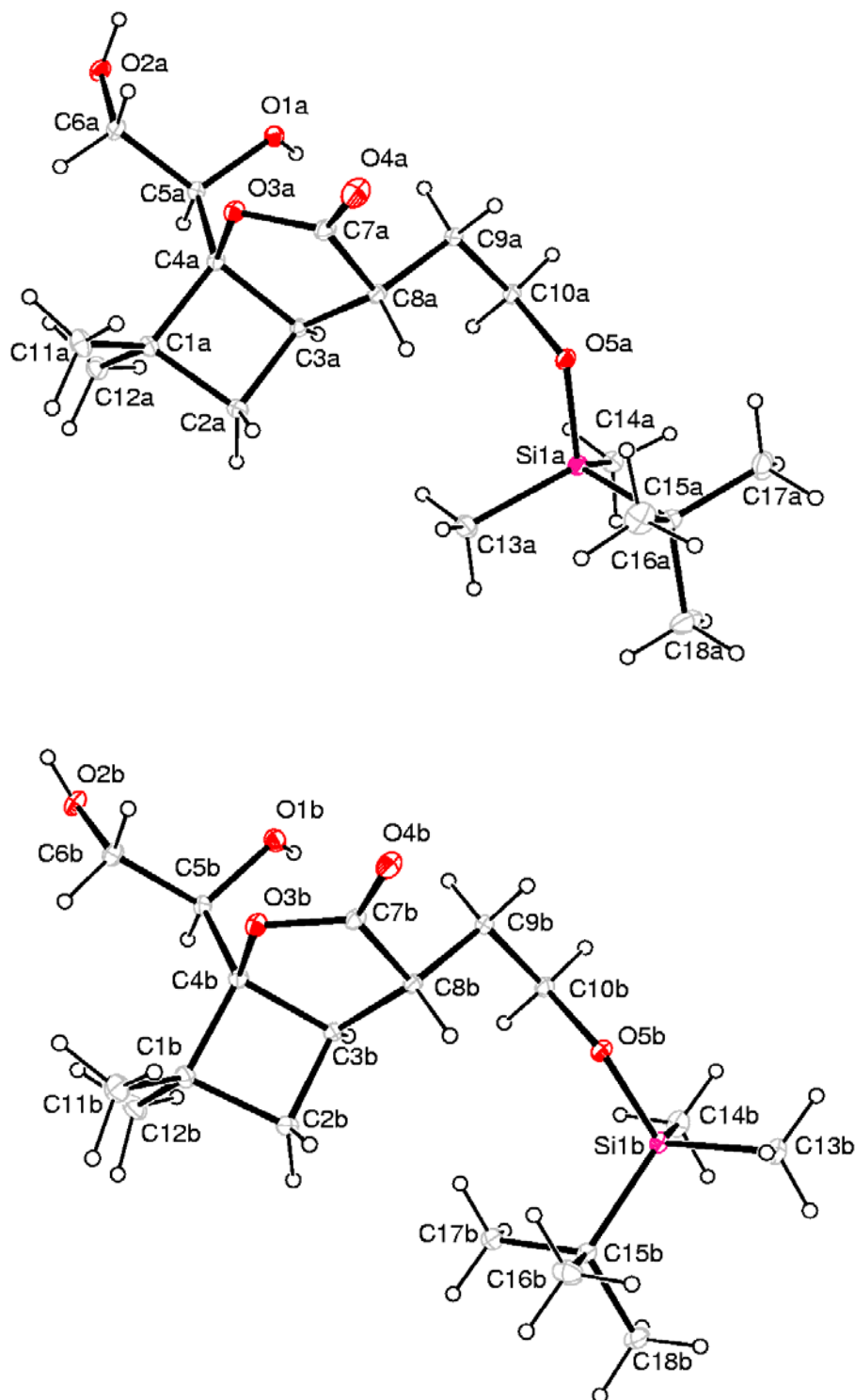


Supplementary Material for "The first synthetic studies on pestalotiopsin A. A stereocontrolled approach to the functionalised bicyclic core."

Crystal Structure Analysis of 18a $C_{18}H_{34}O_5Si$

Fig. S1. 18a –(20% ellipsoids). The crystal contains two independent molecules which differ mainly in the conformation across the O5-Si bonds.



- **Table S1. Crystal data and structure refinement for 18a.**
- **Table S2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for 18a. $U(\text{eq})$ is defined as one third of the trace of the orthogonalized U_{ij} tensor.**
- **Table S3. Bond lengths [\AA] and angles [$^\circ$] for 18a.**
- **Table S4. Anisotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for 18a. The anisotropic displacement factor exponent takes the form: $-2\pi^2 [h^2 a^* 2U_{11} + \dots + 2 h k a^* b^* U_{12}]$**
- **Table S5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for 18a.**
- **Table S6. Torsion angles [$^\circ$] for 18a.**
- **Table S7. Hydrogen bonds for 18a [\AA and $^\circ$].**

Table S1. Crystal data and structure refinement for 18a.

| | | |
|-----------------------------------|---|------------------|
| Identification code | 18a | |
| Empirical formula | C ₁₈ H ₃₄ O ₅ Si | |
| Formula weight | 358.54 | |
| Temperature | 100(2) K | |
| Wavelength | 0.71073 Å | |
| Crystal system | Triclinic | |
| Space group | P-1 | |
| Unit cell dimensions | a = 12.6770(2) Å | α = 102.147(1)°. |
| | b = 12.7397(2) Å | β = 95.218(1)°. |
| | c = 13.0974(2) Å | γ = 91.166(1)°. |
| Volume | 2057.62(6) Å ³ | |
| Z | 4 | |
| Density (calculated) | 1.157 Mg/m ³ | |
| Absorption coefficient | 0.136 mm ⁻¹ | |
| F(000) | 784 | |
| Crystal size | 0.55 x 0.20 x 0.10 mm ³ | |
| Theta range for data collection | 2.03 to 27.50°. | |
| Index ranges | -16<=h<=16, -16<=k<=16, 0<=l<=16 | |
| Reflections collected | 31303 | |
| Independent reflections | 9393 [R(int) = 0.0275] | |
| Completeness to theta = 27.50° | 99.2 % | |
| Absorption correction | Semi-empirical from equivalents | |
| Max. and min. transmission | 0.996 and 0.909 | |
| Refinement method | Full-matrix least-squares on F ² | |
| Data / restraints / parameters | 9393 / 0 / 445 | |
| Goodness-of-fit on F ² | 1.040 | |
| R indices [7639 I>2σ(I)] | R1 = 0.0374, wR2 = 0.0871 | |
| R indices (all data) | R1 = 0.0492, wR2 = 0.0939 | |
| Largest diff. peak and hole | 0.53 and -0.24 e.Å ⁻³ | |

Table S2. Atomic coordinates (x 10⁴) and equivalent isotropic displacement parameters (Å²x 10³) for 18a. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

| | x | y | z | U(eq) |
|--------|---------|----------|----------|-------|
| Si(1A) | 2421(1) | 14272(1) | 5510(1) | 19(1) |
| O(1A) | 461(1) | 11301(1) | 910(1) | 21(1) |
| O(2A) | 398(1) | 10574(1) | -1295(1) | 24(1) |
| O(3A) | 2472(1) | 10511(1) | 1391(1) | 19(1) |
| O(4A) | 2585(1) | 9837(1) | 2830(1) | 35(1) |
| O(5A) | 1794(1) | 13098(1) | 5037(1) | 21(1) |
| C(1A) | 3437(1) | 11951(1) | 788(1) | 20(1) |
| C(2A) | 3652(1) | 12594(1) | 1941(1) | 22(1) |
| C(3A) | 2485(1) | 12382(1) | 2142(1) | 16(1) |
| C(4A) | 2357(1) | 11542(1) | 1088(1) | 17(1) |
| C(5A) | 1352(1) | 11476(1) | 359(1) | 18(1) |
| C(6A) | 1343(1) | 10577(1) | -610(1) | 22(1) |
| C(7A) | 2482(1) | 10608(1) | 2444(1) | 21(1) |
| C(8A) | 2331(1) | 11758(1) | 2995(1) | 19(1) |
| C(9A) | 1245(1) | 11822(1) | 3435(1) | 22(1) |
| C(10A) | 1066(1) | 12911(1) | 4108(1) | 21(1) |
| C(11A) | 4221(1) | 11097(1) | 422(1) | 29(1) |
| C(12A) | 3290(1) | 12703(1) | 22(1) | 26(1) |

| | | | | |
|--------|---------|----------|----------|-------|
| C(13A) | 3394(1) | 14522(1) | 4584(1) | 29(1) |
| C(14A) | 1458(1) | 15360(1) | 5653(1) | 25(1) |
| C(15A) | 3110(1) | 14131(1) | 6809(1) | 25(1) |
| C(16A) | 3846(1) | 13183(1) | 6650(1) | 39(1) |
| C(17A) | 2281(1) | 13920(1) | 7537(1) | 34(1) |
| C(18A) | 3758(2) | 15167(1) | 7328(1) | 43(1) |
| Si(1B) | 2186(1) | 8898(1) | 6302(1) | 18(1) |
| O(1B) | 143(1) | 7260(1) | 1058(1) | 25(1) |
| O(2B) | 367(1) | 6742(1) | -1193(1) | 24(1) |
| O(3B) | 1504(1) | 5649(1) | 1497(1) | 20(1) |
| O(4B) | 711(1) | 4939(1) | 2656(1) | 27(1) |
| O(5B) | 1471(1) | 8063(1) | 5335(1) | 21(1) |
| C(1B) | 3127(1) | 6695(1) | 1269(1) | 22(1) |
| C(2B) | 3315(1) | 7081(1) | 2484(1) | 24(1) |
| C(3B) | 2128(1) | 7343(1) | 2528(1) | 18(1) |
| C(4B) | 1910(1) | 6701(1) | 1384(1) | 18(1) |
| C(5B) | 1122(1) | 7090(1) | 610(1) | 18(1) |
| C(6B) | 957(1) | 6277(1) | -430(1) | 22(1) |
| C(7B) | 1180(1) | 5701(1) | 2459(1) | 19(1) |
| C(8B) | 1497(1) | 6767(1) | 3196(1) | 18(1) |
| C(9B) | 533(1) | 7345(1) | 3638(1) | 21(1) |
| C(10B) | 851(1) | 8349(1) | 4475(1) | 21(1) |
| C(11B) | 3586(1) | 5629(1) | 804(1) | 32(1) |
| C(12B) | 3480(1) | 7578(1) | 729(1) | 31(1) |
| C(13B) | 2055(1) | 8352(1) | 7500(1) | 25(1) |
| C(14B) | 1680(1) | 10282(1) | 6457(1) | 29(1) |
| C(15B) | 3614(1) | 8884(1) | 5997(1) | 23(1) |
| C(16B) | 4009(1) | 7740(1) | 5877(1) | 35(1) |
| C(17B) | 3693(1) | 9244(1) | 4959(1) | 32(1) |
| C(18B) | 4322(1) | 9641(1) | 6875(1) | 32(1) |

Table S3. Bond lengths [Å] and angles [°] for 18a

| | | | |
|---------------|------------|---------------|------------|
| Si(1A)-O(5A) | 1.6511(10) | C(15A)-C(17A) | 1.537(2) |
| Si(1A)-C(14A) | 1.8563(14) | Si(1B)-O(5B) | 1.6565(10) |
| Si(1A)-C(13A) | 1.8732(15) | Si(1B)-C(13B) | 1.8642(14) |
| Si(1A)-C(15A) | 1.8851(14) | Si(1B)-C(14B) | 1.8647(15) |
| O(1A)-C(5A) | 1.4322(15) | Si(1B)-C(15B) | 1.8886(14) |
| O(2A)-C(6A) | 1.4294(16) | O(1B)-C(5B) | 1.4219(16) |
| O(3A)-C(7A) | 1.3573(16) | O(2B)-C(6B) | 1.4284(16) |
| O(3A)-C(4A) | 1.4560(15) | O(3B)-C(7B) | 1.3487(15) |
| O(4A)-C(7A) | 1.2000(16) | O(3B)-C(4B) | 1.4662(15) |
| O(5A)-C(10A) | 1.4333(15) | O(4B)-C(7B) | 1.2130(16) |
| C(1A)-C(11A) | 1.5207(19) | O(5B)-C(10B) | 1.4288(15) |
| C(1A)-C(12A) | 1.5294(18) | C(1B)-C(11B) | 1.517(2) |
| C(1A)-C(2A) | 1.5562(18) | C(1B)-C(12B) | 1.529(2) |
| C(1A)-C(4A) | 1.5667(17) | C(1B)-C(2B) | 1.5586(19) |
| C(2A)-C(3A) | 1.5543(18) | C(1B)-C(4B) | 1.5645(18) |
| C(3A)-C(8A) | 1.5250(17) | C(2B)-C(3B) | 1.5520(18) |
| C(3A)-C(4A) | 1.5518(17) | C(3B)-C(8B) | 1.5224(17) |
| C(4A)-C(5A) | 1.5118(18) | C(3B)-C(4B) | 1.5454(17) |
| C(5A)-C(6A) | 1.5185(17) | C(4B)-C(5B) | 1.5231(18) |
| C(7A)-C(8A) | 1.5144(18) | C(5B)-C(6B) | 1.5223(18) |
| C(8A)-C(9A) | 1.5374(19) | C(7B)-C(8B) | 1.5146(18) |
| C(9A)-C(10A) | 1.5127(19) | C(8B)-C(9B) | 1.5347(19) |
| C(15A)-C(16A) | 1.533(2) | C(9B)-C(10B) | 1.5188(18) |
| C(15A)-C(18A) | 1.535(2) | C(15B)-C(16B) | 1.532(2) |

| | | | |
|----------------------|------------|----------------------|------------|
| C(15B)-C(17B) | 1.5342(19) | C(15B)-C(18B) | 1.5390(19) |
| O(5A)-Si(1A)-C(14A) | 110.01(6) | O(5B)-Si(1B)-C(13B) | 105.75(6) |
| O(5A)-Si(1A)-C(13A) | 109.27(6) | O(5B)-Si(1B)-C(14B) | 110.35(6) |
| C(14A)-Si(1A)-C(13A) | 109.02(7) | C(13B)-Si(1B)-C(14B) | 111.32(7) |
| O(5A)-Si(1A)-C(15A) | 104.36(6) | O(5B)-Si(1B)-C(15B) | 108.50(6) |
| C(14A)-Si(1A)-C(15A) | 112.48(6) | C(13B)-Si(1B)-C(15B) | 110.05(7) |
| C(13A)-Si(1A)-C(15A) | 111.59(7) | C(14B)-Si(1B)-C(15B) | 110.73(7) |
| C(7A)-O(3A)-C(4A) | 111.89(10) | C(7B)-O(3B)-C(4B) | 111.25(10) |
| C(10A)-O(5A)-Si(1A) | 122.11(8) | C(10B)-O(5B)-Si(1B) | 126.38(8) |
| C(11A)-C(1A)-C(12A) | 110.63(11) | C(11B)-C(1B)-C(12B) | 111.07(12) |
| C(11A)-C(1A)-C(2A) | 116.35(12) | C(11B)-C(1B)-C(2B) | 116.40(12) |
| C(12A)-C(1A)-C(2A) | 111.31(11) | C(12B)-C(1B)-C(2B) | 110.35(12) |
| C(11A)-C(1A)-C(4A) | 116.44(11) | C(11B)-C(1B)-C(4B) | 117.40(12) |
| C(12A)-C(1A)-C(4A) | 112.63(11) | C(12B)-C(1B)-C(4B) | 111.93(11) |
| C(2A)-C(1A)-C(4A) | 87.79(9) | C(2B)-C(1B)-C(4B) | 87.76(9) |
| C(3A)-C(2A)-C(1A) | 90.83(9) | C(3B)-C(2B)-C(1B) | 90.24(10) |
| C(8A)-C(3A)-C(4A) | 106.02(10) | C(8B)-C(3B)-C(4B) | 106.69(10) |
| C(8A)-C(3A)-C(2A) | 115.91(11) | C(8B)-C(3B)-C(2B) | 116.76(11) |
| C(4A)-C(3A)-C(2A) | 88.39(9) | C(4B)-C(3B)-C(2B) | 88.68(10) |
| O(3A)-C(4A)-C(5A) | 108.19(10) | O(3B)-C(4B)-C(5B) | 107.09(10) |
| O(3A)-C(4A)-C(3A) | 104.51(9) | O(3B)-C(4B)-C(3B) | 103.71(10) |
| C(5A)-C(4A)-C(3A) | 120.04(11) | C(5B)-C(4B)-C(3B) | 120.52(11) |
| O(3A)-C(4A)-C(1A) | 110.57(10) | O(3B)-C(4B)-C(1B) | 111.35(10) |
| C(5A)-C(4A)-C(1A) | 121.17(10) | C(5B)-C(4B)-C(1B) | 122.07(11) |
| C(3A)-C(4A)-C(1A) | 90.53(9) | C(3B)-C(4B)-C(1B) | 90.26(10) |
| O(1A)-C(5A)-C(4A) | 109.22(10) | O(1B)-C(5B)-C(6B) | 110.07(11) |
| O(1A)-C(5A)-C(6A) | 108.48(10) | O(1B)-C(5B)-C(4B) | 108.67(10) |
| C(4A)-C(5A)-C(6A) | 112.86(11) | C(6B)-C(5B)-C(4B) | 111.13(11) |
| O(2A)-C(6A)-C(5A) | 110.81(11) | O(2B)-C(6B)-C(5B) | 109.64(11) |
| O(4A)-C(7A)-O(3A) | 120.70(12) | O(4B)-C(7B)-O(3B) | 120.49(12) |
| O(4A)-C(7A)-C(8A) | 127.73(12) | O(4B)-C(7B)-C(8B) | 127.40(12) |
| O(3A)-C(7A)-C(8A) | 111.56(11) | O(3B)-C(7B)-C(8B) | 112.10(10) |
| C(7A)-C(8A)-C(3A) | 102.73(10) | C(7B)-C(8B)-C(3B) | 102.68(10) |
| C(7A)-C(8A)-C(9A) | 108.83(11) | C(7B)-C(8B)-C(9B) | 111.94(11) |
| C(3A)-C(8A)-C(9A) | 116.67(11) | C(3B)-C(8B)-C(9B) | 116.13(11) |
| C(10A)-C(9A)-C(8A) | 113.13(11) | C(10B)-C(9B)-C(8B) | 112.34(11) |
| O(5A)-C(10A)-C(9A) | 109.37(11) | O(5B)-C(10B)-C(9B) | 109.63(11) |
| C(16A)-C(15A)-C(18A) | 109.53(13) | C(16B)-C(15B)-C(17B) | 108.50(13) |
| C(16A)-C(15A)-C(17A) | 108.40(13) | C(16B)-C(15B)-C(18B) | 109.18(12) |
| C(18A)-C(15A)-C(17A) | 109.07(13) | C(17B)-C(15B)-C(18B) | 109.15(12) |
| C(16A)-C(15A)-Si(1A) | 110.23(10) | C(16B)-C(15B)-Si(1B) | 109.63(10) |
| C(18A)-C(15A)-Si(1A) | 109.97(10) | C(17B)-C(15B)-Si(1B) | 109.36(10) |
| C(17A)-C(15A)-Si(1A) | 109.61(10) | C(18B)-C(15B)-Si(1B) | 110.97(10) |

Table S4. Anisotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for 18a. The anisotropic displacement factor exponent takes the form: $-2\pi^2 [h^2 a^{*2} U^{11} + \dots + 2 h k a^* b^* U^{12}]$

| | U^{11} | U^{22} | U^{33} | U^{23} | U^{13} | U^{12} |
|--------|----------|----------|----------|----------|----------|----------|
| Si(1A) | 19(1) | 19(1) | 18(1) | 3(1) | 2(1) | 1(1) |
| O(1A) | 20(1) | 21(1) | 22(1) | 2(1) | 4(1) | 2(1) |
| O(2A) | 26(1) | 26(1) | 18(1) | 2(1) | -2(1) | -1(1) |
| O(3A) | 25(1) | 14(1) | 18(1) | 3(1) | 2(1) | 3(1) |
| O(4A) | 60(1) | 19(1) | 28(1) | 10(1) | -1(1) | 2(1) |

| | | | | | | |
|--------|-------|-------|-------|-------|--------|--------|
| O(5A) | 25(1) | 22(1) | 16(1) | 3(1) | -1(1) | -1(1) |
| C(1A) | 19(1) | 21(1) | 21(1) | 5(1) | 5(1) | 2(1) |
| C(2A) | 20(1) | 25(1) | 23(1) | 5(1) | 2(1) | -3(1) |
| C(3A) | 18(1) | 15(1) | 16(1) | 3(1) | 1(1) | 0(1) |
| C(4A) | 21(1) | 13(1) | 16(1) | 4(1) | 3(1) | 3(1) |
| C(5A) | 20(1) | 19(1) | 17(1) | 3(1) | 3(1) | 2(1) |
| C(6A) | 23(1) | 23(1) | 18(1) | 0(1) | 1(1) | 3(1) |
| C(7A) | 26(1) | 18(1) | 20(1) | 4(1) | 0(1) | -1(1) |
| C(8A) | 23(1) | 17(1) | 16(1) | 3(1) | 0(1) | -1(1) |
| C(9A) | 26(1) | 24(1) | 16(1) | 3(1) | 2(1) | -7(1) |
| C(10A) | 20(1) | 27(1) | 16(1) | 4(1) | 1(1) | -1(1) |
| C(11A) | 25(1) | 33(1) | 32(1) | 8(1) | 12(1) | 8(1) |
| C(12A) | 31(1) | 24(1) | 25(1) | 8(1) | 6(1) | 0(1) |
| C(13A) | 29(1) | 27(1) | 30(1) | 4(1) | 8(1) | -1(1) |
| C(14A) | 26(1) | 22(1) | 26(1) | 5(1) | 2(1) | 2(1) |
| C(15A) | 24(1) | 25(1) | 23(1) | 3(1) | -4(1) | 0(1) |
| C(16A) | 33(1) | 44(1) | 40(1) | 11(1) | -4(1) | 14(1) |
| C(17A) | 38(1) | 45(1) | 21(1) | 11(1) | 1(1) | 4(1) |
| C(18A) | 48(1) | 40(1) | 37(1) | 9(1) | -18(1) | -12(1) |
| Si(1B) | 22(1) | 18(1) | 15(1) | 2(1) | 1(1) | 0(1) |
| O(1B) | 23(1) | 29(1) | 23(1) | 7(1) | 4(1) | 4(1) |
| O(2B) | 33(1) | 21(1) | 16(1) | 3(1) | -4(1) | 1(1) |
| O(3B) | 27(1) | 15(1) | 17(1) | 3(1) | 1(1) | -2(1) |
| O(4B) | 36(1) | 23(1) | 21(1) | 8(1) | -2(1) | -8(1) |
| O(5B) | 23(1) | 22(1) | 17(1) | 4(1) | -2(1) | -1(1) |
| C(1B) | 21(1) | 23(1) | 22(1) | 2(1) | 5(1) | 2(1) |
| C(2B) | 18(1) | 30(1) | 24(1) | 1(1) | 1(1) | 0(1) |
| C(3B) | 18(1) | 18(1) | 17(1) | 1(1) | 1(1) | -2(1) |
| C(4B) | 21(1) | 14(1) | 18(1) | 2(1) | 3(1) | -2(1) |
| C(5B) | 22(1) | 18(1) | 16(1) | 4(1) | 3(1) | 1(1) |
| C(6B) | 28(1) | 20(1) | 18(1) | 4(1) | 0(1) | 3(1) |
| C(7B) | 22(1) | 20(1) | 16(1) | 5(1) | -2(1) | 0(1) |
| C(8B) | 20(1) | 20(1) | 15(1) | 3(1) | -1(1) | -2(1) |
| C(9B) | 18(1) | 29(1) | 16(1) | 4(1) | 1(1) | -2(1) |
| C(10B) | 19(1) | 27(1) | 17(1) | 5(1) | 1(1) | 4(1) |
| C(11B) | 30(1) | 31(1) | 32(1) | 0(1) | 5(1) | 11(1) |
| C(12B) | 26(1) | 33(1) | 34(1) | 7(1) | 11(1) | -2(1) |
| C(13B) | 34(1) | 25(1) | 17(1) | 4(1) | 4(1) | 0(1) |
| C(14B) | 37(1) | 24(1) | 27(1) | 4(1) | 3(1) | 6(1) |
| C(15B) | 21(1) | 26(1) | 19(1) | 4(1) | -1(1) | -3(1) |
| C(16B) | 25(1) | 34(1) | 44(1) | 5(1) | 4(1) | 6(1) |
| C(17B) | 26(1) | 47(1) | 24(1) | 10(1) | 1(1) | -9(1) |
| C(18B) | 28(1) | 40(1) | 26(1) | 5(1) | -5(1) | -8(1) |

Table S5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for 18a.

| | x | y | z | U(eq) |
|--------|---------|-----------|-----------|-------|
| H(1A) | 151(14) | 11885(15) | 1034(13) | 32 |
| H(2A) | 14(15) | 10057(15) | -1219(14) | 36 |
| H(2A1) | 4176 | 12265 | 2373 | 27 |
| H(2A2) | 3841 | 13364 | 1999 | 27 |
| H(3A) | 2026 | 13014 | 2160 | 20 |
| H(5A) | 1276 | 12174 | 131 | 22 |

| | | | | |
|--------|--------|----------|-----------|----|
| H(6A1) | 1969 | 10671 | -986 | 26 |
| H(6A2) | 1387 | 9877 | -395 | 26 |
| H(8A) | 2903 | 11983 | 3585 | 23 |
| H(9A1) | 682 | 11657 | 2843 | 26 |
| H(9A2) | 1186 | 11269 | 3859 | 26 |
| H(10A) | 1173 | 13478 | 3710 | 25 |
| H(10B) | 328 | 12936 | 4302 | 25 |
| H(11A) | 4920 | 11442 | 423 | 44 |
| H(11B) | 3979 | 10704 | -290 | 44 |
| H(11C) | 4271 | 10597 | 897 | 44 |
| H(12A) | 3043 | 12283 | -679 | 39 |
| H(12B) | 3967 | 13076 | -5 | 39 |
| H(12C) | 2765 | 13232 | 257 | 39 |
| H(13A) | 3014 | 14543 | 3904 | 43 |
| H(13B) | 3896 | 13943 | 4494 | 43 |
| H(13C) | 3780 | 15210 | 4871 | 43 |
| H(14A) | 967 | 15253 | 6162 | 37 |
| H(14B) | 1060 | 15344 | 4973 | 37 |
| H(14C) | 1840 | 16056 | 5901 | 37 |
| H(16A) | 4161 | 13087 | 7334 | 58 |
| H(16B) | 4409 | 13328 | 6228 | 58 |
| H(16C) | 3437 | 12528 | 6288 | 58 |
| H(17A) | 1773 | 14495 | 7607 | 51 |
| H(17B) | 2636 | 13902 | 8229 | 51 |
| H(17C) | 1904 | 13229 | 7238 | 51 |
| H(18A) | 4290 | 15305 | 6869 | 65 |
| H(18B) | 4112 | 15088 | 8003 | 65 |
| H(18C) | 3284 | 15771 | 7443 | 65 |
| H(1B) | 52(14) | 8009(16) | 1205(14) | 37 |
| H(2B) | 30(15) | 6271(15) | -1601(15) | 36 |
| H(2B1) | 3531 | 6504 | 2852 | 29 |
| H(2B2) | 3803 | 7720 | 2714 | 29 |
| H(3B) | 1990 | 8125 | 2618 | 22 |
| H(5B) | 1400 | 7786 | 482 | 22 |
| H(6B1) | 1652 | 6060 | -674 | 26 |
| H(6B2) | 568 | 5627 | -336 | 26 |
| H(8B) | 1985 | 6631 | 3795 | 22 |
| H(9B1) | 80 | 7546 | 3058 | 25 |
| H(9B2) | 110 | 6847 | 3942 | 25 |
| H(10C) | 1266 | 8856 | 4175 | 25 |
| H(10D) | 208 | 8708 | 4723 | 25 |
| H(11D) | 4360 | 5715 | 845 | 48 |
| H(11E) | 3301 | 5393 | 68 | 48 |
| H(11F) | 3394 | 5091 | 1197 | 48 |
| H(12D) | 3258 | 7370 | -25 | 46 |
| H(12E) | 4253 | 7679 | 839 | 46 |
| H(12F) | 3154 | 8251 | 1026 | 46 |
| H(13D) | 2228 | 7592 | 7360 | 38 |
| H(13E) | 1325 | 8422 | 7689 | 38 |
| H(13F) | 2542 | 8755 | 8080 | 38 |
| H(14D) | 950 | 10278 | 6644 | 44 |
| H(14E) | 1699 | 10522 | 5795 | 44 |
| H(14F) | 2127 | 10772 | 7012 | 44 |
| H(16D) | 3978 | 7504 | 6539 | 52 |
| H(16E) | 4743 | 7730 | 5696 | 52 |
| H(16F) | 3560 | 7255 | 5319 | 52 |

| | | | | |
|--------|------|-------|------|----|
| H(17D) | 4426 | 9197 | 4778 | 48 |
| H(17E) | 3476 | 9989 | 5035 | 48 |
| H(17F) | 3227 | 8778 | 4401 | 48 |
| H(18D) | 5064 | 9583 | 6723 | 48 |
| H(18E) | 4242 | 9440 | 7546 | 48 |
| H(18F) | 4110 | 10383 | 6914 | 48 |

Table S6. Torsion angles [°] for 18a.

| | | | |
|-----------------------------|-------------|-----------------------------|-------------|
| C(14A)-Si(1A)-O(5A)-C(10A) | 51.50(11) | C(14A)-Si(1A)-C(15A)-C(18A) | -62.39(13) |
| C(13A)-Si(1A)-O(5A)-C(10A) | -68.15(11) | C(13A)-Si(1A)-C(15A)-C(18A) | 60.51(13) |
| C(15A)-Si(1A)-O(5A)-C(10A) | 172.39(10) | O(5A)-Si(1A)-C(15A)-C(17A) | -61.71(11) |
| C(11A)-C(1A)-C(2A)-C(3A) | -130.35(12) | C(14A)-Si(1A)-C(15A)-C(17A) | 57.51(12) |
| C(12A)-C(1A)-C(2A)-C(3A) | 101.68(11) | C(13A)-Si(1A)-C(15A)-C(17A) | -179.59(10) |
| C(4A)-C(1A)-C(2A)-C(3A) | -11.79(9) | C(13B)-Si(1B)-O(5B)-C(10B) | 143.52(10) |
| C(1A)-C(2A)-C(3A)-C(8A) | 118.96(11) | C(14B)-Si(1B)-O(5B)-C(10B) | 23.03(12) |
| C(1A)-C(2A)-C(3A)-C(4A) | 11.90(9) | C(15B)-Si(1B)-O(5B)-C(10B) | -98.45(11) |
| C(7A)-O(3A)-C(4A)-C(5A) | -119.54(11) | C(11B)-C(1B)-C(2B)-C(3B) | -132.76(12) |
| C(7A)-O(3A)-C(4A)-C(3A) | 9.46(13) | C(12B)-C(1B)-C(2B)-C(3B) | 99.48(12) |
| C(7A)-O(3A)-C(4A)-C(1A) | 105.62(12) | C(4B)-C(1B)-C(2B)-C(3B) | -13.10(10) |
| C(8A)-C(3A)-C(4A)-O(3A) | -16.92(13) | C(1B)-C(2B)-C(3B)-C(8B) | 121.32(12) |
| C(2A)-C(3A)-C(4A)-O(3A) | 99.61(10) | C(1B)-C(2B)-C(3B)-C(4B) | 13.26(10) |
| C(8A)-C(3A)-C(4A)-C(5A) | 104.55(13) | C(7B)-O(3B)-C(4B)-C(5B) | -110.85(11) |
| C(2A)-C(3A)-C(4A)-C(5A) | -138.92(12) | C(7B)-O(3B)-C(4B)-C(3B) | 17.60(13) |
| C(8A)-C(3A)-C(4A)-C(1A) | -128.35(10) | C(7B)-O(3B)-C(4B)-C(1B) | 113.37(12) |
| C(2A)-C(3A)-C(4A)-C(1A) | -11.82(9) | C(8B)-C(3B)-C(4B)-O(3B) | -18.73(13) |
| C(11A)-C(1A)-C(4A)-O(3A) | 24.56(15) | C(2B)-C(3B)-C(4B)-O(3B) | 98.87(10) |
| C(12A)-C(1A)-C(4A)-O(3A) | 153.88(11) | C(8B)-C(3B)-C(4B)-C(5B) | 100.94(13) |
| C(2A)-C(1A)-C(4A)-O(3A) | -93.92(11) | C(2B)-C(3B)-C(4B)-C(5B) | -141.46(12) |
| C(11A)-C(1A)-C(4A)-C(5A) | -103.51(14) | C(8B)-C(3B)-C(4B)-C(1B) | -130.81(11) |
| C(12A)-C(1A)-C(4A)-C(5A) | 25.81(16) | C(2B)-C(3B)-C(4B)-C(1B) | -13.21(10) |
| C(2A)-C(1A)-C(4A)-C(5A) | 138.01(12) | C(11B)-C(1B)-C(4B)-O(3B) | 27.06(16) |
| C(11A)-C(1A)-C(4A)-C(3A) | 130.29(12) | C(12B)-C(1B)-C(4B)-O(3B) | 157.25(11) |
| C(12A)-C(1A)-C(4A)-C(3A) | -100.39(12) | C(2B)-C(1B)-C(4B)-O(3B) | -91.69(11) |
| C(2A)-C(1A)-C(4A)-C(3A) | 11.81(10) | C(11B)-C(1B)-C(4B)-C(5B) | -101.06(15) |
| O(3A)-C(4A)-C(5A)-O(1A) | 63.03(12) | C(12B)-C(1B)-C(4B)-C(5B) | 29.12(17) |
| C(3A)-C(4A)-C(5A)-O(1A) | -56.61(14) | C(2B)-C(1B)-C(4B)-C(5B) | 140.19(12) |
| C(1A)-C(4A)-C(5A)-O(1A) | -167.85(10) | C(11B)-C(1B)-C(4B)-C(3B) | 131.91(12) |
| O(3A)-C(4A)-C(5A)-C(6A) | -57.71(13) | C(12B)-C(1B)-C(4B)-C(3B) | -97.90(12) |
| C(3A)-C(4A)-C(5A)-C(6A) | -177.35(11) | C(2B)-C(1B)-C(4B)-C(3B) | 13.16(10) |
| C(1A)-C(4A)-C(5A)-C(6A) | 71.41(15) | O(3B)-C(4B)-C(5B)-O(1B) | 64.84(12) |
| O(1A)-C(5A)-C(6A)-O(2A) | 61.22(14) | C(3B)-C(4B)-C(5B)-O(1B) | -53.13(15) |
| C(4A)-C(5A)-C(6A)-O(2A) | -177.61(11) | C(1B)-C(4B)-C(5B)-O(1B) | -165.20(11) |
| C(4A)-O(3A)-C(7A)-O(4A) | -179.10(13) | O(3B)-C(4B)-C(5B)-C(6B) | -56.42(13) |
| C(4A)-O(3A)-C(7A)-C(8A) | 2.01(15) | C(3B)-C(4B)-C(5B)-C(6B) | -174.40(11) |
| O(4A)-C(7A)-C(8A)-C(3A) | 168.54(15) | C(1B)-C(4B)-C(5B)-C(6B) | 73.54(15) |
| O(3A)-C(7A)-C(8A)-C(3A) | -12.66(14) | O(1B)-C(5B)-C(6B)-O(2B) | 69.72(13) |
| O(4A)-C(7A)-C(8A)-C(9A) | -67.18(19) | C(4B)-C(5B)-C(6B)-O(2B) | -169.84(10) |
| O(3A)-C(7A)-C(8A)-C(9A) | 111.62(12) | C(4B)-O(3B)-C(7B)-O(4B) | 171.68(12) |
| C(4A)-C(3A)-C(8A)-C(7A) | 17.55(13) | C(4B)-O(3B)-C(7B)-C(8B) | -9.65(14) |
| C(2A)-C(3A)-C(8A)-C(7A) | -78.59(13) | O(4B)-C(7B)-C(8B)-C(3B) | 175.69(13) |
| C(4A)-C(3A)-C(8A)-C(9A) | -101.38(12) | O(3B)-C(7B)-C(8B)-C(3B) | -2.88(14) |
| C(2A)-C(3A)-C(8A)-C(9A) | 162.48(11) | O(4B)-C(7B)-C(8B)-C(9B) | -59.05(18) |
| C(7A)-C(8A)-C(9A)-C(10A) | 173.47(11) | O(3B)-C(7B)-C(8B)-C(9B) | 122.39(12) |
| C(3A)-C(8A)-C(9A)-C(10A) | -70.95(14) | C(4B)-C(3B)-C(8B)-C(7B) | 13.34(13) |
| Si(1A)-O(5A)-C(10A)-C(9A) | 137.68(9) | C(2B)-C(3B)-C(8B)-C(7B) | -83.79(13) |
| C(8A)-C(9A)-C(10A)-O(5A) | -65.95(14) | C(4B)-C(3B)-C(8B)-C(9B) | -109.14(12) |
| O(5A)-Si(1A)-C(15A)-C(16A) | 57.52(12) | C(2B)-C(3B)-C(8B)-C(9B) | 153.73(11) |
| C(14A)-Si(1A)-C(15A)-C(16A) | 176.74(11) | C(7B)-C(8B)-C(9B)-C(10B) | 173.24(11) |
| C(13A)-Si(1A)-C(15A)-C(16A) | -60.36(12) | C(3B)-C(8B)-C(9B)-C(10B) | -69.29(14) |
| O(5A)-Si(1A)-C(15A)-C(18A) | 178.39(11) | Si(1B)-O(5B)-C(10B)-C(9B) | 166.79(8) |

| | | | |
|-----------------------------|------------|-----------------------------|------------|
| C(8B)-C(9B)-C(10B)-O(5B) | -61.05(14) | C(13B)-Si(1B)-C(15B)-C(17B) | 175.20(10) |
| O(5B)-Si(1B)-C(15B)-C(16B) | -58.91(11) | C(14B)-Si(1B)-C(15B)-C(17B) | -61.31(12) |
| C(13B)-Si(1B)-C(15B)-C(16B) | 56.36(12) | O(5B)-Si(1B)-C(15B)-C(18B) | -179.59(9) |
| C(14B)-Si(1B)-C(15B)-C(16B) | 179.85(10) | C(13B)-Si(1B)-C(15B)-C(18B) | -64.33(12) |
| O(5B)-Si(1B)-C(15B)-C(17B) | 59.94(11) | C(14B)-Si(1B)-C(15B)-C(18B) | 59.17(12) |

Table S7. Hydrogen bonds for 18a [\AA and $^\circ$].

| D-H...A | d(D-H) | d(H...A) | d(D...A) | $\angle(\text{DHA})$ |
|-----------------------|-----------|-----------|------------|----------------------|
| O(1A)-H(1A)...O(2B)#1 | 0.841(19) | 1.858(19) | 2.6918(14) | 170.7(17) |
| O(2A)-H(2A)...O(1A)#1 | 0.840(19) | 1.953(19) | 2.7649(14) | 162.5(18) |
| O(1B)-H(1B)...O(2A)#1 | 0.945(19) | 1.89(2) | 2.8166(15) | 167.5(16) |
| O(2B)-H(2B)...O(4B)#2 | 0.800(19) | 1.995(19) | 2.7938(14) | 175.8(19) |

Symmetry transformations used to generate equivalent atoms:

#1 -x,-y+2,-z #2 -x,-y+1,-z

PLATON

Nr Typ Res Donor --- H...Acceptor [ARU] D - H H...A D...A D - H...A
A..H..A* A'..H..A" Sum(XY,YZ) Sum(XZ)

| | | | | | | | | | | | | |
|----|-------|------|------|------|------|-----|------------|--------|--------|--------|--------|--------|
| 1 | 1 | O1A | -- | H1A | .. | O2B | [2565.02] | 0.8367 | 1.8634 | 2.6922 | 170.54 | |
| 2 | 2 | O1B | -- | H1B | .. | O2A | [2565.01] | 0.9396 | 1.8904 | 2.8167 | 168.22 | |
| 3 | 1 | O2A | -- | H2A | .. | O1A | [2555.01] | 0.8349 | 1.9583 | 2.7652 | 162.26 | |
| 4 | 2 | O2B | -- | H2B | .. | O4B | [2565.02] | 0.8027 | 1.9923 | 2.7936 | 175.87 | |
| 5 | 2 | C3B | -- | H3B | .. | O4A | [1565.01] | 1.0000 | 2.2456 | 3.1540 | 150.40 | |
| 6 | Intra | 1 | C9A | -- | H9A1 | .. | O1A | [] | 0.9900 | 2.4646 | 3.2883 | 140.37 |
| 7 | 1 | C5A | -- | H5A | .. | O1B | [2565.02] | 1.0000 | 2.4889 | 3.2198 | 129.59 | |
| 8 | Intra | 2 | C8B | -- | H8B | .. | O5B | [] | 1.0000 | 2.5609 | 2.9397 | 102.22 |
| 9 | 1 | C10A | -- | H10A | .. | O4B | [] | 0.9900 | 2.5860 | 3.5282 | 159.02 | |
| 10 | Intra | 2 | C9B | -- | H9B1 | .. | O1B | [] | 0.9900 | 2.5764 | 3.3486 | 134.82 |
| 11 | Intra | 1 | C11A | -- | H11C | .. | O3A | [] | 0.9800 | 2.4327 | 2.8158 | 102.73 |

Translation of ARU-code to Equivalent Position Code

[2555.] = -x,-y,-z
[2565.] = -x,1-y,-z
[1565.] = x,1+y,z