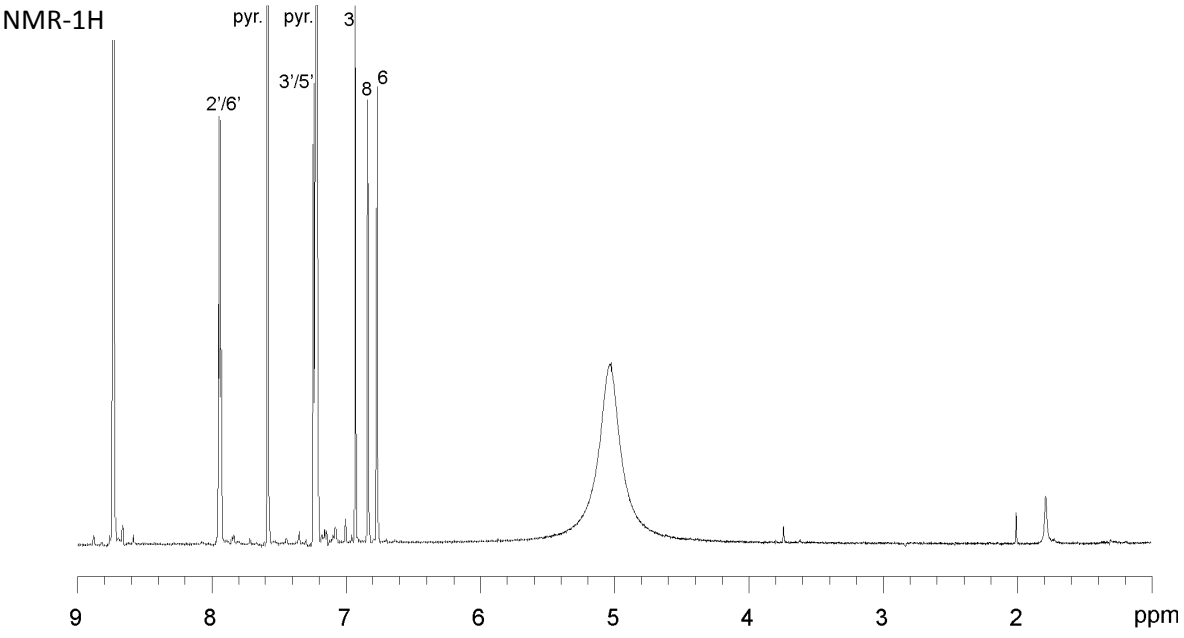
UV/Vis: 265, 335

NMR - Resonance Assignments:

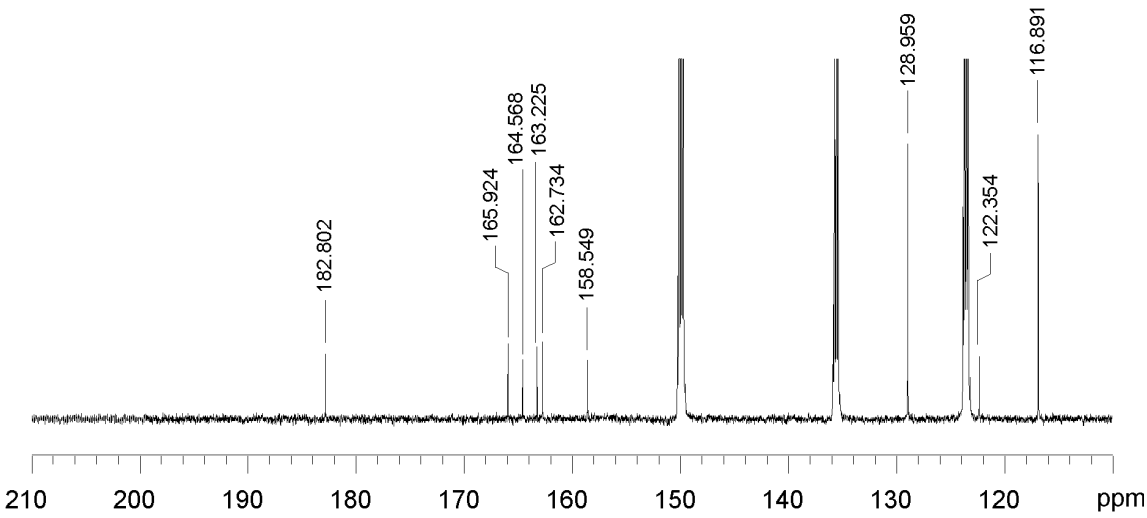
Flavone Core Sugar

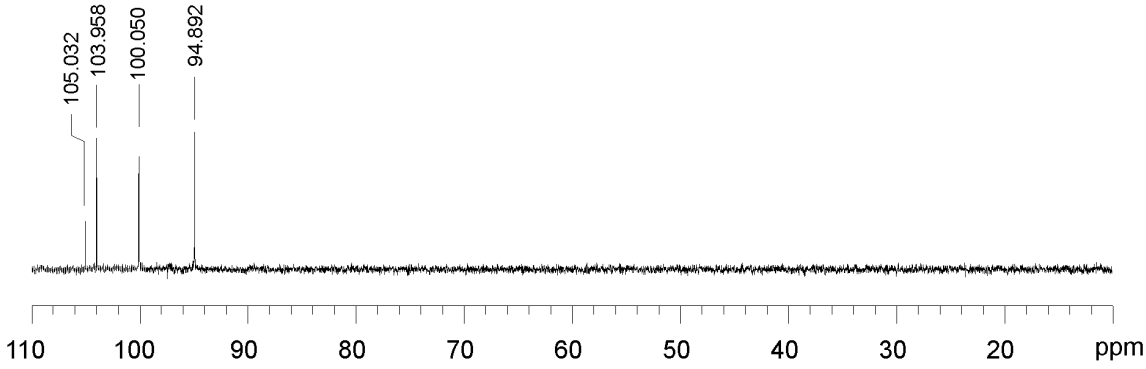
	δ_C	δ_H
2	164.6s	
3	104d	6.94
4	182.8s	
4a	105s	
5	163.2s	
6	100.1s	6.76
7	165.9s	
8	95d	6.84
8a	158.5s	
1'	122.3s	
2'	129d	7.94
3'	116.9d	7.23
4'	162.7s	
5'	116.9d	7.23
6'	129d	7.94

NMR-1H

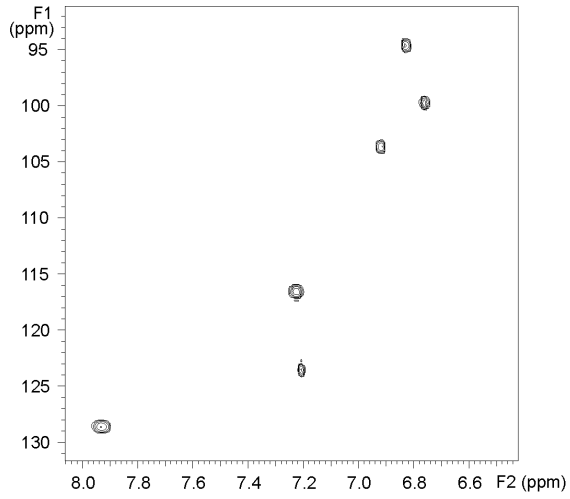


NMR-13C:





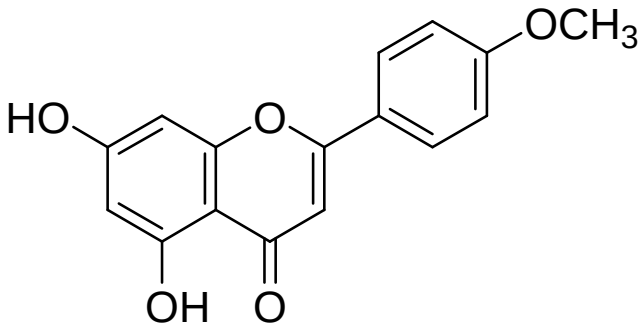
NMR-HSQC:



Names 5,7-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; 5,7,4’-trihydroxy-flavone; 5,7,4’-trihydroxyflavone; 5,7,4'-Trihydroxyflavone; 5,7-Dihydroxy-2-(4-hydroxyphenyl)chromen-4-one; 5,7-Dihydroxy-2-p-hydroxyphenyl-4-chromenone; Apegenin; Apigenin; Apigenine; Apigenol; C.I. Natural Yellow 1; Chamomile; LY 080400; NSC 83244; Pelargidenon 1449; UCCF 031; Versulin

Acacetin

5,7-Dihydroxy-4'-methoxyflavone



CAS-Number: 480-44-4

Formula: $C_{16}H_{12}O_5$ Exact mass: 284.06847

Molecular mass: 284.26

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	28.35	26.08	12.88
Rel. RetentionTime (k') :	23.03	24.08	23.30
k' rel. to Rutin :	1.75	1.94	1.95

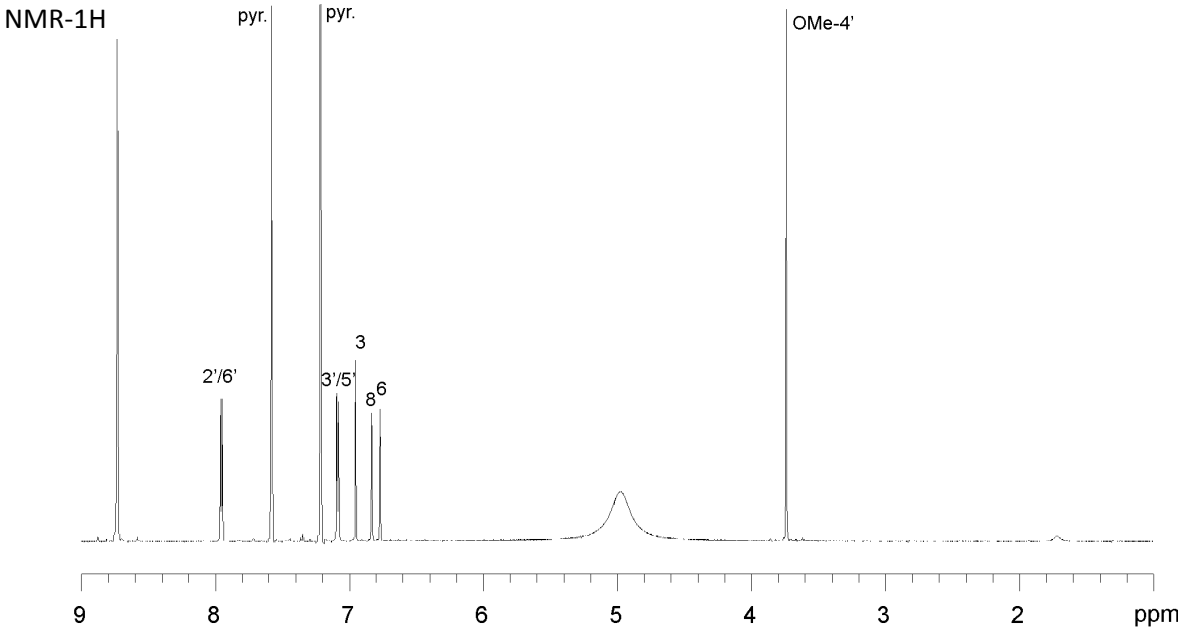
MS1: 283.2 MS2: 268.1 MS3: 268.1

UV/Vis: 265, 335

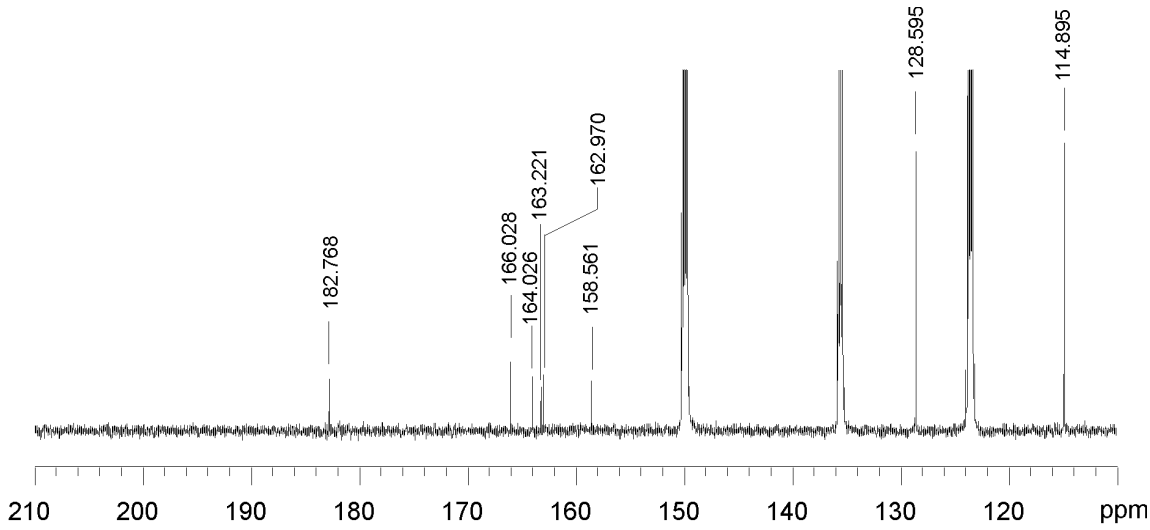
NMR - Resonance Assignments:

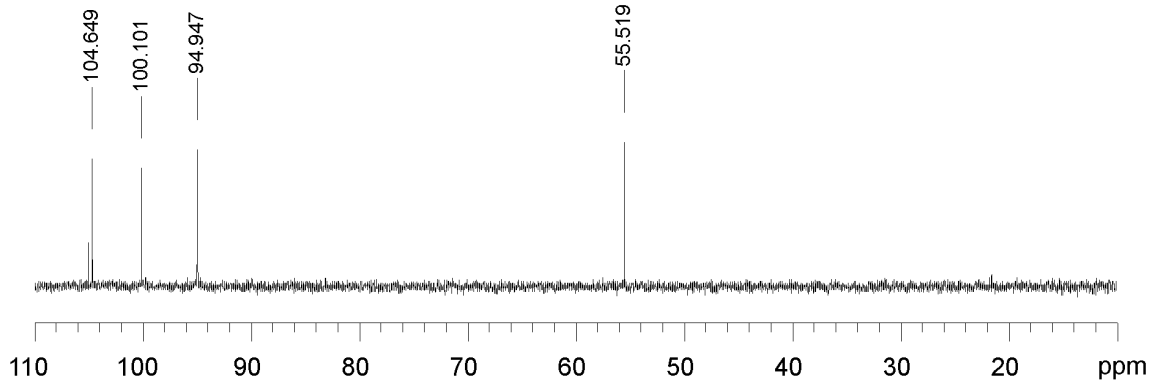
Flavone Core Sugar

	δ_C	δ_H
2	164.6s	
3	104.7d	6.95
4	182.8s	
4a	105.1s	
5	163.2s	
6	100.1d	6.77
7	166s	
8	95d	6.84
8a	158.6s	
1'	123.8s	
2'	128.6d	7.95
3'	114.9d	7.08
4'	163s	
5'	114.9d	7.08
6'	128.6d	7.95
OMe-4'	55.3q	3.74

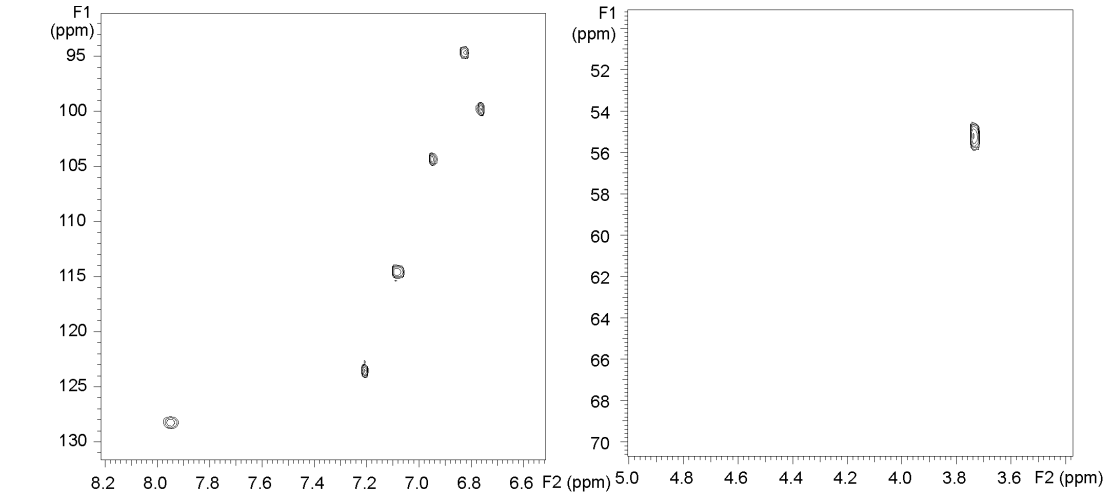


NMR-13C:





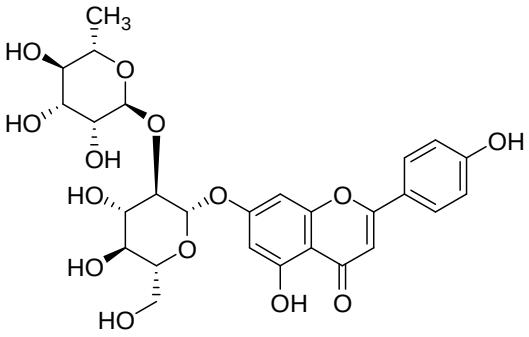
NMR-HSQC:



Names 5,7-dihydroxy-2-(4-methoxyphenyl)-4H-1-benzopyran-4-one; Acacetin; 5,7-dihydroxy-4'-methoxy-flavone; 2-(4-methoxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; 4'-methylapigenin; 4'-O-methylapigenin; 5,7-dihydroxy-4'-methoxyflavone; Apigenin 4'-methyl ether; Buddleoflavonol; LY 064233; Linarigenin; NSC 76061

Rhoifolin

Apigenin-7-O-β-D-neohesperidoside



CAS-Number: 17306-46-6

Formula: $C_{27}H_{30}O_{14}$ Exact mass: 578.16356

Molecular mass: 578.52

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18.35	15.49	7.70
Rel. RetentionTime (k') :	14.55	13.89	13.53
k' rel. to Rutin :	1.10	1.12	1.13

MS1: 577.4 MS2: 269.3 MS3: 225.1

UV/Vis: 265, 335

NMR - Resonance Assignments:

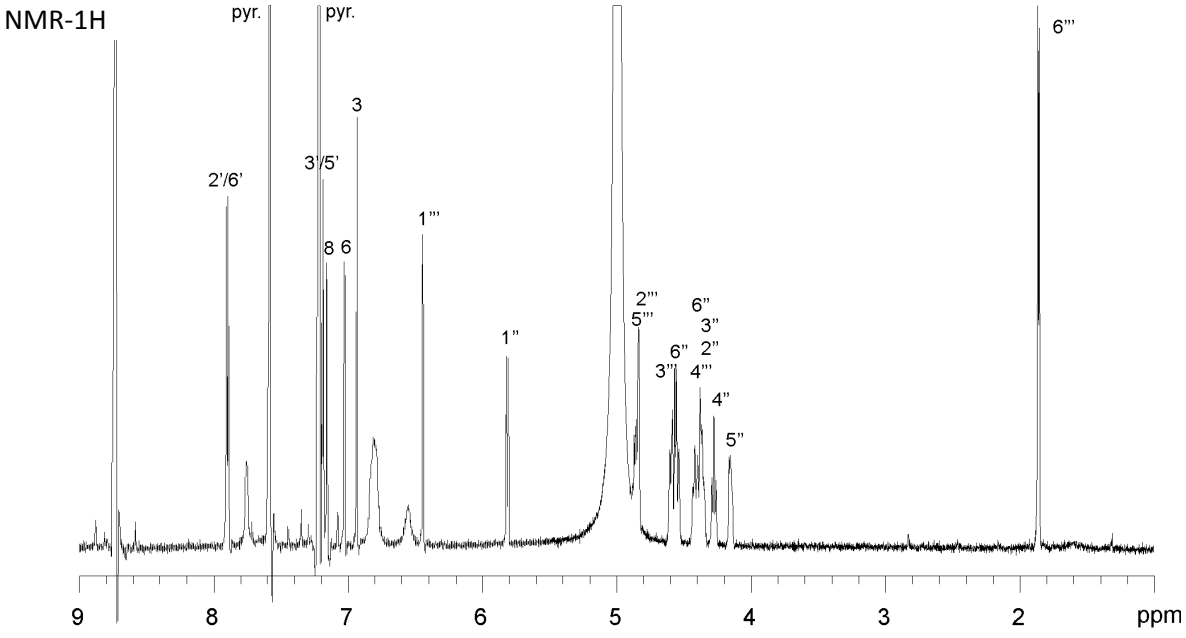
Flavone Core

	δ_C	δ_H
2	165s	
3	104d	6.93
4	182.9s	
4a	106.7s	
5	162.7s	
6	100.5d	7.02
7	163.7s	
8	95.2d	7.16
8a	157.9s	
1'	122s	
2'	129d	7.91
3'	116.9d	7.18
4'	162.9s	
5'	116.9d	7.18
6'	129d	7.91

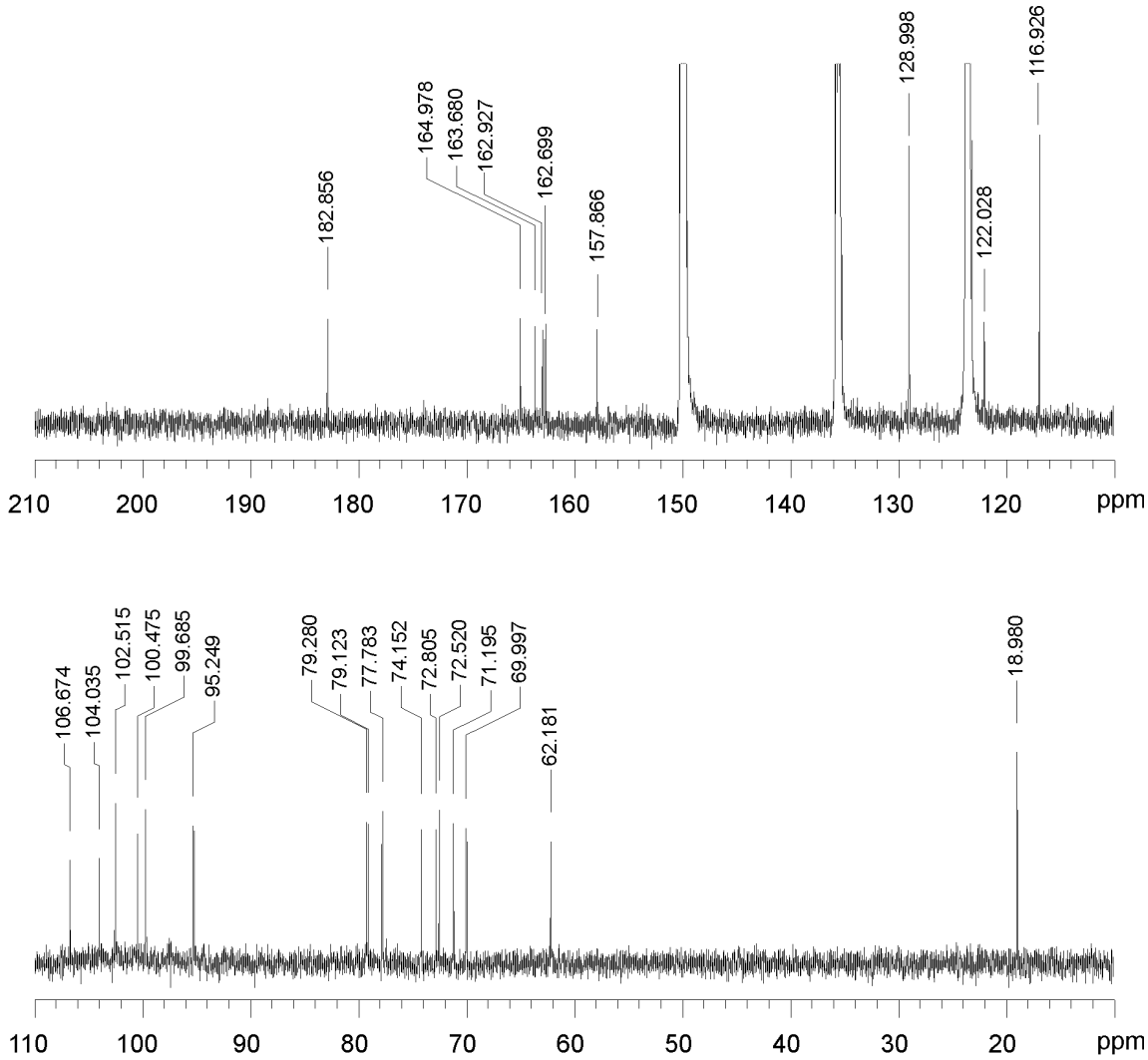
Sugar

	δ_C	δ_H
1''	99.7d	5.81
2''	77.8d	4.56
3''	79.3d	4.41
4''	71.2d	4.27
5''	79.1d	4.15
6''	62.2t	4.54/4.36
1'''	102.5d	6.44
2'''	72.5d	4.83
3'''	72.8d	4.6
4'''	74.2d	4.38
5'''	70d	4.86
6'''	19q	1.85

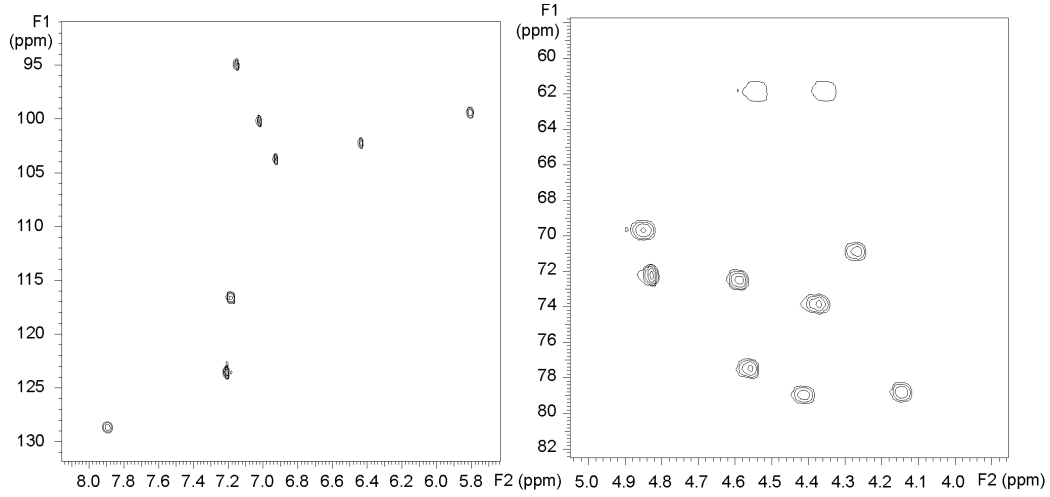
NMR-1H



NMR-13C:



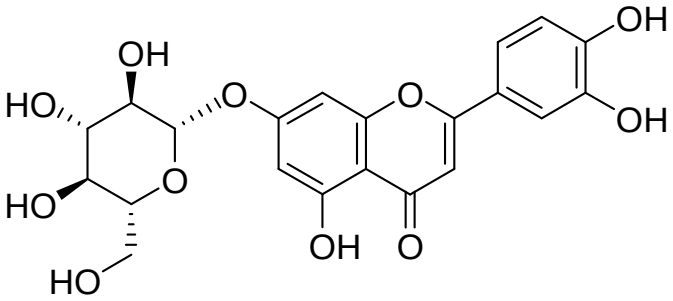
NMR-HSQC:



Names 7-[[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-5-hydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; Rhoifolin; Apigenin-7-β-neohesperidoside; Apigenin 7-O-neohesperidoside; Apigenin 7-O-β-D-neohesperidoside; Apigenin 7-O-β-neohesperidoside; Apigenin 7-neohesperidoside; Rhoifoloside

Luteolin-7-O-glucosid

Luteolin-7-O-β-D-glucopyranoside



CAS-Number: 5373-11-5

Formula: $C_{21}H_{20}O_{11}$ Exact mass: 432.10565

Molecular mass: 448.38

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.75	13.92	6.81
Rel. RetentionTime (k') :	13.19	12.38	11.85
k' rel. to Rutin :	1.00	1.00	0.99

MS1: 447.3 MS2: 285.2 MS3: 241.2

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

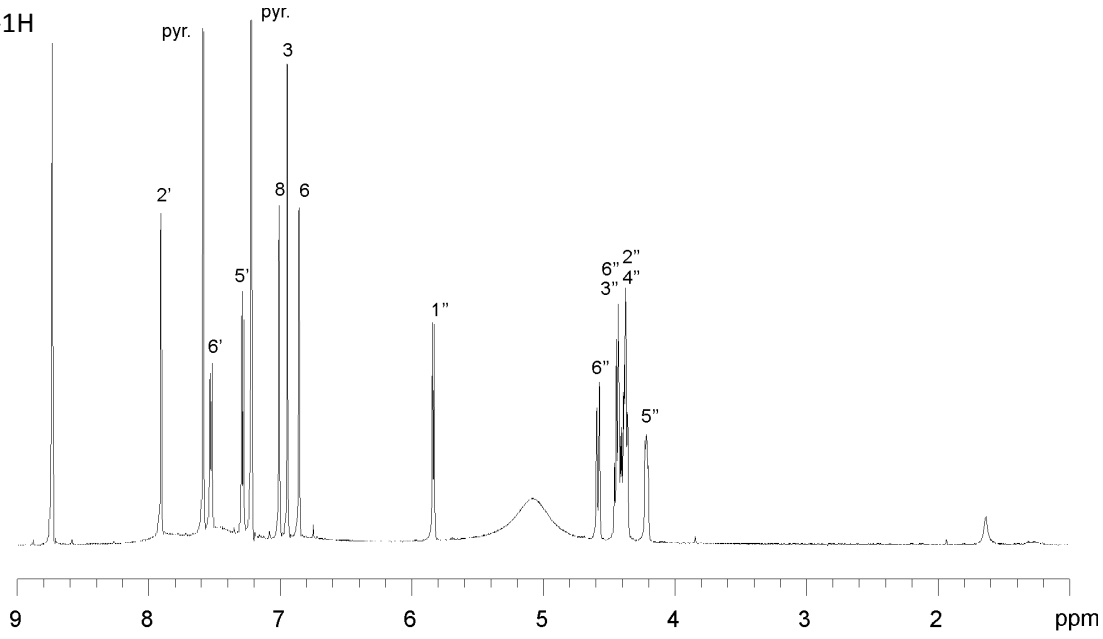
Flavone Core

	δ_C	δ_H
2	165.3s	
3	104.1d	6.95
4	182.8s	
4a	106.6s	
5	162.6s	
6	100.6d	6.85
7	164s	
8	95.3d	7
8a	157.9s	
1'	122.7s	
2'	114.7d	7.91
3'	147.8s	
4'	152s	
5'	116.9d	7.29
6'	119.7d	7.52

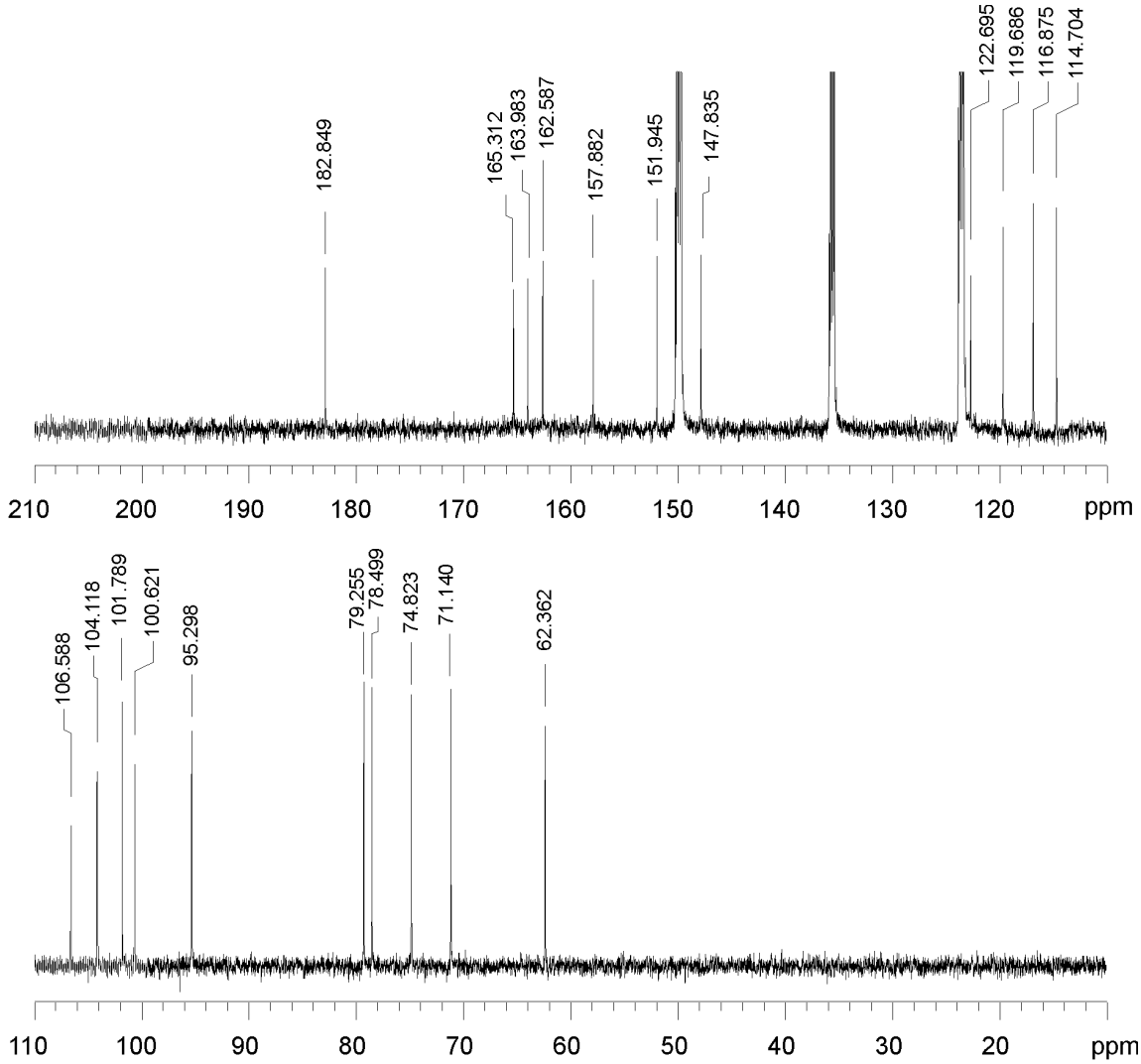
Sugar

	δ_C	δ_H
1''	101.8d	5.83
2''	74.8d	4.36
3''	78.5d	4.43
4''	71.1d	4.36
5''	79.2d	4.2
6''	62.4t	4.57/4.41

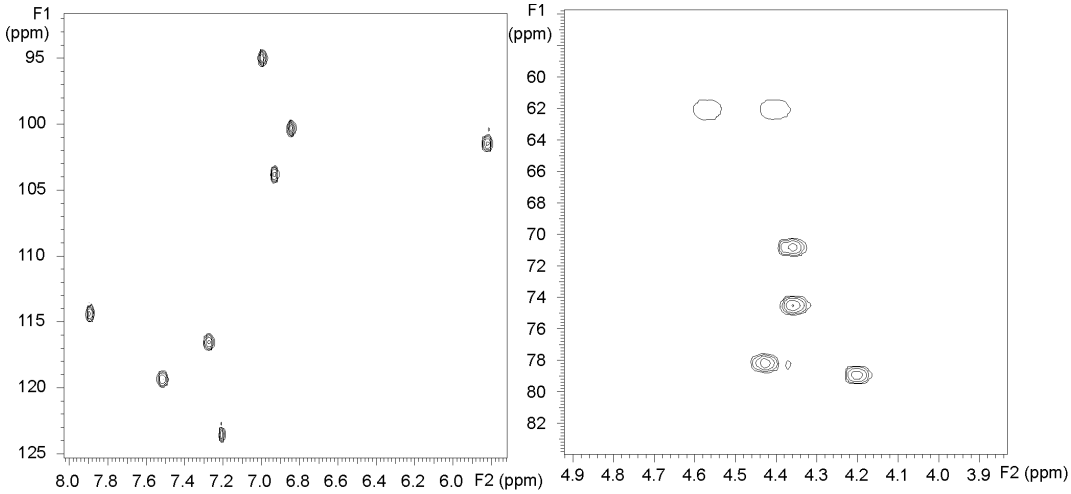
NMR-1H



NMR-13C:



NMR-HSQC:

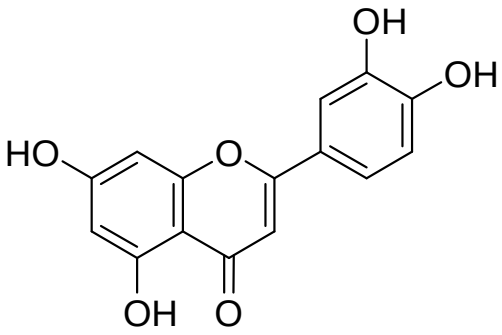


Names

2-(3,4-dihydroxyphenyl)-7-(β-D-glucopyranosyloxy)-5-hydroxy-4H-1-benzopyran-4-one; Cynaroside; Luteolin, 7-β-D-glucopyranoside; 7-Glucoluteolin; 7-β-D-Glucosylluteolin; 7-β-Glucosylluteolin; Cinaroside; Glucoluteolin; Luteolin 7-O-glucopyranoside; Luteolin 7-O-glucoside; Luteolin 7-O-monoglucoside; Luteolin 7-O-β-D-glucopyranoside; Luteolin 7-O-β-D-glucoside; Luteolin 7-O-β-glucopyranoside; Luteolin 7-O-β-glucoside; Luteolin 7-glucoside; Luteolin 7-monoglucoside; Luteolin 7-β-D-glucoside; Luteolin 7-β-glucoside; Luteolin 7-β-monoglucoside; Luteolin-7-D-glucopyranoside; Luteoloside; Nephrocizin; Nephrocizine

Luteolin

5,7,3',4'-Tetrahydroxyflavone



CAS-Number: 491-70-3

Formula: $C_{15}H_{10}O_6$ Exact mass: 286.04774

Molecular mass: 286.24

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	21.63	18.99	9.42
Rel. RetentionTime (k') :	17.33	17.26	16.77
k' rel. to Rutin :	1.31	1.39	1.40

MS1: 285.4 MS2: 241.3 MS3: 198

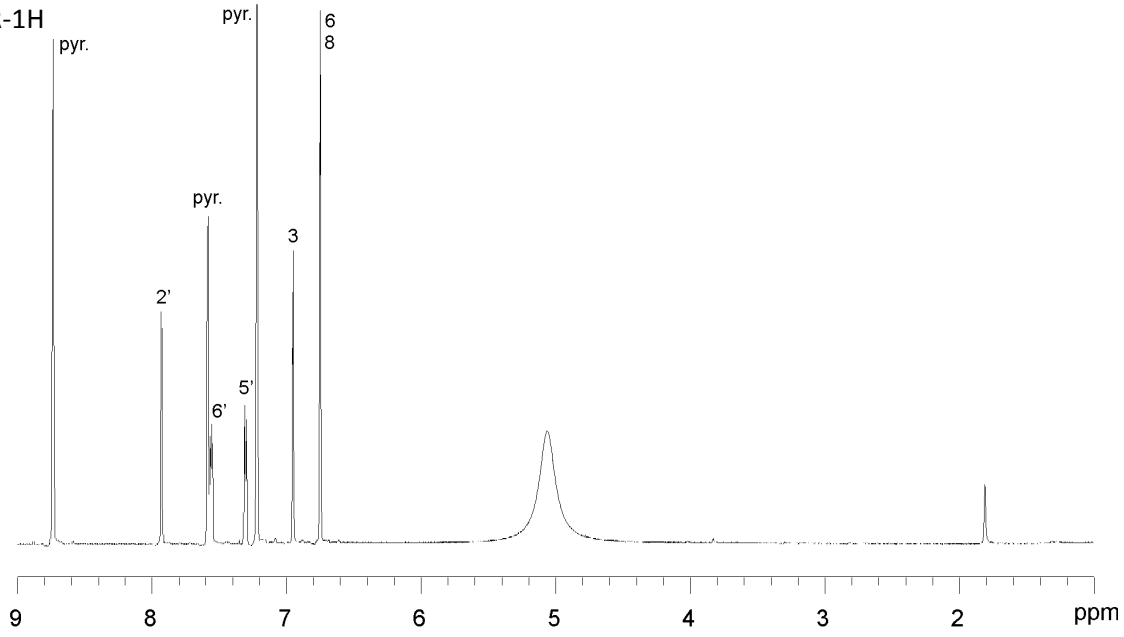
UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

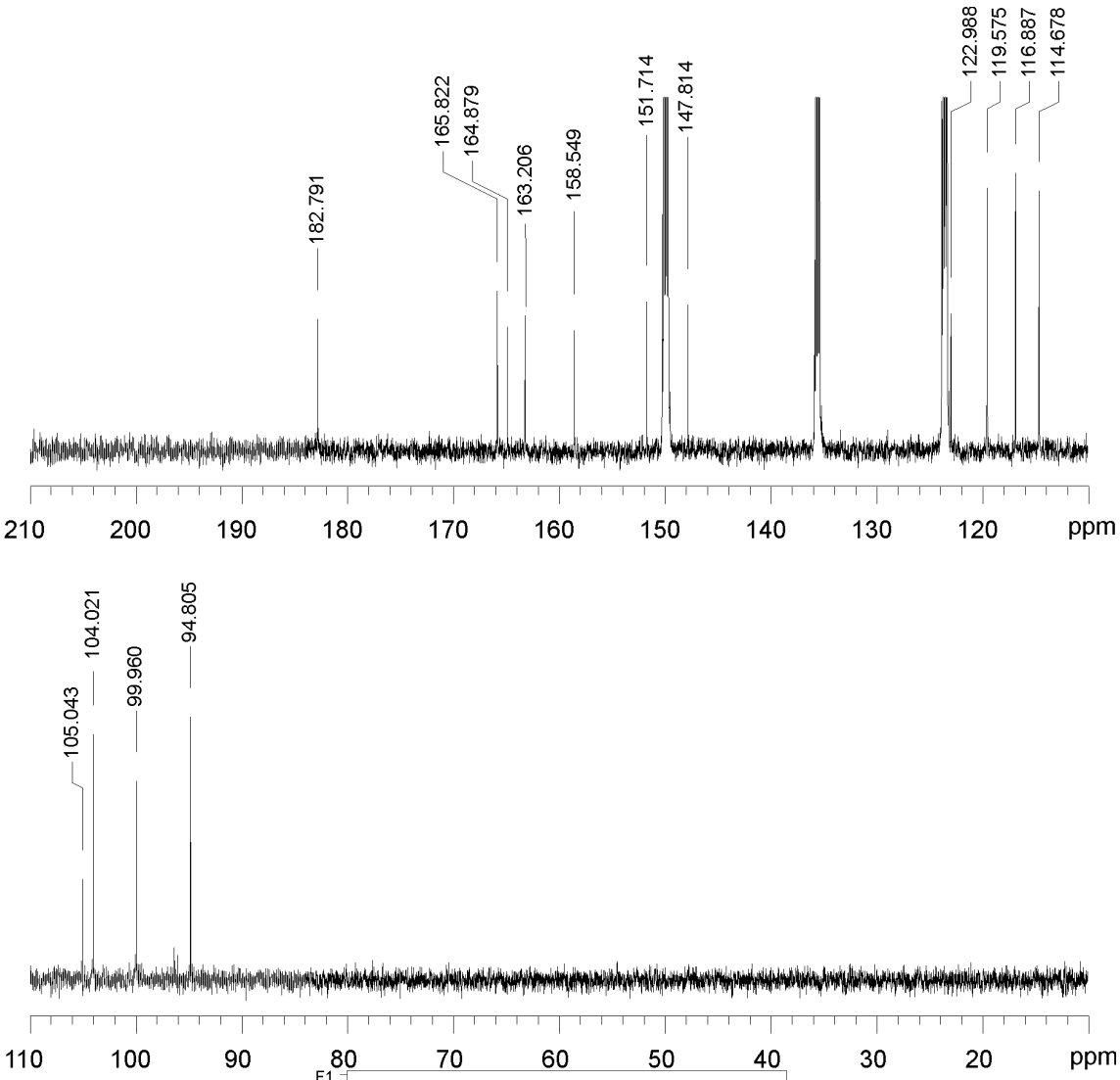
Flavone Core Sugar

	δ_C	δ_H
2	164.9s	
3	104d	6.95
4	182.8s	
4a	105s	
5	163.2s	
6	100d	6.75
7	165.8s	
8	94.8d	6.75
8a	158.5s	
1'	123s	
2'	114.7d	7.93
3'	147.8s	
4'	151.7s	
5'	116.9d	7.31
6'	119.6d	7.56

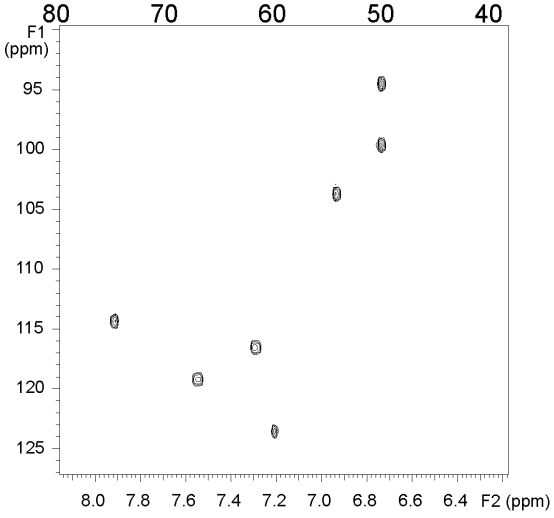
NMR-1H



NMR-13C:



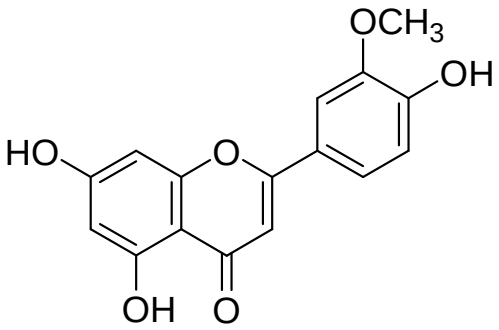
NMR-HSQC:



Names 2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; 5,7,3’,4’-tetrahydroxy-flavone; Luteolin; 2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; 2-(3,4-Dihydroxyphenyl)-5,7-dihydroxy-4H-benzopyran-4-one; 5,7,3',4'-tetrahydroxyflavone; 5,7,3',4'-Tetrahydroxyflavone; Cyanidenon; Cyanidenon 1470; Digitoflavone; Flacitran; Luteoline; Luteolol; Salifazide; Weld lake; Yama Kariyasu

Chrysoeriol

5,7,4'-Trihydroxy-3'-methoxyflavone



CAS-Number: 491-71-4

Formula: $C_{16}H_{12}O_6$ Exact mass: 300.06339

Molecular mass: 300.26

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	24.03	21.60	10.69
Rel. RetentionTime (k') :	19.36	19.77	19.17
k' rel. to Rutin :	1.47	1.59	1.61

MS1: 299.3 MS2: 284.2 MS3: 256.2

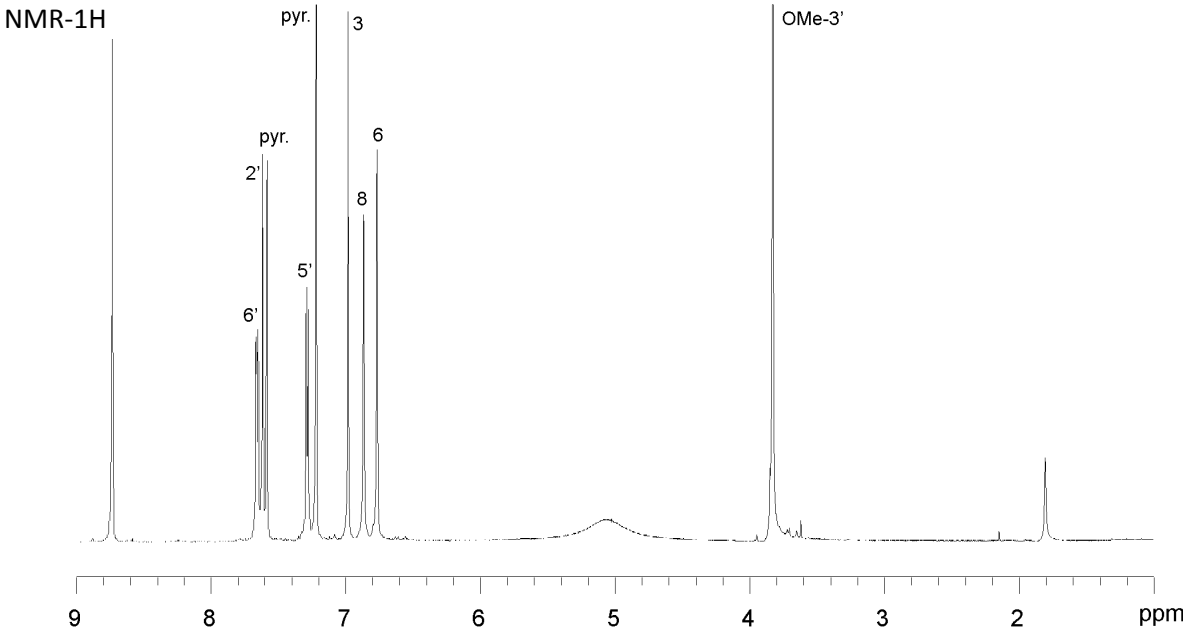
UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

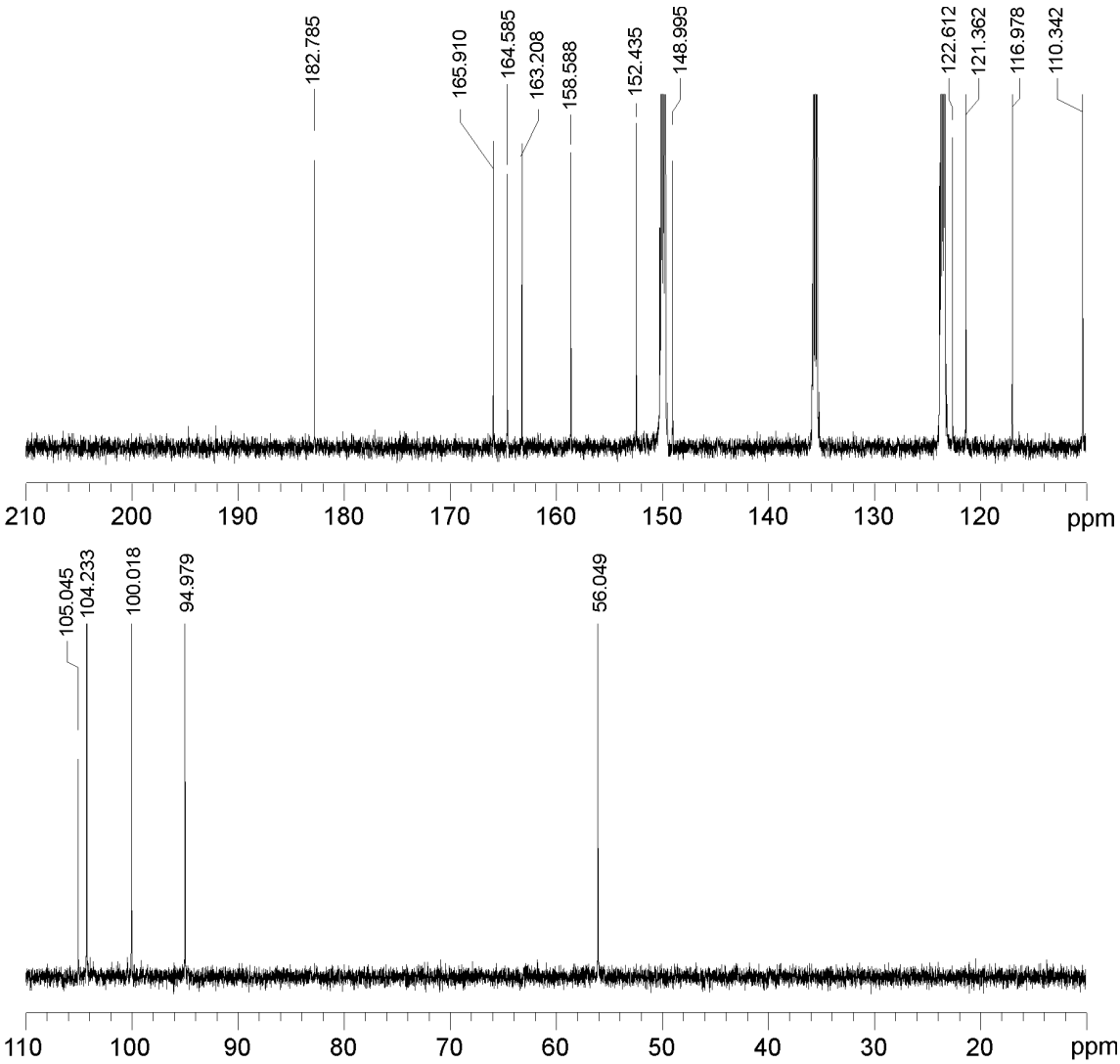
Flavone Core Sugar

	δ_C	δ_H
2	164.6s	
3	104.2d	6.98
4	182.8s	
4a	105s	
5	163.2s	
6	100d	6.77
7	165.9s	
8	95d	6.87
8a	158.6s	
1'	122.6s	
2'	110.3d	7.62
3'	149s	
4'	152.4s	
5'	117d	7.28
6'	121.4d	7.66
OMe-3'	56q	3.83

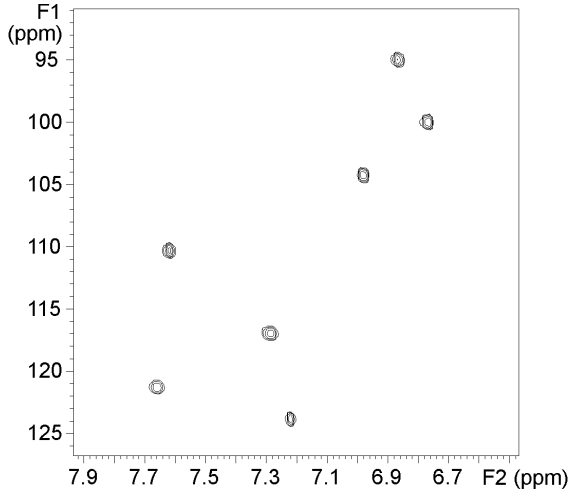
NMR-1H



NMR-13C:



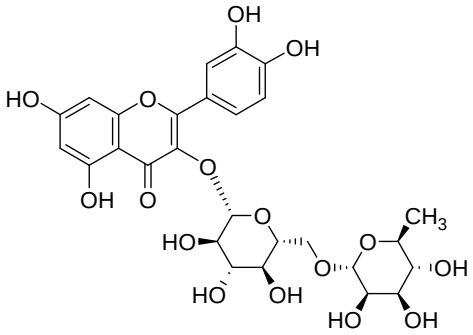
NMR-HSQC:



Names 5,7-dihydroxy-2-(4-hydroxy-3-methoxyphenyl)-4H-1-benzopyran-4-one; 5,7,4’-trihydroxy-3'-methoxy-flavone; 3'-methoxy-5,7,4’-trihydroxyflavone; 3'-methoxyapigenin; 3'-O-Methylluteolin; 5,7,4'-trihydroxy-3'-methoxyflavone; Chrysoeriol; Chrysoriol; Luteolin 3'-methyl ether

Rutin

Quercetin-3-O-β-D-rutinoside



CAS-Number: 153-18-4

Formula: $C_{27}H_{30}O_{16}$ Exact mass: 610.15338

Molecular mass: 610.52

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.75	13.95	6.86
Rel. RetentionTime (k') :	13.19	12.41	11.94
k' rel. to Rutin :	1.00	1.00	1.00

MS1: 609.3 MS2: 301.1 MS3: 178.9

UV/Vis: 255, 265(sh), 3

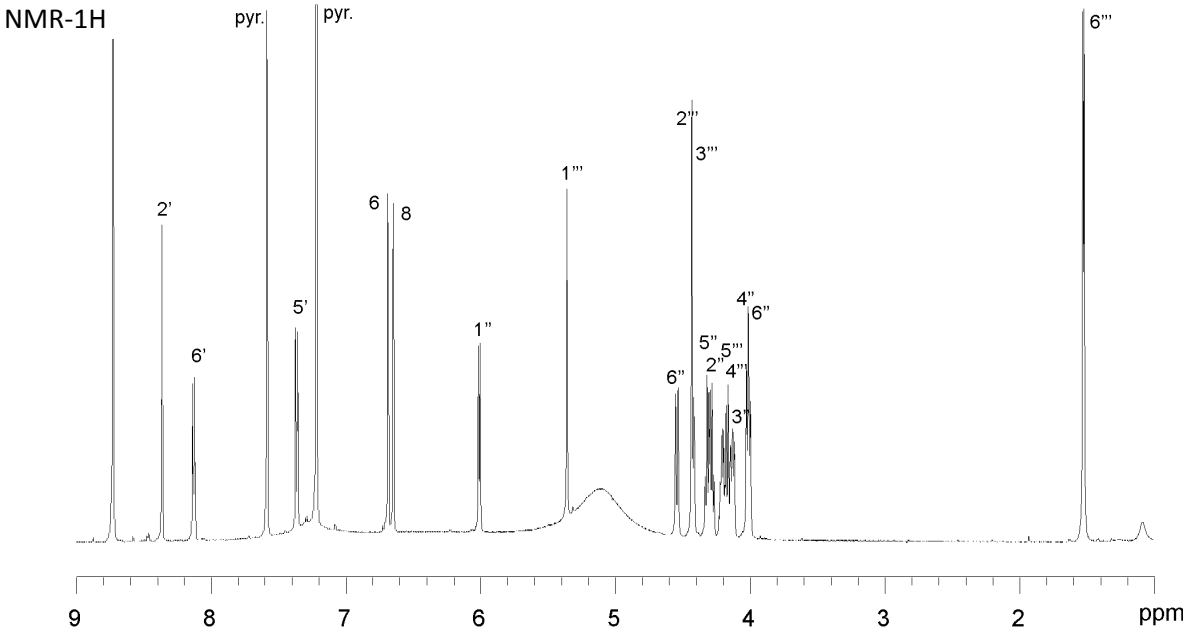
NMR - Resonance Assignments:

Flavone Core

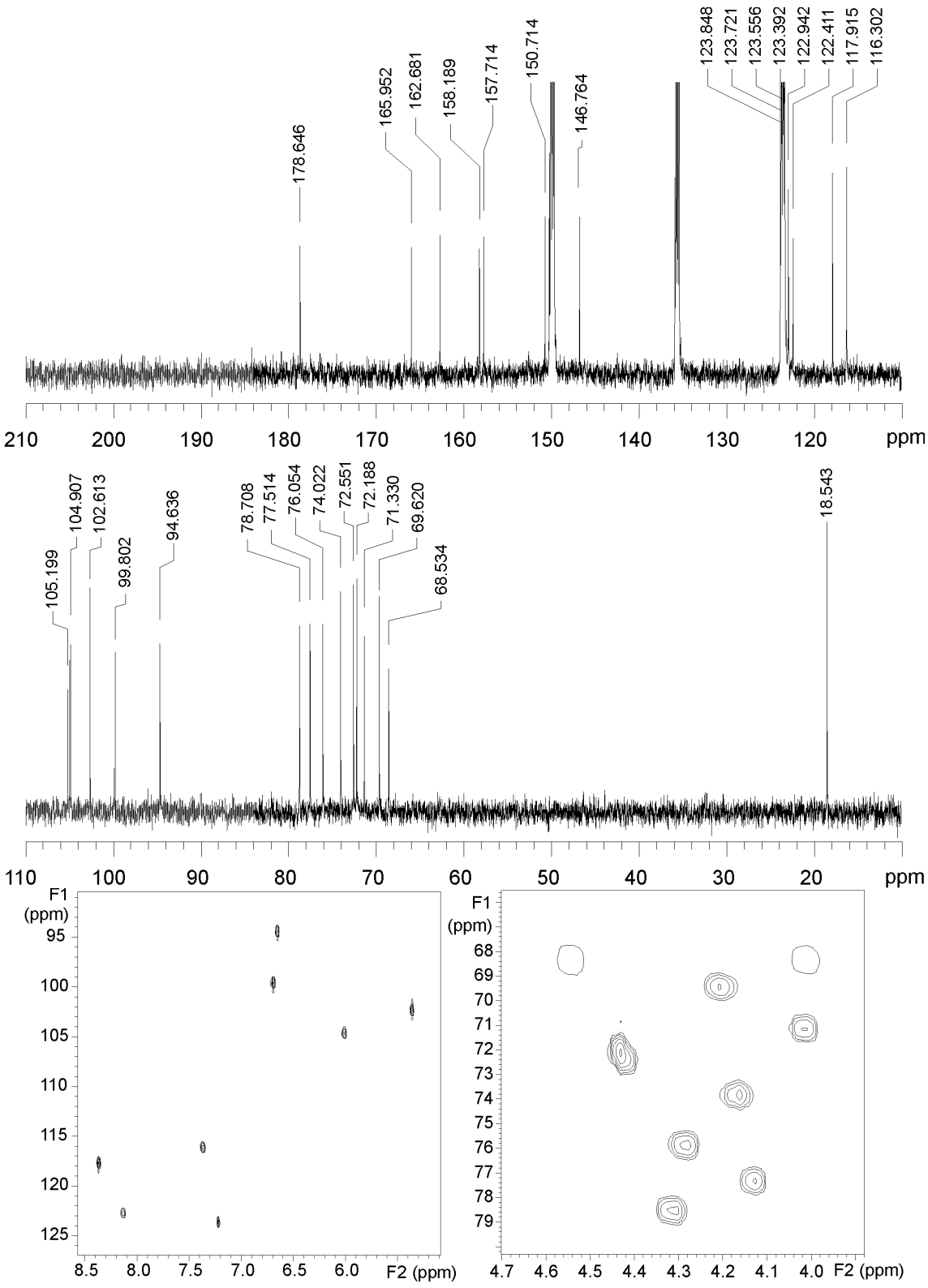
	δ_C	δ_H
2	158.2s	
3	135.6s	
4	178.6s	
4a	105.2s	
5	162.7s	
6	99.8d	6.69
7	166s	
8	94.6d	6.64
8a	157.7s	
1'	122.4s	
2'	117.9d	8.36
3'	146.7s	
4'	150.7s	
5'	116.3d	7.37
6'	122.9d	8.12

Sugar

	δ_C	δ_H
1''	104.9d	6/4
2''	76.1d	4.27
3''	77.5d	4.12
4''	71.3d	4.01
5''	78.7d	4.32
6''	68.5t	4.53
1'''	102.6d	5.35
2'''	72.2d	4.42
3'''	72.6d	4.41
4'''	74d	4.15
5'''	69.6d	4.2
6'''	18.5t	1.53



NMR-13C:



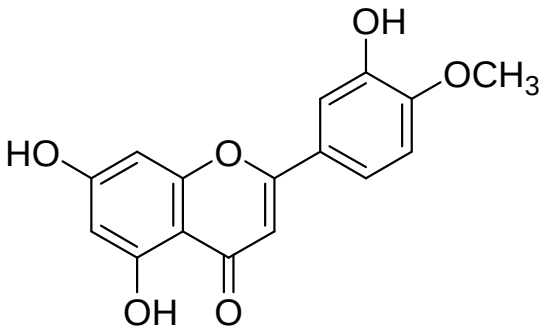
NMR-HSQC:

Names

3-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; Flavone 3,5,7,3',4',5'-hexahydroxy-(6-O-α-L-rhamnosyl-β-D-glucoside); Ilixanthin; Rutin; 3,5,7,3',4'-Pentahydroxyflavone 3-O-rutinoside; 3,5,7,3',4'-Pentahydroxyflavone 3-rutinoside; 3-O-Rutinosyl-quercetin; 3-Rutinosylquercetin; 5,7,3',4'-tetrahydroxyflavonol-3-O-rutinoside; Birutan; C.I. 75730; Eldrin; Globulariacitrin; Globularicitrin; Ilixathin; Melin; Myrticalorin; Myrticolorin; Myticolorin; NSC 9220; Novarrutina; Osyritin; Osyritrin; Oxyritin; Paliuroside; Phytomelin; Quercetin 3-O-rutinoside; Quercetin 3-O-α-L-rhamnopyranosyl-(1→6)-β-D-glucopyranoside; Quercetin 3-O-α-rhamnopyranosyl(1''→6')-β-D-glucopyranoside; Quercetin 3-O-α-rhamnopyranosyl(1→6)-β-glucopyranoside; Quercetin 3-O-β-D-rutinoside; Quercetin 3-O-β-rutinoside; Quercetin 3-rhamnoglucoside; Quercetin 3-rutinoside; Quercetin 3-β-rutinoside; Rutabion; Rutine; Rutinic acid; Rutosid; Rutoside; Rutozid; Sophorin; Tanrutin; Violaquercetrin; Violaquercitrin; Yunxianggan

Diosmetin

5,7,3'-Trihydroxy-4'-methoxyflavone



CAS-Number: 520-34-3

Formula: $C_{16}H_{12}O_6$ Exact mass: 300.06339

Molecular mass: 300.26

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	24.21	21.81	10.79
Rel. RetentionTime (k') :	19.52	19.97	19.36
k' rel. to Rutin :	1.48	1.61	1.62

MS1: 299.2 MS2: 284.2 MS3: 256.1

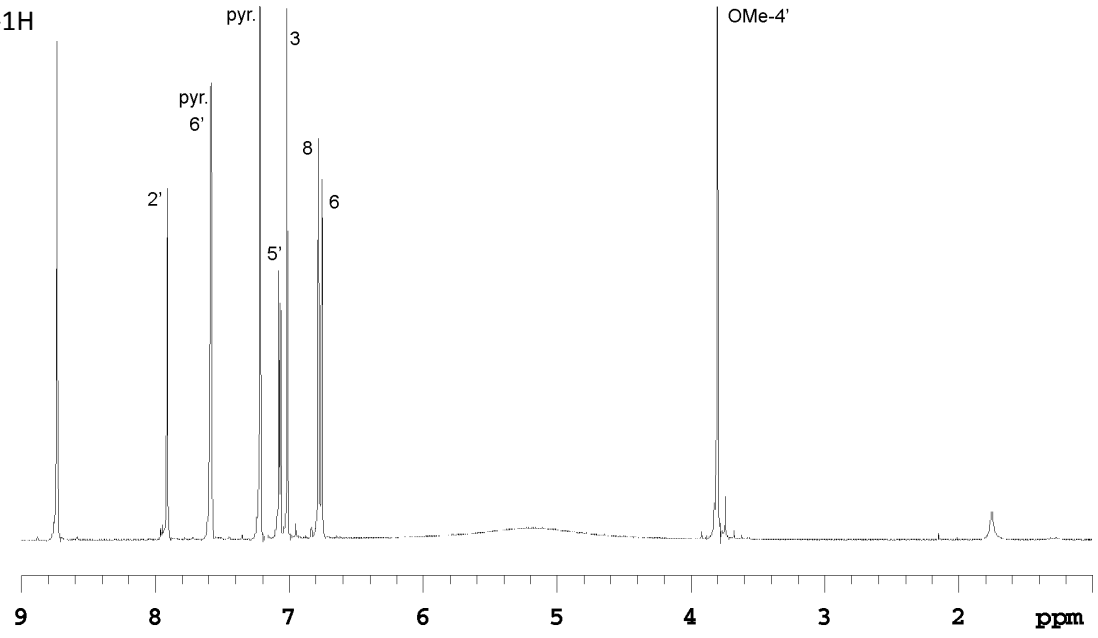
UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

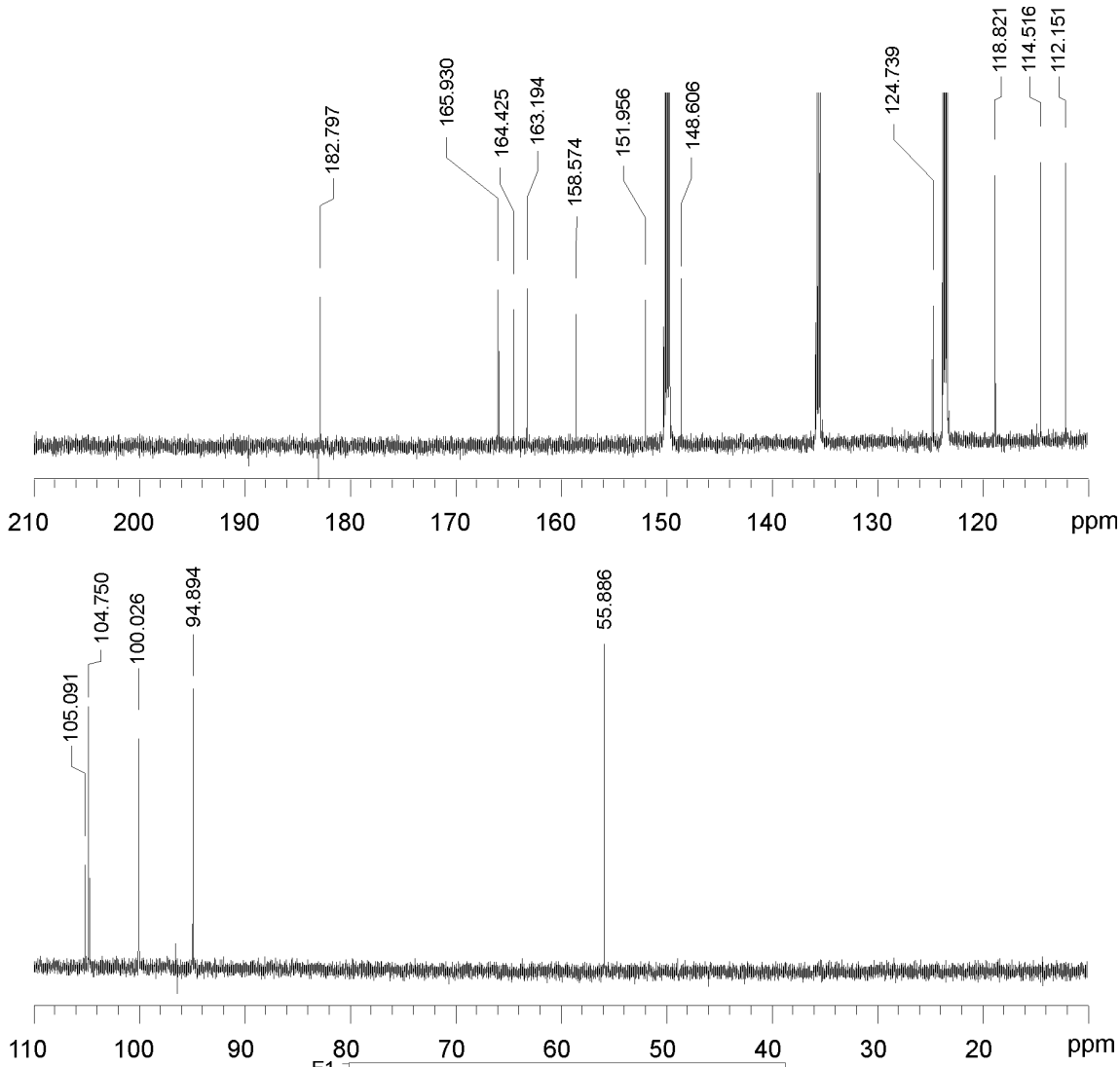
Flavone Core Sugar

	δ_C	δ_H
2	164.4s	
3	104.8d	7.01
4	182.8s	
4a	105.1s	
5	163.2s	
6	100d	6.75
7	165.9s	
8	94.9d	6.78
8a	158.6s	
1'	124.7s	
2'	114.5d	7.91
3'	148.6s	
4'	152s	
5'	112.2d	7.07
6'	118.8d	7.58
OMe-4'	55.9q	3.8

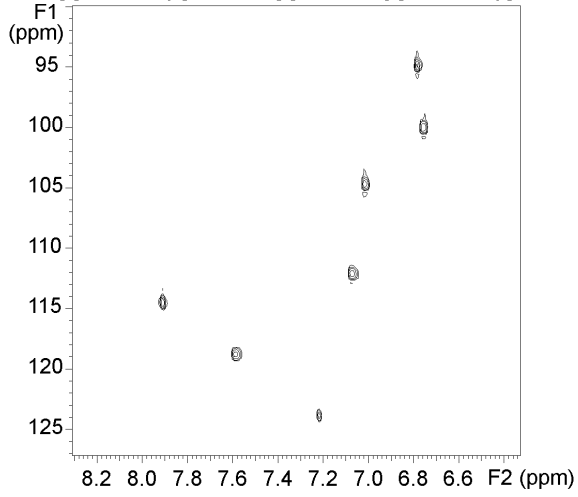
NMR-1H



NMR-13C:

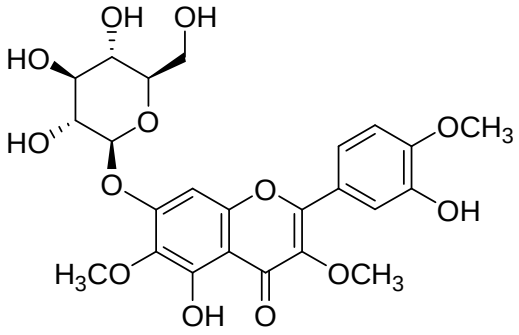


NMR-HSQC:



Names 5,7-dihydroxy-2-(3-hydroxy-4-methoxyphenyl)-4H-1-benzopyran-4-one; Diosmetin; 5,7,3’-trihydroxy-4'-methoxy-flavone; 5,7,3’-trihydroxy-4'-methoxyflavone; 4'-methylluteolin; 5,7,3'-trihydroxy-4'-methoxyflavone; Diosmetine; Diosmetol; Luteolin 4'-methyl ether; Pillon

Centaurein



5,7,3'-Trihydroxy-3,6,4'-trimethoxy-flavone-7-O-β-D-glucoside

CAS-Number: 35595-03-0

Formula: $C_{24}H_{26}O_{13}$ Exact mass: 522.13734

Molecular mass: 522.46

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	20.53	17.33	8.76
Rel. RetentionTime (k') :	16.4	15.66	15.53
k' rel. to Rutin :	1.24	1.26	1.30

MS1: 521.2 MS2: 359.3 MS3: 153.1

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

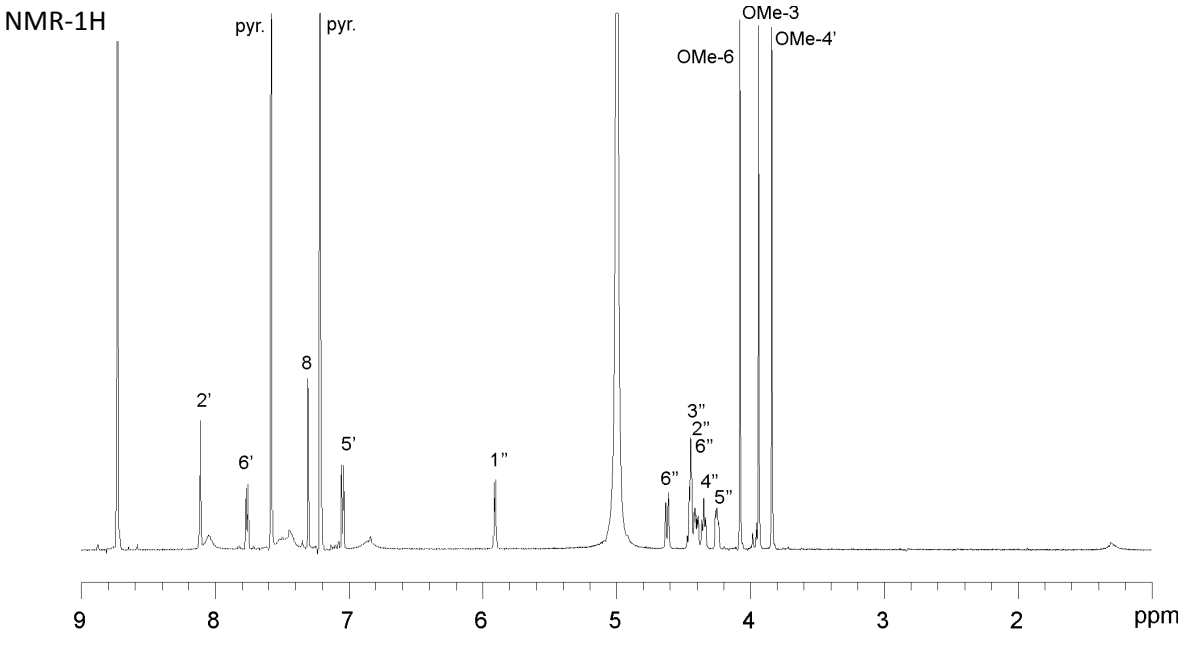
Flavone Core

	δ_C	δ_H
2	156.7s	
3	139s	
4	179.4s	
4a	107.5s	
5	153.6s	
6	133.5s	
7	157.6s	
8	95d	7.31
8a	152.2s	
1'	123.9s	
2'	116.7d	8.12
3'	148.2s	
4'	151.3s	
5'	112d	7.05
6'	121d	7.76
OMe-3'	60q	3.94
OMe-6	60.9q	4.08
OMe-4'	55.9q	3.84

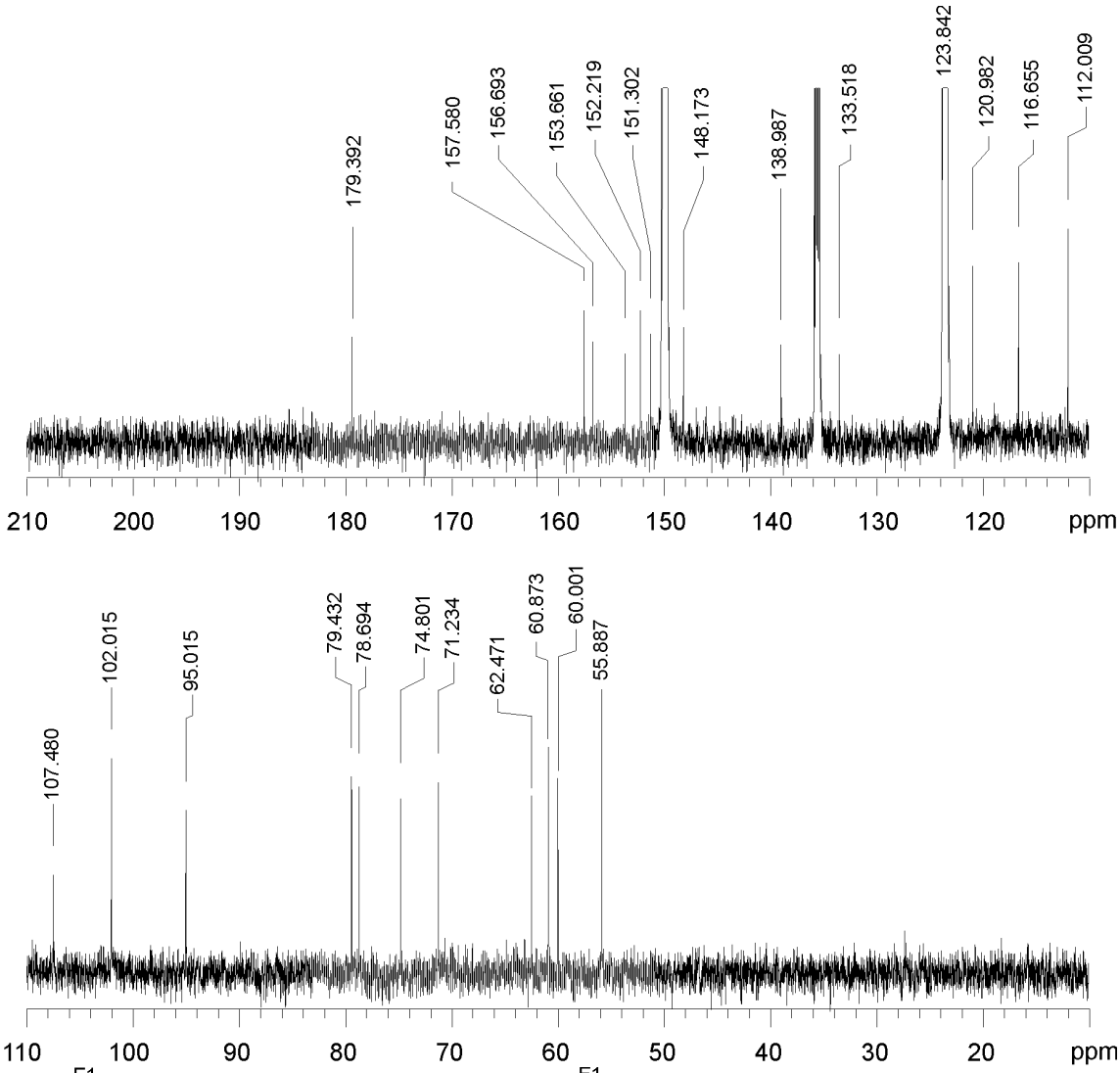
Sugar

	δ_C	δ_H
1''	102d	5.91
2''	74.8d	44.4
3''	78.4d	4.45
4''	71.2d	4.35
5''	79.4d	4.25
6''	62.5t	4.63/4.4

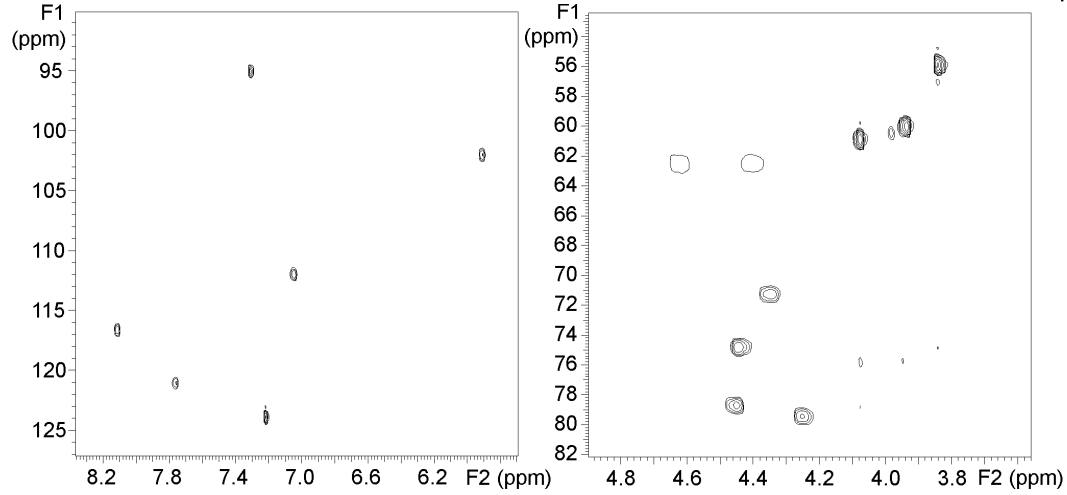
NMR-1H



NMR-13C:



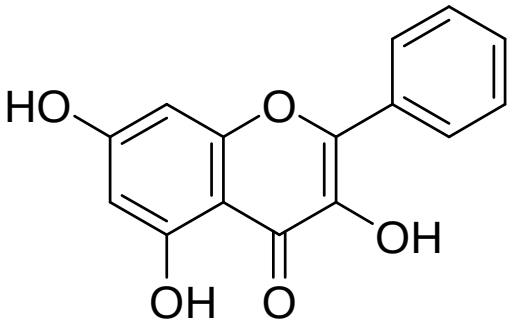
NMR-HSQC:



Names 7-(β-D-glucopyranosyloxy)-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)-3,6-dimethoxy-4H-1-benzopyran-4-one; Centaurein; 5,7,3'-Trihydroxy-3,6,4'-trimethoxy-flavone-7-O-β-D-glucoside

Galangin

3,5,7-Trihydroxyflavone



CAS-Number: 548-83-4

Formula: $C_{15}H_{10}O_5$ Exact mass: 270.05282

Molecular mass: 270.24

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	28.32	25.73	12.82
Rel. RetentionTime (k') :	23	23.74	23.19
k' rel. to Rutin :	1.74	1.91	1.94

MS1: 269.3 MS2: 227.1 MS3: 153.1

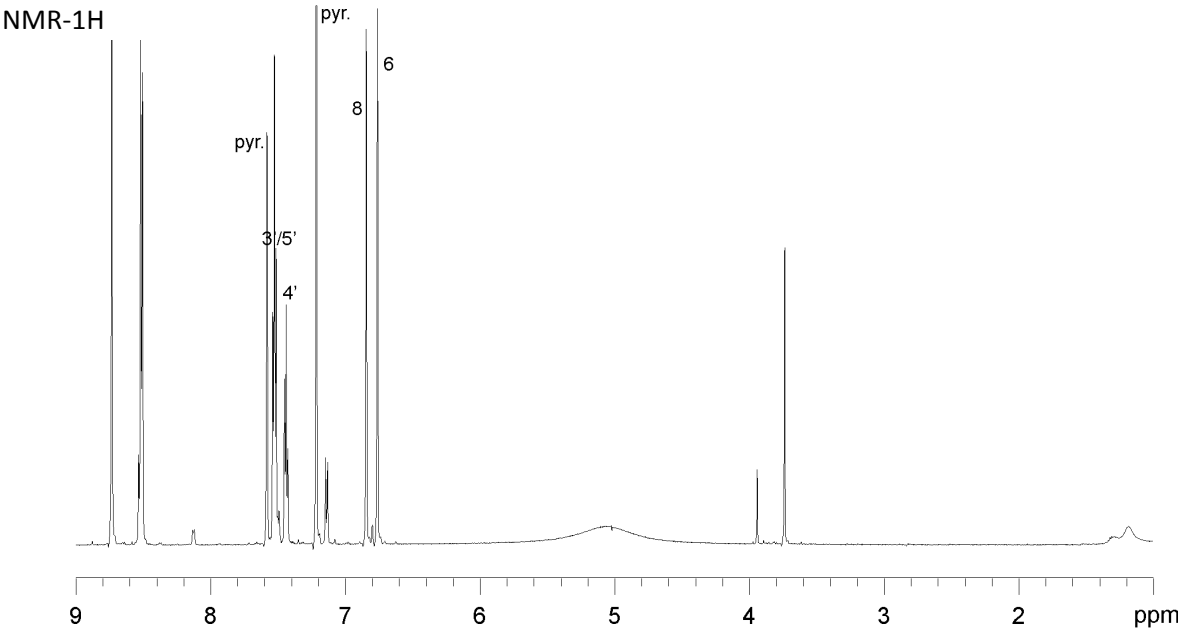
UV/Vis: 265, 310(sh), 3

NMR - Resonance Assignments:

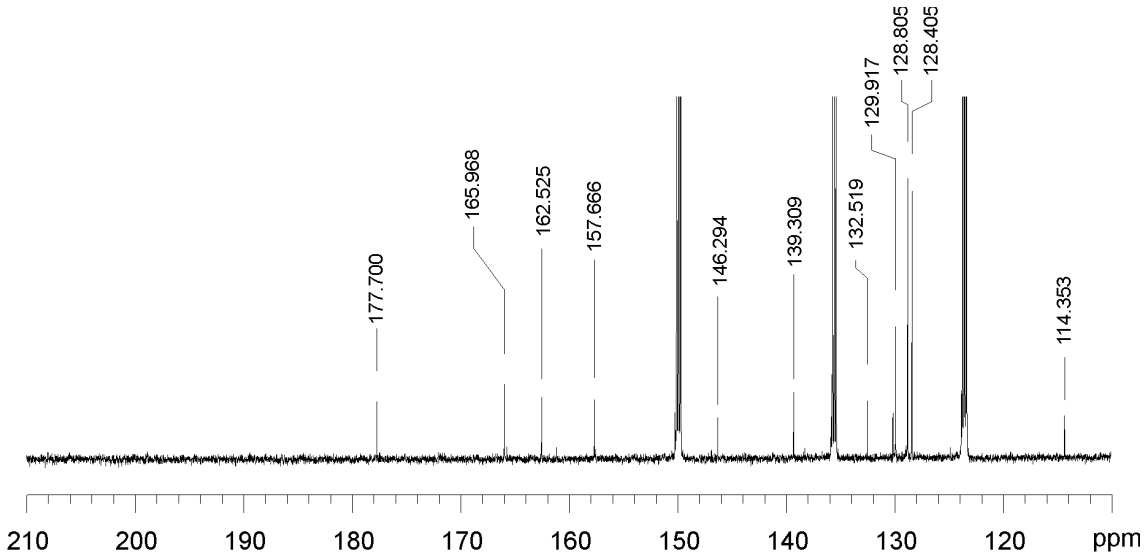
Flavone Core Sugar

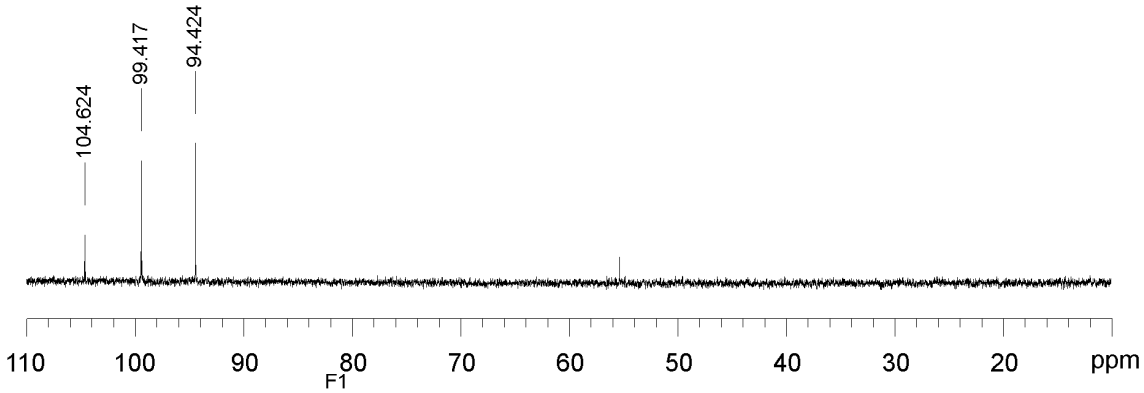
	δ_C	δ_H
2	146.3s	
3	139.3s	
4	177.7s	
4a	104.6s	
5	162.5s	
6	99.4d	6.76
7	166s	
8	94.4d	6.84
8a	157.7s	
1'	132.5s	
2'	128.4d	8.51
3'	128.8d	7.53
4'	129.9d	7.44
5'	128.8d	7.53
6'	128.4d	8.51

NMR-1H

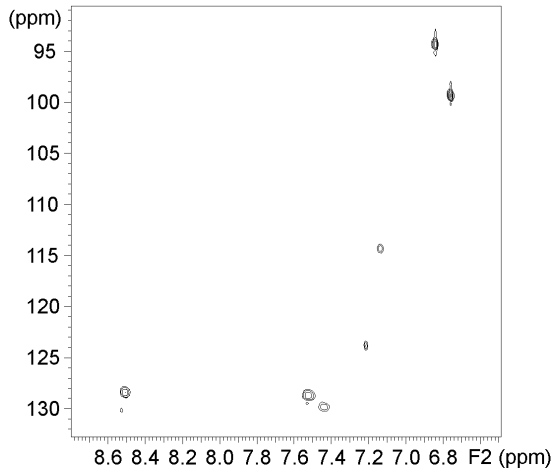


NMR-13C:





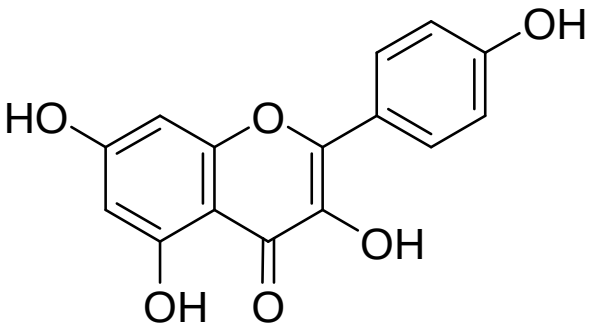
NMR-HSQC:



Names 3,5,7-trihydroxy-2-phenyl-4H-1-benzopyran-4-one; 3,5,7-trihydroxy-flavone; Galangin; 3,5,7-trihydroxyflavone; NSC 407229; Norizalpinin

Kaempferol

3,5,7,4'-Tetrahydroxyflavone



CAS-Number: 520-18-3

Formula: $C_{15}H_{10}O_6$ Exact mass: 286.04774

Molecular mass: 286.24

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	23.52	21.09	10.43
Rel. RetentionTime (k') :	18.93	19.28	18.68
k' rel. to Rutin :	1.43	1.55	1.56

MS1: 285.3 MS2: 258 MS3: 151.1

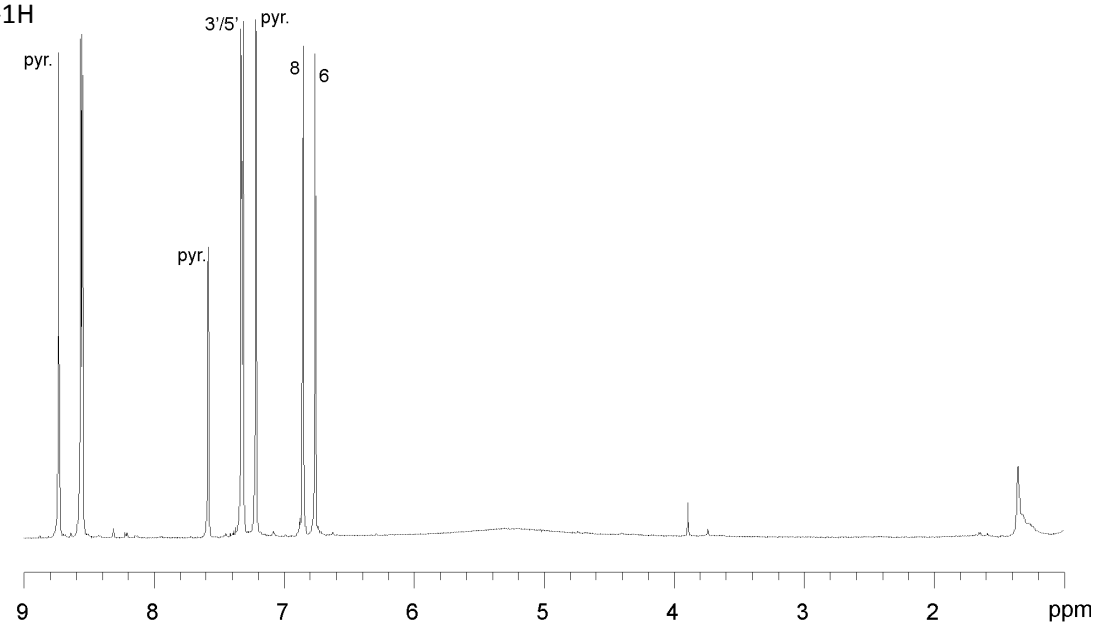
UV/Vis: 265, 320(sh), 3

NMR - Resonance Assignments:

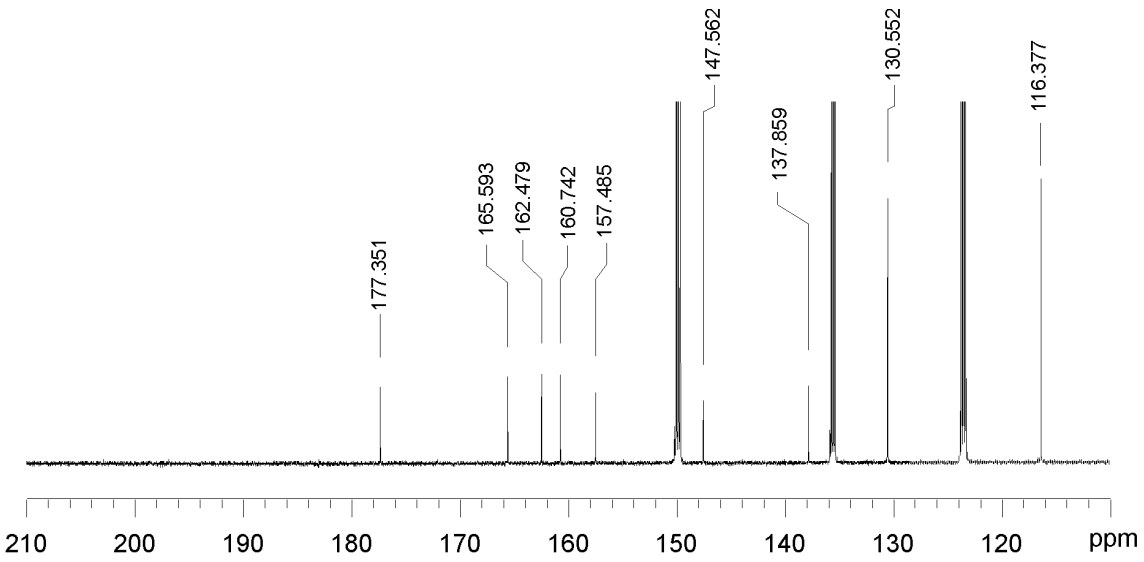
Flavone Core Sugar

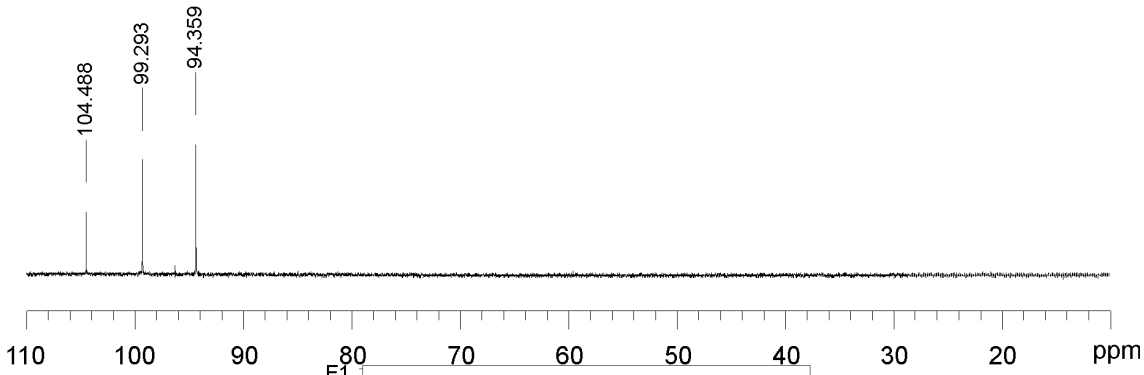
	δ_C	δ_H
2	147.6s	
3	147.9s	
4	177.4s	
4a	104.5s	
5	162.5s	
6	99.3d	6.76
7	165.6s	
8	94.4d	6.85
8a	157.5s	
1'	123.3s	
2'	130.6d	8.55
3'	116.4d	7.32
4'	160.7s	
5'	116.4d	7.32
6'	130.6d	8.55

NMR-1H

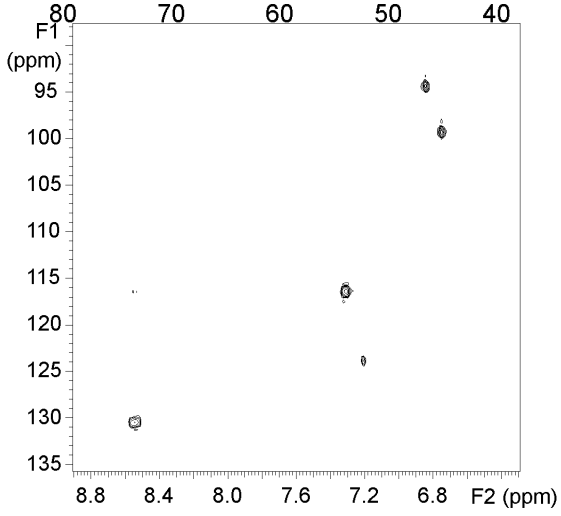


NMR-13C:





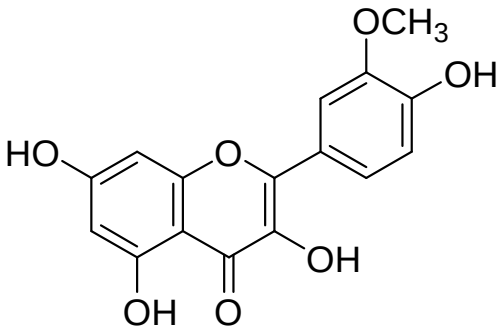
NMR-HSQC:



Names 3,5,7-trihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; 3,5,7,4’-tetrahydroxy-flavone; 3,5,7,4’-tetrahydroxyflavone; 3,5,7,4'-tetrahydroxyflavone; 3'-Deoxyquercetin; 5,7,4'-trihydroxyflavonol; C.I. 75640; Indigo Yellow; Kaempferol; Kaempherol; Kampcetin; Kempferol; NSC 407289; NSC 656277; Nimbecetin; Pelargidenolon; Pelargidenon; Populnetin; Rhamnolutein; Rhamnolutin; Robigenin; Swartziol; Trifolitin

Isorhamnetin

3,5,7,4'-Tetrahydroxy-3'-methoxyflavone



CAS-Number: 480-19-3

Formula: $C_{16}H_{12}O_7$ Exact mass: 316.05830

Molecular mass: 316.26

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	24.03	21.60	10.67
Rel. RetentionTime (k') :	19.36	19.77	19.13
k' rel. to Rutin :	1.47	1.59	1.60

MS1: 315.2 MS2: 300.2 MS3: 271.3

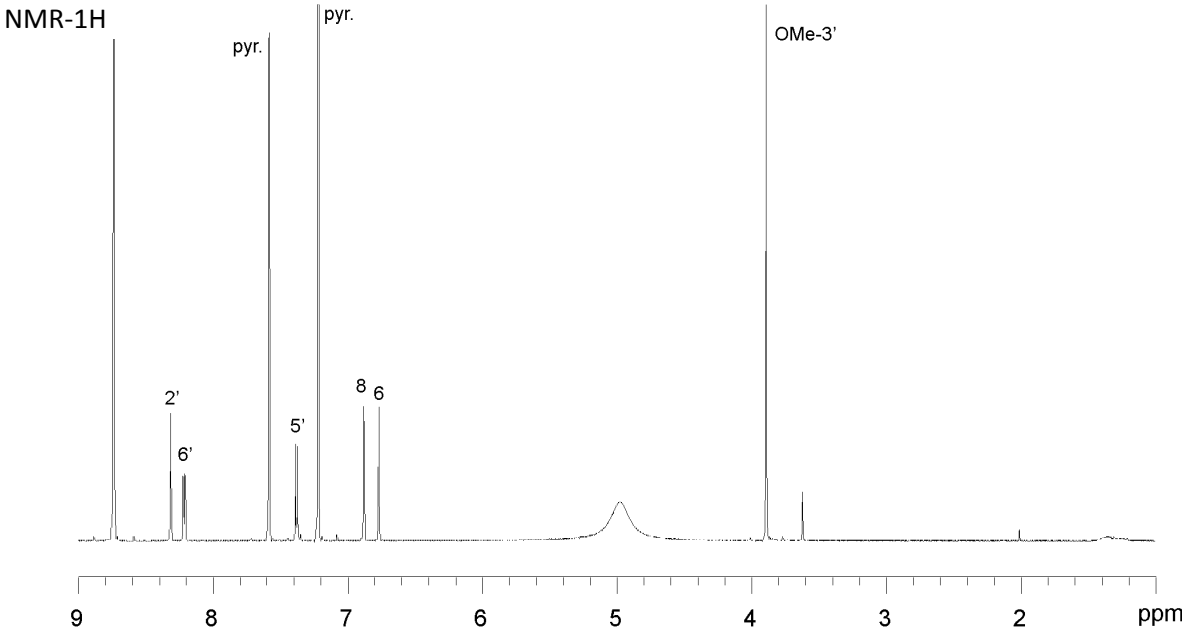
UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

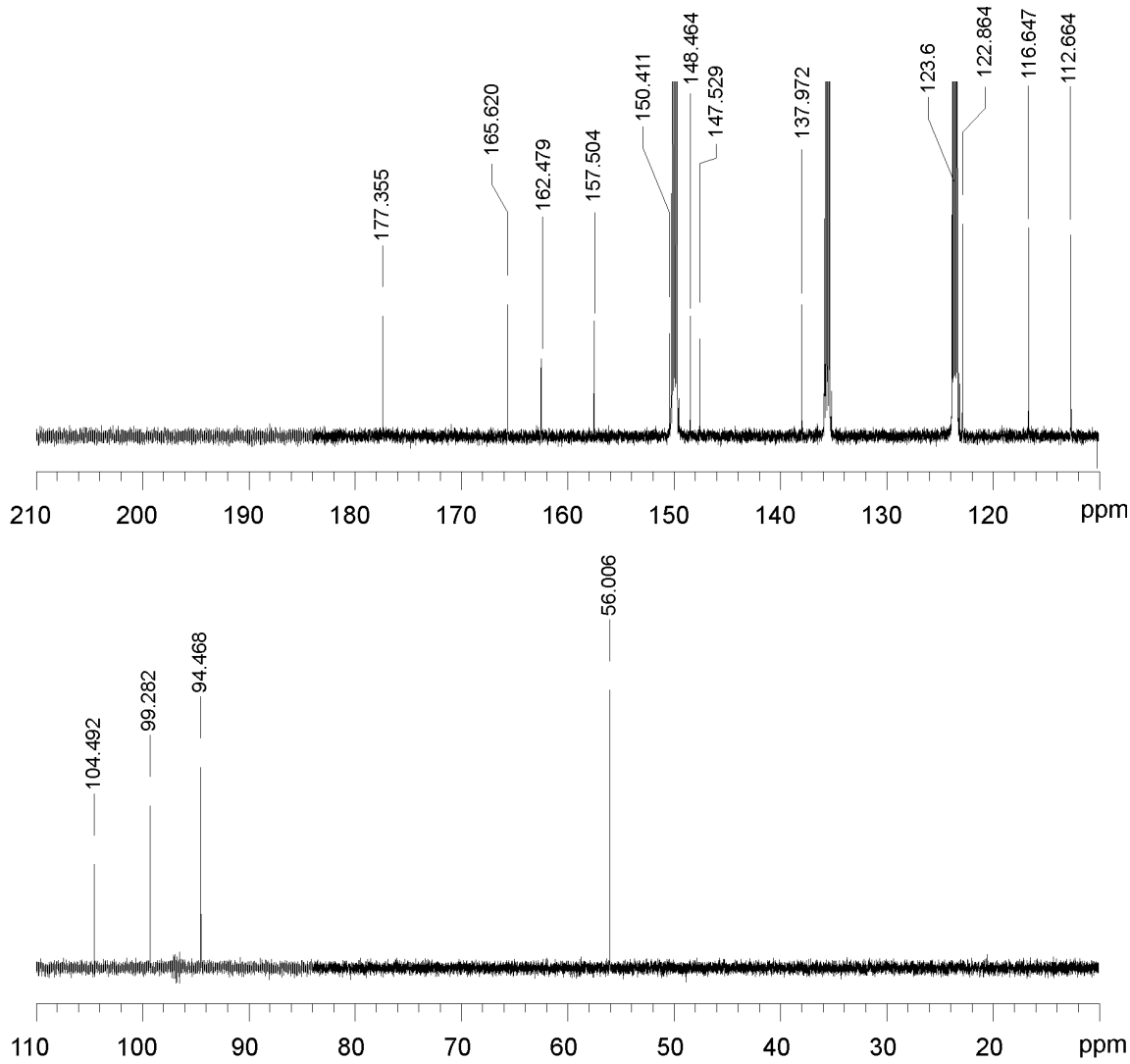
Flavone Core Sugar

	δ_C	δ_H
2	147.5s	
3	138s	
4	177.4s	
4a	104.5s	
5	162.5s	
6	99.3d	6.77
7	165.6s	
8	94.5d	6.88
8a	157.5s	
1'	123.6s	
2'	112.7d	8.31
3'	148.5s	
4'	150.4s	
5'	116.6d	7.38
6'	122.9d	8.21
OMe-3'	56q	3.89

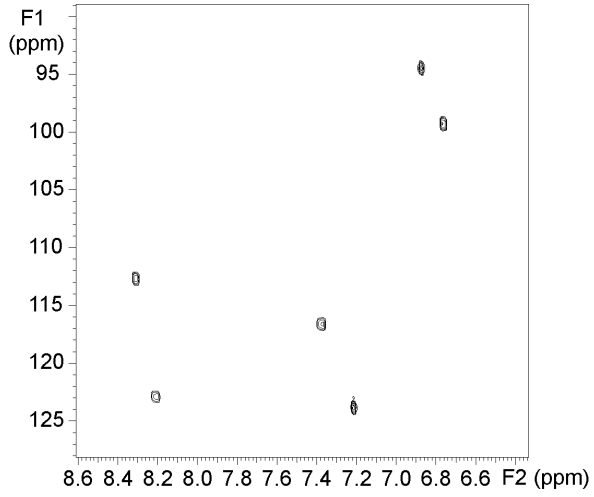
NMR-1H



NMR-13C:



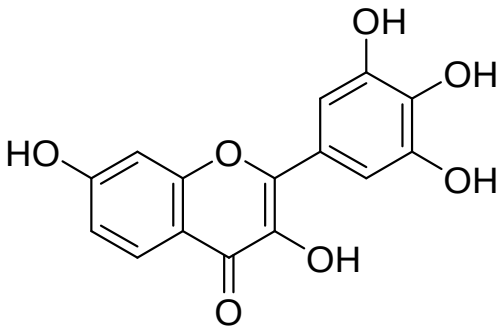
NMR-HSQC:



Names 3,5,7-trihydroxy-2-(4-hydroxy-3-methoxyphenyl)-4H-1-benzopyran-4-one; 3,5,7,4’-tetrahydroxy-3'-methoxy-flavone; Isorhamnetin; 3,5,7,4’-tetrahydroxy-3'-methoxyflavone; 3,5,7,4'-Tetrahydroxy-3'-methoxyflavone; 3'-Methoxyquercetin; 3'-Methylquercetin; 3'-O-Methylquercetin; C.I. 75680; Isorhamnetol; Quercetin 3'-methyl ether

Robinetin

3,7,3',4',5'-Pentahydroxyflavone



CAS-Number: 490-31-3

Formula: $C_{15}H_{10}O_7$ Exact mass: 302.04265

Molecular mass: 302.24

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.4	13.71	6.60
Rel. RetentionTime (k') :	12.9	12.18	11.45
k' rel. to Rutin :	0.98	0.98	0.96

MS1: 301.2 MS2: 162.9 MS3: 135

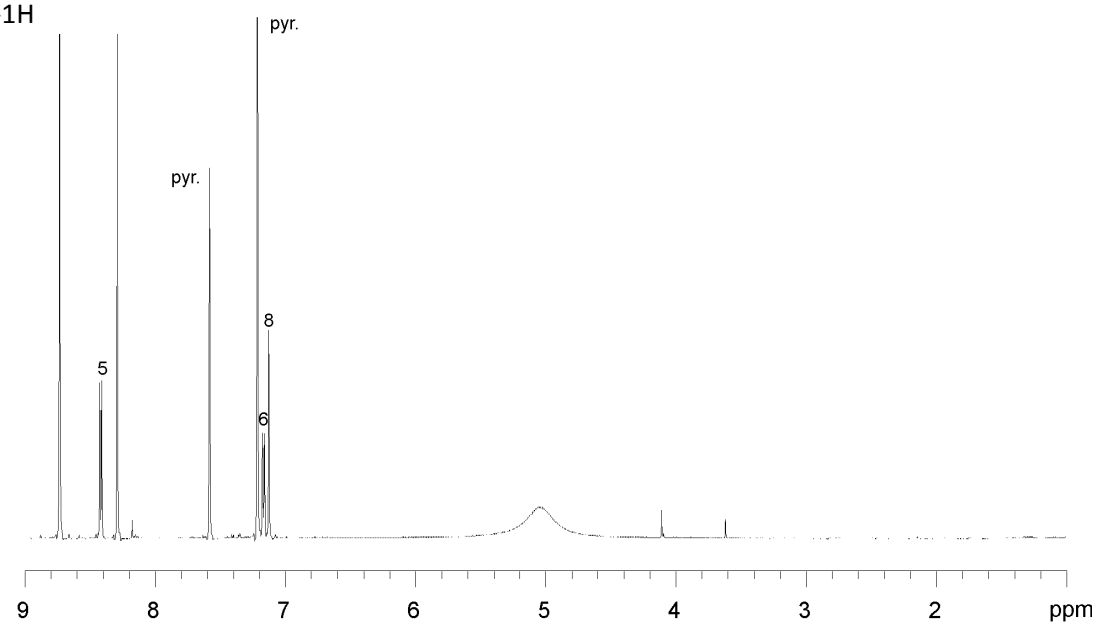
UV/Vis: 255, 320(sh), 3

NMR - Resonance Assignments:

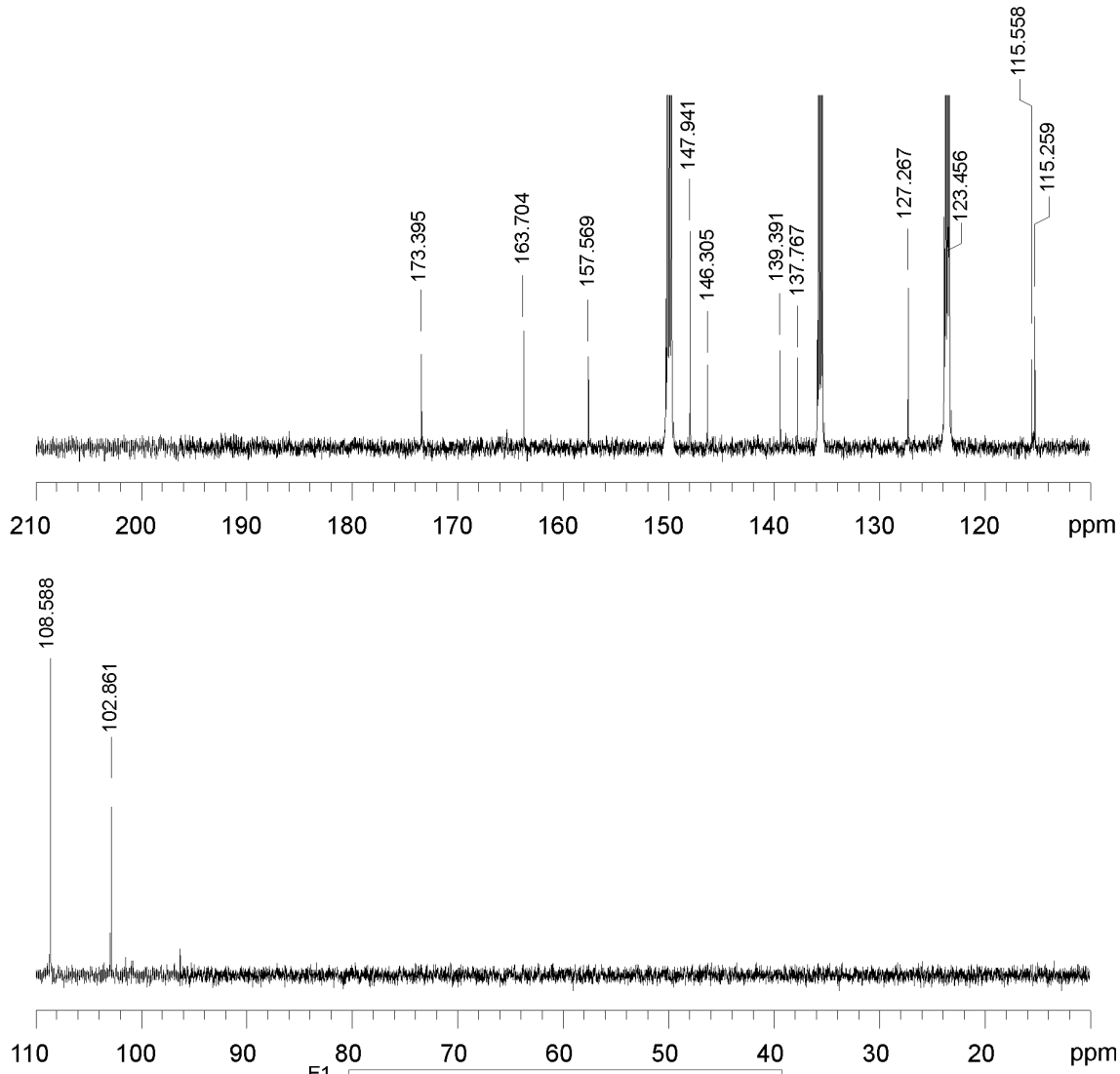
Flavone Core Sugar

	δ_C	δ_H
2	147.9s	
3	139.4s	
4	173.4s	
4a	115.5s	
5	127.3d	8.42
6	115.3d	7.17
7	163.7s	
8	102.8d	7.13
8a	157.6s	
1'	123.5s	
2'	108.6d	8.29
3'	146.3s	
4'	137.8s	
5'	146.3s	
6'	108.6d	8.29

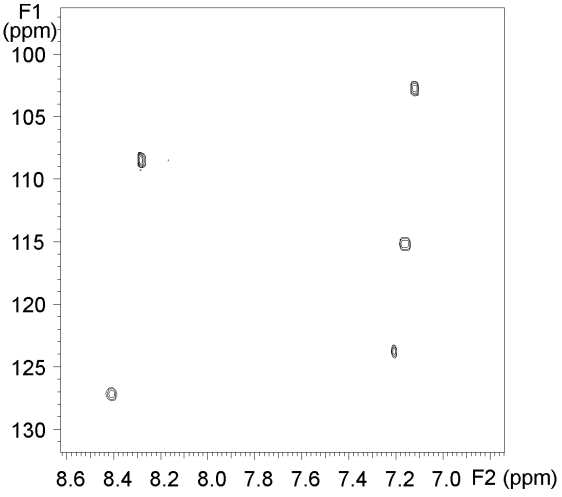
NMR-1H



NMR-13C:



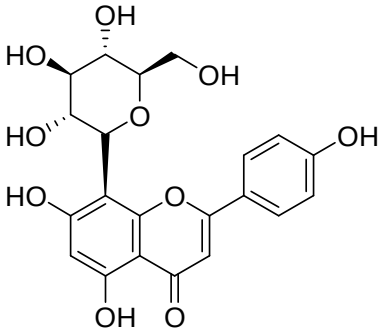
NMR-HSQC:



Names 3,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-4H-1-benzopyran-4-one; 3,7, 3',4',5'-pentahydroxy-flavone; Robinetin; 3,7,3',4',5'-pentahydroxyflavone; 3,7,3',4',5'-pentahydroxyflavone; NSC 407331; NSC 656274; Norkanugin

Vitexin

Apigenin-8-C-β-D-glucoside



CAS-Number: 3681-93-4

Formula: $C_{21}H_{20}O_{10}$ Exact mass: 432.10565

Molecular mass: 432.1

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.05	12.96	6.34
Rel. RetentionTime (k') :	12.6	11.46	10.96
k' rel. to Rutin :	0.96	0.92	0.92

MS1: 431.2 MS2: 311.2 MS3: 283.3

UV/Vis: 265, 335

NMR - Resonance Assignments:

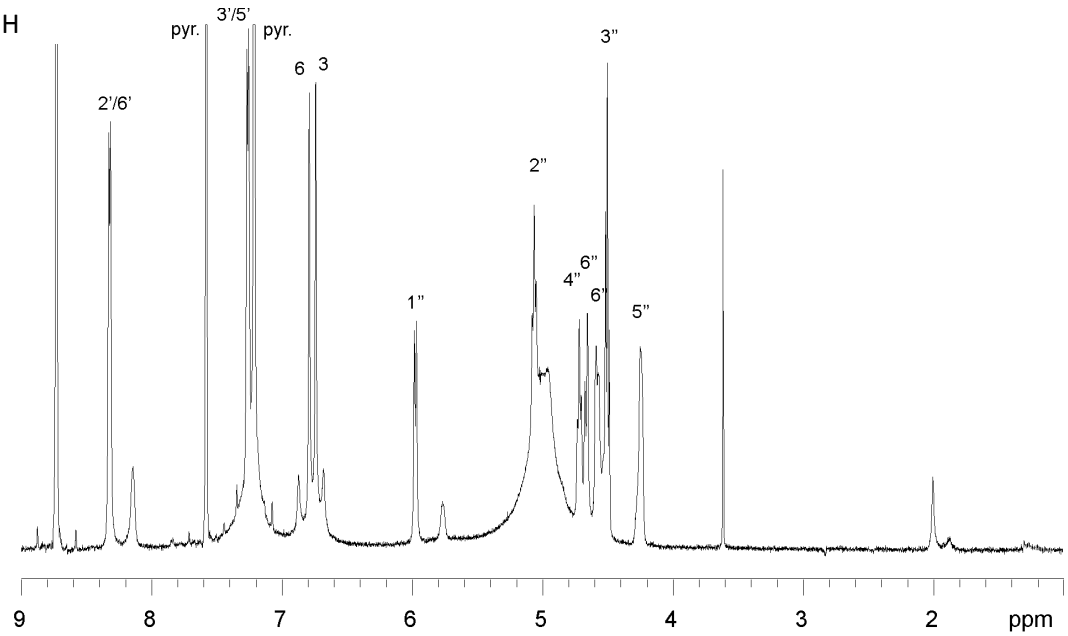
Flavone Core

	δ_C	δ_H
2	165.8s	
3	103.3d	6.74
4	183s	
4a	105.4s	
5	162.3s	
6	99.2d	6.79
7	164.6s	
8	106.2s	
1'	122.6s	
2'	129.7d	8.32
3'	116.8d	7.26
4'	162.7s	
5'	116.8d	7.26
6'	129.7d	8.32

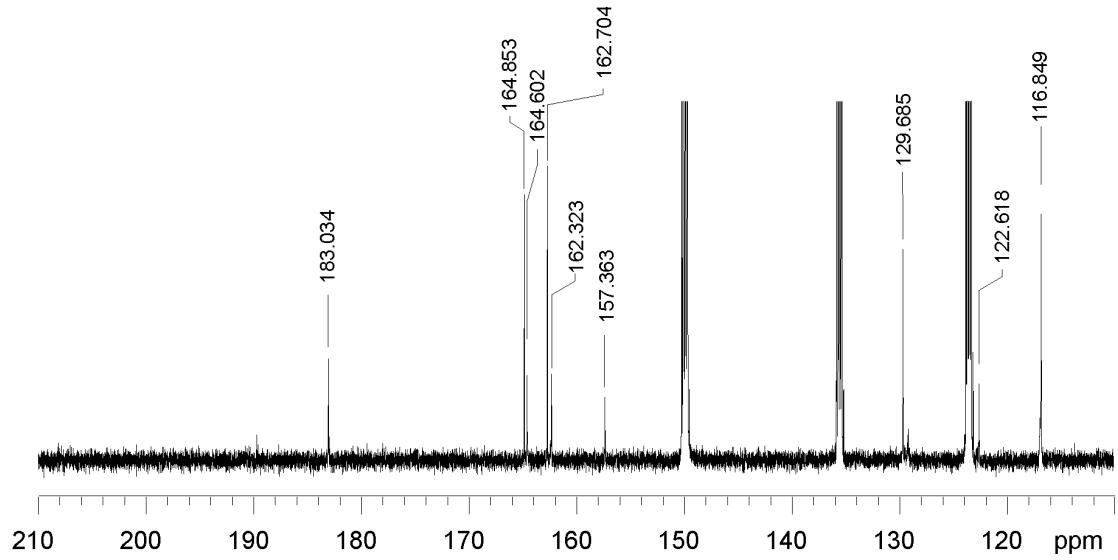
Sugar

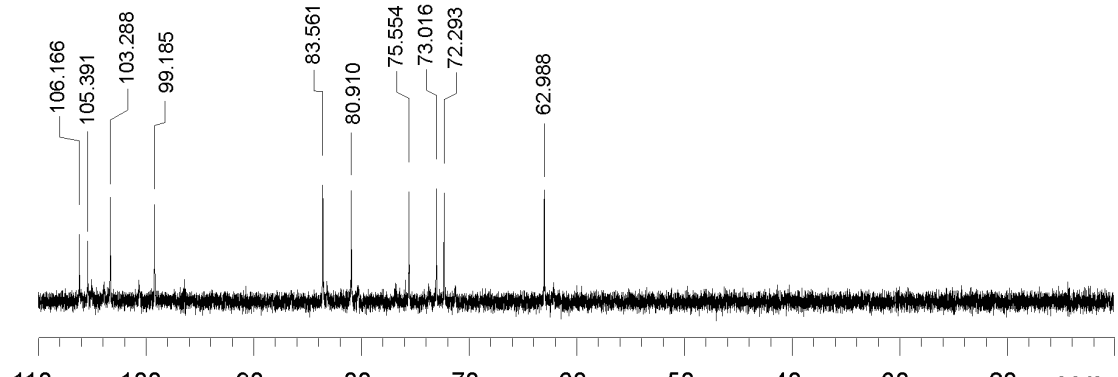
	δ_C	δ_H
1''	75.6d	5.97
2''	73d	5.06
3''	80.9d	4.5
4''	72.3d	4.72
5''	83.6d	4.24
6''	63t	4.66/4.58

NMR-1H

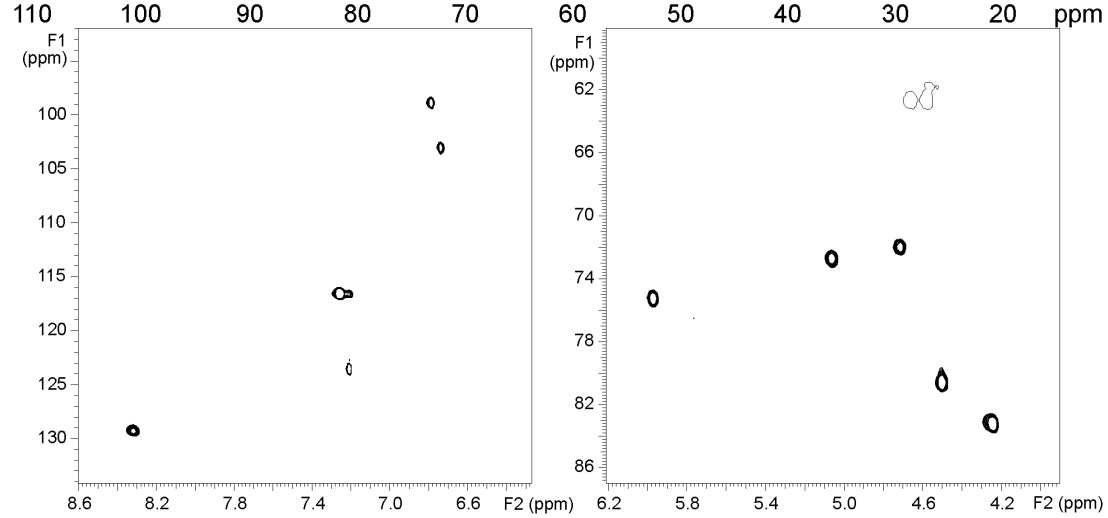


NMR-13C:



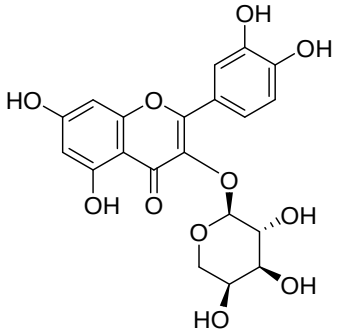


NMR-HSQC:



Names 8-β-D-glucopyranosyl-5,7-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; 8-D-glucosyl-5,7,4’-trihydroxy-flavone; Vitexin; 8-C-β-D-Glucopyranosylapigenin; Apigenin 8-C-β-D-glucoside; Orientoside; Vitexina

Vitexin-2"-O-rhamnosid



Apigenin-8-[C-α-L-rhamnopyranosyl-(1→2)-β-D-glucopyranoside]

CAS-Number: 64820-99-1

Formula: $C_{27}H_{30}O_{14}$ Exact mass: 578.16356

Molecular mass: 578.16

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.11	12.96	6.37
Rel. RetentionTime (k') :	12.65	11.46	11.02
k' rel. to Rutin :	0.96	0.92	0.92

MS1: 577.3 MS2: 413.2 MS3: 293.3

UV/Vis: 265, 335

NMR - Resonance Assignments:

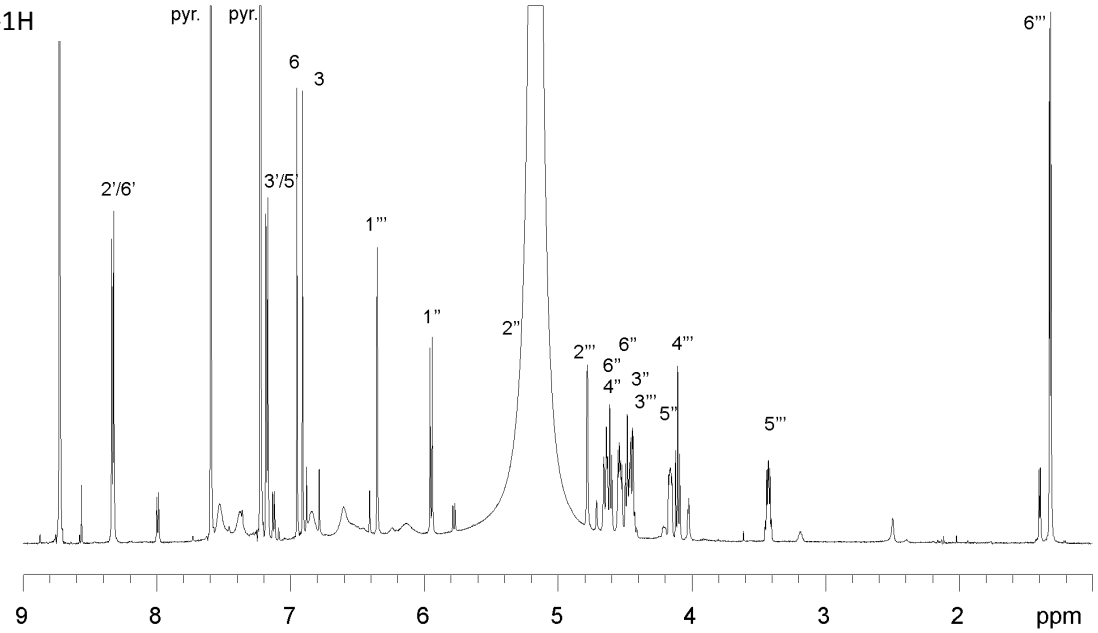
Flavone Core

	δ_C	δ_H
2	165.3s	
3	103.4d	6.95
4	183.4s	
4a	105.7s	
5	162.8s	
6	99.5d	6.92
7	164.6s	
8	106.4s	
1'	122.6s	
2'	129.6d	8.33
3'	116.8d	7.18
4'	162.7s	
5'	116.8d	7.18
6'	129.6d	8.33

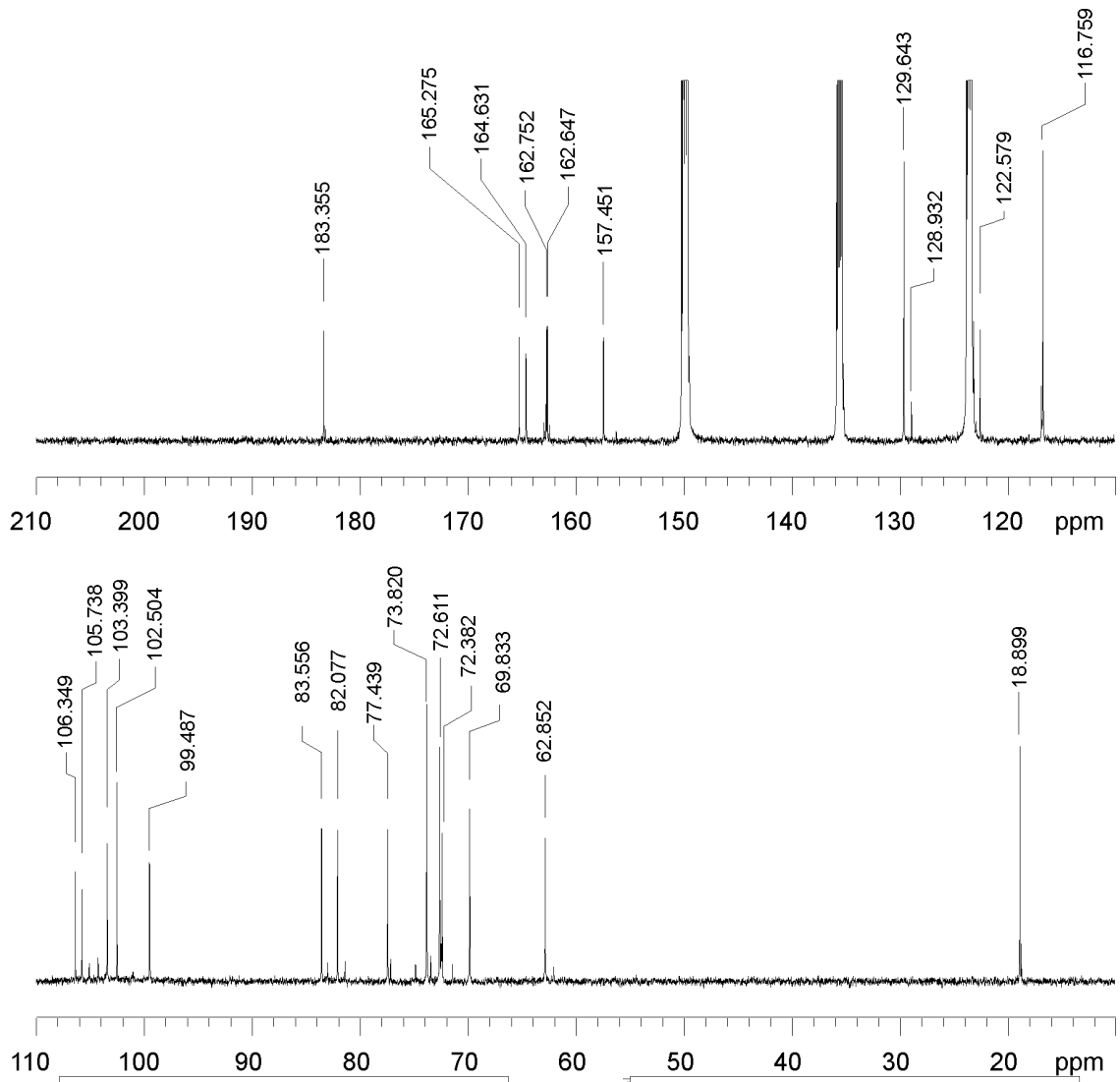
Sugar

	δ_C	δ_H
1''	73.8d	5.95
2''	77.4d	5.21
3''	82.1d	4.49
4''	72.4d	4.62
5''	83.6d	4.16
6''	62.9t	4.65/4.54
1'''	102.5d	6.36
2'''	72.6d	4.79
3'''	72.6d	4.45
4'''	73.8d	4.12
5'''	69.8d	3.44
6'''	18.9q	1.33

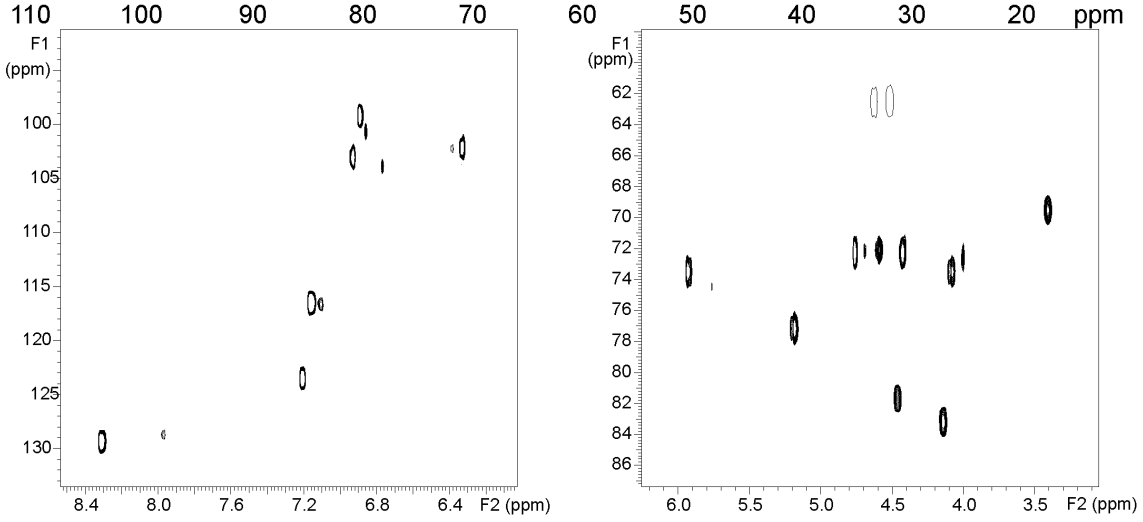
NMR-1H



NMR-13C:



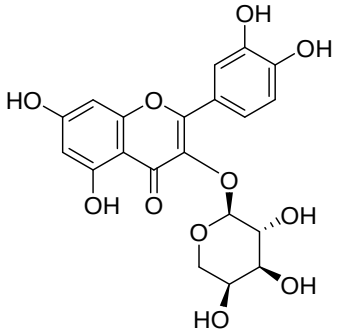
NMR-HSQC:



Names 8-[2-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]-5,7-dihydroxy-2-(4-hydroxyphenyl)- 4H-1-benzopyran-4-one; 2''-O-rhamnosylvitexin; 2''-O-α-L-rhamnopyranosylvitexin; 2''-rhamnosylvitexin; Apigenin 8-[C-α-L-rhamnopyranosyl-(1→2)-β-D-glucopyranoside]; Vitexin 2''-O-rhamnoside; Vitexin 2''-rhamnoside

Guaijaverin

Quercetin-3-O-α-L-arabinopyranoside



CAS-Number: 22255-13-6

Formula: $C_{20}H_{18}O_{11}$ Exact mass: 434.08491

Molecular mass: 434.08

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	17.63	14.93	7.40
Rel. RetentionTime (k') :	13.94	13.36	12.96
k' rel. to Rutin :	1.06	1.08	1.09

MS1: 433.3 MS2: 301.1 MS3: 178.9

UV/Vis: 230, 265(sh), 3

NMR - Resonance Assignments:

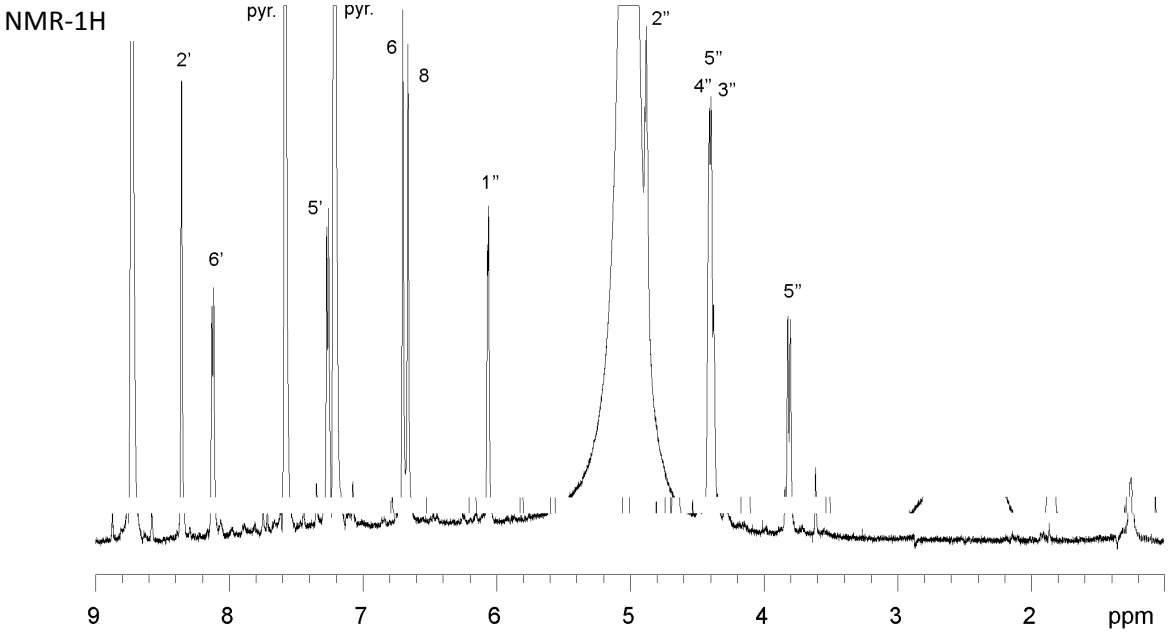
Flavone Core

	δ_C	δ_H
2	157.7s	
3	135.3s	
4	178.8s	
4a	105.2s	
5	162.8s	
6	99.7d	6.7
7	165.9s	
8	94.5d	6.66
1'	122.3s	
2'	117.4d	8.36
3'	146.9s	
4'	150.8s	
5'	116.3d	7.26
6'	122.8d	8.12

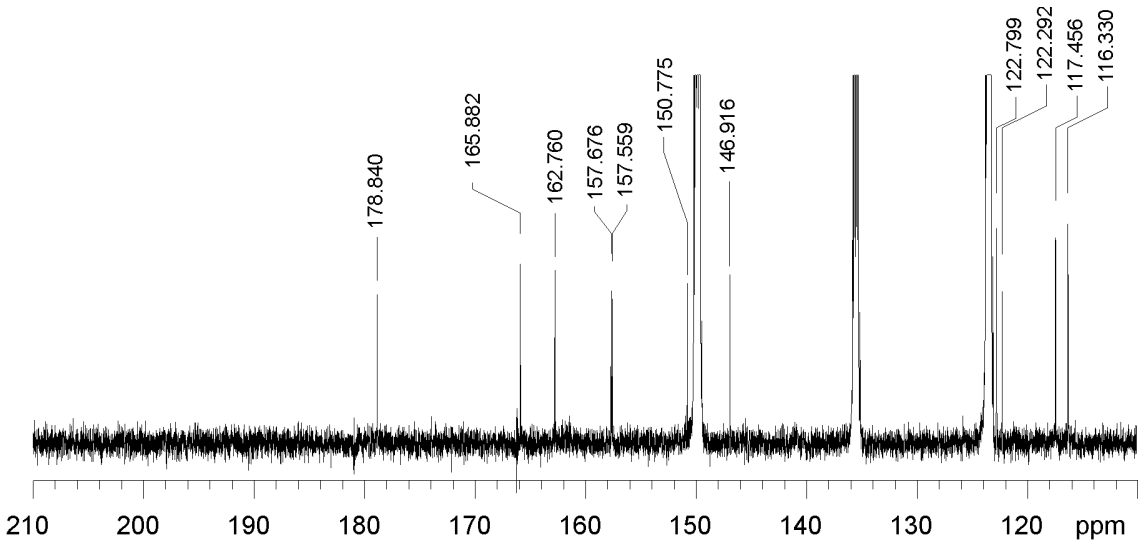
Sugar

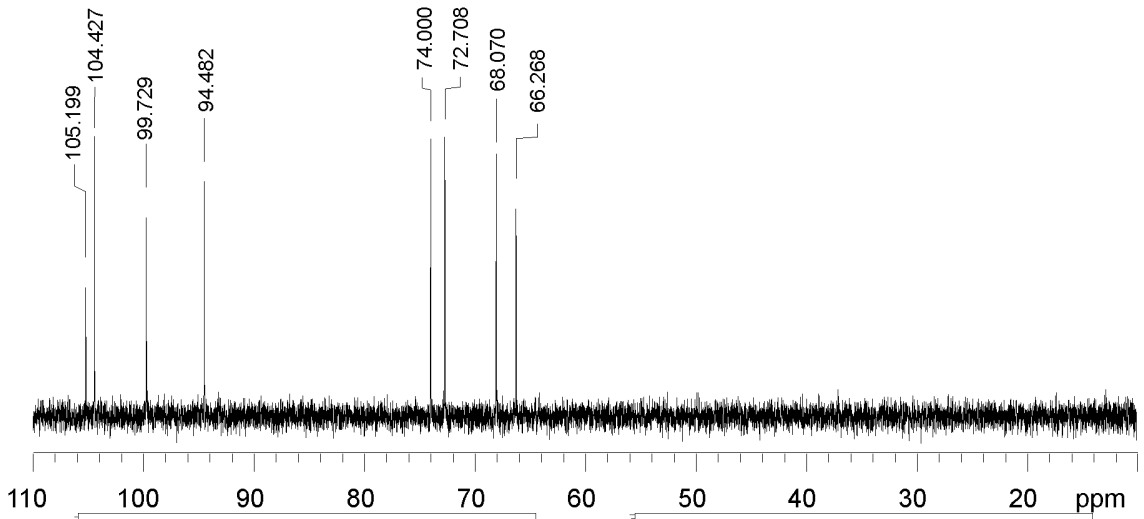
	δ_C	δ_H
1''	104.4d	6.06
2''	72.7d	4.87
3''	74d	4.39
4''	68.1d	4.41
5''	66.3t	4.38/3.81

NMR-1H

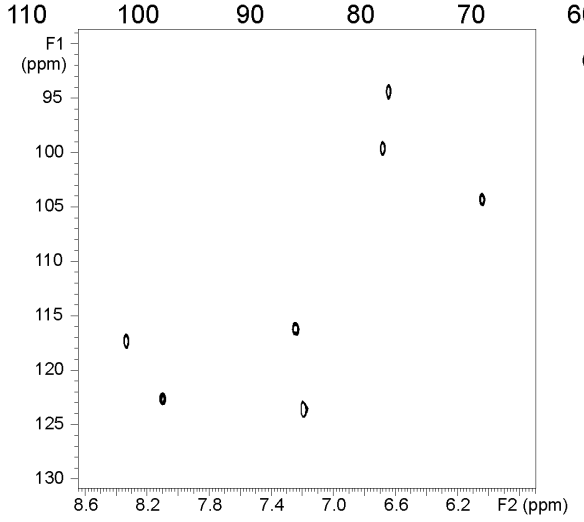


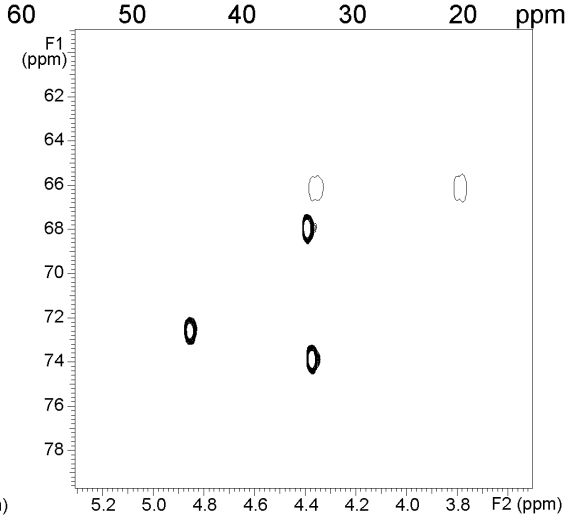
NMR-13C:





NMR-HSQC:





Names

3-(α-L-arabinopyranosyloxy)-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; Guaijaverin; quercetin-3, α-L-arabinopyranoside; 5,7, 3',4'-tetrahydroxyflavone 3-O-α-L-arabinoside; Feniculin; Feniculine; Foeniculin; Foeniculin (glycoside); Guaiaverin; Guajavarin; Guajaverin;Quercetin 3-O-α-L-arabinopyranoside; Quercetin 3-α-L-arabinopyranoside; Quercetin-3-O-α-L-arabinoside

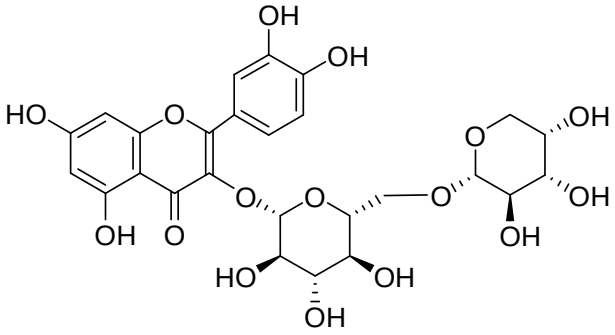
Quercetin-3-arabino-glucosid

Quercetin-3-O-[β-arabinopyranosyl-(1'''→6'')-β-glucopyranoside]

CAS-Number: 391639-37-5

Formula: $C_{26}H_{18}O_{16}$ Exact mass: 596.13773

Molecular mass: 596.49



Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	15.95	13.12	6.41
Rel. RetentionTime (k') :	12.52	11.62	11.09
k' rel. to Rutin :	0.95	0.94	0.93

MS1: 595.4 MS2: 301.2 MS3: 178.9

UV/Vis: 255, 265(sh)

NMR - Resonance Assignments:

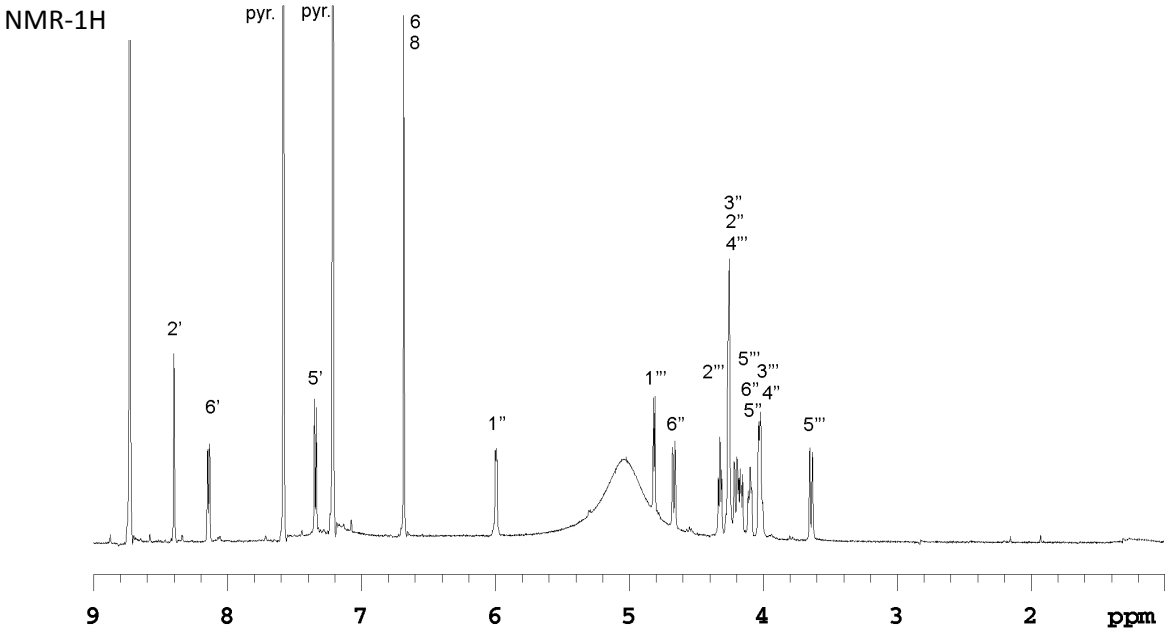
Flavone Core

	δ_C	δ_H
2	158.1s	
3	135.2s	
4	178.6s	
4a	105.2s	
5	162.7s	
6	99.9d	6.68
7	166.3s	
8	94.6d	6.68
8a	157.7s	
1'	122.4s	
2'	117.8d	8.4
3'	146.8s	
4'	150.8s	
5'	116.4d	7.34
6'	123d	8.14

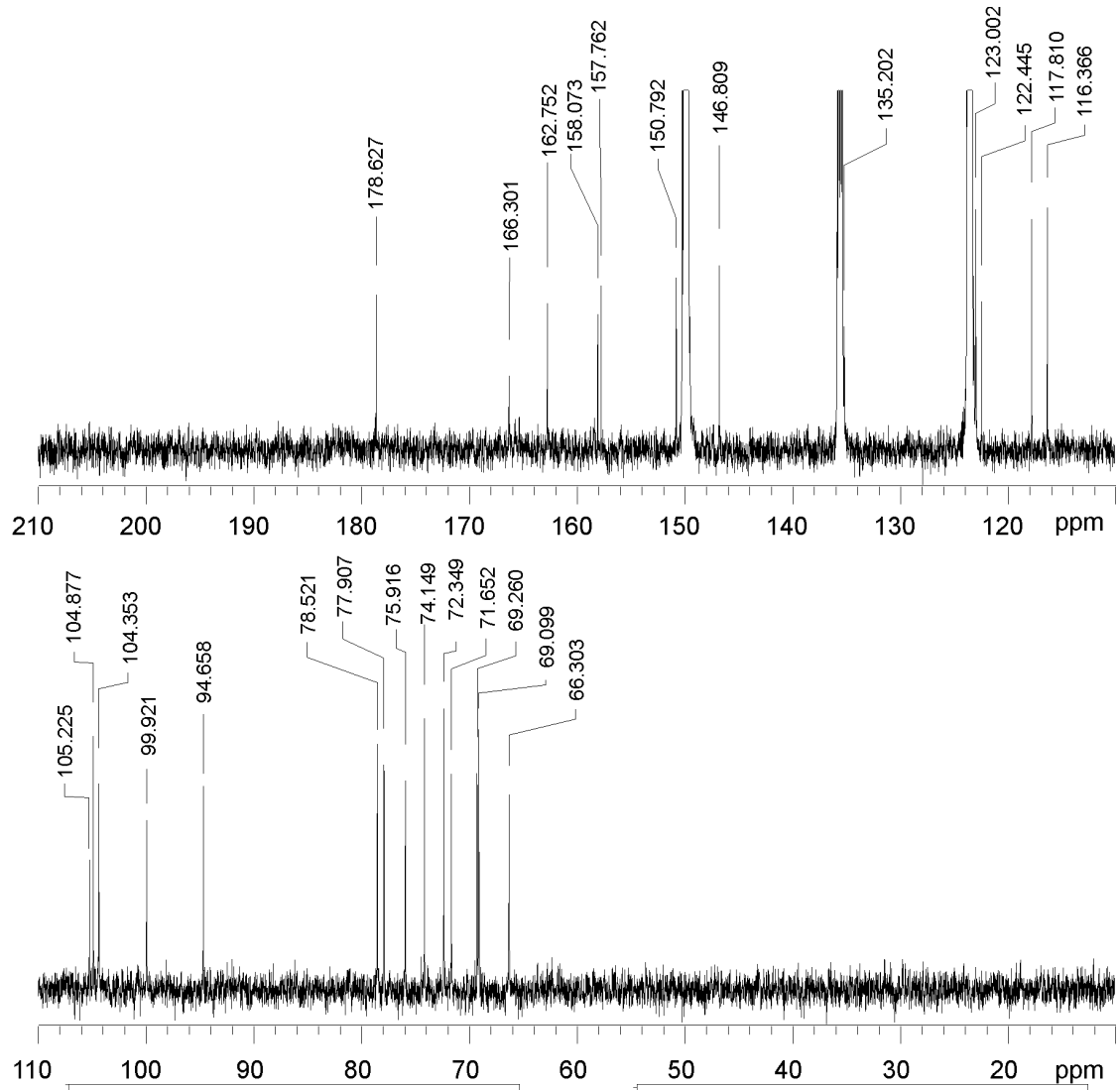
Sugar

	δ_C	δ_H
1''	104.4d	5.99
2''	75.9d	4.25
3''	78.5d	4.25
4''	71.1d	4.01
5''	77.9d	4.09
6''	69.3t	4.65/4.15
1'''	104.9d	4.81
2'''	72.3d	4.31
3'''	74.1d	4.02
4'''	69.1d	4.24
5'''	66.3t	4.19/3.63

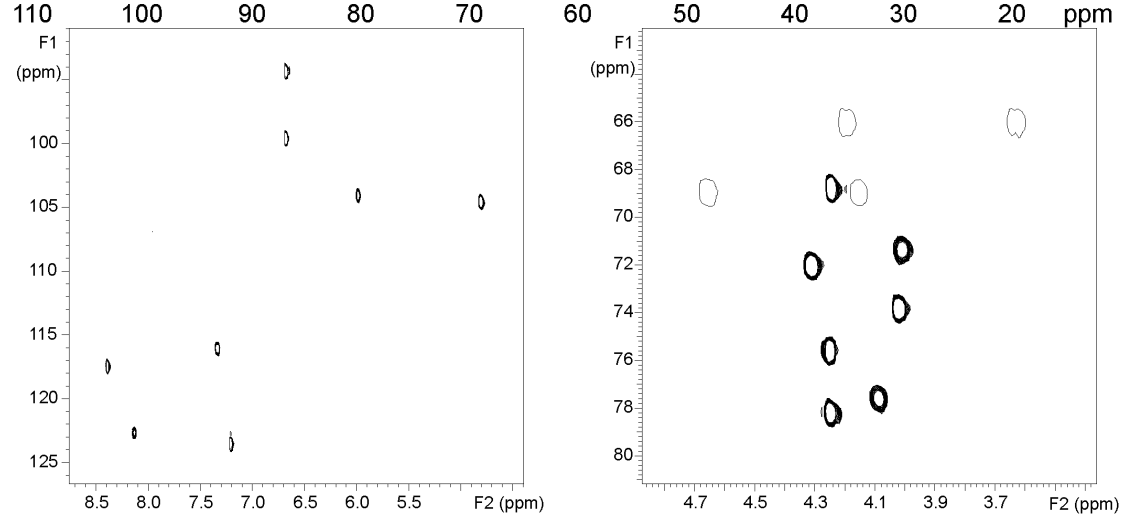
NMR-1H



NMR-13C:

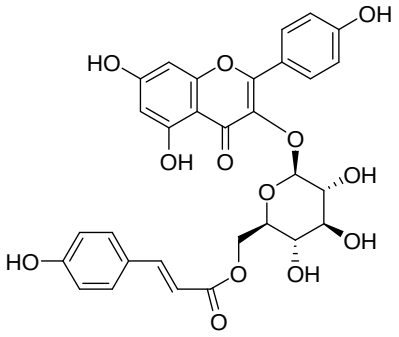


NMR-HSQC:



Names 3-[(6-O-β-L-arabinopyranosyl-β-D-glucopyranosyl)oxy]-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; Quercetin-3-O-[β-arabinopyranosyl-(1'''→6'')-β-glucopyranoside]

Tiliroside



Kaempferol-3-O-β-D-(6''-O-(E)-p-coumaroyl)glucopyranoside

CAS-Number: 20316-62-5

Formula: $C_{30}H_{26}O_{13}$ Exact mass: 594.13734

Molecular mass: 594.53

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	22.21	19.65	9.98
Rel. RetentionTime (k') :	17.82	17.89	17.83
k' rel. to Rutin :	1.35	1.44	1.49

MS1: 593.3 MS2: 285.3 MS3: 257.1

UV/Vis: 265, 315

NMR - Resonance Assignments:

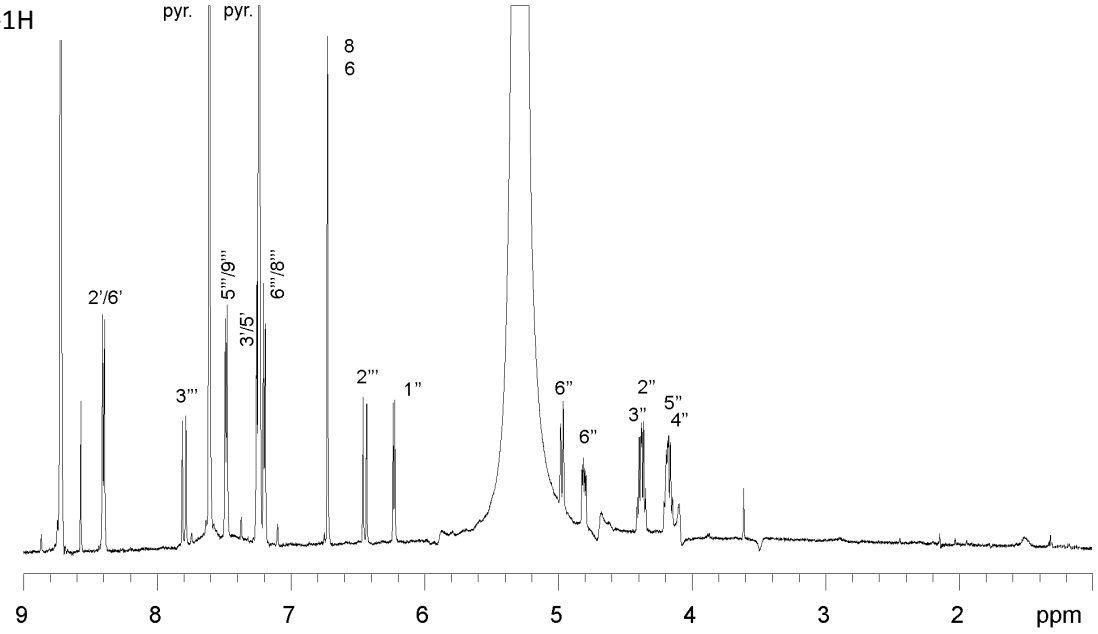
Flavone Core

	δ_C	δ_H
2	157.7s	
3	134.8s	
4	178.6s	
4a	105.1s	
5	162.6s	
6	99.8d	6.72
7	165.9s	
8	94.5d	6.72
8a	157.5s	
1'	121.8s	
2'	131.8d	8.4
3'	116d	7.24
4'	161.7s	
5'	116d	7.24
6'	131.8d	8.4

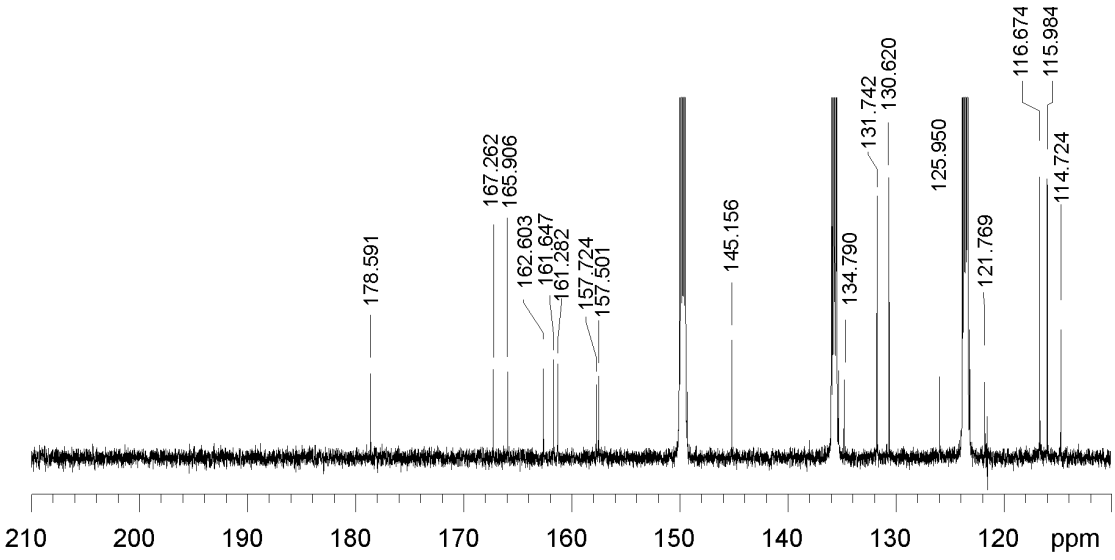
Sugar

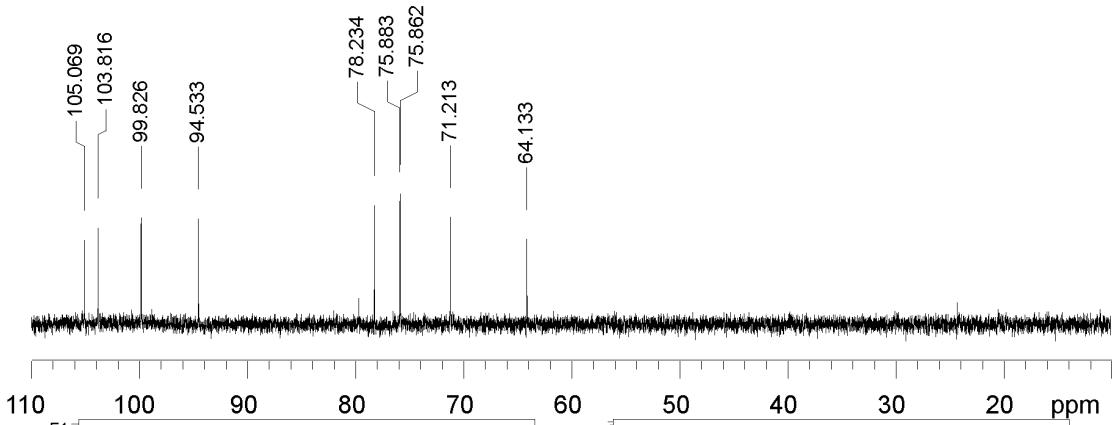
	δ_C	δ_H
1''	103.8d	6.22
2''	75.9d	4.35
3''	78.2d	4.38
4''	71.2d	4.16
5''	75.9d	4.18
6''	64.1t	4.96/4.8
1'''	167.3s	
2'''	144.7d	6.44
3'''	145.2d	7.8
4'''	126s	
5'''	130.6d	7.48
6'''	116.7d	7.2
7'''	161.3s	
8'''	116.7d	7.2
9'''	130.6d	7.48

NMR-1H

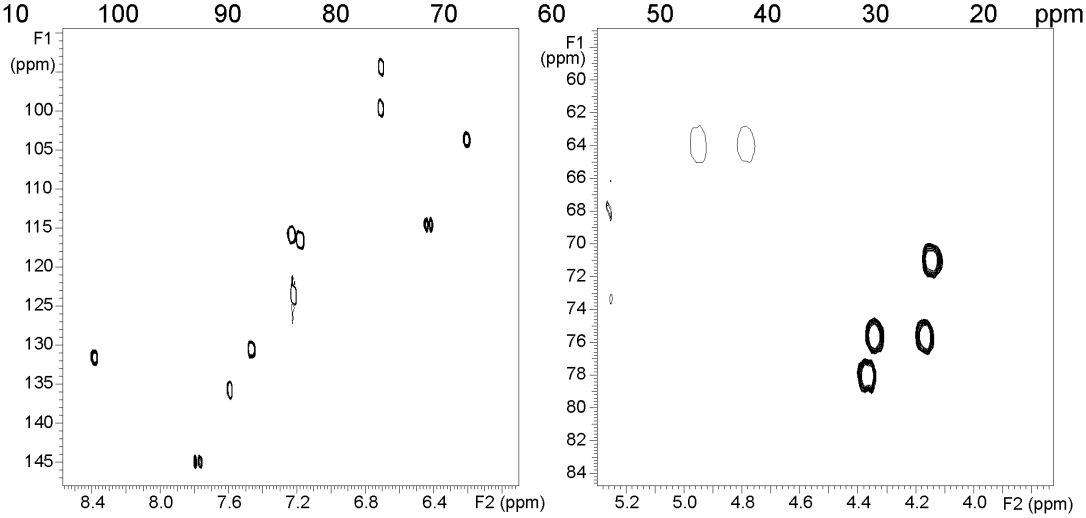


NMR-13C:





NMR-HSQC:

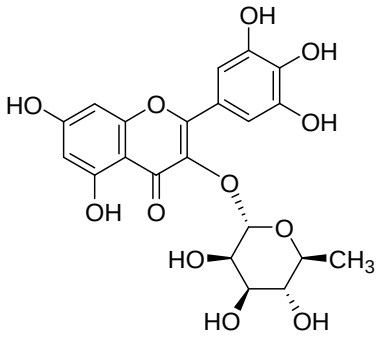


Names

5,7-dihydroxy-2-(4-hydroxyphenyl)-3-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propen-1-yl]-β-D-glucopyranosyl]oxy]-4H-1-benzopyran-4-one; 3-(4-hydroxyphenyl)-6'-ester with 3-(β-D-glucopyranosyloxy)-5,7-dihydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one-(E)- 2-propenoic acid; 5,7-dihydroxy-2-(4-hydroxyphenyl)-3-[[6-O-[(2E)-3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-β-D-glucopyranosyl]oxy]- 4H-1-benzopyran-4-one; Tiliroside; 3-O-Kaempferol 6-O-(trans-p-coumaroyl)-β-D-glucopyranoside; 5,7-dihydroxy-2-(4-hydroxyphenyl)-3-[[6-O-[3-(4-hydroxyphenyl)-1-oxo-2-propenyl]-β-D-glucopyranosyl]oxy]-(E)- 4H-1-benzopyran-4-one; Astragalin-6''-trans-p-coumarate; Kaempferol 3-O-(6''-O-p-coumaroyl)glucoside; Kaempferol 3-O-(6''-trans-p-coumaroyl)-β-D-glucopyranoside; Kaempferol 3-O-[6''-O-(E)-p-coumaroyl]-β-D-glucopyranoside; Kaempferol 3-O-[6''-O-(trans-p-coumaroyl)]-β-D-glucopyranoside; Kaempferol 3-O-β-D-(6-O-trans-p-coumaroyl)glucopyranoside; Kaempferol 3-O-β-D-(6''-E-p-coumaroyl)glucopyranoside; Kaempferol 3-O-β-D-(6''-O-p-coumaryl)glycoside; Kaempferol 3-β-D-(6-O-trans-p-coumaryl)glucopyranoside; Kaempferol-3-O-β-D-(6''-O-(E)-p-coumaroyl)glucopyranoside; Kaempferol-3-O-β-D-(6''-trans-p-coumaroyl) glucopyranoside; Potengriffioside A; RonaCareTiliroside; trans-Tiliroside

Myricitrin

Myricetin 3-O-α-L-rhamnopyranoside



CAS-Number: 17912-87-7

Formula: $C_{21}H_{20}O_{12}$ Exact mass: 464.09548

Molecular mass: 464.38

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.4	13.52	6.65
Rel. RetentionTime (k') :	12.9	12.00	11.55
k' rel. to Rutin :	0.98	0.97	0.97

MS1: 463.2 MS2: 316.2 MS3: 271.2

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

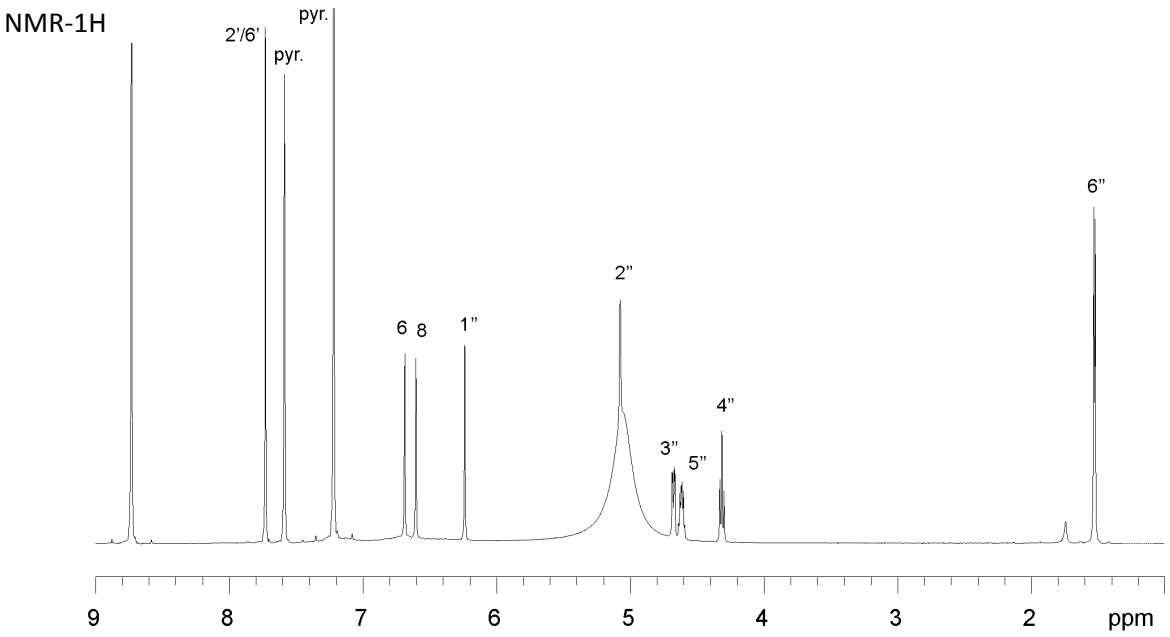
Flavone Core

	δ_C	δ_H
2	158.6s	
3	136.2s	
4	179.1s	
4a	105.4s	
5	162.9s	
6	99.6d	6.69
7	165.7s	
8	94.5d	6.61
8a	157.7s	
1'	121.4s	
2'	109.5d	7.74
3'	147.9s	
4'	138.9s	
5'	147.9s	
6'	109.5d	7.74

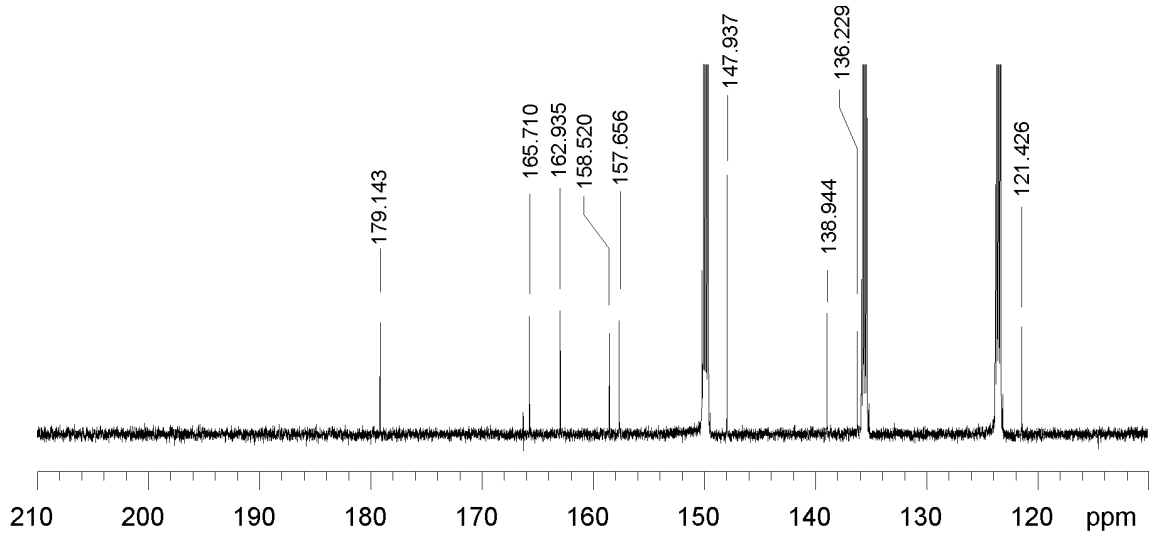
Sugar

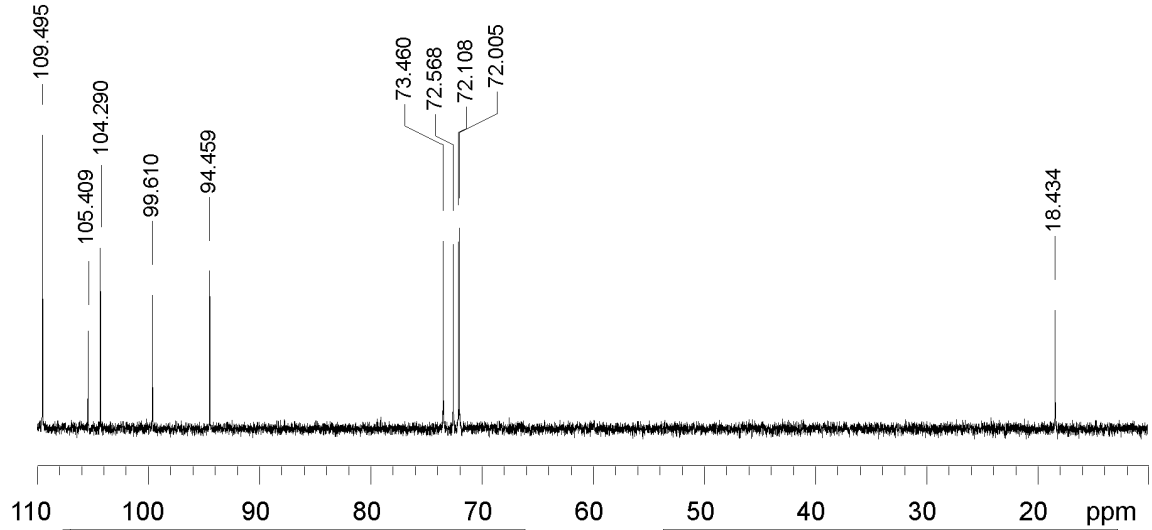
	δ_C	δ_H
1''	104.3d	6.24
2''	72d	5.08
3''	72.6d	4.68
4''	73.5d	4.32
5''	72.1d	4.62
6''	18.4q	1.53

NMR-1H

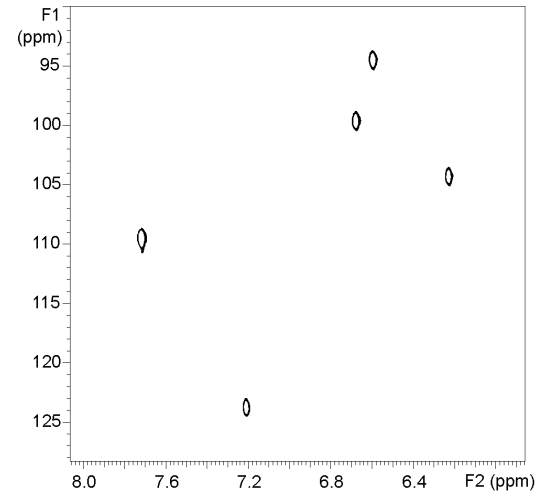


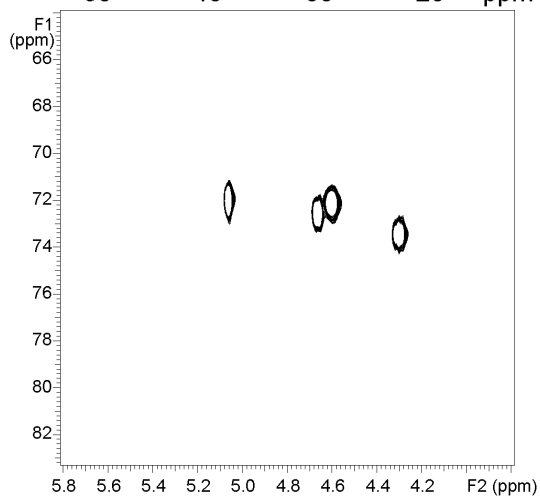
NMR-13C:





NMR-HSQC:





Names

3-[(6-deoxy-α-L-mannopyranosyl)oxy]-5,7-dihydroxy-2-(3,4,5-trihydroxyphenyl)-4H-1-benzopyran-4-one; Myricitrin; 3,5,7,3’,4’,5’-hexahydroxyflavone-3-rhamnoside; Myricetin 3-O-rhamnoside; Myricetin 3-O-α-L-rhamnopyranoside; Myricetin 3-O-α-L-rhamnoside; Myricetin 3-O-α-L-rhamnpyronoside; Myricetin 3-O-α-rhamnopyranoside; Myricetin 3-rhamnoside; Myricetin-3-O-α-rhamnoside; Myricitrine; Myricitroside; NSC 19803

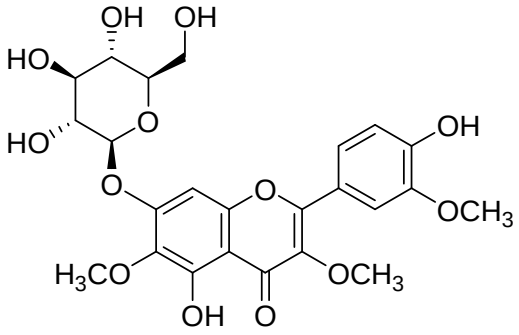
Jacein

5,7,4'-Trihydroxy-3,6,3'-trimethoxy-flavone-7-O-β-D-glucoside

CAS-Number: 35305-11-4

Formula: $C_{24}H_{26}O_{13}$ Exact mass: 522.13734

Molecular mass: 522.46



Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	20.24	17.07	8.63
Rel. RetentionTime (k') :	16.15	15.41	15.28
k' rel. to Rutin :	1.22	1.24	1.28

MS1: 521.3 MS2: 506.1 MS3: 343.1

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

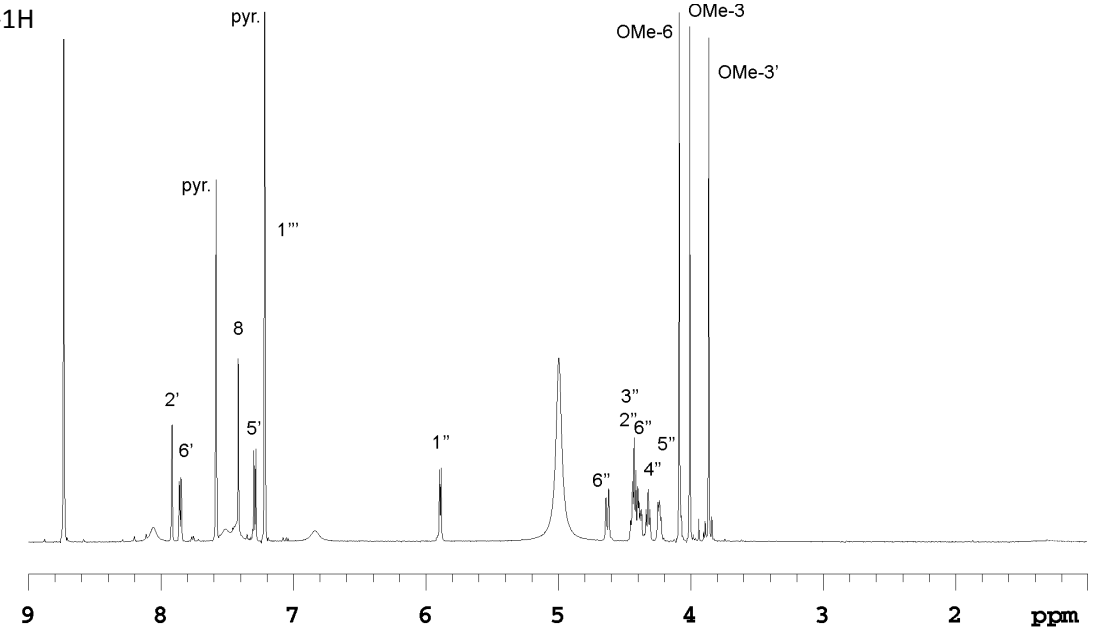
Flavone Core

	δ_C	δ_H
2	156.8s	
3	138.7s	
4	179.3s	
4a	107.4s	
5	153.7s	
6	135.6s	
7	157.6s	
8	95.2d	7.41
8a	152.2s	
1'	121.7s	
2'	112.6d	7.91
3'	148.6s	
4'	151.7s	
5'	116.8d	7.29
6'	123.4d	7.85
OMe-3	60q	4
OMe-6	60.9q	4.08
OMe-3'	55.9q	3.86

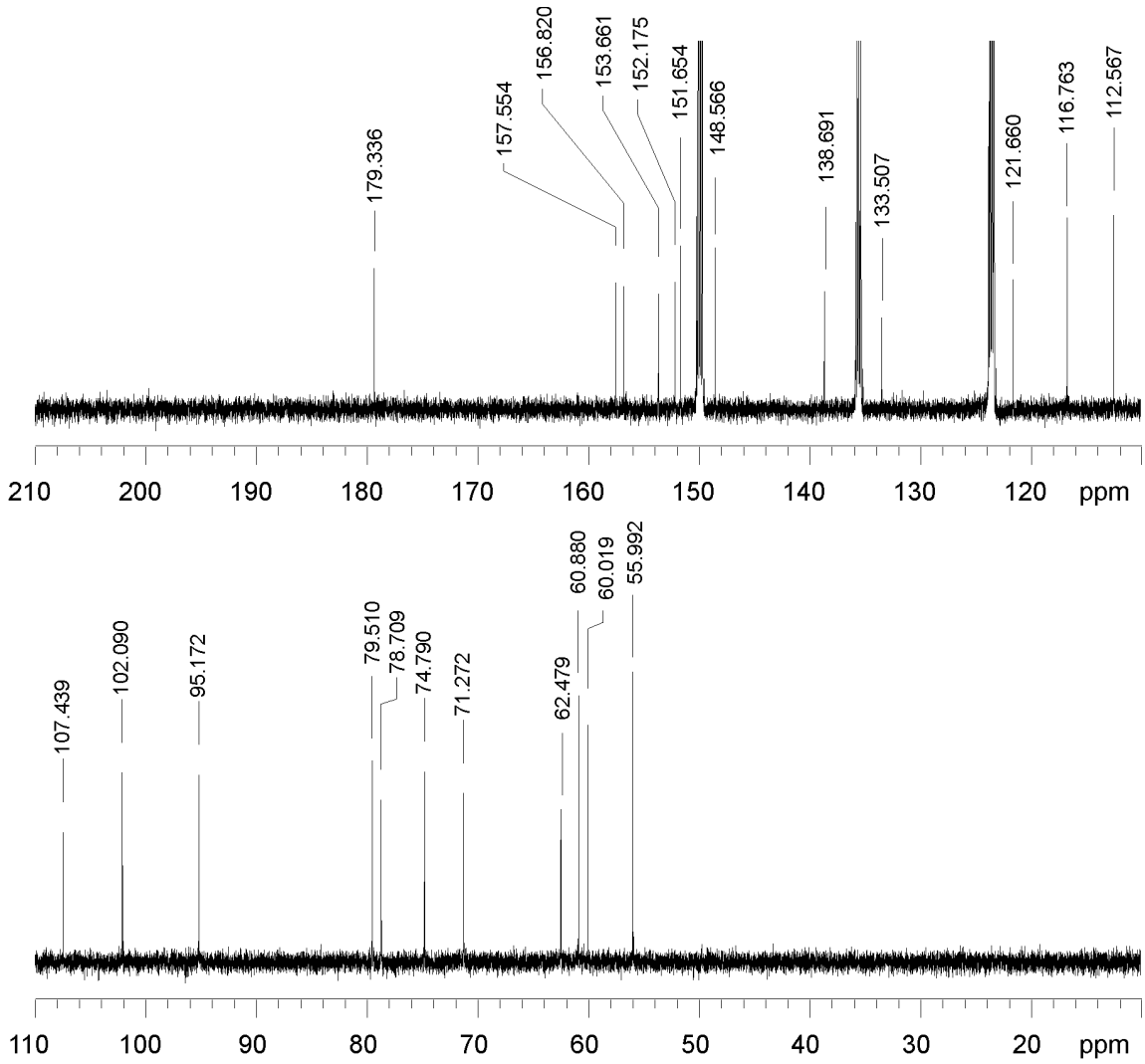
Sugar

	δ_C	δ_H
1''	102.1d	5.89
2''	74.8d	4.43
3''	78.7d	4.41
4''	71.3d	4.31
5''	79.5d	4.23
6''	62.5t	4.62/4.37

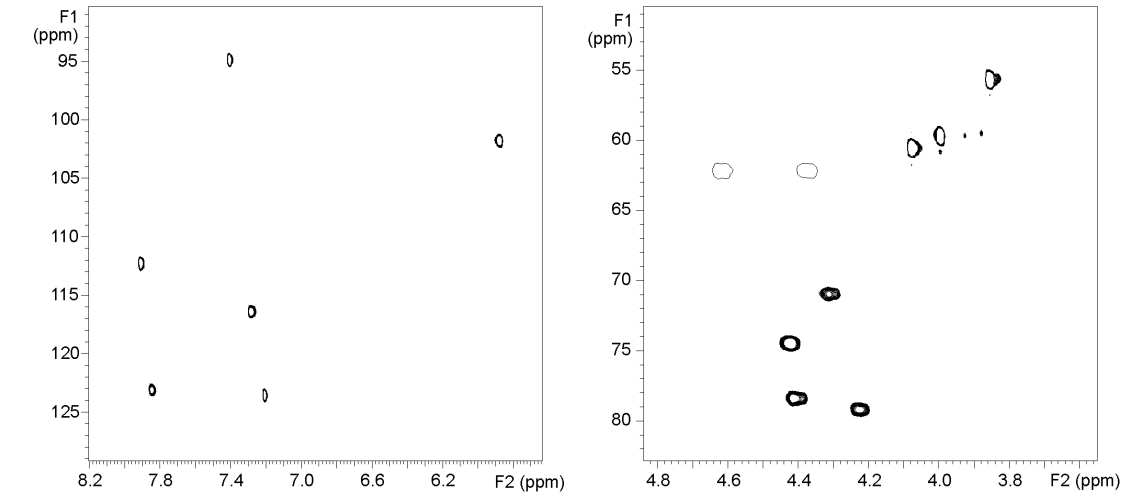
NMR-1H



NMR-13C:



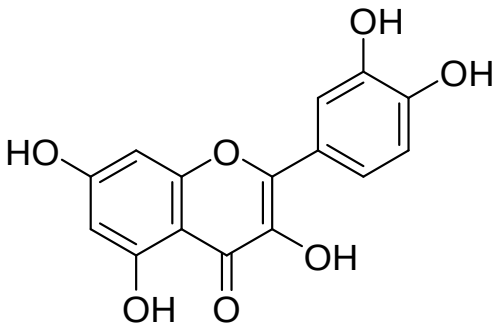
NMR-HSQC:



Names 7-(β-D-glucopyranosyloxy)-5-hydroxy-2-(4-hydroxy-3-methoxyphenyl)-3,6-dimethoxy-4H-1-benzopyran-4-one; Flavone 5,7,4’-trihydroxy-3,6,3’-trimethoxy-7-β-D-glucoside; 5,7,4’-trihydroxy-3,3',6-trimethoxy-flavone-7-O-β-D-glucoside; 5,7,4'-Trihydroxy-3,6,3'-trimethoxy-flavone-7-O-β-D-glucoside; Jacein; Jaceine

Quercetin

3,5,7,3',4'-Pentahydroxyflavone



CAS-Number: 117-39-5

Formula: $C_{15}H_{10}O_7$ Exact mass: 302.04265

Molecular mass: 302.24

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	21.25	18.56	9.16
Rel. RetentionTime (k') :	17.01	16.85	16.28
k' rel. to Rutin :	1.29	1.36	1.36

MS1: 301.2 MS2: 271.3 MS3: 227

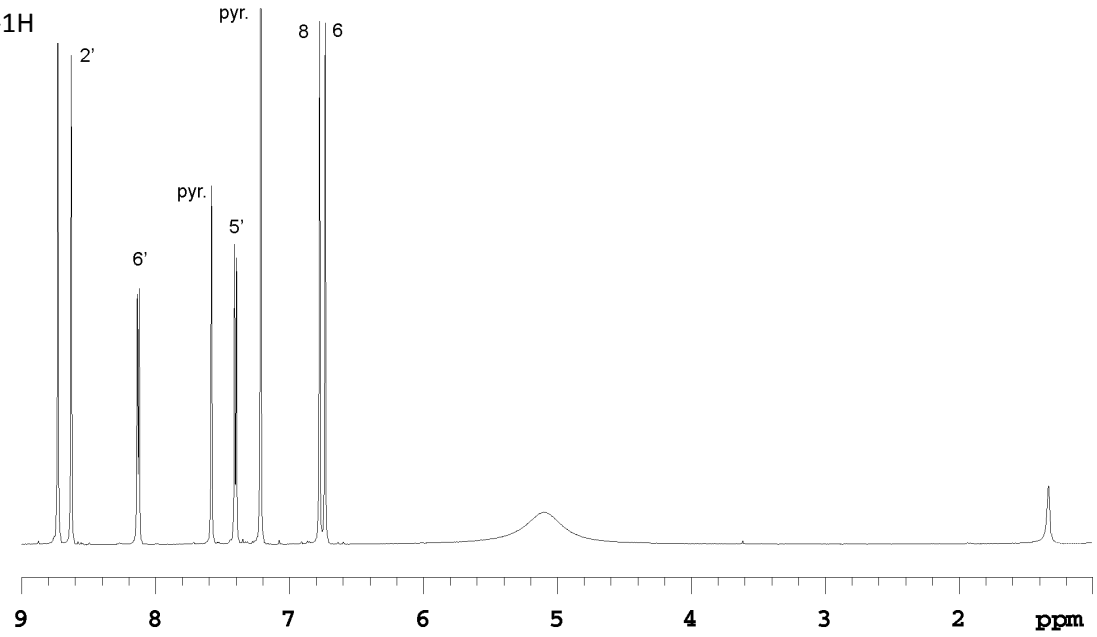
UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

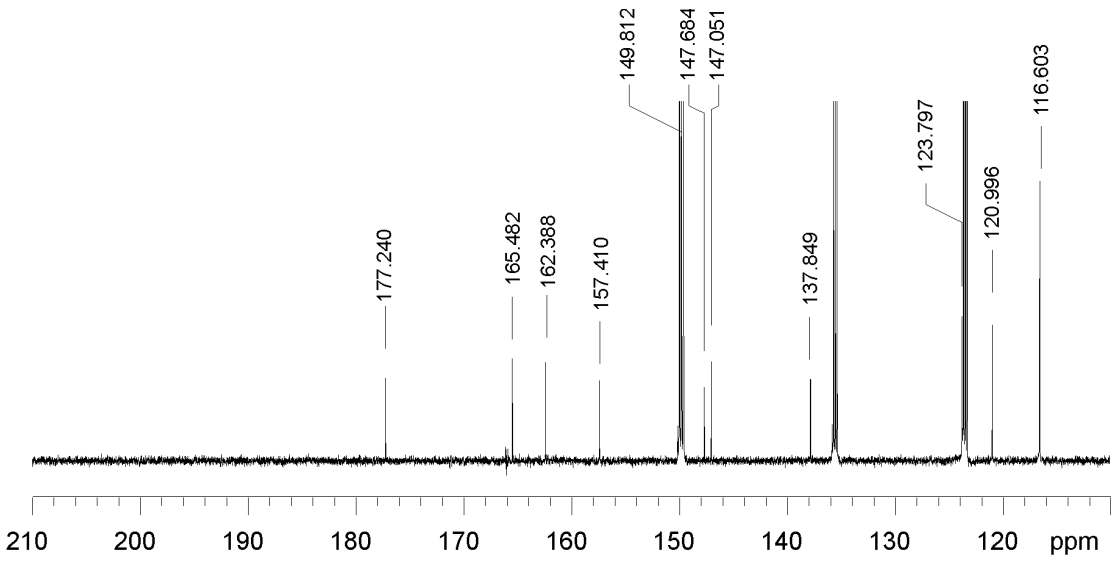
Flavone Core Sugar

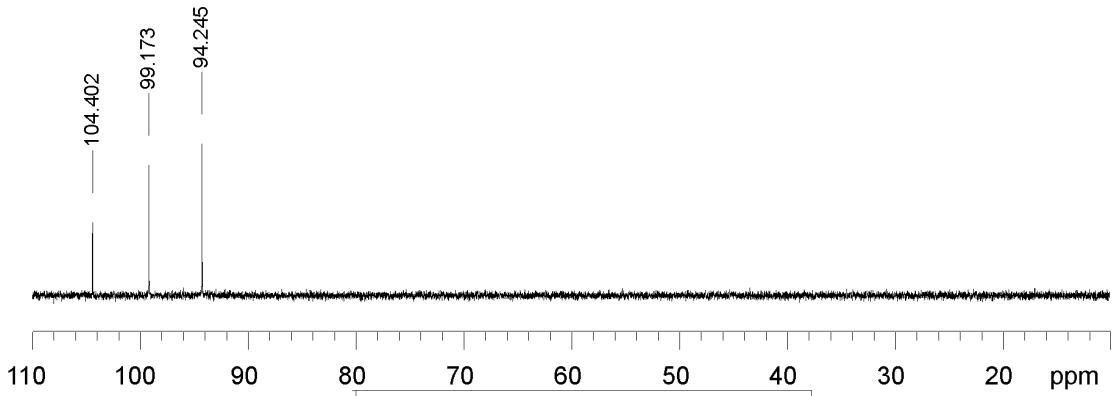
	δ_C	δ_H
2	147.7s	
3	137.9s	
4	177.3s	
4a	104.4s	
5	162.4s	
6	99.2d	6.74
7	165.5s	
8	94.3d	6.78
8a	157.4s	
1'	128.8s	
2'	116.6d	8.63
3'	147.1s	
4'	149.6s	
5'	116.6d	7.41
6'	121d	8.13

NMR-1H

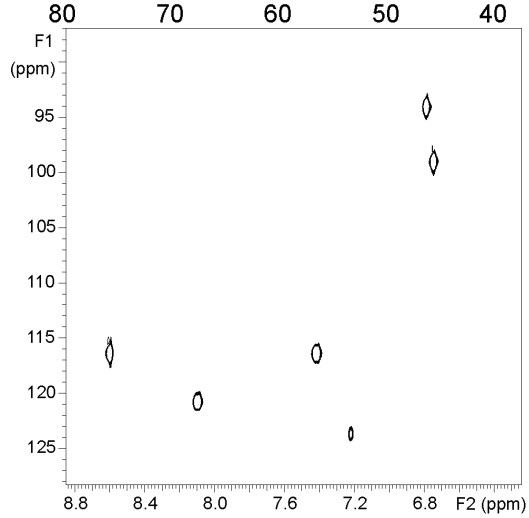


NMR-13C:





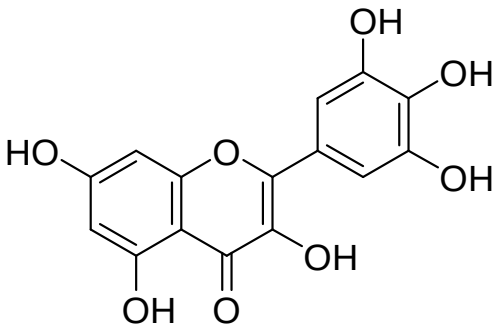
NMR-HSQC:



Names 2-(3,4-dihydroxyphenyl)-3,5,7-trihydroxy-4H-1-benzopyran-4-one; 3,5,7,3’,4’-pentahydroxy-flavone; 3,5,7,4’,5’-pentahydroxy-flavone; 2-(3,4-Dihydroxyphenyl)-3,5,7-trihydroxy-4H-benzopyran-4-one; 3,5,7,3’,4’-pentahydroxyflavone; 3,5,7,3',4'-pentahydroxyflavone; 3'-hydroxykaempferol; C.I. 75670; Corvitin; Cyanidelonon 1522; Korvitin; Meletin; NSC 57655; NSC 9219; Quercetin; Quercetine; Quercetol; Quertin; Quertine; Sophoretin; Xanthaurine

Myricetin

3,5,7,3',4',5'-Hexahydroxyflavone



CAS-Number: 529-44-2

Formula: $C_{15}H_{10}O_8$ Exact mass: 318.03757

Molecular mass: 318.04

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18.64	15.87	7.74
Rel. RetentionTime (k') :	14.8	14.26	13.60
k' rel. to Rutin :	1.12	1.15	1.14

MS1: 317.2 MS2: 179.1 MS3: 151.1

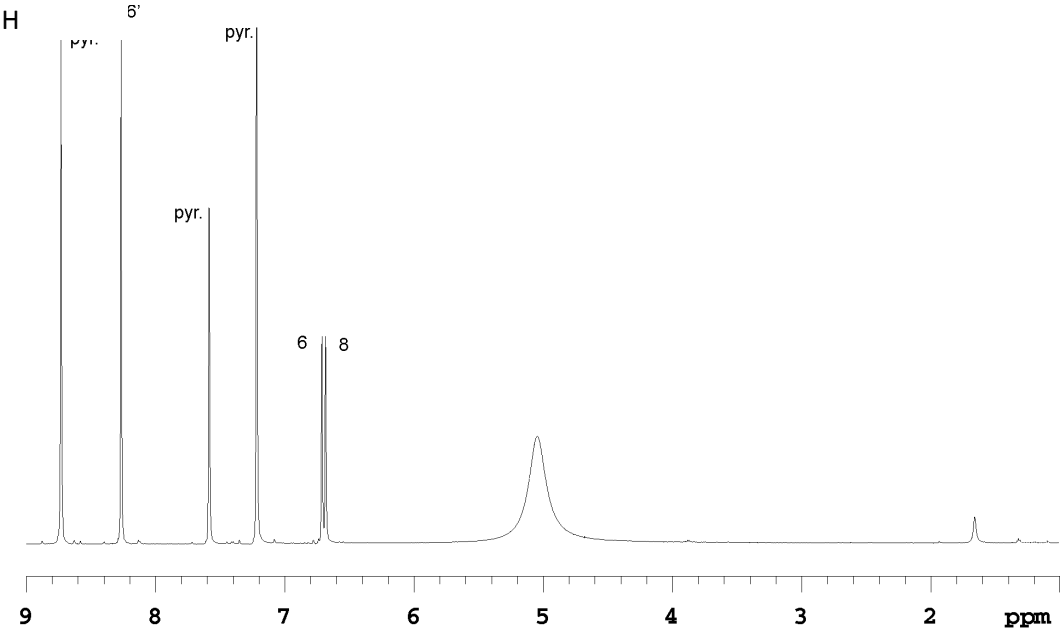
UV/Vis: 250, 265(sh), 3

NMR - Resonance Assignments:

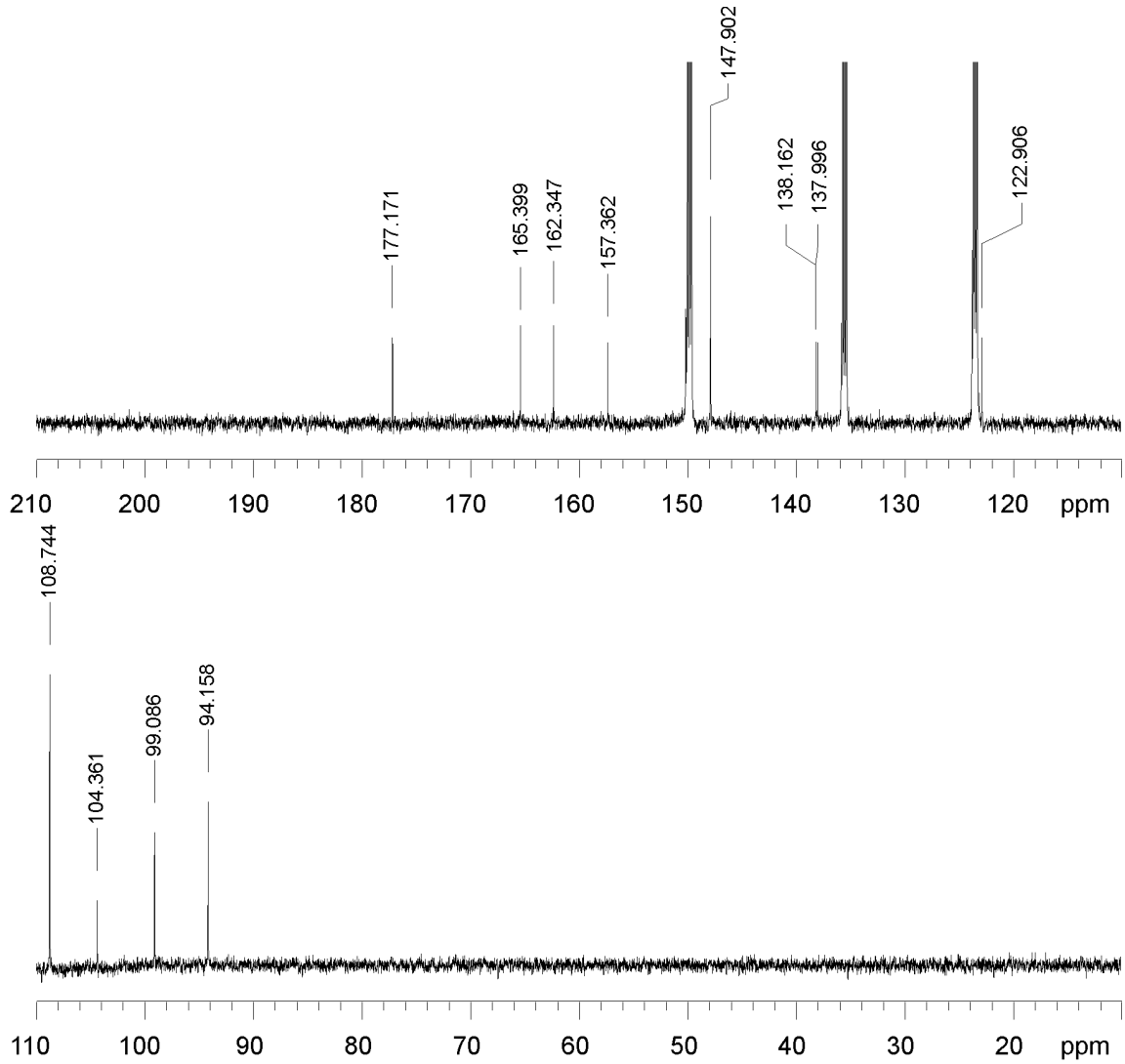
Flavone Core Sugar

	δ_C	δ_H
2	147.9s	
3	138s	
4	177.2s	
4a	104.4s	
5	162.3s	
6	99.1d	6.71
7	165.4s	
8	94.2d	6.68
8a	157.4s	
1'	122.9s	
2'	108.7d	8.26
3'	147.9s	
4'	138.2s	
5'	147.9s	
6'	108.7d	8.26

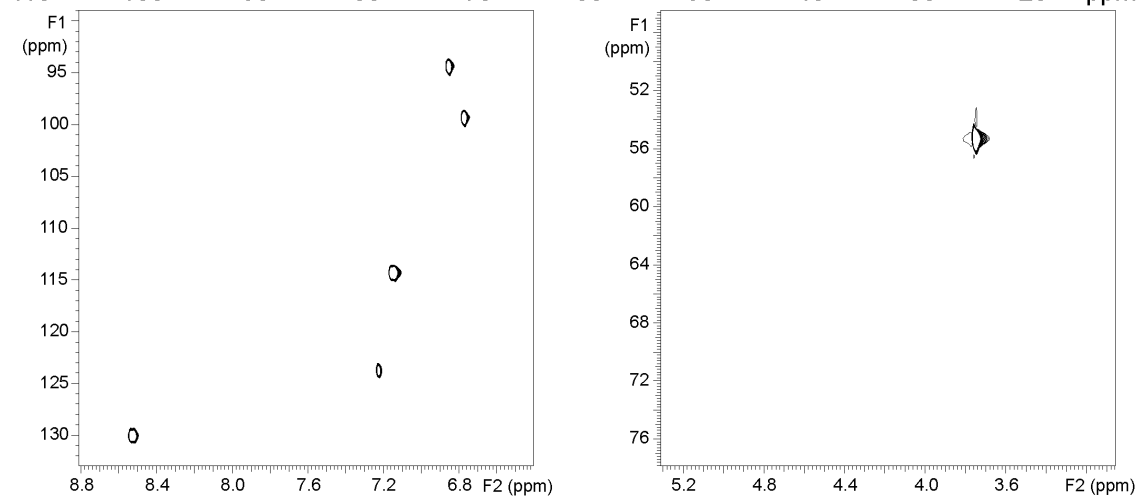
NMR-1H



NMR-13C:



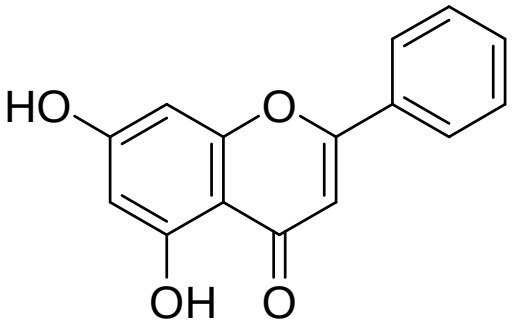
NMR-HSQC:



Names 3,5,7-trihydroxy-2-(3,4,5-trihydroxyphenyl)-4H-1-benzopyran-4-one; 3,5,7,3’,4’,5’-hexahydroxy-flavone; 3,5,7,3’,4’,5’-hexahydroxyflavone; 3,5,7,3',4',5'-Hexahydroxyflavone; Cannabiscetin; Myricetin; Myricetol; NSC 407290

Chrysin

5,7-Dihydroxyflavone



CAS-Number: 480-40-0

Formula: $C_{15}H_{10}O_4$ Exact mass: 254.05791

Molecular mass: 254.06

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	27.81	25.23	12.52
Rel. RetentionTime (k') :	22.57	23.26	22.62
k' rel. to Rutin :	1.71	1.87	1.89

MS1: 253.3 MS2: 209.2 MS3: 181.1

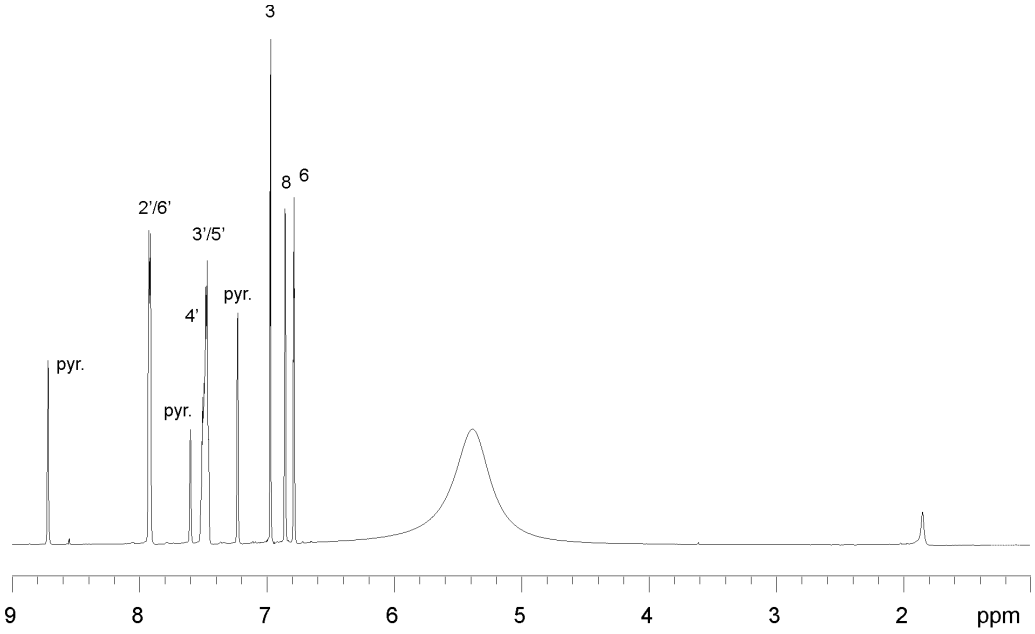
UV/Vis: 265, 315

NMR - Resonance Assignments:

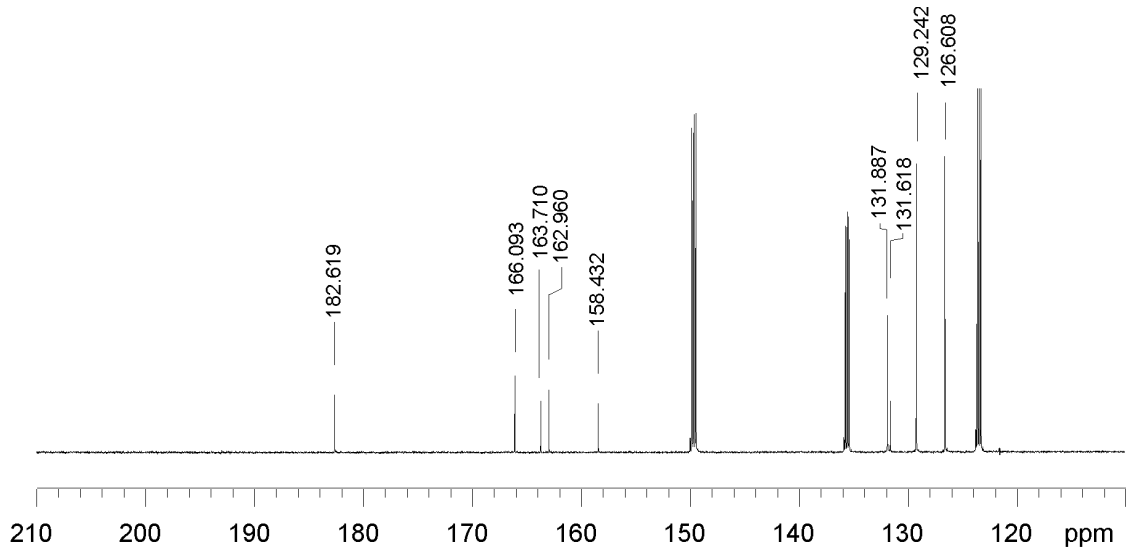
Flavone Core Sugar

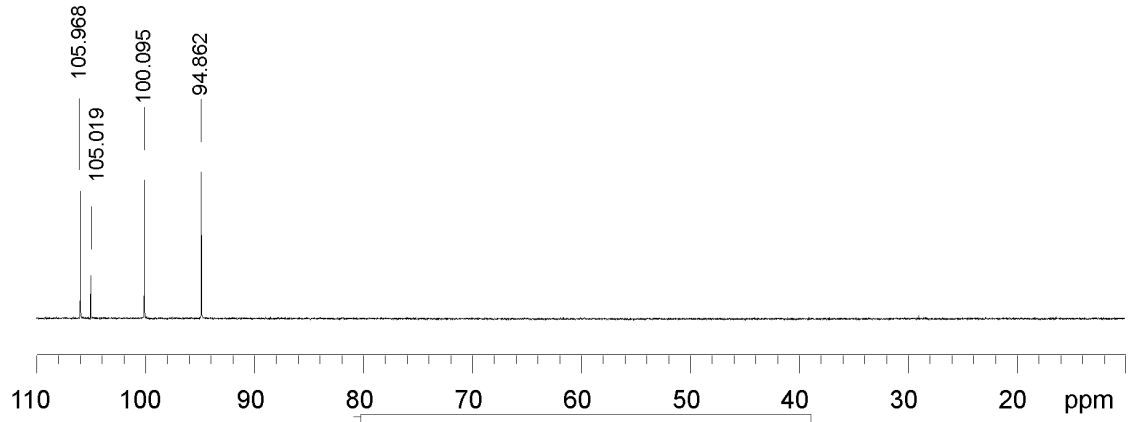
	δ_C	δ_H
2	163.7s	
3	106d	6.98
4	182.6d	
4a	105s	
5	163.9s	
6	100.1d	6.78
7	166.1s	
8	94.9d	6.86
8a	158.4s	
1'	131.6s	
2'	126.6d	7.93
3'	129.3d	7.48
4'	131.9d	7.5
5'	129.3d	7.48
6'	126.6d	7.93

NMR-1H

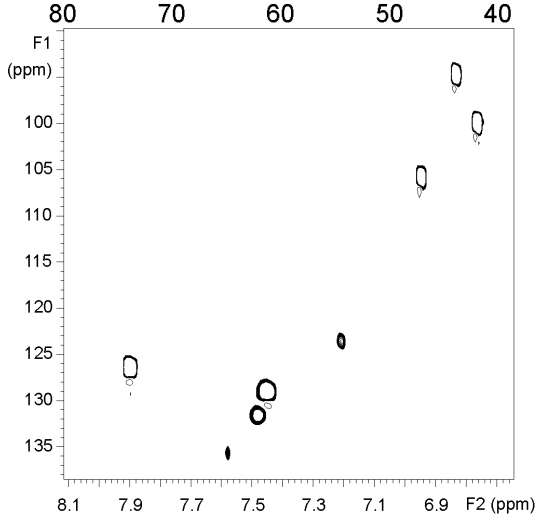


NMR-13C:





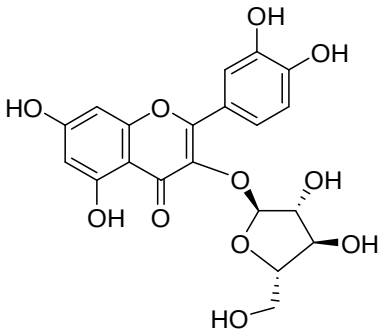
NMR-HSQC:



Names 5,7-dihydroxy-2-phenyl-4H-1-benzopyran-4-one; Chrysin; 5,7-dihydroxy-flavone; 5,7-Dihydroxy-2-phenylchromen-4-one; 5,7-Dihydroxyflavone; Crysin; NSC 407436

Avicularin

Quercetin-3-O-α-L-arabinofuranoside



CAS-Number: 572-30-5

Formula: $C_{20}H_{18}O_{11}$ Exact mass: 434.08491

Molecular mass: 434.08

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18	15.25	7.54
Rel. RetentionTime (k') :	14.25	13.66	13.23
k' rel. to Rutin :	1.08	1.10	1.11

MS1: 433.4 MS2: 301.2 MS3: 178.9

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

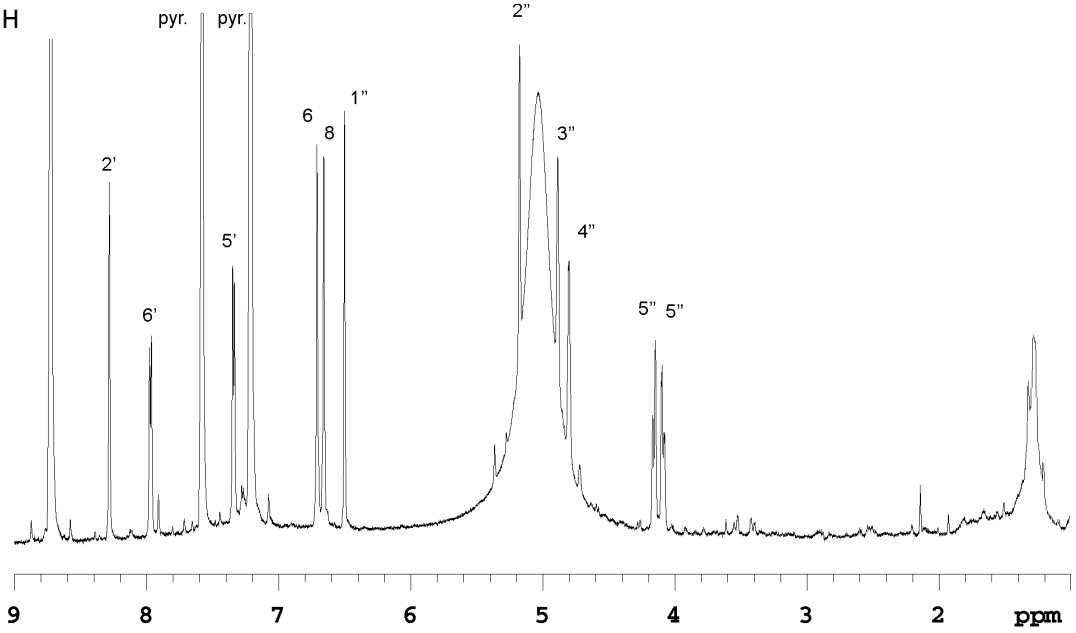
Flavone Core

	δ_C	δ_H
2	158s	
3	134.7s	
4	179.2s	
4a	105.2s	
5	162.8s	
6	99.7d	6.7
7	165.9s	
8	94.6d	6.65
8a	157.7s	
1'	122.4s	
2'	117.1d	8.28
3'	147.1s	
4'	150.6s	
5'	116.6d	7.34
6'	123.3d	7.97

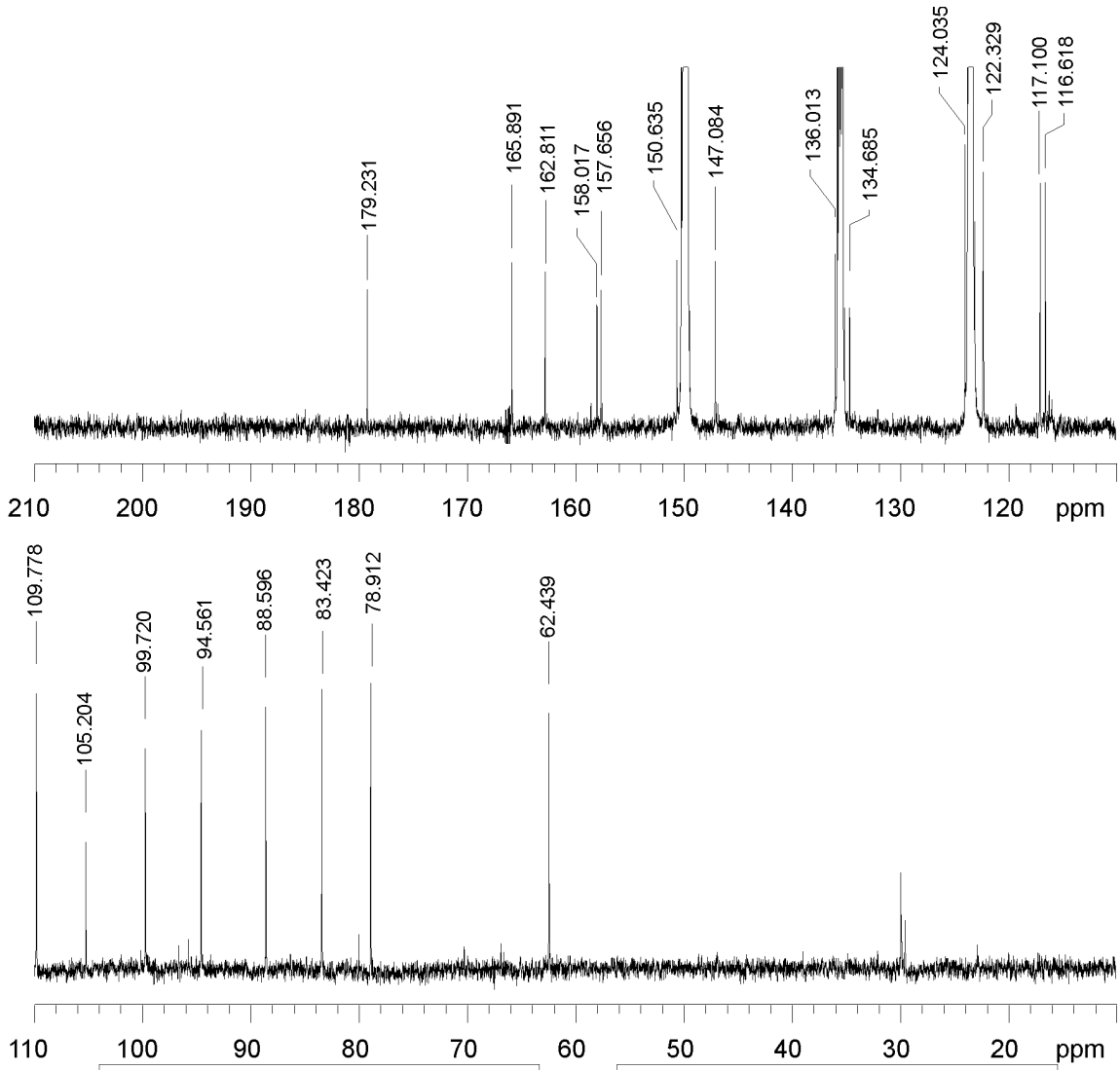
Sugar

	δ_C	δ_H
1''	109.8d	6.5
2''	83.4d	5.17
3''	78.9d	4.88
4''	88.6d	4.8
5''	62.4t	4.15/4.1

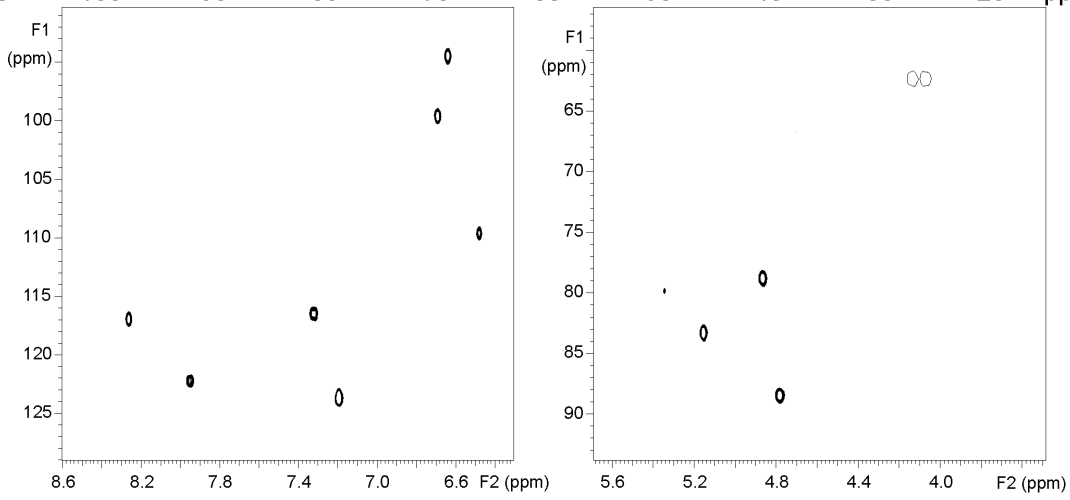
NMR-1H



NMR-13C:



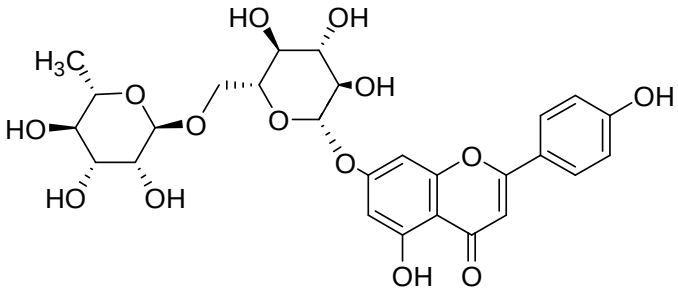
NMR-HSQC:



Names 3-(α-L-arabinofuranosyloxy)-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; Avicularin; Avicularine; Avicularoside; Quercetin 3-O-α-L-arabinofuranoside; Quercetin 3-α-L-arabinofuranoside

Isorhoifolin

Apigenin-7-O-β-D-rutinoside



CAS-Number: 552-57-8

Formula: $C_{27}H_{30}O_{14}$ Exact mass: 578.16356

Molecular mass: 578.53

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	17.84	15.04	7.51
Rel. RetentionTime (k') :	14.12	13.46	13.17
k' rel. to Rutin :	1.07	1.08	1.10

MS1: 577.3 MS2: 269.3 MS3: 225

UV/Vis: 265, 340

NMR - Resonance Assignments:

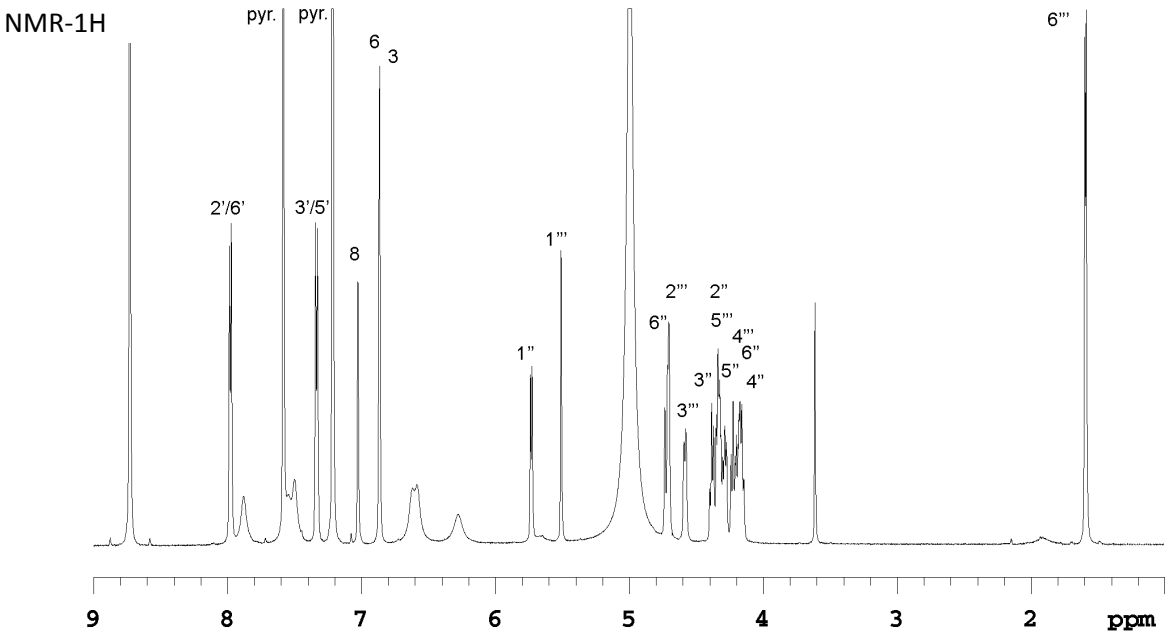
Flavone Core

	δ_C	δ_H
2	165.1s	
3	104d	6.86
4	182.8s	
4a	106.6s	
5	162.6s	
6	100.7d	6.87
7	164.1s	
8	95.4d	7.03
8a	157.9s	
1'	122.1s	
2'	129.1d	7.98
3'	117d	7.33
4'	162.8s	
5'	117d	7.33
6'	129.1d	7.98

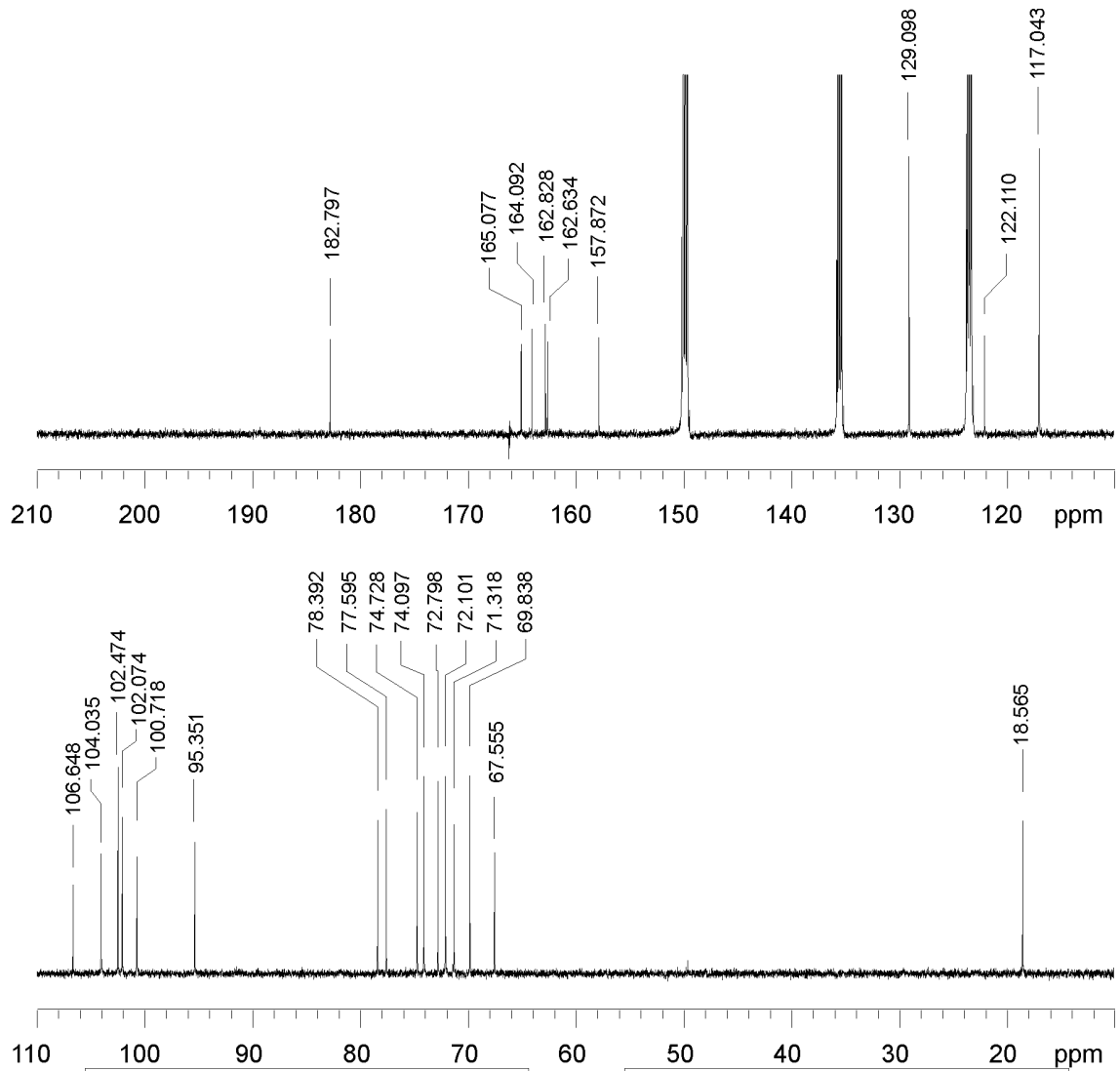
Sugar

	δ_C	δ_H
1''	102.1d	5.73
2''	74.7d	4.33
3''	78.4d	4.38
4''	71.3d	4.16
5''	77.6d	4.28
6''	67.6t	4.72/4.18
1'''	102.5d	5.51
2'''	72.1d	4.7
3'''	72.8d	4.58
4'''	74.1d	4.22
5'''	69.8d	4.32
6'''	18.6q	1.59

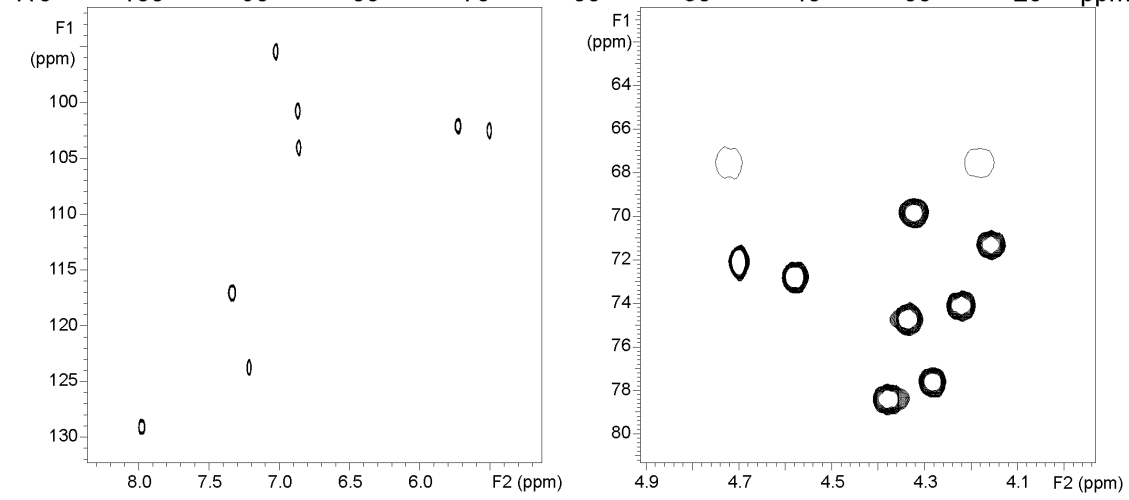
NMR-1H



NMR-13C:



NMR-HSQC:

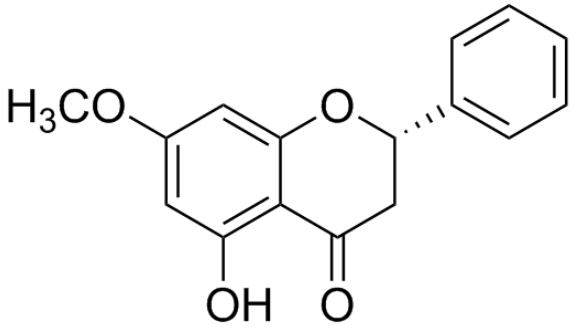


Names

7-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-5-hydroxy-2-(4-hydroxyphenyl)-4H-1-benzopyran-4-one; 5,7,4’-trihydroxy-7-β-rutinoside-flavone; Isorhoifolin; 5,7,4'-trihydroxyflavone 7-O-rutinoside; Apigenin 7-O-rutinoside; Apigenin 7-O-α-L-rhamnopyranosyl-(1→6)-β-D-glucopyranoside; Apigenin 7-O-α-L-rhamnosyl-(1→6)-β-D-glucopyranoside; Apigenin 7-O-β-D-glucopyranosyl-(6→1)-α-L-rhamnopyranoside; Apigenin 7-rutinoside; Apigenin 7-β-rutinoside; Apigenin-7-O-gluco(6'-1''') rhamnoside; Apigenin-7-O-β-D-rutinoside

7-Methylpinocembrin

5-Hydroxy-7-methoxyflavanone



CAS-Number: 480-37-5

Formula: $C_{16}H_{14}O_4$ Exact mass: 270.08921

Molecular mass: 270.09

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	31.97	28.72	14.43
Rel. RetentionTime (k') :	26.09	26.62	26.23
k' rel. to Rutin :	1.98	2.14	2.20

MS1: 269.3 MS2: 254.1 MS3: 226.1

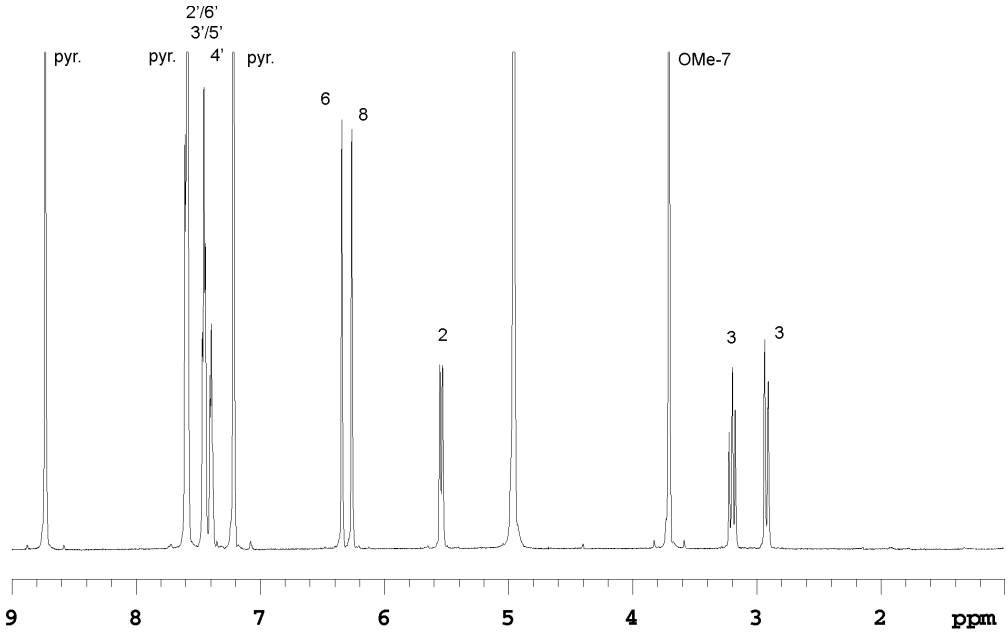
UV/Vis: 290, 330(sh)

NMR - Resonance Assignments:

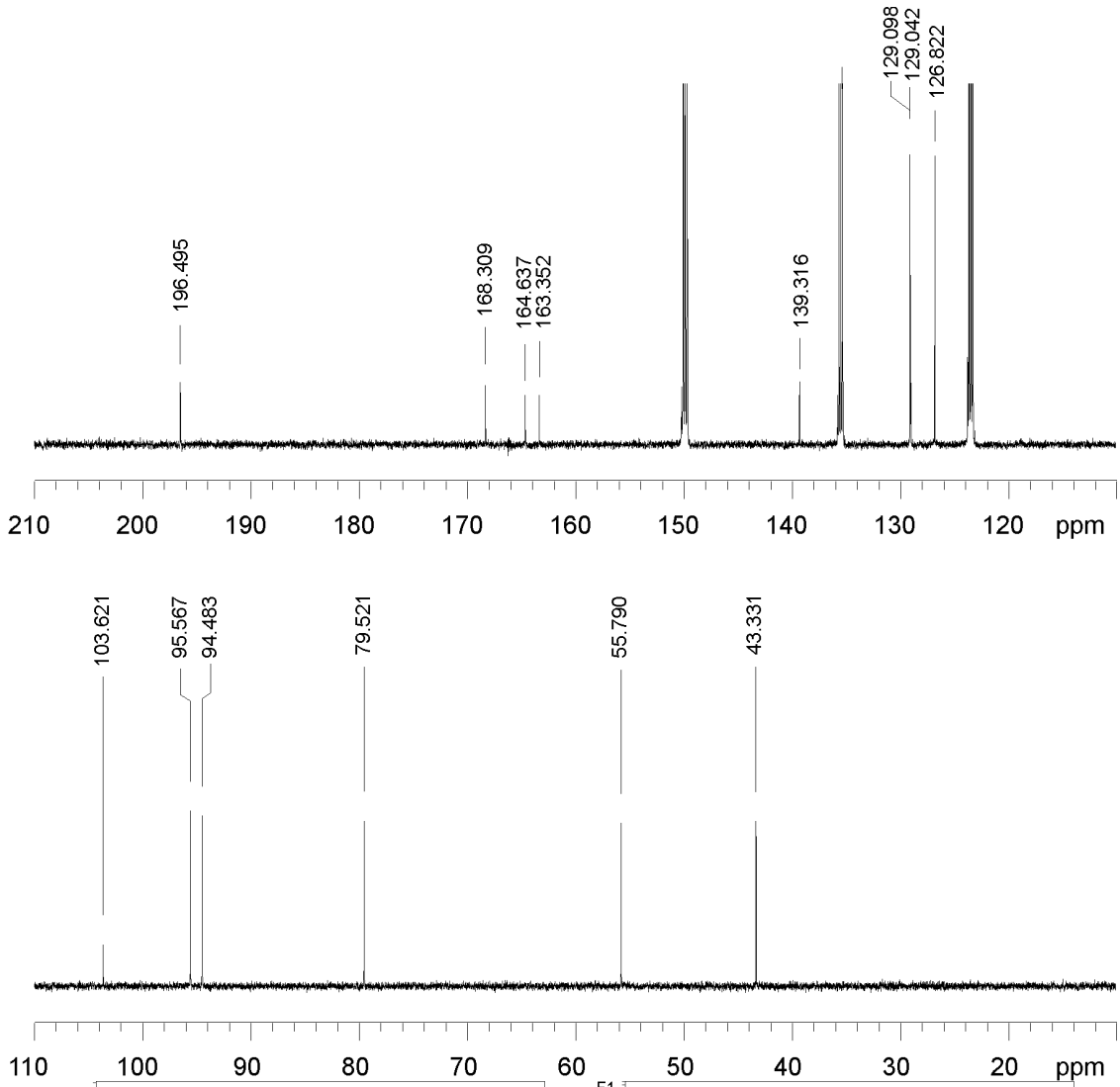
Flavone Core Sugar

	δ_C	δ_H
2	79.5d	5.54
3	43.3t	3.19/2.92
4	196.5s	
4a	103.6s	
5	164.6s	
6	95.6d	6.34
7	168.3s	
8	94.5d	6.26
8a	163.4s	
1'	139.3s	
2'	126.8d	7.59
3'	129.1d	7.45
4'	129d	7.38
5'	129.1d	7.45
6'	126.8d	7.59
OMe-7	55.8q	3.7

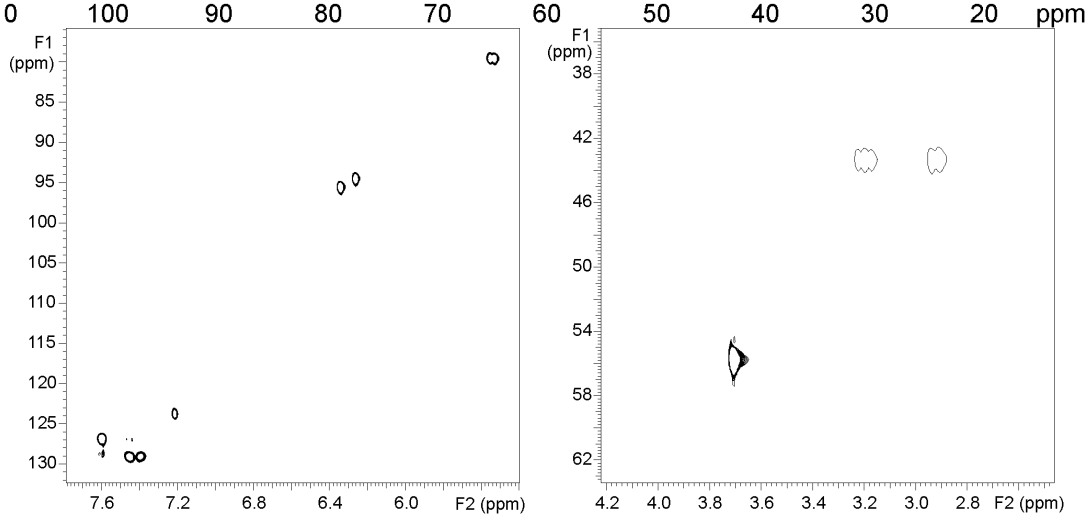
NMR-1H



NMR-13C:



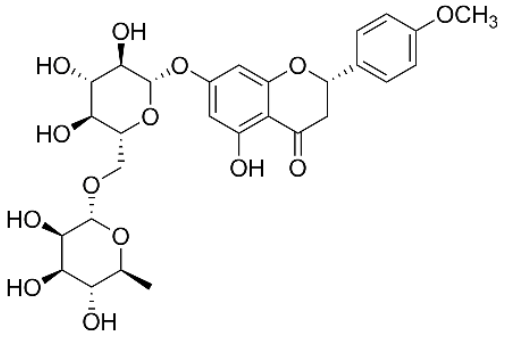
NMR-HSQC:



Names 2,3-dihydro-5-hydroxy-7-methoxy-2-phenyl-(2S)-4H-1-benzopyran-4-one; 2,3-dihydro-5-hydroxy-7-methoxy-2-phenyl-(S)-4H-1-benzopyran-4-one; 5-hydroxy-7-methoxy-flavanone; Pinostrobin; (-)-2S-Pinocembrin; (-)-Pinostrobin; (2S)-Pinostrobin; 5-hydroxy-7-methoxyflavanone; 7-methylpinocembrin; Dihydrotectochrysin; Pinocembrin 7-methyl ether; Pinostrombin

Didymin

Isosakuranetin-7-O-β-D-rutinosid



CAS-Number: 14259-47-3

Formula: $C_{28}H_{34}O_{14}$ Exact mass: 594.19486

Molecular mass: 594.56

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	21.33	18.24	9.08
Rel. RetentionTime (k') :	17.08	16.54	16.13
k' rel. to Rutin :	1.31	1.33	1.35

MS1: 593.2 MS2: 285 MS3: 270.1

UV/Vis: 280, 330(sh)

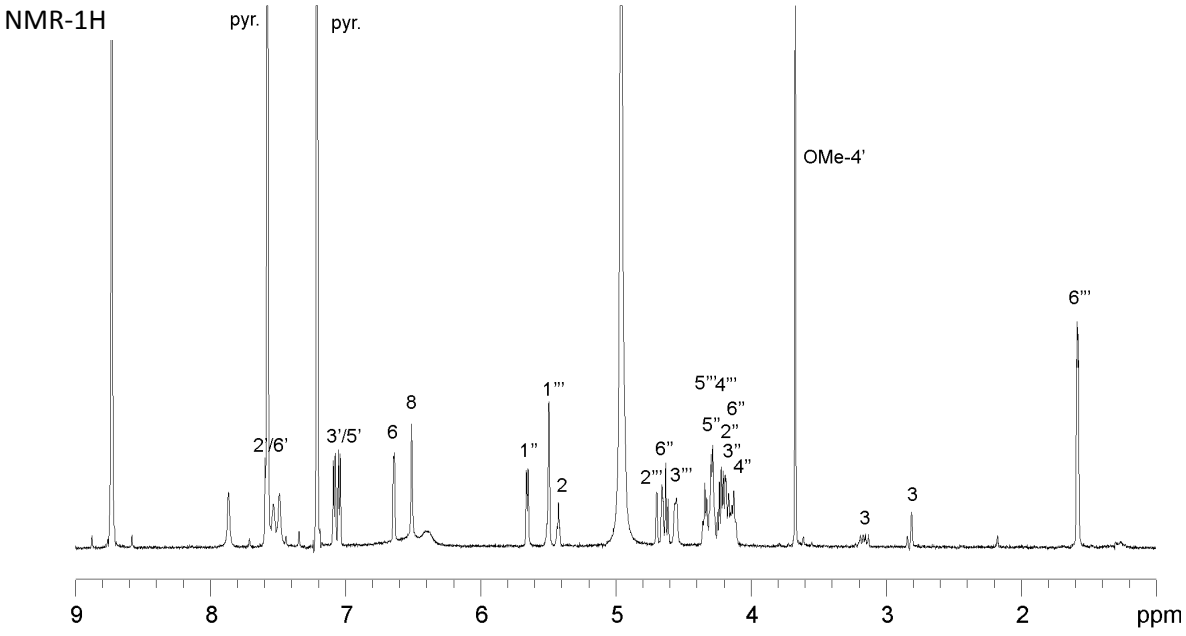
NMR - Resonance Assignments:

Flavone Core

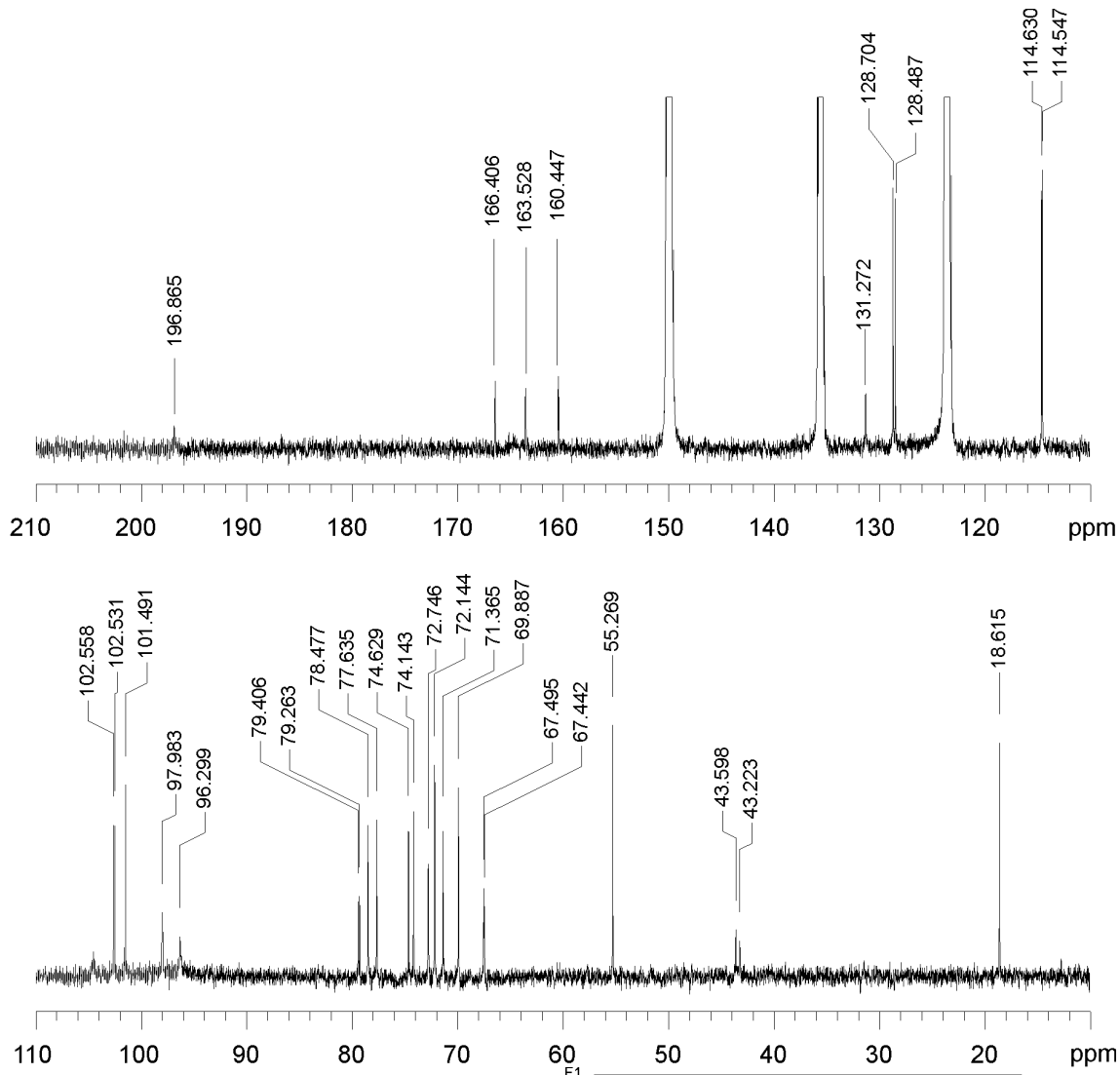
	δ_C	δ_H
2	79.3s	5.5
3	43.2t	3.17/2.82
4	196.9s	
4a	104.5s	
5	164.8s	
6	98d	6.64
7	166.4s	
8	96.3d	6.51
8a	163.5s	
1'	131.3s	
2'	128.5d	7.58
3'	114.5d	7.04
4'	160.4s	
5'	114.5d	7.04
6'	128.5d	7.58

Sugar

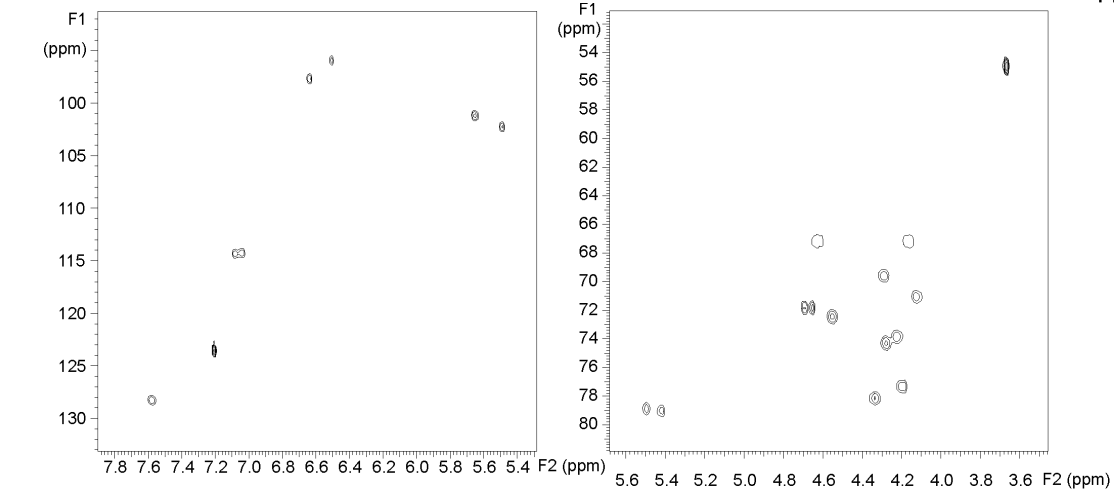
	δ_C	δ_H
1''	105d	5.65
2''	74.6d	4.28
3''	77.6d	4.2
4''	71.4d	4.13
5''	78.5d	4.33
6''	67.5t	4.63/4.17
1'''	102.5d	5.49
2'''	72.1d	4.67
3'''	72.7d	4.55
4'''	74.1d	4.22
5'''	69.9d	4.29
6'''	18.6q	1.58



NMR-13C:



NMR-HSQC:

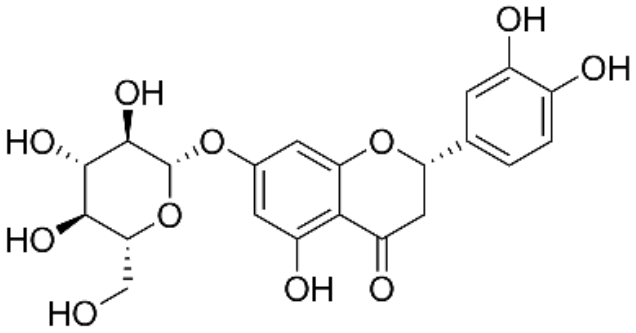


Names

Neoponcirin; Isokuranetin-7-O-rutinoside; (2S)-5-hydroxy-2-(4-methoxyphenyl)-4-oxo-3,4-dihydro-2H-chromen-7-yl 6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranoside; (S)-5,7-Dihydroxy-4′-methoxyflavanone-7-β-rutinoside; (S)-5,7-Dihydroxy-4′-methoxyflavanone-7-6-O-(α-L-rhmnonopyranosyl)-β-D-glucopyranoside

Eriodictyol-7-glucoside

Eriodictyol-7-O-β-D-glucopyranoside



CAS-Number: 38965-51-4

Formula: $C_{21}H_{22}O_{11}$ Exact mass: 450.11621

Molecular mass: 450.39

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	16.05	12.59	6.09
Rel. RetentionTime (k') :	12.6	11.11	10.49
k' rel. to Rutin :	0.96	0.89	0.88

MS1: 449.3 MS2: 287.2 MS3: 151

UV/Vis: 285, 330(sh)

NMR - Resonance Assignments:

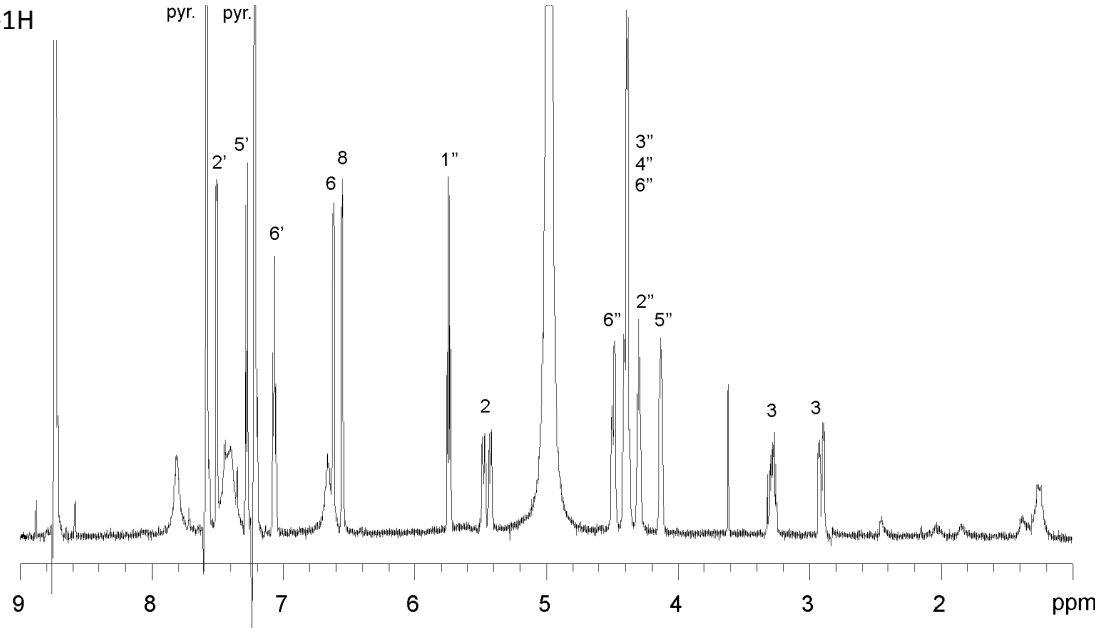
Flavone Core

	δ_C	δ_H
2	79.9d	5.41
3	43.4t	3.28/2.9
4	197.3s	
4a	104.3s	
5	164.4s	
6	97.6d	6.61
7	166.6s	
8	96.3d	6.54
8a	163.6s	
1'	130.4s	
2'	115.4d	7.5
3'	147.6s	
4'	148s	
5'	116.6d	7.27
6'	118.7d	7.06

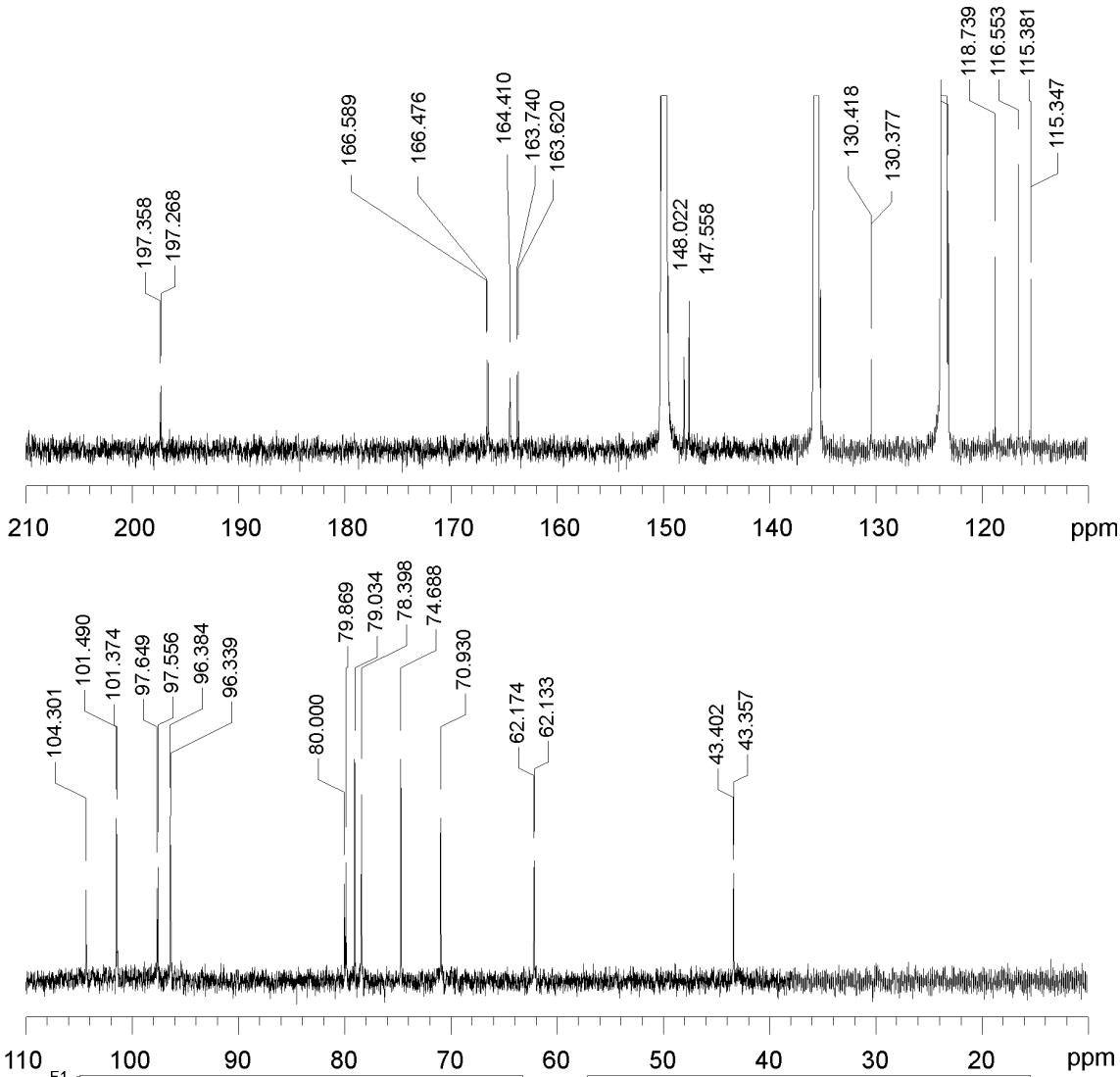
Sugar

	δ_C	δ_H
1''	101.5d	5.73
2''	74.7d	4.29
3''	78.4d	4.38
4''	70.9d	4.38
5''	79d	4.12
6''	62.1t	4.47/4.39

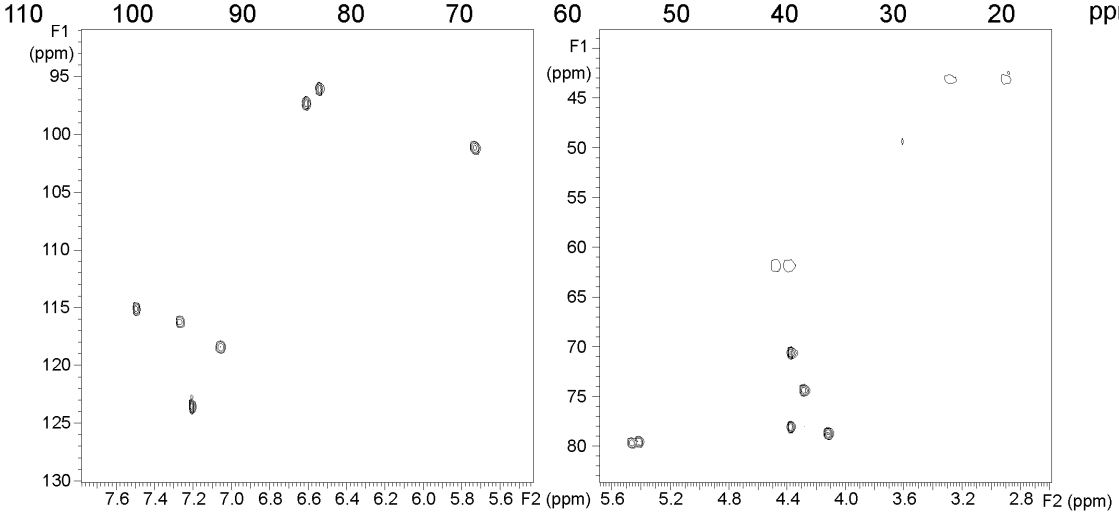
NMR-1H



NMR-13C:



NMR-HSQC:

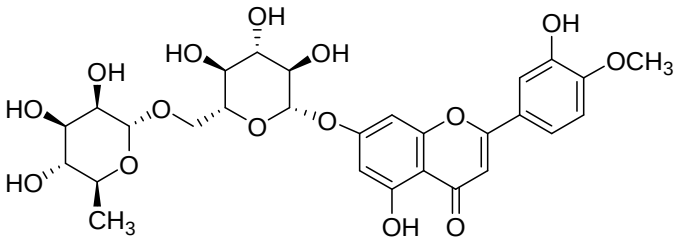


Names

2-(3,4-dihydroxyphenyl)-7-(β-D-glucopyranosyloxy)-2,3-dihydro-5-hydroxy-(2S)-4H-1-benzopyran-4-one; 5,7,3’,4’-tetrahydroxy-7-β-D-glucopyranoside-flavanone; (2S)-5,3',4'-trihydroxyflavanone-7-O-glucoside; (2S)-Eriodictyol-7-O-β-D-glucopyranoside; 5,7,3’,4’-tetrahydroxyflavanone 7-glucoside; 5,7,3’,4’-tetrahydroxyflavanone 7-β-D-glucopyranoside; Eriodictyol 7-O-glucoside; Eriodictyol 7-O-β-D-glucopyranoside; Eriodictyol 7-O-β-D-glucoside; Eriodictyol 7-glucoside; Eriodictyol 7-β-D-glucoside; Miscanthoside

Diosmin

Diosmetin-7-β-D-rutinoside



CAS-Number: 520-27-4

Formula: $C_{28}H_{32}O_{15}$ Exact mass: 608.17412

Molecular mass: 608.54

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18.27	15.93	7.43
Rel. RetentionTime (k') :	14.48	14.32	13.02
k' rel. to Rutin :	1.10	1.15	1.09

MS1: 607.1 MS2: 299.4 MS3: 284.2

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

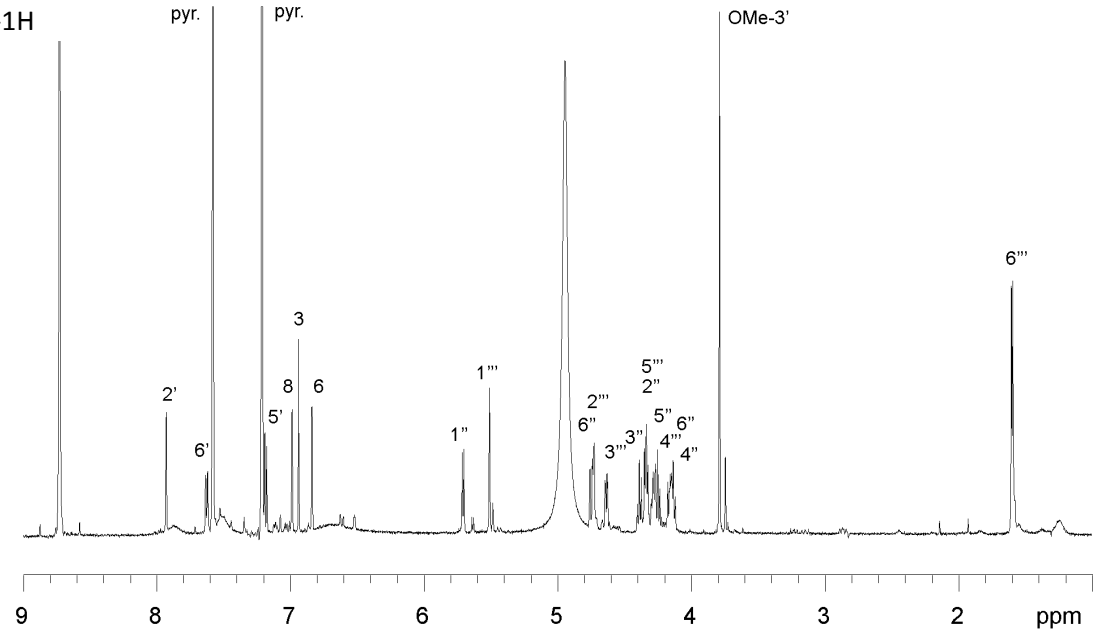
Flavone Core

	δ_C	δ_H
2	165.1s	
3	105d	6.93
4	182.9s	
4a	106.8s	
5	162.6s	
6	100.9d	6.84
7	164.2s	
8	95.3d	6.98
8a	158s	
1'	124.5s	
2'	114.6d	7.93
3'	148.5s	
4'	152.2s	
5'	112.5d	7.17
6'	119.2d	7.62
OMe-4'	55.9q	3.79

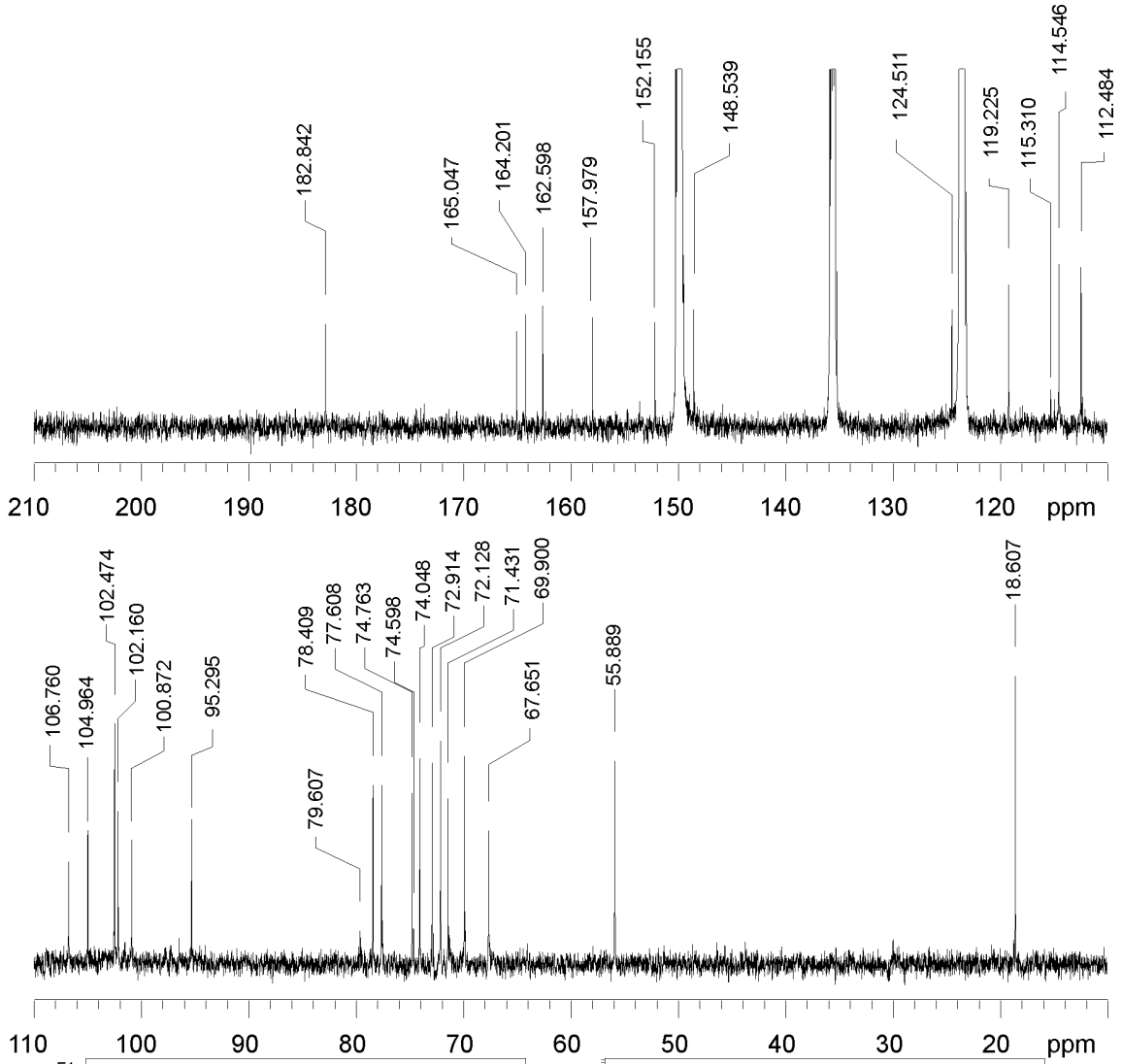
Sugar

	δ_C	δ_H
1''	102.5d	5.71
2''	74.8d	4.34
3''	77.6d	4.28
4''	71.4d	4.13
5''	78.5d	4.38
6''	67.7t	4.75/4.16
1'''	102.2d	5.51
2'''	72.1d	4.72
3'''	72.9d	4.63
4'''	74.1d	4.24
5'''	69.9d	4.34
6'''	18.6q	1.6

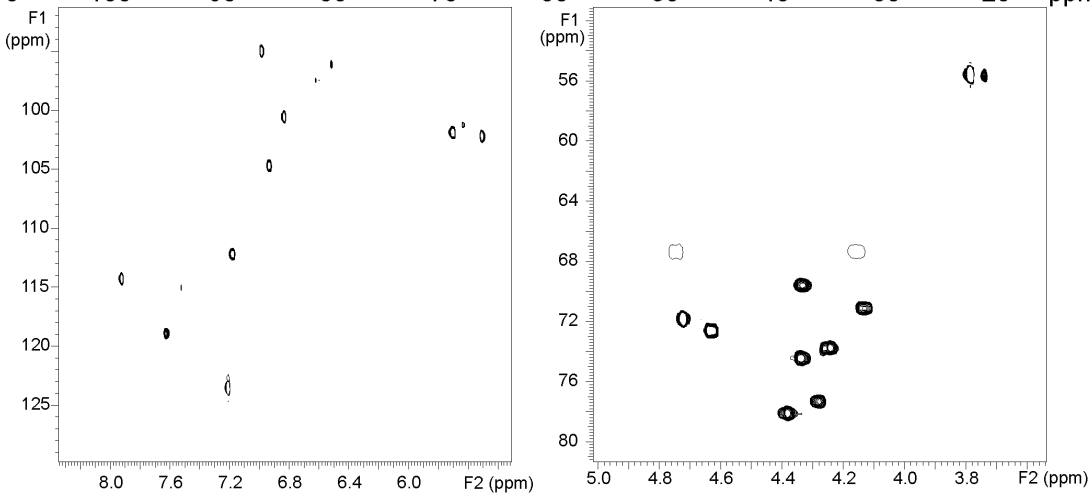
NMR-1H



NMR-13C:



NMR-HSQC:



Names

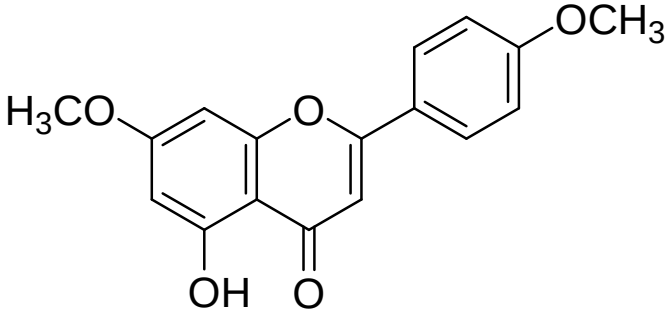
4H-1-Benzopyran-4-one, 7-[[6-O-(6-deoxy-α-L-mannopyranosyl)-β-D-glucopyranosyl]oxy]-5-hydroxy-2-(3-hydroxy-4-methoxyphenyl)-

Diosmin; 5,7, 3'-Trihydroxy-4'-methoxyflavone 7-O-rutinoside;

5,3’-Dihydroxyl-4'-methoxylflavanone-7-O-α-L-rhamnosyl (1→6)-β-D-glucopyranoside; Barosmin; Buchuresin; Diosmetin 7-O-rhamnosyl(1→6)-glucoside; Diosmetin 7-O-α-L-rhamnopyranosyl-(1→6)-β-D-glucopyranoside; Diosmetin 7-rutinoside; Diosmetin 7-β-rutinoside; Diosmil; Diosmine; Diosven; Dioven; Diovenor; Flebosmil; Flebosten; Hemerven; Insuven; Litosmil; Tovene; Varinon; Ven-Detrex; Venex 500; Venosmine

Apigenin-7,4'-dimethylether

5-Hydroxy-7,4'-dimethoxyflavone



CAS-Number: 5128-44-9

Formula: $C_{17}H_{14}O_5$ Exact mass: 298.08412

Molecular mass: 298.29

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	33.28	31.23	15.13
Rel. RetentionTime (k') :	27.2	29.03	27.55
k' rel. to Rutin :	2.06	2.34	2.31

MS1: 297.3 MS2: MS3:

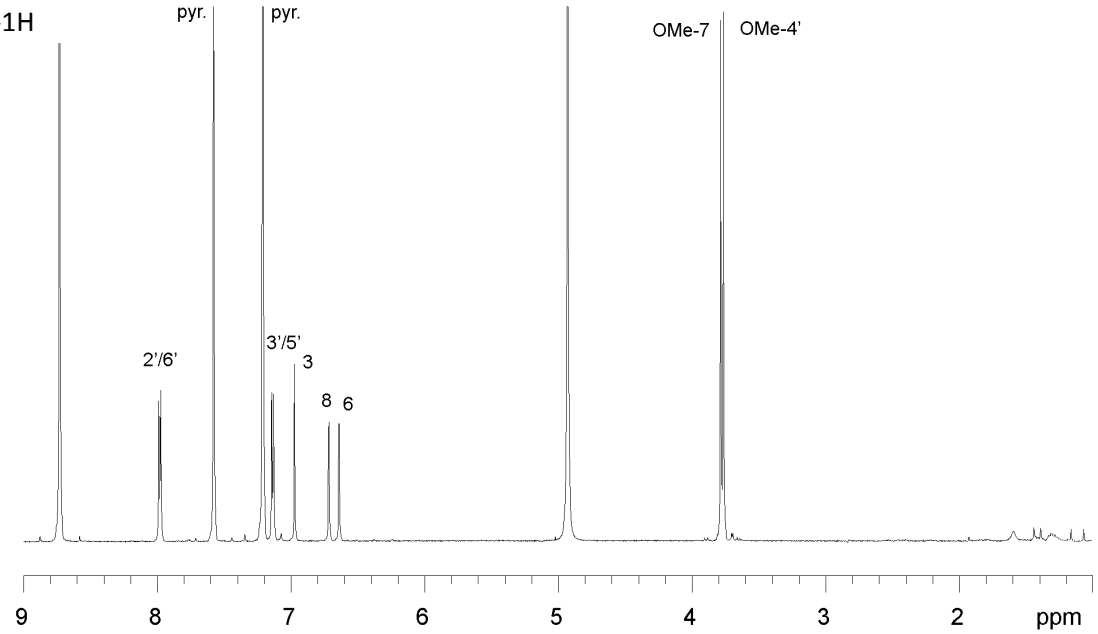
UV/Vis: 270, 330

NMR - Resonance Assignments:

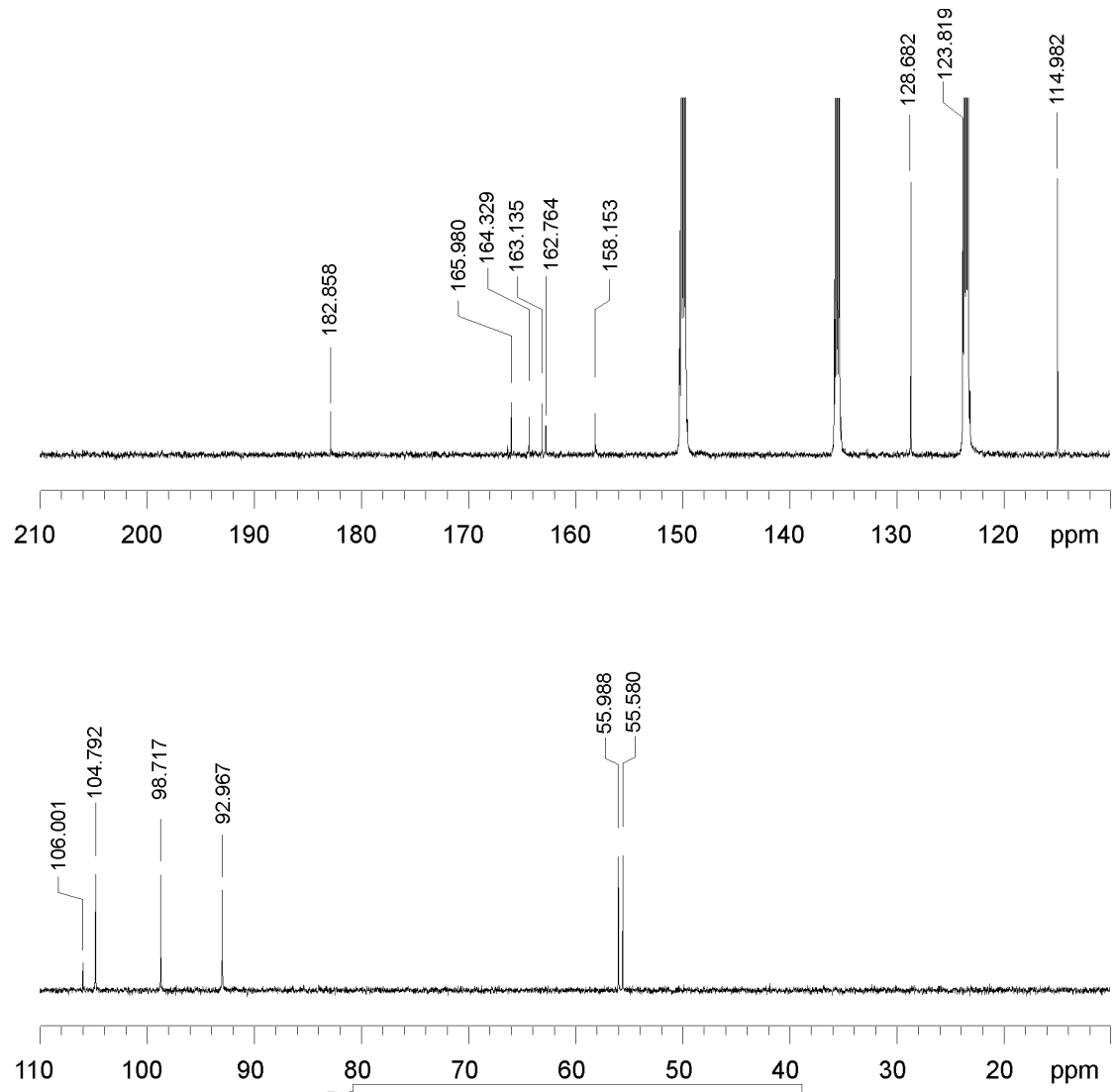
Flavone Core Sugar

	δ_C	δ_H
2	164.3s	
3	104.8d	6.97
4	182.9s	
4a	106s	
5	162.8s	
6	98.7d	6.64
7	166s	
8	93.4d	6.72
8a	158.2s	
1'	123.8s	
2'	128.7d	7.98
3'	115d	7.13
4'	163.1s	
5'	115d	7.13
6'	128.7d	7.98
OMe-7	56q	3.79
OMe-4'	55.6q	3.76

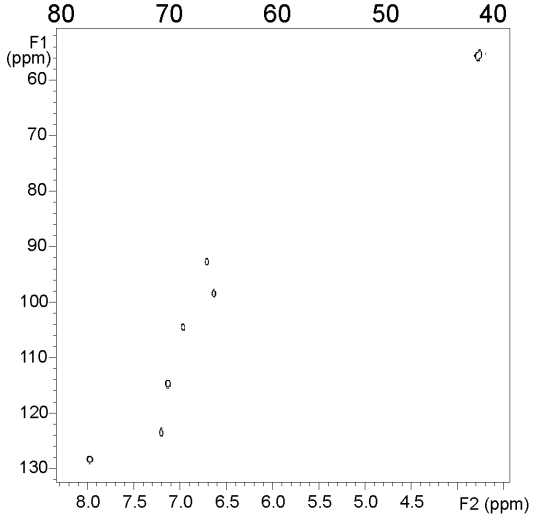
NMR-1H



NMR-13C:



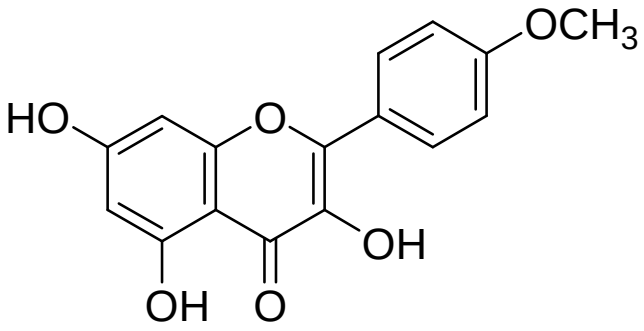
NMR-HSQC:



Names 5-hydroxy-7-methoxy-2-(4-methoxyphenyl)-flavone; 5-hydroxy-7, 4'-dimethoxy- 4H-1-benzopyran-4-one; 7, 4'-di-O-methylapigenin; 7, 4'-dimethylapigenin; 4'-methoxytectochrysin; 5-hydroxy-7,4’-dimethoxyflavone; 5-hydroxy-7,4'-dimethoxyflavone; 7,4'-di-O-methylapigenin; 7,4'-dimethylapigenin; 7-O-methylacacetin; Acacetin 7-methyl ether; Apigenin 7,4’-dimethyl ether; Apigenin 7,4'-dimethyl ether; Apigenin dimethyl ether; Genkwanin 4'-methyl ether; NSC 94547

Kaempferide

3,5,7-Trihydroxy-4'-methoxyflavone



CAS-Number: 491-54-3

Formula: $C_{16}H_{12}O_6$ Exact mass: 300.06339

Molecular mass: 300.26

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	28.72	26.24	13.05
Rel. RetentionTime (k') :	23.34	24.23	23.62
k' rel. to Rutin :	1.77	1.95	1.98

MS1: 299.4 MS2: 284.3 MS3: 150.9

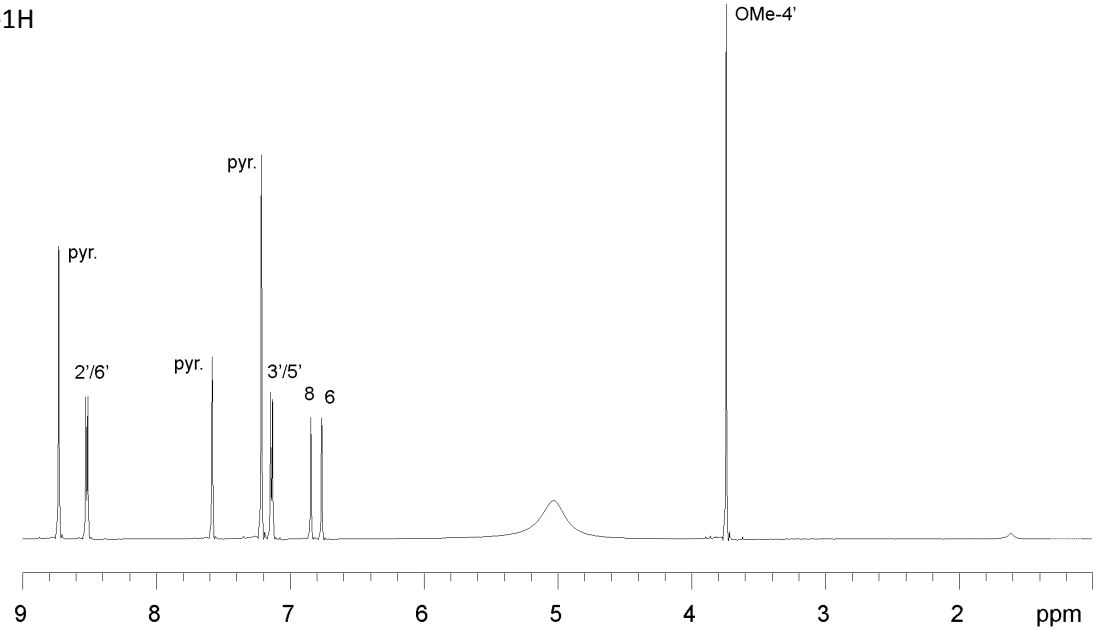
UV/Vis: 255, 265(sh)

NMR - Resonance Assignments:

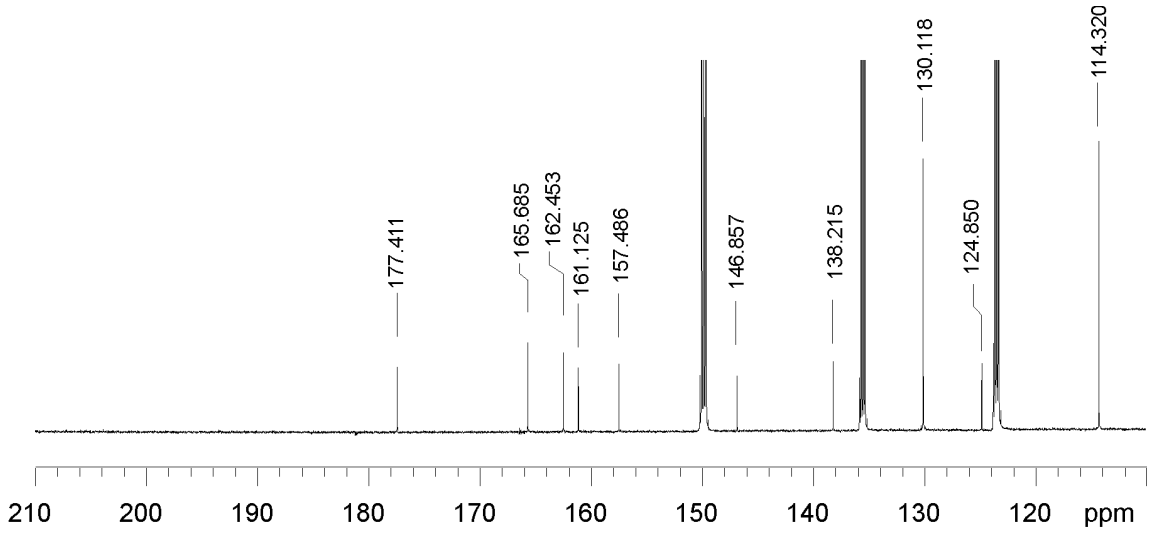
Flavone Core Sugar

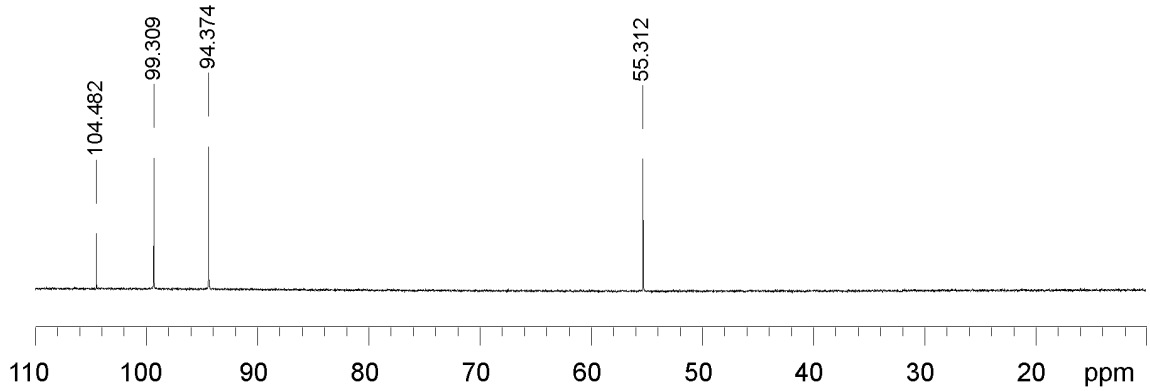
	δ_C	δ_H
2	146.9s	
3	138.2s	
4	177.4s	
4a	104.5s	
5	162.5s	
6	99.3d	6.76
7	165.7s	
8	94.4d	6.84
8a	157.5s	
1'	124.9s	
2'	130.1d	8.52
3'	114.3d	7.14
4'	161.1s	
5'	114.3d	7.14
6'	130.1d	8.52
OMe-3'	55.3q	3.74

NMR-1H

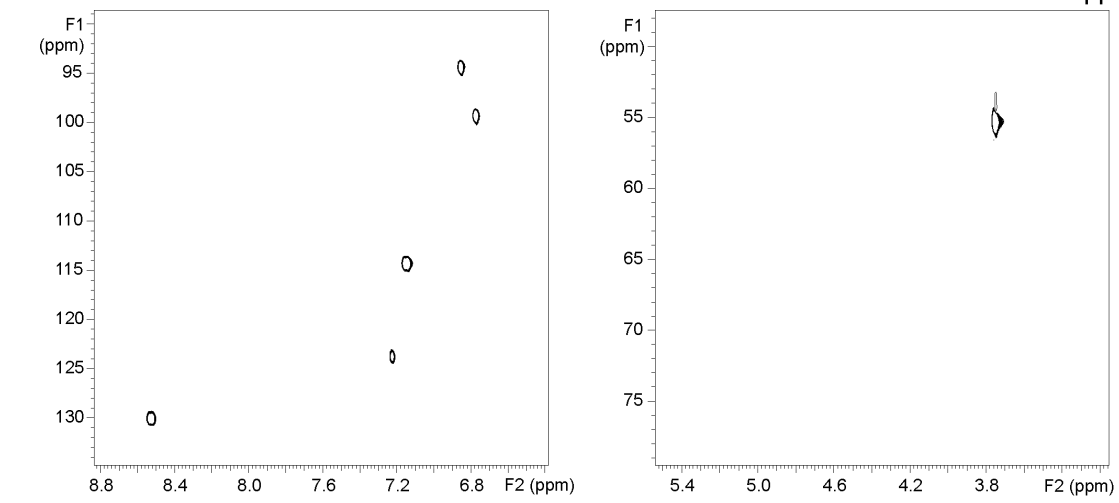


NMR-13C:





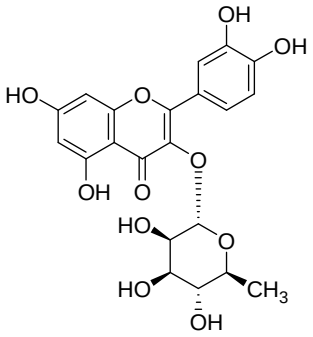
NMR-HSQC:



Names 3,5,7-trihydroxy-2-(4-methoxyphenyl)- 4H-1-benzopyran-4-one; 3,5,7-trihydroxy-4'-methoxy-flavone; Kaempferide; 3,5,7-trihydroxy-4'-methoxyflavone; 4'-Methoxykaempferol; 4'-Methylkaempferol; 4'-O-Methylkaempferol; 5,7-Dihydroxy-4'-methoxyflavonol; Kaempferid; Kaempferol 4'-O-methyl ether; Kaempferol 4'-methyl ether; NSC 407294

Quercitrin

Quercetin-3-O-α-L-rhamnopyranoside



CAS-Number: 522-12-3

Formula: $C_{22}H_{22}O_{11}$ Exact mass: 462.11621

Molecular mass: 462.12

Column:	Zorbax	LiChrosphere	Kinetex
Abs.RetentionTime [min]:	18.24	15.55	7.72
Rel. RetentionTime (k') :	14.46	13.95	13.57
k' rel. to Rutin :	1.10	1.12	1.14

MS1: 447.4 MS2: 301.2 MS3: 178.9

UV/Vis: 255, 265(sh), 3

NMR - Resonance Assignments:

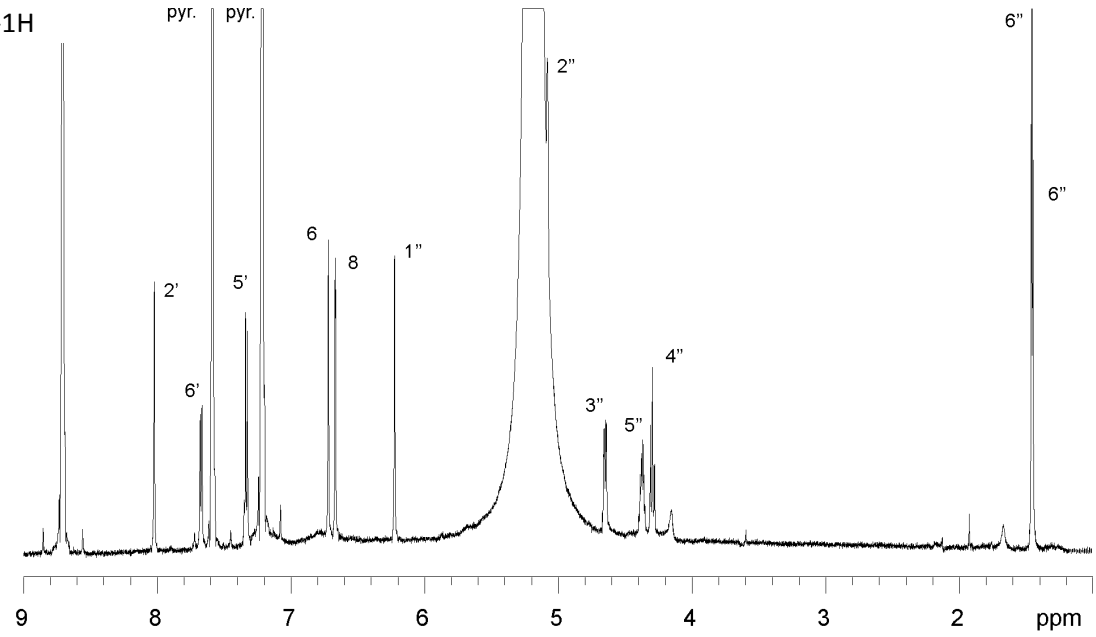
Flavone Core

	δ_C	δ_H
2	158.2s	
3	135.8s	
4	179.1s	
4a	105.4s	
5	169.2s	
6	99.7d	6.72
7	165.8s	
8	94.5d	6.66
8a	157.7s	
1'	122.2s	
2'	117.1d	8.02
3'	147.2s	
4'	150.5s	
5'	116.5d	7.33
6'	122.2d	7.67

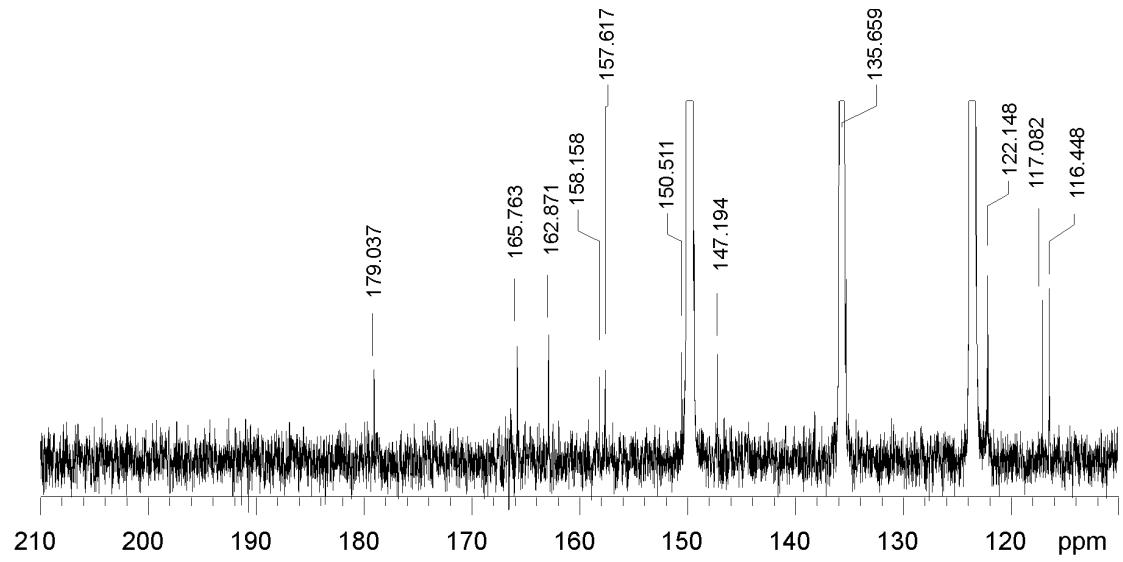
Sugar

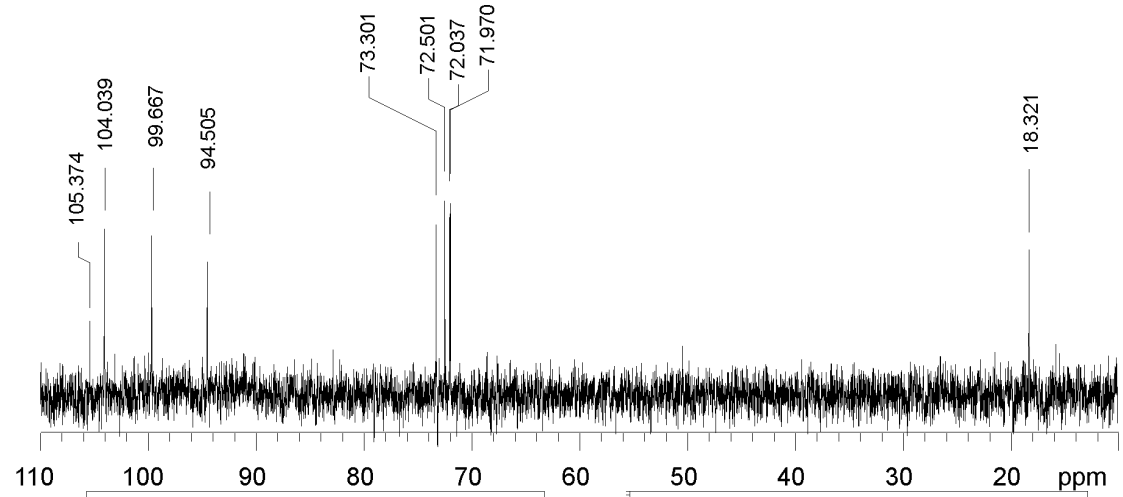
	δ_C	δ_H
1''	104.4d	6.23
2''	72d	5.09
3''	72.5d	4.66
4''	73.3d	4.3
5''	72d	4.37
6''	18.3q	1.46

NMR-1H

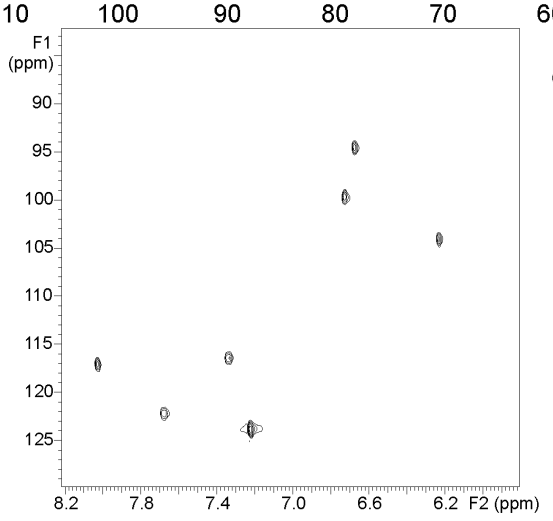


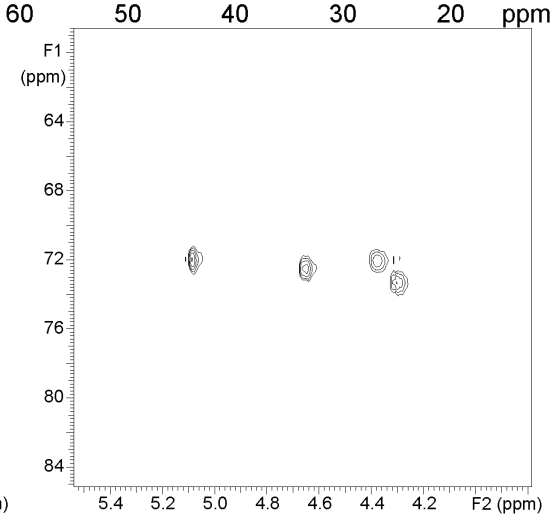
NMR-13C:





NMR-HSQC:





Names

3-[(6-deoxy-α-L-mannopyranosyl)oxy]-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one; Quercitrin; 3,5,7,3',4'-pentahydroxyflavone 3-L-rhamnoside; 3-O-rhamnosylquercetin; 3-O-α-L-rhamnopyranosylquercetin; 5,7,3',4'-tetrahydroxyflavonol 3-O-rhamnoside; C.I. 75720; NSC 9221; Quercetin 3-L-rhamnoside; Quercetin 3-O-L-rhamnoside; Quercetin 3-O-rhamnopyranoside; Quercetin 3-O-rhamnoside; Quercetin 3-O-α-L-rhamnopyranoside; Quercetin 3-O-α-L-rhamnoside; Quercetin 3-O-α-rhamnopyranoside; Quercetin 3-rhamnopyranoside; Quercetin 3-rhamnoside; Quercetin-3-O-α-rhamnoside; Quercimelin; Quercitroside; WA 17779