



Table 1. Crystal data and structure refinement for odomsb920_0m.

| | | |
|-----------------------------------|---|----------|
| Identification code | odomsb920_0m | |
| Empirical formula | C ₂₁ H ₃₁ I N ₃ O P ₂ S V | |
| Formula weight | 613.33 | |
| Temperature | 173(2) K | |
| Wavelength | 0.71073 Å | |
| Crystal system | Orthorhombic | |
| Space group | Pbca | |
| Unit cell dimensions | a = 10.8685(2) Å | α = 90°. |
| | b = 18.3385(3) Å | β = 90°. |
| | c = 26.2108(5) Å | γ = 90°. |
| Volume | 5224.13(16) Å ³ | |
| Z | 8 | |
| Density (calculated) | 1.560 Mg/m ³ | |
| Absorption coefficient | 1.782 mm ⁻¹ | |
| F(000) | 2464 | |
| Crystal size | 0.28 x 0.12 x 0.10 mm ³ | |
| Theta range for data collection | 2.22 to 27.90°. | |
| Index ranges | -12 ≤ h ≤ 14, -24 ≤ k ≤ 24, -31 ≤ l ≤ 33 | |
| Reflections collected | 67170 | |
| Independent reflections | 6199 [R(int) = 0.0556] | |
| Completeness to theta = 25.00° | 100.0 % | |
| Absorption correction | None | |
| Refinement method | Full-matrix least-squares on F ² | |
| Data / restraints / parameters | 6199 / 0 / 277 | |
| Goodness-of-fit on F ² | 1.019 | |
| Final R indices [I > 2σ(I)] | R1 = 0.0325, wR2 = 0.0627 | |
| R indices (all data) | R1 = 0.0566, wR2 = 0.0701 | |
| Largest diff. peak and hole | 0.689 and -0.471 e.Å ⁻³ | |

Table 2. Atomic coordinates ($\times 10^4$) and equivalent isotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for odomsb920_0m. $U(\text{eq})$ is defined as one third of the trace of the orthogonalized U^{ij} tensor.

| | x | y | z | $U(\text{eq})$ |
|-------|----------|---------|---------|----------------|
| V(1) | 7765(1) | 4141(1) | 3509(1) | 22(1) |
| S(1) | 8030(1) | 5259(1) | 3094(1) | 29(1) |
| P(1) | 7387(1) | 4955(1) | 4262(1) | 29(1) |
| P(2) | 7751(1) | 3304(1) | 4266(1) | 29(1) |
| O(1) | 8064(2) | 3256(1) | 3147(1) | 26(1) |
| N(1) | 6231(2) | 4125(1) | 3388(1) | 25(1) |
| N(2) | 5130(2) | 4083(1) | 3203(1) | 36(1) |
| N(3) | 9749(2) | 4223(1) | 3497(1) | 23(1) |
| C(1) | 9483(2) | 5494(1) | 3342(1) | 26(1) |
| C(2) | 9885(3) | 6216(1) | 3371(1) | 33(1) |
| C(3) | 10986(3) | 6381(2) | 3606(1) | 37(1) |
| C(4) | 11702(3) | 5833(2) | 3814(1) | 33(1) |
| C(5) | 11327(2) | 5111(1) | 3782(1) | 28(1) |
| C(6) | 10222(2) | 4945(1) | 3544(1) | 24(1) |
| C(7) | 10530(2) | 3710(1) | 3392(1) | 25(1) |
| C(8) | 10208(2) | 2978(1) | 3250(1) | 24(1) |
| C(9) | 11147(3) | 2458(1) | 3188(1) | 33(1) |
| C(10) | 10898(3) | 1769(1) | 3015(1) | 35(1) |
| C(11) | 9693(3) | 1584(1) | 2891(1) | 32(1) |
| C(12) | 8754(3) | 2080(1) | 2941(1) | 29(1) |
| C(13) | 8990(2) | 2786(1) | 3121(1) | 24(1) |
| C(14) | 4677(3) | 3368(2) | 3052(1) | 51(1) |
| C(15) | 4278(3) | 4683(2) | 3263(2) | 54(1) |
| C(16) | 6605(4) | 4428(2) | 4757(1) | 57(1) |
| C(17) | 7287(4) | 3746(2) | 4857(1) | 65(1) |
| C(18) | 6357(3) | 5716(2) | 4177(1) | 57(1) |
| C(19) | 8688(3) | 5351(2) | 4581(1) | 49(1) |
| C(20) | 6690(3) | 2558(2) | 4189(1) | 43(1) |
| C(21) | 9183(3) | 2858(2) | 4440(1) | 52(1) |
| I(1) | 1920(1) | 8379(1) | 4394(1) | 36(1) |

Table 3. Bond lengths [Å] and angles [°] for odomsb920_0m.

| | |
|-------------|------------|
| V(1)-N(1) | 1.698(2) |
| V(1)-O(1) | 1.9081(17) |
| V(1)-N(3) | 2.162(2) |
| V(1)-S(1) | 2.3383(8) |
| V(1)-P(2) | 2.5079(8) |
| V(1)-P(1) | 2.5078(8) |
| S(1)-C(1) | 1.761(3) |
| P(1)-C(19) | 1.796(3) |
| P(1)-C(18) | 1.803(3) |
| P(1)-C(16) | 1.827(3) |
| P(2)-C(20) | 1.801(3) |
| P(2)-C(21) | 1.817(3) |
| P(2)-C(17) | 1.820(3) |
| O(1)-C(13) | 1.328(3) |
| N(1)-N(2) | 1.293(3) |
| N(2)-C(15) | 1.447(4) |
| N(2)-C(14) | 1.455(4) |
| N(3)-C(7) | 1.298(3) |
| N(3)-C(6) | 1.425(3) |
| C(1)-C(6) | 1.393(4) |
| C(1)-C(2) | 1.396(4) |
| C(2)-C(3) | 1.380(4) |
| C(3)-C(4) | 1.382(4) |
| C(4)-C(5) | 1.389(4) |
| C(5)-C(6) | 1.387(4) |
| C(7)-C(8) | 1.437(3) |
| C(8)-C(9) | 1.405(3) |
| C(8)-C(13) | 1.411(4) |
| C(9)-C(10) | 1.370(4) |
| C(10)-C(11) | 1.392(4) |
| C(11)-C(12) | 1.373(4) |
| C(12)-C(13) | 1.402(4) |
| C(16)-C(17) | 1.477(5) |

Electronic Supplementary Information for Dalton Transactions
This journal is © The Royal Society of Chemistry 2008

| | |
|------------------|------------|
| N(1)-V(1)-O(1) | 93.40(9) |
| N(1)-V(1)-N(3) | 167.99(9) |
| O(1)-V(1)-N(3) | 83.22(8) |
| N(1)-V(1)-S(1) | 92.79(8) |
| O(1)-V(1)-S(1) | 119.53(6) |
| N(3)-V(1)-S(1) | 79.03(6) |
| N(1)-V(1)-P(2) | 97.55(8) |
| O(1)-V(1)-P(2) | 82.74(6) |
| N(3)-V(1)-P(2) | 93.46(6) |
| S(1)-V(1)-P(2) | 154.89(3) |
| N(1)-V(1)-P(1) | 89.81(8) |
| O(1)-V(1)-P(1) | 157.76(6) |
| N(3)-V(1)-P(1) | 97.69(6) |
| S(1)-V(1)-P(1) | 82.23(3) |
| P(2)-V(1)-P(1) | 75.02(3) |
| C(1)-S(1)-V(1) | 98.82(9) |
| C(19)-P(1)-C(18) | 103.56(17) |
| C(19)-P(1)-C(16) | 104.47(18) |
| C(18)-P(1)-C(16) | 102.08(18) |
| C(19)-P(1)-V(1) | 118.51(11) |
| C(18)-P(1)-V(1) | 117.69(11) |
| C(16)-P(1)-V(1) | 108.62(11) |
| C(20)-P(2)-C(21) | 103.56(16) |
| C(20)-P(2)-C(17) | 104.85(17) |
| C(21)-P(2)-C(17) | 102.90(19) |
| C(20)-P(2)-V(1) | 112.39(11) |
| C(21)-P(2)-V(1) | 117.99(10) |
| C(17)-P(2)-V(1) | 113.73(11) |
| C(13)-O(1)-V(1) | 135.01(16) |
| N(2)-N(1)-V(1) | 168.5(2) |
| N(1)-N(2)-C(15) | 120.3(2) |
| N(1)-N(2)-C(14) | 118.0(2) |
| C(15)-N(2)-C(14) | 119.9(2) |
| C(7)-N(3)-C(6) | 117.1(2) |
| C(7)-N(3)-V(1) | 127.25(17) |
| C(6)-N(3)-V(1) | 115.05(16) |

| | |
|-------------------|------------|
| C(6)-C(1)-C(2) | 119.0(2) |
| C(6)-C(1)-S(1) | 118.70(19) |
| C(2)-C(1)-S(1) | 122.2(2) |
| C(3)-C(2)-C(1) | 120.3(3) |
| C(2)-C(3)-C(4) | 120.3(3) |
| C(3)-C(4)-C(5) | 120.3(3) |
| C(6)-C(5)-C(4) | 119.4(3) |
| C(5)-C(6)-C(1) | 120.8(2) |
| C(5)-C(6)-N(3) | 123.7(2) |
| C(1)-C(6)-N(3) | 115.5(2) |
| N(3)-C(7)-C(8) | 125.0(2) |
| C(9)-C(8)-C(13) | 119.0(2) |
| C(9)-C(8)-C(7) | 119.1(2) |
| C(13)-C(8)-C(7) | 121.6(2) |
| C(10)-C(9)-C(8) | 121.4(3) |
| C(9)-C(10)-C(11) | 119.2(3) |
| C(12)-C(11)-C(10) | 121.0(3) |
| C(11)-C(12)-C(13) | 120.5(3) |
| O(1)-C(13)-C(12) | 118.6(2) |
| O(1)-C(13)-C(8) | 122.5(2) |
| C(12)-C(13)-C(8) | 118.9(2) |
| C(17)-C(16)-P(1) | 110.0(2) |
| C(16)-C(17)-P(2) | 111.4(2) |

Symmetry transformations used to generate equivalent atoms:

Table 4. Anisotropic displacement parameters ($\text{\AA}^2 \times 10^3$) for odomsb920_0m. 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 |
|-------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| V(1) | 19(1) | 24(1) | 23(1) | 0(1) | 1(1) | 1(1) |
| S(1) | 26(1) | 29(1) | 33(1) | 7(1) | 0(1) | 4(1) |
| P(1) | 31(1) | 29(1) | 27(1) | -2(1) | 4(1) | 4(1) |
| P(2) | 36(1) | 27(1) | 25(1) | 2(1) | 1(1) | -5(1) |
| O(1) | 21(1) | 29(1) | 28(1) | -4(1) | 0(1) | 2(1) |
| N(1) | 23(1) | 29(1) | 23(1) | 1(1) | 1(1) | 1(1) |
| N(2) | 19(1) | 44(2) | 44(2) | -3(1) | -5(1) | -1(1) |
| N(3) | 22(1) | 23(1) | 25(1) | 1(1) | 0(1) | 0(1) |
| C(1) | 25(1) | 29(1) | 24(1) | 1(1) | 7(1) | 1(1) |
| C(2) | 39(2) | 24(1) | 35(2) | 3(1) | 7(1) | 3(1) |
| C(3) | 45(2) | 24(1) | 41(2) | -2(1) | 9(2) | -9(1) |
| C(4) | 29(2) | 36(2) | 35(2) | -4(1) | 1(1) | -6(1) |
| C(5) | 25(2) | 28(1) | 32(2) | -1(1) | 5(1) | 0(1) |
| C(6) | 25(1) | 22(1) | 26(2) | -2(1) | 5(1) | -2(1) |
| C(7) | 21(1) | 28(1) | 26(2) | 1(1) | -3(1) | 0(1) |
| C(8) | 23(1) | 23(1) | 27(2) | 0(1) | -1(1) | 1(1) |
| C(9) | 26(2) | 29(1) | 42(2) | 2(1) | -1(1) | 4(1) |
| C(10) | 39(2) | 25(2) | 40(2) | -1(1) | 1(1) | 9(1) |
| C(11) | 42(2) | 23(1) | 31(2) | -2(1) | 4(1) | -2(1) |
| C(12) | 31(2) | 30(2) | 25(2) | -2(1) | 3(1) | -5(1) |
| C(13) | 26(1) | 26(1) | 20(1) | 2(1) | 2(1) | 1(1) |
| C(14) | 44(2) | 67(2) | 41(2) | -22(2) | 0(2) | -19(2) |
| C(15) | 31(2) | 55(2) | 76(3) | 23(2) | -12(2) | 7(2) |
| C(16) | 74(3) | 49(2) | 47(2) | -7(2) | 32(2) | -5(2) |
| C(17) | 130(4) | 35(2) | 30(2) | 0(2) | 27(2) | -2(2) |
| C(18) | 63(2) | 57(2) | 50(2) | -21(2) | -11(2) | 31(2) |
| C(19) | 37(2) | 74(2) | 37(2) | -21(2) | 0(2) | 0(2) |
| C(20) | 42(2) | 35(2) | 51(2) | 5(2) | 0(2) | -8(1) |
| C(21) | 40(2) | 70(2) | 46(2) | 34(2) | -6(2) | -7(2) |
| I(1) | 41(1) | 40(1) | 28(1) | 3(1) | 0(1) | -11(1) |

Table 5. Hydrogen coordinates ($\times 10^4$) and isotropic displacement parameters ($\text{\AA}^2 \times 10^3$)
for odomsb920_0m.

| | x | y | z | U(eq) |
|--------|-------|------|------|-------|
| H(2) | 9410 | 6587 | 3230 | 39 |
| H(3) | 11247 | 6863 | 3626 | 44 |
| H(4) | 12438 | 5949 | 3975 | 40 |
| H(5) | 11812 | 4742 | 3919 | 34 |
| H(7) | 11363 | 3824 | 3410 | 30 |
| H(9) | 11953 | 2584 | 3267 | 39 |
| H(10) | 11528 | 1429 | 2980 | 42 |
| H(11) | 9521 | 1117 | 2772 | 38 |
| H(12) | 7955 | 1946 | 2854 | 35 |
| H(14A) | 5348 | 3080 | 2924 | 76 |
| H(14B) | 4068 | 3423 | 2790 | 76 |
| H(14C) | 4317 | 3129 | 3341 | 76 |
| H(15A) | 3815 | 4618 | 3572 | 81 |
| H(15B) | 3726 | 4695 | 2977 | 81 |
| H(15C) | 4727 | 5133 | 3280 | 81 |
| H(16A) | 6554 | 4713 | 5068 | 68 |
| H(16B) | 5775 | 4313 | 4647 | 68 |
| H(17A) | 6772 | 3416 | 5052 | 78 |
| H(17B) | 8012 | 3854 | 5059 | 78 |
| H(18A) | 6279 | 5977 | 4492 | 85 |
| H(18B) | 5564 | 5540 | 4072 | 85 |
| H(18C) | 6679 | 6036 | 3919 | 85 |
| H(19A) | 9032 | 5729 | 4372 | 74 |
| H(19B) | 9298 | 4981 | 4640 | 74 |
| H(19C) | 8430 | 5553 | 4901 | 74 |
| H(20A) | 6735 | 2244 | 4481 | 64 |
| H(20B) | 6900 | 2286 | 3888 | 64 |
| H(20C) | 5869 | 2745 | 4156 | 64 |
| H(21A) | 9072 | 2596 | 4754 | 78 |
| H(21B) | 9816 | 3218 | 4483 | 78 |

Table 6. Torsion angles [°] for odomsb920_0m.

| | |
|----------------------|-------------|
| N(1)-V(1)-S(1)-C(1) | 163.52(11) |
| O(1)-V(1)-S(1)-C(1) | -100.99(11) |
| N(3)-V(1)-S(1)-C(1) | -25.34(11) |
| P(2)-V(1)-S(1)-C(1) | 49.06(12) |
| P(1)-V(1)-S(1)-C(1) | 74.10(9) |
| N(1)-V(1)-P(1)-C(19) | -171.61(16) |
| O(1)-V(1)-P(1)-C(19) | 89.9(2) |
| N(3)-V(1)-P(1)-C(19) | -1.02(15) |
| S(1)-V(1)-P(1)-C(19) | -78.77(14) |
| P(2)-V(1)-P(1)-C(19) | 90.52(14) |
| N(1)-V(1)-P(1)-C(18) | -45.71(17) |
| O(1)-V(1)-P(1)-C(18) | -144.2(2) |
| N(3)-V(1)-P(1)-C(18) | 124.87(16) |
| S(1)-V(1)-P(1)-C(18) | 47.13(15) |
| P(2)-V(1)-P(1)-C(18) | -143.58(16) |
| N(1)-V(1)-P(1)-C(16) | 69.51(16) |
| O(1)-V(1)-P(1)-C(16) | -29.0(2) |
| N(3)-V(1)-P(1)-C(16) | -119.90(15) |
| S(1)-V(1)-P(1)-C(16) | 162.35(14) |
| P(2)-V(1)-P(1)-C(16) | -28.36(14) |
| N(1)-V(1)-P(2)-C(20) | 38.93(14) |
| O(1)-V(1)-P(2)-C(20) | -53.56(13) |
| N(3)-V(1)-P(2)-C(20) | -136.27(13) |
| S(1)-V(1)-P(2)-C(20) | 152.41(13) |
| P(1)-V(1)-P(2)-C(20) | 126.69(12) |
| N(1)-V(1)-P(2)-C(21) | 159.34(16) |
| O(1)-V(1)-P(2)-C(21) | 66.85(15) |
| N(3)-V(1)-P(2)-C(21) | -15.86(15) |
| S(1)-V(1)-P(2)-C(21) | -87.18(16) |
| P(1)-V(1)-P(2)-C(21) | -112.90(14) |
| N(1)-V(1)-P(2)-C(17) | -80.01(18) |
| O(1)-V(1)-P(2)-C(17) | -172.49(18) |
| N(3)-V(1)-P(2)-C(17) | 104.80(18) |
| S(1)-V(1)-P(2)-C(17) | 33.48(19) |

Electronic Supplementary Information for Dalton Transactions
This journal is © The Royal Society of Chemistry 2008

| | |
|----------------------|-------------|
| P(1)-V(1)-P(2)-C(17) | 7.76(17) |
| N(1)-V(1)-O(1)-C(13) | -165.1(2) |
| N(3)-V(1)-O(1)-C(13) | 26.5(2) |
| S(1)-V(1)-O(1)-C(13) | 99.8(2) |
| P(2)-V(1)-O(1)-C(13) | -67.9(2) |
| P(1)-V(1)-O(1)-C(13) | -67.3(3) |
| O(1)-V(1)-N(1)-N(2) | -45.9(10) |
| N(3)-V(1)-N(1)-N(2) | 27.3(13) |
| S(1)-V(1)-N(1)-N(2) | 74.0(10) |
| P(2)-V(1)-N(1)-N(2) | -129.0(10) |
| P(1)-V(1)-N(1)-N(2) | 156.2(10) |
| V(1)-N(1)-N(2)-C(15) | -125.5(9) |
| V(1)-N(1)-N(2)-C(14) | 69.5(11) |
| N(1)-V(1)-N(3)-C(7) | -89.4(5) |
| O(1)-V(1)-N(3)-C(7) | -15.1(2) |
| S(1)-V(1)-N(3)-C(7) | -137.0(2) |
| P(2)-V(1)-N(3)-C(7) | 67.1(2) |
| P(1)-V(1)-N(3)-C(7) | 142.5(2) |
| N(1)-V(1)-N(3)-C(6) | 81.6(5) |
| O(1)-V(1)-N(3)-C(6) | 155.85(18) |
| S(1)-V(1)-N(3)-C(6) | 33.94(16) |
| P(2)-V(1)-N(3)-C(6) | -121.89(17) |
| P(1)-V(1)-N(3)-C(6) | -46.56(17) |
| V(1)-S(1)-C(1)-C(6) | 20.3(2) |
| V(1)-S(1)-C(1)-C(2) | -155.8(2) |
| C(6)-C(1)-C(2)-C(3) | -1.5(4) |
| S(1)-C(1)-C(2)-C(3) | 174.6(2) |
| C(1)-C(2)-C(3)-C(4) | 0.3(4) |
| C(2)-C(3)-C(4)-C(5) | 0.7(4) |
| C(3)-C(4)-C(5)-C(6) | -0.5(4) |
| C(4)-C(5)-C(6)-C(1) | -0.7(4) |
| C(4)-C(5)-C(6)-N(3) | -179.1(2) |
| C(2)-C(1)-C(6)-C(5) | 1.7(4) |
| S(1)-C(1)-C(6)-C(5) | -174.5(2) |
| C(2)-C(1)-C(6)-N(3) | -179.7(2) |
| S(1)-C(1)-C(6)-N(3) | 4.1(3) |

| | |
|-------------------------|------------|
| C(7)-N(3)-C(6)-C(5) | -40.4(4) |
| V(1)-N(3)-C(6)-C(5) | 147.7(2) |
| C(7)-N(3)-C(6)-C(1) | 141.1(2) |
| V(1)-N(3)-C(6)-C(1) | -30.8(3) |
| C(6)-N(3)-C(7)-C(8) | -169.3(2) |
| V(1)-N(3)-C(7)-C(8) | 1.5(4) |
| N(3)-C(7)-C(8)-C(9) | -174.6(3) |
| N(3)-C(7)-C(8)-C(13) | 11.7(4) |
| C(13)-C(8)-C(9)-C(10) | -1.0(4) |
| C(7)-C(8)-C(9)-C(10) | -174.9(3) |
| C(8)-C(9)-C(10)-C(11) | 0.8(4) |
| C(9)-C(10)-C(11)-C(12) | -0.1(4) |
| C(10)-C(11)-C(12)-C(13) | -0.3(4) |
| V(1)-O(1)-C(13)-C(12) | 160.11(19) |
| V(1)-O(1)-C(13)-C(8) | -22.5(4) |
| C(11)-C(12)-C(13)-O(1) | 177.7(2) |
| C(11)-C(12)-C(13)-C(8) | 0.2(4) |
| C(9)-C(8)-C(13)-O(1) | -176.9(2) |
| C(7)-C(8)-C(13)-O(1) | -3.2(4) |
| C(9)-C(8)-C(13)-C(12) | 0.5(4) |
| C(7)-C(8)-C(13)-C(12) | 174.2(2) |
| C(19)-P(1)-C(16)-C(17) | -75.9(3) |
| C(18)-P(1)-C(16)-C(17) | 176.4(3) |
| V(1)-P(1)-C(16)-C(17) | 51.5(3) |
| P(1)-C(16)-C(17)-P(2) | -44.8(4) |
| C(20)-P(2)-C(17)-C(16) | -103.4(3) |
| C(21)-P(2)-C(17)-C(16) | 148.6(3) |
| V(1)-P(2)-C(17)-C(16) | 19.8(3) |

Symmetry transformations used to generate equivalent atoms:

Electronic Supplementary Information for Dalton Transactions
This journal is © The Royal Society of Chemistry 2008