**General**. Spectrograde solvents were used without further purification with the exception of anhydrous methylene chloride, which was purchased from Aldrich. All <sup>1</sup>H and <sup>13</sup>C NMR spectra were recorded on Bruker spectrometers at the indicated frequency.

## Data of staphyloferrin A

**Diastereomer 1:** Purity by HPLC 100%

<sup>1</sup>**H NMR** (D<sub>2</sub>O : CD<sub>3</sub>COOD = 4:1; 500 MHz) δ 4.16 (m, 1H), 3.21 (t, J = 10 Hz, 2H), 2.80-2.70 (m, 4H), 2.70 (d, <sup>2</sup>J = 15 Hz, 1H), 2.66 (d, <sup>2</sup>J = 15 Hz, 1H), 2.62 ((d, <sup>2</sup>J = 15 Hz, 1H), 2.60 (d, <sup>2</sup>J = 15 Hz, 1H), 1.80 (m, 1H), 1.69 (m, 1H), 1.56 (m, 1H); <sup>13</sup>C **NMR** (D<sub>2</sub>O : CD<sub>3</sub>COOD = 4:1; 500 MHz) δ 180.1, 179.9, 178.9, 178.0, 172.4, 172.0, 171.9, 74.8, 74.7, 54.9, 45.1, 44.9, 44.5, 44.2, 38.9, 29.1, 24.7; **HRMS** (**ESI**): m/z calcd for  $C_{17}H_{24}N_2O_{14} + Na^+$  [M+Na]<sup>+</sup> 503.1125, found 503.1118.

 $[\alpha]_D^{25} = -4.8 \text{ (c } 1.0, \text{H}_2\text{O})$ 

## **Diastereomer 2:** Purity by HPLC 75.1%

<sup>1</sup>**H NMR** (D<sub>2</sub>O : CD<sub>3</sub>COOD = 4:1; 500 MHz) δ 4.21 (m, 1H), 3.22 (t, J = 10 Hz, 2H), 2.92-2.87 (m, 2H), 2.82-2.75 (m, 2H), 2.75(d, <sup>2</sup>J = 15 Hz, 1H), 2.72 (d, <sup>2</sup>J = 15 Hz, 1H), 2.70 ((d, <sup>2</sup>J = 15 Hz, 1H), 2.66 (d, <sup>2</sup>J = 15 Hz, 1H), 1.84 (m, 1H), 1.73 (m, 1H), 1.59 (m, 1H); <sup>13</sup>C NMR (D<sub>2</sub>O : CD<sub>3</sub>COOD = 4:1; 500 MHz) δ 179.0, 178.9, 178.4, 175.6, 171.9, 171.5, 74.3, 74.3, 54.0, 44.7, 44.4, 44.0, 44.9, 39.0, 29.1, 25.0; **HRMS (ESI)**: m/z calcd for  $C_{17}H_{24}N_2O_{14} + Na^+$  [M+Na]<sup>+</sup> 503.1125, found 503.1142.

 $[\alpha]_{D}^{25} = -4.8 \text{ (c } 1.0, \text{H}_2\text{O})$ 



Figure S1. HPLC chromatogram of purified staphyloferrin A diastereomer 1



**Figure S2.** <sup>1</sup>H NMR spectrum of staphyloferrin A diastereomer 1. Bruker DRX500.



Figure S3. <sup>1</sup>H NMR spectrum of staphyloferrin A diastereomer 1 (expanded). Bruker DRX500.



Figure S4. <sup>13</sup>C NMR spectrum of staphyloferrin A diastereomer 1. Bruker DRX500.



Figure S5. HPLC chromatogram of purified staphyloferrin A diastereomer 2.



Figure S6. 1H NMR spectrum of staphyloferrin A diastereomer 2. Bruker DRX500.



Figure S7. <sup>1</sup>H NMR spectrum of staphyloferrin A diastereomer 2 (expanded). Bruker DRX500.



Figure S8. <sup>13</sup>C NMR spectrum of staphyloferrin A diastereomer 2. Bruker DRX500.