

Saponins from the Roots of *Caragana chamlagu*

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The roots of *Caragana chamlagu* Lamk. (Leguminosae) have been used to cure beri-beri, osteomyelitis, and similar malignancies, as well as nettle rash, and dropsy.¹⁾ In Korea, it has been used as a folk medicine for neuralgia, rheumatism and arthritis.²⁾ No chemical work has

been done on the saponins from *Caragana* plants. This preliminary communication describes the isolation and characterization of two new bisdesmosides from the roots of *Caragana chamlagu*.

The BuOH soluble fraction of MeOH extract from the roots of *C. chamlagu* (= *C. sinica*

Table I. ¹³C-NMR spectral data for 1a, 2a and related compounds in pyridine-d₅

Carbon No.	1a	Kalopanax saponin F ⁴⁾	2a	Chikusetsu saponin IV ⁴⁾	Carbon No.	1a	Kalopanax saponin F ⁴⁾	2a	Chikusetsu saponin IV ⁴⁾
C-1	38.7	38.6	38.6	38.8	C-30	23.7	23.6	23.7	23.7
C-2	26.6	26.1	26.5	26.2	Glc A				
C-3	89.9	89.7	89.3	89.7	C-1	105.2	105.1	107.0	106.8
C-4	39.7	39.6	39.5	39.7	C-2	79.0 ^a	78.8	75.1	75.4
C-5	55.8	55.7	55.7	55.7	C-3	87.8	87.7	75.9	76.3
C-6	18.5	18.5	18.5	18.4	C-4	72.9	72.8	78.9	78.9 ^a
C-7	33.2	33.1	33.1	33.1	C-5	76.3	77.2	76.6	76.3
C-8	39.9	39.6	39.9	39.9	C-6	169.9	172.0	170.4	172.3
C-9	48.0	48.0	48.0	48.0	(OCH ₃)	52.2		52.3	
C-10	36.9	36.8	36.9	36.9	Ara				
C-11	23.4	23.6	23.4	23.7	C-1	105.2	105.1	108.6	108.3
C-12	122.9	122.6	122.8	122.5	C-2	71.3	71.3 ^a	82.6	82.4
C-13	144.1	144.1	144.1	144.2	C-3	75.3	75.2	78.4	78.2 ^a
C-14	42.2	42.1	42.1	42.1	C-4	70.1	70.0	87.5	87.4
C-15	28.3	27.7	28.2	28.2	C-5	67.2	67.0	62.5	62.5 ^b
C-16	23.8	23.6	23.8	23.7	Glc				
C-17	47.0	46.9	47.0	47.0	C-1	104.7	104.6		
C-18	41.7	41.7	41.7	41.7	C-2	76.1	76.0		
C-19	46.2	46.9	46.2	46.7	C-3	77.3	77.2		
C-20	30.8	30.7	30.8	30.8	C-4	71.6	71.8 ^a		
C-21	34.0	34.0	34.0	34.0	C-5	78.8 ^a	78.8		
C-22	32.6	33.1	32.5	32.6	C-6	61.9	61.9		
C-23	27.7	27.7	28.1	28.2	28-O-Glc				
C-24	16.3	16.3	16.9	17.0	C-1	95.8	95.7	95.7	95.8
C-25	15.5	15.5	15.5	15.5	C-2	74.1	74.0	74.1	74.1
C-26	17.5	17.4	17.4	17.4	C-3	79.3 ^a	78.8	79.5 ^a	78.9 ^a
C-27	26.1	26.1	26.1	26.2	C-4	71.1	71.0 ^a	71.1	71.2
C-28	176.4	176.8	176.4	176.5	C-5	78.9 ^a	78.8	79.1 ^a	78.2 ^a
C-29	33.2	33.1	33.1	33.1	C-6	62.2	61.9	62.2	62.2 ^b

^{a, b)} Assignments in each column may be reversed.