## Supplementary Materials

## A Chemical Investigation of the Leaves of Morus alba L.

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		Pages			Pages
Key HMBC	1-4	3-4	Compound 3	UV	26
correlations				IR	27
				<sup>1</sup> H-NMR	28-30
				<sup>13</sup> C-NMR	31
				<sup>1</sup> H- <sup>1</sup> H COSY	32
				HSQC	33
				HMBC	34
				MS	35
Compound 1	UV	5	Compound 4	UV	36
	IR	6		IR	37
	<sup>1</sup> H-NMR	7-9		<sup>1</sup> H-NMR	38
	ROESY	10		<sup>13</sup> C-NMR	39
	<sup>13</sup> C-NMR	11		DEPT	40
	<sup>1</sup> H- <sup>1</sup> H COSY	12		<sup>1</sup> H- <sup>1</sup> H COSY	41
	DEPT	13		HSQC	42
	HSQC	14		HMBC	43
	HMBC	15		MS	44
	MS	16			
	ECD	16			
Compound 2	UV	17	Compound 5	NMR data	45
	IR	18			
	<sup>1</sup> H-NMR	19-20	Separation	2-3	46
	<sup>13</sup> C-NMR	21	with chiral column		
	<sup>1</sup> H- <sup>1</sup> H COSY	22			ļ
	HSQC	23	GC	Standard monosaccharides	47
	HMBC	24		1, 4	
	MC	25			48

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Figure S1. Key HMBC correlations (H  $\rightarrow$  C) of compound 1



Figure S2. Key HMBC correlations (H $\rightarrow$  C) of compound 2



**Figure S3**. Key HMBC correlations ( $H \rightarrow C$ ) of compound **3** 



Figure S4. Key HMBC correlations (H $\rightarrow$ C) of compound 4



Figure S6. IR Spectrum of Compound 1



Figure S7.1H-NMR Spectrum of Compound 1 (500 MHz, DMSO-d6).



Figure S8. Enlarged 1H-NMR Spectrum of Compound 1 (500 MHz, DMSO-d6)



Figure S9. Enlarged 1H-NMR Spectrum of Compound 1 (500 MHz, DMSO-d6)



Figure S10. ROESY Spectrum of Compound 1 (DMSO-d6, 600 MHz)



Figure S11. <sup>13</sup>C-NMR Spectrum of Compound 1 (125 MHz, DMSO-d<sub>6</sub>)



Figure S12. 1H-1H COSY Spectrum of Compound 1 (DMSO-d6, 500 MHz)





Figure S13. DEPT Spectrum of Compound 1 (DMSO-d6, 125 MHz)



Figure S14. HSQC Spectrum of Compound 1 (500 MHz, DMSO-d6).



Figure S15. HMBC Spectrum of Compound 1 (500 MHz, DMSO-d<sub>6</sub>)



Figure S16. HR-ESIMS Spectrum of Compound 1



Figure S18. UV Spectrum of Compound 2.



Figure S20. 1H-NMR Spectrum of Compound 2 (500 MHz, DMSO-d6).



Figure S22. <sup>13</sup>C-NMR Spectrum of Compound 2 (125 MHz, DMSO-d<sub>6</sub>)



Figure S23. 1H-1H COSY Spectrum of Compound 2 (DMSO-d6, 500 MHz)



Figure S24. HSQC Spectrum of Compound 2 (500 MHz, DMSO-d<sub>6</sub>)







Figure S26. HR-ESIMS Spectrum of Compound 2



Figure S28. IR Spectrum of Compound 3.



Figure S30. Enlarged <sup>1</sup>H-NMR Spectrum of Compound 3 (600 MHz, CD<sub>3</sub>OD).



Figure S31. Enlarged <sup>1</sup>H-NMR Spectrum of Compound 3 (600 MHz, CD<sub>3</sub>OD).







Figure S36. HR-ESIMS Spectrum of Compound 3



Figure S38. IR Spectrum of Compound 4.



Figure S40. <sup>13</sup>C-NMR Spectrum of Compound 4 (125 MHz, DMSO-d<sub>6</sub>).



Figure S41. DEPT Spectrum of Compound 4 (125 MHz, DMSO-d<sub>6</sub>).





-100 -110 -120

-130 -140 -150



**Figure S46.** Compounds **2a and 2b** separated by HPLC using chiral column (Column: CHIRALPAK AD-H (150 × 4.6 mm, 5 µm); Mobile phase, hexane/isopropanol = 60:40).



**Figure S47.** Compounds **3a and 3b** separated by HPLC using chiral column (Column: CHIRALPAK AD-H (150 × 4.6 mm, 5  $\mu$ m); Mobile phase, hexane/isopropanol = 60:40).



Figure S48. GC of the trimethylsilyl L-cysteine derivative of standard D-glucopyranose.



Figure S49. GC of the trimethylsilyl L-cysteine derivative of standard D-apiofuranose.



Figure S50. GC of the trimethylsilyl L-cysteine derivative of the acid hydrolysis residue of 1.



**Figure S51.** GC chromatography of the trimethylsilyl L-cysteine derivative of the acid hydrolysis residue of **4**.