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Table 1 **a.** Crystal Data and Structure Refinement Parameters for [8,8-($\eta^2$-dppp)-8,7-$RhSB_9H_{10}$] (**3**).

| | | |
|---|---|---|
| Identification code | b299 | |
| Empirical formula | C28 H37 B9 Cl3 P2 Rh S | |
| Formula weight | 774.13 | |
| Temperature | 218(2) K | |
| Wavelength | 0.71073 Å | |
| Crystal system | Monoclinic | |
| Space group | P2(1)/n | |
| Unit cell dimensions | a = 10.8921(1) Å | α= 90°. |
| | b = 16.4904(2) Å | β= 94.260(1)°. |
| | c = 19.9240(2) Å | γ = 90°. |
| Volume | 3568.76(7) $Å^3$ | |
| Z | 4 | |
| Density (calculated) | 1.441 $Mg/m^3$ | |
| Absorption coefficient | 0.872 $mm^{-1}$ | |
| F(000) | 1568 | |
| Crystal size | 0.40 x 0.33 x 0.16 $mm^3$ | |
| Theta range for data collection | 1.60 to 28.30°. | |
| Index ranges | -14<=h<=14, 0<=k<=21, 0<=l<=26 | |
| Reflections collected | 69334 | |
| Independent reflections | 8440 [R(int) = 0.04] | |
| Completeness to theta = 28.30° | 95.0 % | |
| Absorption correction | Empirical, sadabs | |
| Max. and min. transmission | 0.8731 and 0.7217 | |
| Refinement method | Full-matrix least-squares on $F^2$ | |
| Data / restraints / parameters | 8440 / 25 / 455 | |
| Goodness-of-fit on $F^2$ | 1.027 | |
| Final R indices [I>2sigma(I)] | R1 = 0.0340, wR2 = 0.0835 | |
| R indices (all data) | R1 = 0.0548, wR2 = 0.0925 | |
| Largest diff. peak and hole | 1.035 and -1.008 $e.Å^{-3}$ | |

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Table 1. **b.** Crystal Data and Structure Refinement Parameters for [8,8-($\eta^2$-dppp)-9-(OEt)-*nido*-8,7-$RhSB_9H_9$] (**14**).

| | | |
|---|---|---|
| Identification code | b15098 | |
| Empirical formula | C29 H40 B9 O P2 Rh S | |
| Formula weight | 698.81 | |
| Temperature | 223(2) K | |
| Wavelength | 0.71073 Å | |
| Crystal system | Triclinic | |
| Space group | P-1 | |
| Unit cell dimensions | a = 10.0168(1) Å | α= 75.879(1)°. |
| | b = 11.2339(1) Å | β= 74.070(1)°. |
| | c = 16.2335(2) Å | γ = 74.435(1)°. |
| Volume | 1663.30(3) Å$^3$ | |
| Z | 2 | |
| Density (calculated) | 1.395 Mg/m$^3$ | |
| Absorption coefficient | 0.697 mm$^{-1}$ | |
| F(000) | 716 | |
| Crystal size | 0.40 x 0.20 x 0.10 mm$^3$ | |
| Theta range for data collection | 1.33 to 27.61°. | |
| Index ranges | -12<=h<=13, -13<=k<=14, 0<=l<=21 | |
| Reflections collected | 31204 | |
| Independent reflections | 7340 [R(int) = 0.06] | |
| Completeness to theta = 27.61° | 95.1 % | |
| Absorption correction | Empirical, sadabs | |
| Max. and min. transmission | 0.96 and 0.82 | |
| Refinement method | Full-matrix least-squares on $F^2$ | |
| Data / restraints / parameters | 7340 / 0 / 420 | |
| Goodness-of-fit on $F^2$ | 1.063 | |
| Final R indices [I>2sigma(I)] | R1 = 0.0409, wR2 = 0.0682 | |
| R indices (all data) | R1 = 0.0636, wR2 = 0.0750 | |
| Largest diff. peak and hole | 0.390 and -0.385 e.Å$^{-3}$ | |

Table 1. **c** [8,8-($\eta^2$-dppm)-8-(dppm)-*nido*-8,7-$RhSB_9H_{10}$] (**6**).

| | | |
|---|---|---|
| Identification code | sad | |
| Empirical formula | C102 H114 B18 Cl4 O P8 Rh2 S2 | |
| Formula weight | 2210.01 | |
| Temperature | 223(2) K | |
| Wavelength | 0.71073 Å | |
| Crystal system | Triclinic | |
| Space group | P-1 | |
| Unit cell dimensions | a = 13.6177(1) Å | α= 102.61°. |
| | b = 18.8835(2) Å | β= 92.675(1)°. |
| | c = 22.6213(2) Å | γ = 103.587(1)°. |
| Volume | 5488.30(9) Å$^3$ | |
| Z | 2 | |
| Density (calculated) | 1.337 Mg/m$^3$ | |
| Absorption coefficient | 0.599 mm$^{-1}$ | |
| F(000) | 2268 | |
| Crystal size | 0.33 x 0.26 x 0.18 mm$^3$ | |
| Theta range for data collection | 1.14 to 25.00°. | |
| Index ranges | -16<=h<=16, -22<=k<=21, 0<=l<=26 | |
| Reflections collected | 60636 | |
| Independent reflections | 19166 [R(int) = 0.1000] | |
| Completeness to theta = 25.00° | 99.2 % | |
| Absorption correction | Empirical, sadabs | |
| Max. and min. transmission | 0.98 and 0.73 | |
| Refinement method | Full-matrix least-squares on $F^2$ | |
| Data / restraints / parameters | 19166 / 0 / 1259 | |
| Goodness-of-fit on $F^2$ | 1.022 | |
| Final R indices [I>2sigma(I)] | R1 = 0.0812, wR2 = 0.2162 | |
| R indices (all data) | R1 = 0.1504, wR2 = 0.2576 | |
| Largest diff. peak and hole | 2.029 and -1.256 e.Å$^{-3}$ | |

Table 1. **d.** Crystal Data and Structure Refinement Parameters for [1,1-($\eta^2$-dppe)-3-($\eta^1$-dppeO)-*closo*-1,2-$RhSB_9H_8$] (**20**)

| | | |
|---|---|---|
| Identification code | b2398s | |
| Empirical formula | C55 H62 B9 O P4 Rh S | |
| Formula weight | 1095.19 | |
| Temperature | 293(2) K | |
| Wavelength | 0.71073 Å | |
| Crystal system | Monoclinic | |
| Space group | P2(1)/n | |
| Unit cell dimensions | a = 12.6671(1) Å | α= 90°. |
| | b = 21.1004(2) Å | β= 94.241(1)°. |
| | c = 19.9250(1) Å | γ = 90°. |
| Volume | 5310.99(7) $Å^3$ | |
| Z | 4 | |
| Density (calculated) | 1.370 $Mg/m^3$ | |
| Absorption coefficient | 0.522 $mm^{-1}$ | |
| F(000) | 2264 | |
| Crystal size | 0.33 x 0.22 x 0.20 $mm^3$ | |
| Theta range for data collection | 1.41 to 27.00°. | |
| Index ranges | -16<=h<=16, 0<=k<=28, 0<=l<=27 | |
| Reflections collected | 100986 | |
| Independent reflections | 11495 [R(int) = 0.1100] | |
| Absorption correction | Empirical | |
| Max. and min. transmission | 0.83 and 0.72 | |
| Refinement method | Full-matrix least-squares on $F^2$ | |
| Data / restraints / parameters | 11423 / 5 / 672 | |
| Goodness-of-fit on $F^2$ | 1.027 | |
| Final R indices [I>2sigma(I)] | R1 = 0.0553, wR2 = 0.1293 | |
| R indices (all data) | R1 = 0.0997, wR2 = 0.1565 | |
| Largest diff. peak and hole | 1.439 and -0.529 e.$Å^{-3}$ | |

Table 2. Atomic coordinates ($x10^4$) and equivalent isotropic displacement parameters ($Å^2 \times 10^3$) for [8,8-($\eta^2$-dppp)-8,7-$RhSB_9H_{10}$] (**3**). U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Rh(8) | 9643(1) | 2538(1) | 220(1) | 29(1) |
| S(7) | 11368(1) | 2344(1) | -415(1) | 43(1) |
| P(1) | 8396(1) | 2765(1) | -765(1) | 31(1) |
| P(2) | 7993(1) | 2564(1) | 848(1) | 32(1) |
| B(1) | 12523(3) | 2707(3) | 1024(2) | 62(1) |
| B(2) | 12875(3) | 2476(3) | 198(2) | 59(1) |
| B(3) | 11487(3) | 2048(3) | 588(2) | 51(1) |
| B(4) | 10918(3) | 2789(3) | 1129(2) | 46(1) |
| B(5) | 11816(3) | 3680(3) | 1050(2) | 57(1) |
| B(6) | 12941(3) | 3482(3) | 472(2) | 64(1) |
| B(9) | 10322(3) | 3660(2) | 638(2) | 41(1) |
| B(10) | 11654(4) | 4083(3) | 220(2) | 54(1) |
| B(11) | 12320(3) | 3316(3) | -331(2) | 52(1) |
| C(1) | 7065(2) | 3424(2) | -690(1) | 39(1) |
| C(2) | 6209(2) | 3120(2) | -176(1) | 47(1) |
| C(3) | 6717(2) | 3228(2) | 557(1) | 47(1) |
| C(4) | 9220(2) | 3259(2) | -1414(1) | 34(1) |
| C(5) | 9503(3) | 4078(2) | -1366(1) | 44(1) |
| C(6) | 10196(3) | 4443(2) | -1840(2) | 53(1) |
| C(7) | 10616(3) | 3994(2) | -2356(2) | 56(1) |
| C(8) | 10339(3) | 3185(2) | -2403(2) | 62(1) |
| C(9) | 9646(3) | 2816(2) | -1944(2) | 51(1) |
| C(10) | 7743(2) | 1855(2) | -1163(1) | 36(1) |
| C(11) | 6915(3) | 1884(2) | -1731(2) | 48(1) |
| C(12) | 6424(3) | 1181(2) | -2013(2) | 57(1) |
| C(13) | 6741(3) | 450(2) | -1736(2) | 63(1) |
| C(14) | 7562(4) | 403(2) | -1184(2) | 74(1) |
| C(15) | 8070(3) | 1108(2) | -898(2) | 54(1) |
| C(16) | 7379(3) | 1541(2) | 819(1) | 48(1) |
| C(17) | 6109(3) | 1388(3) | 781(2) | 72(1) |
| C(18) | 5699(6) | 592(4) | 734(2) | 122(3) |

| | | | | |
|---|---|---|---|---|
| C(19) | 6460(13) | -80(12) | 697(14) | 124(10) |
| C(19') | 6521(12) | 6(12) | 782(14) | 159(16) |
| C(20) | 7724(7) | 101(3) | 786(2) | 106(2) |
| C(21) | 8196(4) | 895(2) | 828(2) | 69(1) |
| C(22) | 8148(2) | 2795(2) | 1747(1) | 39(1) |
| C(23) | 8466(3) | 2182(2) | 2210(2) | 52(1) |
| C(24) | 8582(4) | 2347(2) | 2896(2) | 64(1) |
| C(25) | 8370(3) | 3118(3) | 3123(2) | 64(1) |
| C(26) | 8068(3) | 3728(2) | 2675(2) | 60(1) |
| C(27) | 7966(3) | 3571(2) | 1988(2) | 49(1) |
| Cl(1) | 3920(1) | 5815(1) | 2453(1) | 104(1) |
| Cl(2) | 5439(1) | 5258(1) | 1394(1) | 115(1) |
| Cl(3) | 5103(4) | 4387(3) | 2744(3) | 173(3) |
| Cl(3') | 4816(4) | 4113(2) | 2314(2) | 105(1) |
| C(1S) | 4410(4) | 4976(2) | 1941(3) | 125(2) |

Table 3. Atomic coordinates ($x10^4$) and equivalent isotropic displacement parameters ($Å^2 \times 10^3$) for [8,8-($\eta^2$-dppp)-9-(OEt)-*nido*-8,7-$RhSB_9H_9$] (**14**). U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Rh(8) | 792(1) | 11493(1) | 12456(1) | 24(1) |
| P(1) | 2582(1) | 11315(1) | 13173(1) | 27(1) |
| P(2) | 2454(1) | 10824(1) | 11303(1) | 25(1) |
| S(7) | -1054(1) | 11788(1) | 13710(1) | 29(1) |
| B(1) | -2511(3) | 13076(3) | 12179(2) | 30(1) |
| B(2) | -2822(4) | 12738(3) | 13310(2) | 33(1) |
| B(3) | -1552(3) | 11623(3) | 12597(2) | 29(1) |
| B(4) | -736(3) | 12519(3) | 11625(2) | 26(1) |
| B(5) | -1319(3) | 14128(3) | 11744(2) | 28(1) |
| B(6) | -2523(4) | 14241(3) | 12775(2) | 32(1) |
| B(9) | 447(3) | 13403(3) | 11823(2) | 27(1) |
| B(10) | -805(3) | 14485(3) | 12619(2) | 28(1) |
| B(11) | -1716(4) | 13575(3) | 13631(2) | 32(1) |
| O(1) | 1641(2) | 13787(2) | 11270(1) | 30(1) |
| C(1) | 4040(3) | 11995(3) | 12451(2) | 34(1) |
| C(2) | 4881(3) | 11227(3) | 11740(2) | 37(1) |
| C(3) | 4138(3) | 11336(3) | 11008(2) | 32(1) |
| C(4) | 2009(3) | 12173(3) | 14080(2) | 29(1) |
| C(5) | 1311(3) | 11613(3) | 14884(2) | 40(1) |
| C(6) | 856(3) | 12243(3) | 15584(2) | 47(1) |
| C(7) | 1076(4) | 13435(3) | 15490(2) | 50(1) |
| C(8) | 1750(4) | 13995(3) | 14696(2) | 52(1) |
| C(9) | 2212(3) | 13375(3) | 13993(2) | 41(1) |
| C(10) | 3463(3) | 9774(3) | 13655(2) | 32(1) |
| C(11) | 2902(4) | 8730(3) | 13755(2) | 41(1) |
| C(12) | 3587(5) | 7548(3) | 14081(2) | 61(1) |
| C(13) | 4843(5) | 7386(4) | 14323(3) | 66(1) |
| C(14) | 5397(4) | 8409(4) | 14251(3) | 73(1) |
| C(15) | 4723(4) | 9601(3) | 13921(3) | 55(1) |
| C(16) | 2857(3) | 9118(3) | 11624(2) | 28(1) |
| C(17) | 1725(3) | 8523(3) | 12008(2) | 35(1) |

| | | | | |
|---|---|---|---|---|
| C(18) | 1961(4) | 7224(3) | 12268(2) | 46(1) |
| C(19) | 3332(4) | 6526(3) | 12147(2) | 53(1) |
| C(20) | 4470(4) | 7092(3) | 11768(2) | 48(1) |
| C(21) | 4238(3) | 8388(3) | 11506(2) | 38(1) |
| C(22) | 2089(3) | 11041(3) | 10223(2) | 26(1) |
| C(23) | 2067(3) | 12198(3) | 9672(2) | 33(1) |
| C(24) | 1880(3) | 12354(3) | 8840(2) | 37(1) |
| C(25) | 1694(3) | 11364(3) | 8545(2) | 35(1) |
| C(26) | 1664(3) | 10230(3) | 9092(2) | 36(1) |
| C(27) | 1869(3) | 10054(3) | 9925(2) | 32(1) |
| C(28) | 1593(4) | 15073(3) | 10844(2) | 47(1) |
| C(29) | 3048(4) | 15220(3) | 10333(2) | 56(1) |

Table 4. Atomic coordinates ($x10^4$) and equivalent isotropic displacement parameters ($Å^2 \times 10^3$) for [8,8-($\eta^2$-dppm)-8-(dppm)-*nido*-8,7-$RhSB_9H_{10}$] (**6**). U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Rh(8) | 3096(1) | 10451(1) | -3067(1) | 28(1) |
| Rh(8') | 11250(1) | 4709(1) | 2526(1) | 39(1) |
| S(7) | 3656(2) | 10883(1) | -3932(1) | 40(1) |
| S(7') | 10496(2) | 3867(2) | 3107(1) | 65(1) |
| P(1) | 2305(2) | 9188(1) | -3602(1) | 32(1) |
| P(2) | 1964(2) | 9910(1) | -2474(1) | 30(1) |
| P(3) | 4692(2) | 10277(1) | -2698(1) | 31(1) |
| P(4) | 6420(2) | 10629(1) | -1620(1) | 38(1) |
| P(1') | 11807(2) | 5830(1) | 2251(1) | 41(1) |
| P(2') | 12279(2) | 5592(1) | 3366(1) | 41(1) |
| P(3') | 12477(2) | 4032(1) | 2128(1) | 43(1) |
| P(4') | 13364(2) | 3282(2) | 943(1) | 67(1) |
| Cl(1) | 7390(5) | 8890(4) | 5912(3) | 192(3) |
| Cl(2) | 6452(7) | 7352(5) | 5423(4) | 244(4) |
| Cl(3) | 7806(7) | 5269(9) | 4539(7) | 375(9) |
| Cl(4) | 8114(6) | 6460(5) | 4092(6) | 286(6) |
| B(1) | 2374(8) | 11976(6) | -3402(5) | 44(3) |
| B(2) | 3038(8) | 11728(6) | -4022(5) | 50(3) |
| B(3) | 2276(8) | 11014(6) | -3639(5) | 41(2) |
| B(4) | 2446(8) | 11448(6) | -2838(5) | 37(2) |
| B(5) | 3258(8) | 12370(6) | -2724(5) | 44(3) |
| B(6) | 3636(9) | 12502(6) | -3424(6) | 52(3) |
| B(9) | 3723(7) | 11646(5) | -2498(4) | 32(2) |
| B(10) | 4501(8) | 12311(6) | -2912(5) | 46(3) |
| B(11) | 4407(8) | 11908(6) | -3719(5) | 49(3) |
| B(1') | 8641(10) | 4203(10) | 2522(9) | 99(6) |
| B(2') | 9009(10) | 3730(8) | 3046(8) | 84(5) |
| B(3') | 9796(8) | 4674(7) | 2951(6) | 58(3) |
| B(4') | 9685(9) | 4656(8) | 2159(6) | 64(4) |
| B(5') | 8861(11) | 3783(9) | 1765(9) | 94(6) |

| | | | | |
|---|---|---|---|---|
| B(6') | 8540(11) | 3218(8) | 2322(9) | 108(7) |
| B(9') | 10193(8) | 3942(6) | 1708(5) | 48(3) |
| B(10') | 9451(10) | 3044(8) | 1817(8) | 84(5) |
| B(11') | 9550(12) | 3017(8) | 2619(10) | 100(7) |
| C(1) | 1251(6) | 8989(5) | -4188(4) | 38(2) |
| C(2) | 1367(8) | 9320(5) | -4683(4) | 50(2) |
| C(3) | 604(9) | 9158(7) | -5155(4) | 67(3) |
| C(4) | -292(9) | 8687(8) | -5126(6) | 82(4) |
| C(5) | -475(8) | 8339(8) | -4649(5) | 82(4) |
| C(6) | 318(7) | 8495(6) | -4189(5) | 58(3) |
| C(7) | 2928(6) | 8464(5) | -3934(4) | 38(2) |
| C(8) | 3461(8) | 8560(6) | -4431(4) | 58(3) |
| C(9) | 3884(10) | 7997(8) | -4750(5) | 83(4) |
| C(10) | 3764(10) | 7334(8) | -4555(5) | 81(4) |
| C(11) | 3251(9) | 7240(6) | -4058(5) | 69(3) |
| C(12) | 2818(7) | 7798(5) | -3749(4) | 45(2) |
| C(13) | 1768(6) | 8941(4) | -2922(4) | 36(2) |
| C(14) | 2263(6) | 9910(5) | -1690(4) | 37(2) |
| C(15) | 2707(6) | 10586(5) | -1276(4) | 45(2) |
| C(16) | 2895(8) | 10605(7) | -665(4) | 61(3) |
| C(17) | 2669(8) | 9969(7) | -458(5) | 63(3) |
| C(18) | 2259(8) | 9285(7) | -858(4) | 58(3) |
| C(19) | 2048(7) | 9265(6) | -1476(4) | 47(2) |
| C(20) | 687(6) | 10083(4) | -2465(4) | 37(2) |
| C(21) | 216(7) | 10205(5) | -1937(4) | 51(2) |
| C(22) | -746(7) | 10333(6) | -1946(5) | 61(3) |
| C(23) | -1251(7) | 10339(5) | -2504(5) | 55(3) |
| C(24) | -773(7) | 10230(5) | -3025(5) | 51(2) |
| C(25) | 176(6) | 10095(5) | -3012(4) | 43(2) |
| C(26) | 4807(6) | 9323(4) | -2694(4) | 34(2) |
| C(27) | 5490(7) | 8974(5) | -3001(4) | 50(2) |
| C(28) | 5531(8) | 8275(6) | -2935(5) | 59(3) |
| C(29) | 4930(8) | 7909(5) | -2590(5) | 63(3) |
| C(30) | 4264(7) | 8246(5) | -2270(4) | 51(2) |
| C(31) | 4198(6) | 8963(5) | -2317(4) | 40(2) |
| C(32) | 5696(6) | 10627(4) | -3146(3) | 33(2) |
| C(33) | 5640(7) | 10241(5) | -3763(4) | 44(2) |

| | | | | |
|---|---|---|---|---|
| C(34) | 6386(8) | 10513(7) | -4116(5) | 61(3) |
| C(35) | 7156(8) | 11120(6) | -3890(5) | 64(3) |
| C(36) | 7217(7) | 11506(6) | -3299(5) | 51(2) |
| C(37) | 6499(6) | 11272(5) | -2917(4) | 43(2) |
| C(38) | 5174(6) | 10759(4) | -1908(3) | 32(2) |
| C(39) | 6050(6) | 9827(5) | -1268(4) | 36(2) |
| C(40) | 5270(7) | 9728(5) | -898(4) | 46(2) |
| C(41) | 5041(7) | 9104(5) | -659(4) | 47(2) |
| C(42) | 5591(9) | 8571(5) | -786(4) | 57(3) |
| C(43) | 6351(8) | 8657(5) | -1141(5) | 55(3) |
| C(44) | 6599(7) | 9284(5) | -1389(4) | 47(2) |
| C(45) | 6754(7) | 11393(5) | -937(4) | 48(2) |
| C(46) | 6082(10) | 11743(6) | -609(5) | 71(3) |
| C(47) | 6426(14) | 12309(7) | -78(6) | 91(4) |
| C(48) | 7430(19) | 12513(8) | 134(6) | 125(8) |
| C(49) | 8084(14) | 12176(10) | -180(9) | 131(7) |
| C(50) | 7752(9) | 11618(7) | -708(6) | 89(4) |
| C(1') | 12409(9) | 5906(6) | 1564(5) | 57(3) |
| C(2') | 11950(13) | 5445(7) | 1009(5) | 100(5) |
| C(3') | 12442(18) | 5542(9) | 468(6) | 132(7) |
| C(4') | 13380(20) | 6058(11) | 525(9) | 149(10) |
| C(5') | 13818(17) | 6480(11) | 1050(9) | 134(8) |
| C(6') | 13339(10) | 6418(7) | 1576(6) | 79(4) |
| C(7') | 11033(7) | 6506(5) | 2308(4) | 51(2) |
| C(8') | 11132(9) | 7010(6) | 1923(5) | 70(3) |
| C(9') | 10590(11) | 7544(7) | 2000(7) | 89(4) |
| C(10') | 9946(10) | 7602(7) | 2452(8) | 93(4) |
| C(11') | 9831(9) | 7098(7) | 2809(6) | 82(4) |
| C(12') | 10361(8) | 6556(6) | 2735(5) | 64(3) |
| C(13') | 12777(6) | 6255(5) | 2901(4) | 41(2) |
| C(14') | 13367(7) | 5429(6) | 3754(4) | 49(2) |
| C(15') | 13222(8) | 4784(6) | 3956(5) | 61(3) |
| C(16') | 14043(12) | 4612(8) | 4241(6) | 91(4) |
| C(17') | 15001(11) | 5080(10) | 4306(6) | 97(4) |
| C(18') | 15127(9) | 5736(8) | 4121(5) | 83(4) |
| C(19') | 14313(7) | 5915(7) | 3845(5) | 63(3) |
| C(20') | 11715(6) | 6060(5) | 3997(4) | 44(2) |

| | | | | |
|---|---|---|---|---|
| C(21') | 11280(9) | 5654(6) | 4409(5) | 72(3) |
| C(22') | 10901(10) | 5969(7) | 4917(5) | 84(4) |
| C(23') | 10867(8) | 6712(7) | 5018(5) | 71(3) |
| C(24') | 11248(10) | 7134(7) | 4605(5) | 80(4) |
| C(25') | 11691(8) | 6809(5) | 4108(5) | 60(3) |
| C(26') | 13836(7) | 4409(5) | 2383(4) | 46(2) |
| C(27') | 14301(7) | 5091(5) | 2250(4) | 47(2) |
| C(28') | 15328(8) | 5409(6) | 2408(5) | 63(3) |
| C(29') | 15895(9) | 5054(7) | 2684(6) | 81(4) |
| C(30') | 15457(8) | 4373(7) | 2804(5) | 68(3) |
| C(31') | 14447(7) | 4051(6) | 2661(4) | 52(2) |
| C(32') | 12153(7) | 3092(5) | 2282(5) | 49(2) |
| C(33') | 11674(8) | 2460(6) | 1835(5) | 65(3) |
| C(34') | 11329(10) | 1770(6) | 1987(6) | 80(4) |
| C(35') | 11491(9) | 1711(7) | 2565(6) | 76(3) |
| C(36') | 11957(9) | 2333(6) | 3012(7) | 78(4) |
| C(37') | 12275(8) | 3012(5) | 2863(5) | 56(3) |
| C(38') | 12515(8) | 3864(5) | 1294(4) | 53(2) |
| C(39') | 14563(9) | 3970(7) | 966(5) | 66(3) |
| C(40') | 14645(9) | 4623(7) | 746(5) | 75(3) |
| C(41') | 15592(13) | 5146(8) | 798(6) | 103(5) |
| C(42') | 16496(14) | 5007(15) | 1045(8) | 135(8) |
| C(43') | 16407(12) | 4366(11) | 1240(7) | 108(6) |
| C(44') | 15440(11) | 3829(9) | 1203(5) | 91(4) |
| C(45') | 12883(8) | 3099(6) | 137(3) | 85(4) |
| C(46') | 11890(7) | 3086(7) | -48(4) | 150(6) |
| C(47') | 11545(7) | 2890(9) | -664(4) | 188(8) |
| C(48') | 12194(10) | 2706(8) | -1096(3) | 198(11) |
| C(49') | 13188(9) | 2718(9) | -911(4) | 188(8) |
| C(50') | 13532(7) | 2915(8) | -295(5) | 150(6) |
| O(1S) | 8042(15) | 6409(11) | 5089(9) | 240(9) |
| C(2S) | 8204(12) | 5697(9) | 4018(6) | 99(5) |
| C(1S) | 6270(20) | 8282(12) | 5508(11) | 219(12) |

Table 5. Atomic coordinates ($x10^4$) and equivalent isotropic displacement parameters ($Å^2 \times 10^3$) for [1,1-($\eta^2$-dppe)-3-($\eta^1$-dppeO)-*closo*-1,2-$RhSB_9H_8$] (**20**). U(eq) is defined as one third of the trace of the orthogonalized $U^{ij}$ tensor.

| | x | y | z | U(eq) |
|---|---|---|---|---|
| Rh(1) | 6802(1) | 8226(1) | 9172(1) | 30(1) |
| S(2) | 7874(1) | 7849(1) | 10112(1) | 48(1) |
| P(1) | 5123(1) | 8409(1) | 9466(1) | 36(1) |
| P(2) | 6895(1) | 9293(1) | 9075(1) | 35(1) |
| P(3) | 5849(1) | 7822(1) | 7453(1) | 44(1) |
| P(4) | 3559(1) | 9395(1) | 6943(1) | 41(1) |
| O(1) | 3753(3) | 9801(2) | 7566(2) | 55(1) |
| B(3) | 6789(4) | 7739(2) | 8249(2) | 35(1) |
| B(4) | 7161(5) | 7142(2) | 9678(3) | 45(1) |
| B(5) | 8642(4) | 8013(3) | 9313(3) | 46(1) |
| B(6) | 8079(4) | 7961(2) | 8432(3) | 43(1) |
| B(7) | 6635(4) | 7131(2) | 8790(2) | 36(1) |
| B(8) | 8666(5) | 7171(3) | 9659(3) | 54(2) |
| B(9) | 7743(4) | 7146(2) | 8262(2) | 40(1) |
| B(10) | 7877(5) | 6761(2) | 9057(3) | 43(1) |
| B(11) | 8859(5) | 7333(3) | 8818(3) | 49(1) |
| C(1) | 4716(4) | 9217(2) | 9187(2) | 42(1) |
| C(2) | 5646(4) | 9655(2) | 9308(2) | 45(1) |
| C(3) | 4013(4) | 7916(2) | 9147(2) | 44(1) |
| C(4) | 4112(4) | 7264(2) | 9171(2) | 53(1) |
| C(5) | 3280(5) | 6875(3) | 8914(3) | 66(2) |
| C(6) | 2356(5) | 7145(3) | 8648(3) | 74(2) |
| C(7) | 2237(5) | 7780(4) | 8629(3) | 77(2) |
| C(8) | 3057(4) | 8172(3) | 8862(3) | 62(1) |
| C(9) | 4942(4) | 8434(2) | 10377(2) | 41(1) |
| C(10) | 5701(4) | 8742(2) | 10805(2) | 46(1) |
| C(11) | 5551(4) | 8811(2) | 11484(2) | 53(1) |
| C(12) | 4661(5) | 8547(3) | 11751(2) | 57(1) |
| C(13) | 3936(5) | 8234(3) | 11331(3) | 61(1) |
| C(14) | 4073(4) | 8189(2) | 10654(2) | 52(1) |
| C(15) | 7170(4) | 9626(2) | 8259(2) | 39(1) |

| | | | | |
|---|---|---|---|---|
| C(16) | 6403(4) | 9931(2) | 7828(2) | 47(1) |
| C(17) | 6675(5) | 10191(2) | 7226(3) | 61(1) |
| C(18) | 7702(5) | 10150(3) | 7040(3) | 65(2) |
| C(19) | 8453(4) | 9845(3) | 7454(3) | 62(1) |
| C(20) | 8203(4) | 9591(2) | 8062(2) | 47(1) |
| C(21) | 7809(4) | 9784(2) | 9627(2) | 43(1) |
| C(22) | 7885(5) | 10431(2) | 9490(3) | 65(2) |
| C(23) | 8486(6) | 10819(3) | 9929(4) | 81(2) |
| C(24) | 9010(5) | 10580(3) | 10490(3) | 80(2) |
| C(25) | 8949(5) | 9954(3) | 10623(3) | 71(2) |
| C(26) | 8342(4) | 9548(2) | 10193(2) | 54(1) |
| C(27) | 4998(4) | 8514(2) | 7507(2) | 39(1) |
| C(28) | 4596(4) | 8812(2) | 6839(2) | 39(1) |
| C(29) | 4948(5) | 7157(2) | 7297(2) | 62(2) |
| C(30) | 5339(7) | 6547(3) | 7269(5) | 144(5) |
| C(31) | 4672(9) | 6047(3) | 7142(6) | 198(7) |
| C(32) | 3591(8) | 6142(3) | 7052(5) | 132(4) |
| C(33) | 3198(6) | 6733(3) | 7071(3) | 75(2) |
| C(34) | 3871(5) | 7235(2) | 7198(3) | 61(1) |
| C(35) | 6529(5) | 7943(3) | 6692(2) | 61(2) |
| C(36) | 6194(6) | 7660(3) | 6080(3) | 89(2) |
| C(37) | 6725(9) | 7803(5) | 5513(3) | 121(4) |
| C(38) | 7559(10) | 8232(5) | 5563(4) | 134(5) |
| C(39) | 7882(7) | 8518(4) | 6157(3) | 105(3) |
| C(40) | 7356(6) | 8371(3) | 6725(3) | 74(2) |
| C(41) | 2340(4) | 8952(2) | 6961(2) | 44(1) |
| C(42) | 2065(4) | 8451(3) | 6531(2) | 53(1) |
| C(43) | 1125(5) | 8118(3) | 6591(3) | 65(2) |
| C(44) | 466(5) | 8279(3) | 7076(3) | 73(2) |
| C(45) | 735(5) | 8771(3) | 7502(3) | 72(2) |
| C(46) | 1658(4) | 9113(3) | 7454(3) | 60(1) |
| C(47) | 3556(4) | 9846(2) | 6174(2) | 45(1) |
| C(48) | 3295(5) | 9602(2) | 5544(3) | 62(2) |
| C(49) | 3448(5) | 9954(3) | 4965(3) | 71(2) |
| C(50) | 3865(5) | 10548(3) | 5023(3) | 70(2) |
| C(51) | 4112(5) | 10809(3) | 5650(3) | 72(2) |
| C(52) | 3949(5) | 10465(2) | 6219(3) | 61(1) |

| | | | | |
|---|---|---|---|---|
| C(1S) | 183(9) | 9856(8) | 5777(5) | 231(9) |
| C(2S) | 171(7) | 9317(3) | 5230(8) | 131(4) |
| C(3S) | 335(9) | 9488(6) | 4507(8) | 193(7) |

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Table 6. Interatomic Distances [Å] and Angles [°] for [8,8-($\eta^2$-dppp)-8,7-$RhSB_9H_{10}$] (**3**).

| | | | |
|---|---|---|---|
| Rh(8)-B(9) | 2.138(3) | C(1)-C(2) | 1.520(4) |
| Rh(8)-B(4) | 2.236(3) | C(2)-C(3) | 1.532(4) |
| Rh(8)-B(3) | 2.238(3) | C(4)-C(5) | 1.387(4) |
| Rh(8)-P(2) | 2.2645(6) | C(4)-C(9) | 1.391(4) |
| Rh(8)-P(1) | 2.3324(7) | C(5)-C(6) | 1.389(4) |
| Rh(8)-S(7) | 2.3644(7) | C(6)-C(7) | 1.373(4) |
| S(7)-B(11) | 1.908(4) | C(7)-C(8) | 1.371(5) |
| S(7)-B(2) | 1.984(4) | C(8)-C(9) | 1.371(4) |
| S(7)-B(3) | 2.053(4) | C(10)-C(15) | 1.377(4) |
| P(1)-C(10) | 1.817(3) | C(10)-C(11) | 1.395(4) |
| P(1)-C(4) | 1.821(3) | C(11)-C(12) | 1.378(4) |
| P(1)-C(1) | 1.827(3) | C(12)-C(13) | 1.360(5) |
| P(2)-C(16) | 1.814(3) | C(13)-C(14) | 1.367(5) |
| P(2)-C(22) | 1.827(3) | C(14)-C(15) | 1.391(5) |
| P(2)-C(3) | 1.829(3) | C(16)-C(21) | 1.386(5) |
| B(1)-B(3) | 1.749(6) | C(16)-C(17) | 1.402(4) |
| B(1)-B(2) | 1.759(6) | C(17)-C(18) | 1.387(6) |
| B(1)-B(6) | 1.766(7) | C(18)-C(19') | 1.317(15) |
| B(1)-B(4) | 1.781(5) | C(18)-C(19) | 1.390(14) |
| B(1)-B(5) | 1.781(7) | C(19)-C(20) | 1.407(14) |
| B(2)-B(6) | 1.746(6) | C(19')-C(20) | 1.320(14) |
| B(2)-B(11) | 1.817(6) | C(20)-C(21) | 1.406(5) |
| B(2)-B(3) | 1.887(5) | C(22)-C(27) | 1.386(4) |
| B(3)-B(4) | 1.771(5) | C(22)-C(23) | 1.394(4) |
| B(4)-B(5) | 1.779(6) | C(23)-C(24) | 1.390(4) |
| B(4)-B(9) | 1.830(5) | C(24)-C(25) | 1.374(5) |
| B(5)-B(9) | 1.768(5) | C(25)-C(26) | 1.368(5) |
| B(5)-B(6) | 1.773(5) | C(26)-C(27) | 1.390(4) |
| B(5)-B(10) | 1.779(6) | Cl(1)-C(1S) | 1.822(5) |
| B(6)-B(11) | 1.713(5) | Cl(2)-C(1S) | 1.687(6) |
| B(6)-B(10) | 1.760(6) | Cl(3)-C(1S) | 1.973(6) |
| B(9)-B(10) | 1.861(5) | Cl(3')-C(1S) | 1.651(5) |
| B(10)-B(11) | 1.859(5) | | |

| | | | |
|---|---|---|---|
| B(9)-Rh(8)-B(4) | 49.41(14) | B(3)-B(1)-B(4) | 60.2(2) |
| B(9)-Rh(8)-B(3) | 84.77(15) | B(2)-B(1)-B(4) | 114.2(3) |
| B(4)-Rh(8)-B(3) | 46.63(14) | B(6)-B(1)-B(4) | 108.7(3) |
| B(9)-Rh(8)-P(2) | 92.00(8) | B(3)-B(1)-B(5) | 108.1(2) |
| B(4)-Rh(8)-P(2) | 91.16(9) | B(2)-B(1)-B(5) | 110.4(3) |
| B(3)-Rh(8)-P(2) | 123.78(10) | B(6)-B(1)-B(5) | 60.0(2) |
| B(9)-Rh(8)-P(1) | 110.57(10) | B(4)-B(1)-B(5) | 59.9(2) |
| B(4)-Rh(8)-P(1) | 159.90(11) | B(6)-B(2)-B(1) | 60.5(3) |
| B(3)-Rh(8)-P(1) | 141.82(10) | B(6)-B(2)-B(11) | 57.4(2) |
| P(2)-Rh(8)-P(1) | 91.43(2) | B(1)-B(2)-B(11) | 106.9(3) |
| B(9)-Rh(8)-S(7) | 93.42(8) | B(6)-B(2)-B(3) | 104.0(3) |
| B(4)-Rh(8)-S(7) | 89.33(9) | B(1)-B(2)-B(3) | 57.2(2) |
| B(3)-Rh(8)-S(7) | 52.91(10) | B(11)-B(2)-B(3) | 106.4(2) |
| P(2)-Rh(8)-S(7) | 173.27(3) | B(6)-B(2)-S(7) | 108.0(2) |
| P(1)-Rh(8)-S(7) | 90.41(2) | B(1)-B(2)-S(7) | 111.8(2) |
| B(11)-S(7)-B(2) | 55.61(19) | B(11)-B(2)-S(7) | 60.10(16) |
| B(11)-S(7)-B(3) | 96.86(17) | B(3)-B(2)-S(7) | 64.02(16) |
| B(2)-S(7)-B(3) | 55.71(16) | B(1)-B(3)-B(4) | 60.8(2) |
| B(11)-S(7)-Rh(8) | 106.72(11) | B(1)-B(3)-B(2) | 57.7(2) |
| B(2)-S(7)-Rh(8) | 108.03(12) | B(4)-B(3)-B(2) | 108.7(3) |
| B(3)-S(7)-Rh(8) | 60.38(9) | B(1)-B(3)-S(7) | 109.1(2) |
| C(10)-P(1)-C(4) | 104.86(12) | B(4)-B(3)-S(7) | 115.4(2) |
| C(10)-P(1)-C(1) | 103.88(13) | B(2)-B(3)-S(7) | 60.28(16) |
| C(4)-P(1)-C(1) | 103.16(12) | B(1)-B(3)-Rh(8) | 117.9(2) |
| C(10)-P(1)-Rh(8) | 114.82(9) | B(4)-B(3)-Rh(8) | 66.64(15) |
| C(4)-P(1)-Rh(8) | 112.48(8) | B(2)-B(3)-Rh(8) | 117.2(2) |
| C(1)-P(1)-Rh(8) | 116.29(9) | S(7)-B(3)-Rh(8) | 66.71(11) |
| C(16)-P(2)-C(22) | 103.42(13) | B(3)-B(4)-B(5) | 107.2(3) |
| C(16)-P(2)-C(3) | 106.07(15) | B(3)-B(4)-B(1) | 59.0(2) |
| C(22)-P(2)-C(3) | 101.46(13) | B(5)-B(4)-B(1) | 60.0(2) |
| C(16)-P(2)-Rh(8) | 105.72(10) | B(3)-B(4)-B(9) | 110.0(2) |
| C(22)-P(2)-Rh(8) | 121.72(8) | B(5)-B(4)-B(9) | 58.6(2) |
| C(3)-P(2)-Rh(8) | 116.85(9) | B(1)-B(4)-B(9) | 107.9(3) |
| B(3)-B(1)-B(2) | 65.1(2) | B(3)-B(4)-Rh(8) | 66.73(16) |
| B(3)-B(1)-B(6) | 109.1(3) | B(5)-B(4)-Rh(8) | 113.2(2) |
| B(2)-B(1)-B(6) | 59.4(2) | B(1)-B(4)-Rh(8) | 116.5(2) |

| | | | |
|---|---|---|---|
| B(9)-B(4)-Rh(8) | 62.51(14) | B(2)-B(11)-S(7) | 64.29(19) |
| B(9)-B(5)-B(6) | 110.6(3) | B(10)-B(11)-S(7) | 113.0(2) |
| B(9)-B(5)-B(10) | 63.3(2) | C(2)-C(1)-P(1) | 112.8(2) |
| B(6)-B(5)-B(10) | 59.4(2) | C(1)-C(2)-C(3) | 114.1(2) |
| B(9)-B(5)-B(4) | 62.12(19) | C(2)-C(3)-P(2) | 116.4(2) |
| B(6)-B(5)-B(4) | 108.4(3) | C(5)-C(4)-C(9) | 118.6(3) |
| B(10)-B(5)-B(4) | 111.9(2) | C(5)-C(4)-P(1) | 120.3(2) |
| B(9)-B(5)-B(1) | 110.8(3) | C(9)-C(4)-P(1) | 121.0(2) |
| B(6)-B(5)-B(1) | 59.6(2) | C(6)-C(5)-C(4) | 120.3(3) |
| B(10)-B(5)-B(1) | 108.8(3) | C(7)-C(6)-C(5) | 120.3(3) |
| B(4)-B(5)-B(1) | 60.0(2) | C(8)-C(7)-C(6) | 119.5(3) |
| B(11)-B(6)-B(2) | 63.3(2) | C(7)-C(8)-C(9) | 120.9(3) |
| B(11)-B(6)-B(10) | 64.7(2) | C(8)-C(9)-C(4) | 120.4(3) |
| B(2)-B(6)-B(10) | 115.6(3) | C(15)-C(10)-C(11) | 118.4(3) |
| B(11)-B(6)-B(1) | 111.3(3) | C(15)-C(10)-P(1) | 119.3(2) |
| B(2)-B(6)-B(1) | 60.1(3) | C(11)-C(10)-P(1) | 122.3(2) |
| B(10)-B(6)-B(1) | 110.3(3) | C(12)-C(11)-C(10) | 120.7(3) |
| B(11)-B(6)-B(5) | 113.1(3) | C(13)-C(12)-C(11) | 120.1(3) |
| B(2)-B(6)-B(5) | 111.3(3) | C(12)-C(13)-C(14) | 120.5(3) |
| B(10)-B(6)-B(5) | 60.4(2) | C(13)-C(14)-C(15) | 119.9(3) |
| B(1)-B(6)-B(5) | 60.4(2) | C(10)-C(15)-C(14) | 120.4(3) |
| B(5)-B(9)-B(4) | 59.2(2) | C(21)-C(16)-C(17) | 119.5(3) |
| B(5)-B(9)-B(10) | 58.6(2) | C(21)-C(16)-P(2) | 118.6(3) |
| B(4)-B(9)-B(10) | 106.0(2) | C(17)-C(16)-P(2) | 121.9(3) |
| B(5)-B(9)-Rh(8) | 118.4(2) | C(18)-C(17)-C(16) | 119.1(5) |
| B(4)-B(9)-Rh(8) | 68.08(16) | C(19')-C(18)-C(19) | 9(2) |
| B(10)-B(9)-Rh(8) | 114.17(19) | C(19')-C(18)-C(17) | 118.4(10) |
| B(6)-B(10)-B(5) | 60.1(2) | C(19)-C(18)-C(17) | 124.6(10) |
| B(6)-B(10)-B(11) | 56.4(2) | C(18)-C(19)-C(20) | 113.9(15) |
| B(5)-B(10)-B(11) | 106.2(3) | C(18)-C(19')-C(20) | 125.6(16) |
| B(6)-B(10)-B(9) | 107.0(3) | C(19')-C(20)-C(21) | 118.0(10) |
| B(5)-B(10)-B(9) | 58.09(19) | C(19')-C(20)-C(19) | 9(2) |
| B(11)-B(10)-B(9) | 111.1(2) | C(21)-C(20)-C(19) | 123.7(10) |
| B(6)-B(11)-B(2) | 59.2(3) | C(16)-C(21)-C(20) | 118.9(5) |
| B(6)-B(11)-B(10) | 58.9(2) | C(27)-C(22)-C(23) | 118.4(3) |
| B(2)-B(11)-B(10) | 107.7(3) | C(27)-C(22)-P(2) | 121.8(2) |
| B(6)-B(11)-S(7) | 113.0(3) | C(23)-C(22)-P(2) | 119.8(2) |

| | | | |
|---|---|---|---|
| C(24)-C(23)-C(22) | 120.5(3) | Cl(3')-C(1S)-Cl(1) | 118.9(4) |
| C(25)-C(24)-C(23) | 120.0(3) | Cl(2)-C(1S)-Cl(1) | 112.9(2) |
| C(26)-C(25)-C(24) | 120.2(3) | Cl(3')-C(1S)-Cl(3) | 30.3(2) |
| C(25)-C(26)-C(27) | 120.3(3) | Cl(2)-C(1S)-Cl(3) | 115.3(3) |
| C(22)-C(27)-C(26) | 120.6(3) | Cl(1)-C(1S)-Cl(3) | 91.8(3) |
| Cl(3')-C(1S)-Cl(2) | 111.1(3) | | |

Symmetry transformations used to generate equivalent atoms:

Table 7. Interatomic Distances [Å] and Angles [°] for [8,8-($\eta^2$-dppp)-9-(OEt)-*nido*-8,7-$RhSB_9H_9$] (**14**).

| | | | |
|---|---|---|---|
| Rh(8)-B(9) | 2.122(3) | B(9)-O(1) | 1.386(3) |
| Rh(8)-B(4) | 2.218(3) | B(9)-B(10) | 1.944(4) |
| Rh(8)-B(3) | 2.264(3) | B(10)-B(11) | 1.853(5) |
| Rh(8)-P(2) | 2.2680(7) | O(1)-C(28) | 1.436(3) |
| Rh(8)-P(1) | 2.3337(8) | C(1)-C(2) | 1.533(4) |
| Rh(8)-S(7) | 2.3693(7) | C(2)-C(3) | 1.531(4) |
| P(1)-C(10) | 1.813(3) | C(4)-C(5) | 1.387(4) |
| P(1)-C(1) | 1.820(3) | C(4)-C(9) | 1.387(4) |
| P(1)-C(4) | 1.833(3) | C(5)-C(6) | 1.390(4) |
| P(2)-C(16) | 1.822(3) | C(6)-C(7) | 1.380(5) |
| P(2)-C(3) | 1.830(3) | C(7)-C(8) | 1.367(5) |
| P(2)-C(22) | 1.832(3) | C(8)-C(9) | 1.388(4) |
| S(7)-B(11) | 1.921(3) | C(10)-C(11) | 1.387(4) |
| S(7)-B(2) | 1.994(4) | C(10)-C(15) | 1.395(4) |
| S(7)-B(3) | 2.064(3) | C(11)-C(12) | 1.373(5) |
| B(1)-B(3) | 1.739(5) | C(12)-C(13) | 1.372(6) |
| B(1)-B(2) | 1.739(5) | C(13)-C(14) | 1.373(6) |
| B(1)-B(4) | 1.777(4) | C(14)-C(15) | 1.378(5) |
| B(1)-B(5) | 1.792(5) | C(16)-C(17) | 1.392(4) |
| B(1)-B(6) | 1.804(5) | C(16)-C(21) | 1.395(4) |
| B(2)-B(6) | 1.763(5) | C(17)-C(18) | 1.390(4) |
| B(2)-B(11) | 1.870(5) | C(18)-C(19) | 1.374(5) |
| B(2)-B(3) | 1.891(5) | C(19)-C(20) | 1.377(5) |
| B(3)-B(4) | 1.769(4) | C(20)-C(21) | 1.387(4) |
| B(4)-B(5) | 1.785(4) | C(22)-C(23) | 1.386(4) |
| B(4)-B(9) | 1.867(4) | C(22)-C(27) | 1.402(4) |
| B(5)-B(9) | 1.763(5) | C(23)-C(24) | 1.377(4) |
| B(5)-B(6) | 1.786(4) | C(24)-C(25) | 1.386(4) |
| B(5)-B(10) | 1.799(5) | C(25)-C(26) | 1.367(4) |
| B(6)-B(11) | 1.710(5) | C(26)-C(27) | 1.381(4) |
| B(6)-B(10) | 1.755(5) | C(28)-C(29) | 1.496(4) |

| | | | |
|---|---|---|---|
| B(9)-Rh(8)-B(4) | 50.91(12) | B(2)-B(1)-B(5) | 110.3(2) |
| B(9)-Rh(8)-B(3) | 87.01(12) | B(4)-B(1)-B(5) | 60.02(18) |
| B(4)-Rh(8)-B(3) | 46.47(12) | B(3)-B(1)-B(6) | 109.8(2) |
| B(9)-Rh(8)-P(2) | 93.81(8) | B(2)-B(1)-B(6) | 59.63(19) |
| B(4)-Rh(8)-P(2) | 92.00(8) | B(4)-B(1)-B(6) | 109.0(2) |
| B(3)-Rh(8)-P(2) | 121.79(8) | B(5)-B(1)-B(6) | 59.55(17) |
| B(9)-Rh(8)-P(1) | 103.44(9) | B(1)-B(2)-B(6) | 62.0(2) |
| B(4)-Rh(8)-P(1) | 154.34(8) | B(1)-B(2)-B(11) | 107.0(2) |
| B(3)-Rh(8)-P(1) | 146.06(8) | B(6)-B(2)-B(11) | 56.09(19) |
| P(2)-Rh(8)-P(1) | 90.08(3) | B(1)-B(2)-B(3) | 57.05(18) |
| B(9)-Rh(8)-S(7) | 95.98(8) | B(6)-B(2)-B(3) | 105.0(2) |
| B(4)-Rh(8)-S(7) | 89.42(8) | B(11)-B(2)-B(3) | 106.7(2) |
| B(3)-Rh(8)-S(7) | 52.85(8) | B(1)-B(2)-S(7) | 111.2(2) |
| P(2)-Rh(8)-S(7) | 168.43(3) | B(6)-B(2)-S(7) | 106.4(2) |
| P(1)-Rh(8)-S(7) | 93.60(3) | B(11)-B(2)-S(7) | 59.54(15) |
| C(10)-P(1)-C(1) | 103.66(14) | B(3)-B(2)-S(7) | 64.13(15) |
| C(10)-P(1)-C(4) | 102.74(13) | B(1)-B(3)-B(4) | 60.88(19) |
| C(1)-P(1)-C(4) | 103.77(12) | B(1)-B(3)-B(2) | 57.09(18) |
| C(10)-P(1)-Rh(8) | 119.66(10) | B(4)-B(3)-B(2) | 108.5(2) |
| C(1)-P(1)-Rh(8) | 111.46(10) | B(1)-B(3)-S(7) | 108.05(19) |
| C(4)-P(1)-Rh(8) | 113.87(9) | B(4)-B(3)-S(7) | 114.58(19) |
| C(16)-P(2)-C(3) | 107.28(14) | B(2)-B(3)-S(7) | 60.36(15) |
| C(16)-P(2)-C(22) | 102.28(12) | B(1)-B(3)-Rh(8) | 115.86(19) |
| C(3)-P(2)-C(22) | 100.68(12) | B(4)-B(3)-Rh(8) | 65.40(15) |
| C(16)-P(2)-Rh(8) | 104.13(9) | B(2)-B(3)-Rh(8) | 116.08(18) |
| C(3)-P(2)-Rh(8) | 117.66(9) | S(7)-B(3)-Rh(8) | 66.19(10) |
| C(22)-P(2)-Rh(8) | 123.10(9) | B(3)-B(4)-B(1) | 58.73(19) |
| B(11)-S(7)-B(2) | 57.01(15) | B(3)-B(4)-B(5) | 107.1(2) |
| B(11)-S(7)-B(3) | 98.36(15) | B(1)-B(4)-B(5) | 60.39(18) |
| B(2)-S(7)-B(3) | 55.51(14) | B(3)-B(4)-B(9) | 112.4(2) |
| B(11)-S(7)-Rh(8) | 106.02(10) | B(1)-B(4)-B(9) | 108.8(2) |
| B(2)-S(7)-Rh(8) | 107.72(10) | B(5)-B(4)-B(9) | 57.68(17) |
| B(3)-S(7)-Rh(8) | 60.95(9) | B(3)-B(4)-Rh(8) | 68.13(16) |
| B(3)-B(1)-B(2) | 65.9(2) | B(1)-B(4)-Rh(8) | 116.4(2) |
| B(3)-B(1)-B(4) | 60.39(18) | B(5)-B(4)-Rh(8) | 110.58(19) |
| B(2)-B(1)-B(4) | 115.3(3) | B(9)-B(4)-Rh(8) | 61.88(14) |
| B(3)-B(1)-B(5) | 108.1(2) | B(9)-B(5)-B(4) | 63.50(18) |

| | | | |
|---|---|---|---|
| B(9)-B(5)-B(6) | 113.5(2) | B(10)-B(11)-B(2) | 107.4(2) |
| B(4)-B(5)-B(6) | 109.5(2) | B(6)-B(11)-S(7) | 111.9(2) |
| B(9)-B(5)-B(1) | 113.0(2) | B(10)-B(11)-S(7) | 113.14(19) |
| B(4)-B(5)-B(1) | 59.59(18) | B(2)-B(11)-S(7) | 63.45(15) |
| B(6)-B(5)-B(1) | 60.57(18) | B(9)-O(1)-C(28) | 121.5(2) |
| B(9)-B(5)-B(10) | 66.15(19) | C(2)-C(1)-P(1) | 112.25(19) |
| B(4)-B(5)-B(10) | 114.4(2) | C(3)-C(2)-C(1) | 115.6(2) |
| B(6)-B(5)-B(10) | 58.64(18) | C(2)-C(3)-P(2) | 117.9(2) |
| B(1)-B(5)-B(10) | 109.6(2) | C(5)-C(4)-C(9) | 118.3(3) |
| B(11)-B(6)-B(10) | 64.6(2) | C(5)-C(4)-P(1) | 118.9(2) |
| B(11)-B(6)-B(2) | 65.1(2) | C(9)-C(4)-P(1) | 122.8(2) |
| B(10)-B(6)-B(2) | 117.0(3) | C(4)-C(5)-C(6) | 120.2(3) |
| B(11)-B(6)-B(5) | 112.6(2) | C(7)-C(6)-C(5) | 120.9(3) |
| B(10)-B(6)-B(5) | 61.07(18) | C(8)-C(7)-C(6) | 119.1(3) |
| B(2)-B(6)-B(5) | 109.5(2) | C(7)-C(8)-C(9) | 120.6(3) |
| B(11)-B(6)-B(1) | 111.3(2) | C(4)-C(9)-C(8) | 120.9(3) |
| B(10)-B(6)-B(1) | 111.1(2) | C(11)-C(10)-C(15) | 118.4(3) |
| B(2)-B(6)-B(1) | 58.36(19) | C(11)-C(10)-P(1) | 120.4(2) |
| B(5)-B(6)-B(1) | 59.88(18) | C(15)-C(10)-P(1) | 121.2(2) |
| O(1)-B(9)-B(5) | 124.7(3) | C(12)-C(11)-C(10) | 121.2(3) |
| O(1)-B(9)-B(4) | 129.4(2) | C(13)-C(12)-C(11) | 119.8(4) |
| B(5)-B(9)-B(4) | 58.82(17) | C(12)-C(13)-C(14) | 119.9(4) |
| O(1)-B(9)-B(10) | 118.5(2) | C(13)-C(14)-C(15) | 120.8(4) |
| B(5)-B(9)-B(10) | 57.81(17) | C(14)-C(15)-C(10) | 119.7(3) |
| B(4)-B(9)-B(10) | 104.5(2) | C(17)-C(16)-C(21) | 118.8(3) |
| O(1)-B(9)-Rh(8) | 115.2(2) | C(17)-C(16)-P(2) | 118.0(2) |
| B(5)-B(9)-Rh(8) | 115.98(19) | C(21)-C(16)-P(2) | 123.2(2) |
| B(4)-B(9)-Rh(8) | 67.21(14) | C(18)-C(17)-C(16) | 120.8(3) |
| B(10)-B(9)-Rh(8) | 111.06(18) | C(19)-C(18)-C(17) | 119.3(3) |
| B(6)-B(10)-B(5) | 60.29(18) | C(18)-C(19)-C(20) | 121.0(3) |
| B(6)-B(10)-B(11) | 56.51(19) | C(19)-C(20)-C(21) | 119.9(3) |
| B(5)-B(10)-B(11) | 105.6(2) | C(20)-C(21)-C(16) | 120.2(3) |
| B(6)-B(10)-B(9) | 106.6(2) | C(23)-C(22)-C(27) | 118.5(3) |
| B(5)-B(10)-B(9) | 56.03(16) | C(23)-C(22)-P(2) | 119.6(2) |
| B(11)-B(10)-B(9) | 111.9(2) | C(27)-C(22)-P(2) | 121.8(2) |
| B(6)-B(11)-B(10) | 58.86(19) | C(24)-C(23)-C(22) | 120.3(3) |
| B(6)-B(11)-B(2) | 58.8(2) | C(23)-C(24)-C(25) | 120.7(3) |

| | | | |
|---|---|---|---|
| C(26)-C(25)-C(24) | 119.6(3) | C(26)-C(27)-C(22) | 120.5(3) |
| C(25)-C(26)-C(27) | 120.4(3) | O(1)-C(28)-C(29) | 109.5(3) |

Symmetry transformations used to generate equivalent atoms:

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Table 8. Interatomic Distances [Å] and Angles [°] for [8,8-($\eta^2$-dppm)-8-(dppm)-*nido*-8,7-$RhSB_9H_{10}$] (**6**).

| | | | |
|---|---|---|---|
| Rh(8)-B(4) | 2.235(10) | P(1')-C(7') | 1.825(9) |
| Rh(8)-B(3) | 2.251(10) | P(1')-C(13') | 1.833(9) |
| Rh(8)-B(9) | 2.280(9) | P(2')-C(14') | 1.809(10) |
| Rh(8)-P(2) | 2.295(2) | P(2')-C(20') | 1.811(9) |
| Rh(8)-S(7) | 2.370(2) | P(2')-C(13') | 1.837(8) |
| Rh(8)-P(1) | 2.393(2) | P(3')-C(26') | 1.834(10) |
| Rh(8)-P(3) | 2.411(2) | P(3')-C(32') | 1.838(10) |
| Rh(8')-B(4') | 2.223(12) | P(3')-C(38') | 1.850(10) |
| Rh(8')-B(3') | 2.235(11) | P(4')-C(39') | 1.823(12) |
| Rh(8')-B(9') | 2.280(11) | P(4')-C(45') | 1.839(8) |
| Rh(8')-P(1') | 2.303(2) | P(4')-C(38') | 1.865(9) |
| Rh(8')-S(7') | 2.364(3) | Cl(1)-C(1S) | 1.75(2) |
| Rh(8')-P(2') | 2.371(2) | Cl(2)-C(1S) | 1.80(3) |
| Rh(8')-P(3') | 2.425(2) | Cl(3)-C(2S) | 1.615(16) |
| S(7)-B(11) | 1.908(11) | Cl(4)-C(2S) | 1.449(15) |
| S(7)-B(2) | 2.013(11) | B(1)-B(2) | 1.741(16) |
| S(7)-B(3) | 2.072(10) | B(1)-B(3) | 1.749(15) |
| S(7')-B(11') | 1.890(17) | B(1)-B(6) | 1.781(16) |
| S(7')-B(2') | 1.974(14) | B(1)-B(4) | 1.794(15) |
| S(7')-B(3') | 2.060(13) | B(1)-B(5) | 1.806(16) |
| P(1)-C(7) | 1.818(8) | B(2)-B(6) | 1.761(17) |
| P(1)-C(1) | 1.820(8) | B(2)-B(11) | 1.882(15) |
| P(1)-C(13) | 1.838(8) | B(2)-B(3) | 1.893(15) |
| P(2)-C(14) | 1.801(8) | B(3)-B(4) | 1.796(15) |
| P(2)-C(13) | 1.840(8) | B(4)-B(5) | 1.787(14) |
| P(2)-C(20) | 1.843(8) | B(4)-B(9) | 1.789(13) |
| P(3)-C(32) | 1.825(8) | B(5)-B(6) | 1.739(17) |
| P(3)-C(38) | 1.833(8) | B(5)-B(10) | 1.787(14) |
| P(3)-C(26) | 1.846(8) | B(5)-B(9) | 1.794(14) |
| P(4)-C(45) | 1.824(9) | B(6)-B(11) | 1.759(16) |
| P(4)-C(39) | 1.841(9) | B(6)-B(10) | 1.764(16) |
| P(4)-C(38) | 1.877(8) | B(9)-B(10) | 1.886(14) |
| P(1')-C(1') | 1.808(11) | B(10)-B(11) | 1.804(17) |

| | | | |
|---|---|---|---|
| B(1')-B(3') | 1.740(18) | C(20)-C(25) | 1.398(12) |
| B(1')-B(2') | 1.75(3) | C(21)-C(22) | 1.386(13) |
| B(1')-B(6') | 1.78(2) | C(22)-C(23) | 1.413(14) |
| B(1')-B(5') | 1.79(2) | C(23)-C(24) | 1.373(13) |
| B(1')-B(4') | 1.81(2) | C(24)-C(25) | 1.375(12) |
| B(2')-B(6') | 1.72(2) | C(26)-C(27) | 1.389(11) |
| B(2')-B(11') | 1.80(2) | C(26)-C(31) | 1.389(11) |
| B(2')-B(3') | 1.914(18) | C(27)-C(28) | 1.375(13) |
| B(3')-B(4') | 1.783(19) | C(28)-C(29) | 1.337(14) |
| B(4')-B(5') | 1.780(19) | C(29)-C(30) | 1.372(14) |
| B(4')-B(9') | 1.801(16) | C(30)-C(31) | 1.404(12) |
| B(5')-B(9') | 1.782(18) | C(32)-C(37) | 1.411(11) |
| B(5')-B(10') | 1.79(2) | C(32)-C(33) | 1.416(11) |
| B(5')-B(6') | 1.83(3) | C(33)-C(34) | 1.394(12) |
| B(6')-B(11') | 1.66(3) | C(34)-C(35) | 1.345(15) |
| B(6')-B(10') | 1.76(2) | C(35)-C(36) | 1.364(14) |
| B(9')-B(10') | 1.833(19) | C(36)-C(37) | 1.393(12) |
| B(10')-B(11') | 1.82(3) | C(39)-C(40) | 1.386(12) |
| C(1)-C(6) | 1.389(12) | C(39)-C(44) | 1.394(11) |
| C(1)-C(2) | 1.394(12) | C(40)-C(41) | 1.378(12) |
| C(2)-C(3) | 1.385(13) | C(41)-C(42) | 1.380(13) |
| C(3)-C(4) | 1.344(16) | C(42)-C(43) | 1.341(13) |
| C(4)-C(5) | 1.385(17) | C(43)-C(44) | 1.397(13) |
| C(5)-C(6) | 1.395(14) | C(45)-C(50) | 1.365(14) |
| C(7)-C(8) | 1.386(12) | C(45)-C(46) | 1.399(14) |
| C(7)-C(12) | 1.389(12) | C(46)-C(47) | 1.400(15) |
| C(8)-C(9) | 1.404(14) | C(47)-C(48) | 1.36(2) |
| C(9)-C(10) | 1.393(17) | C(48)-C(49) | 1.35(2) |
| C(10)-C(11) | 1.374(16) | C(49)-C(50) | 1.38(2) |
| C(11)-C(12) | 1.398(12) | C(1')-C(2') | 1.385(16) |
| C(14)-C(19) | 1.380(12) | C(1')-C(6') | 1.395(16) |
| C(14)-C(15) | 1.391(12) | C(2')-C(3') | 1.448(19) |
| C(15)-C(16) | 1.385(12) | C(3')-C(4') | 1.40(3) |
| C(16)-C(17) | 1.357(15) | C(4')-C(5') | 1.30(3) |
| C(17)-C(18) | 1.379(15) | C(5')-C(6') | 1.398(17) |
| C(18)-C(19) | 1.406(12) | C(7')-C(12') | 1.364(13) |
| C(20)-C(21) | 1.383(12) | C(7')-C(8') | 1.415(14) |

| | | | |
|---|---|---|---|
| C(8')-C(9') | 1.369(15) | C(29')-C(30') | 1.376(16) |
| C(9')-C(10') | 1.380(18) | C(30')-C(31') | 1.359(13) |
| C(10')-C(11') | 1.364(18) | C(32')-C(37') | 1.364(13) |
| C(11')-C(12') | 1.372(14) | C(32')-C(33') | 1.385(14) |
| C(14')-C(15') | 1.367(13) | C(33')-C(34') | 1.401(15) |
| C(14')-C(19') | 1.371(13) | C(34')-C(35') | 1.349(16) |
| C(15')-C(16') | 1.402(16) | C(35')-C(36') | 1.370(16) |
| C(16')-C(17') | 1.374(18) | C(36')-C(37') | 1.375(14) |
| C(17')-C(18') | 1.367(18) | C(39')-C(44') | 1.392(16) |
| C(18')-C(19') | 1.391(15) | C(39')-C(40') | 1.411(16) |
| C(20')-C(25') | 1.389(13) | C(40')-C(41') | 1.411(18) |
| C(20')-C(21') | 1.397(13) | C(41')-C(42') | 1.43(2) |
| C(21')-C(22') | 1.358(14) | C(42')-C(43') | 1.36(2) |
| C(22')-C(23') | 1.383(16) | C(43')-C(44') | 1.45(2) |
| C(23')-C(24') | 1.397(16) | C(45')-C(46') | 1.3900 |
| C(24')-C(25') | 1.394(14) | C(45')-C(50') | 1.3900 |
| C(26')-C(31') | 1.395(12) | C(46')-C(47') | 1.3900 |
| C(26')-C(27') | 1.398(12) | C(47')-C(48') | 1.3900 |
| C(27')-C(28') | 1.381(13) | C(48')-C(49') | 1.3900 |
| C(28')-C(29') | 1.347(15) | C(49')-C(50') | 1.3900 |

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|---|---|---|---|
| B(4)-Rh(8)-B(3) | 47.2(4) | B(4)-Rh(8)-P(3) | 130.0(3) |
| B(4)-Rh(8)-B(9) | 46.7(3) | B(3)-Rh(8)-P(3) | 147.8(3) |
| B(3)-Rh(8)-B(9) | 83.1(4) | B(9)-Rh(8)-P(3) | 83.5(2) |
| B(4)-Rh(8)-P(2) | 87.1(3) | P(2)-Rh(8)-P(3) | 103.44(7) |
| B(3)-Rh(8)-P(2) | 108.1(3) | S(7)-Rh(8)-P(3) | 97.24(7) |
| B(9)-Rh(8)-P(2) | 103.3(2) | P(1)-Rh(8)-P(3) | 99.12(7) |
| B(4)-Rh(8)-S(7) | 86.8(3) | B(4')-Rh(8')-B(3') | 47.1(5) |
| B(3)-Rh(8)-S(7) | 53.2(3) | B(4')-Rh(8')-B(9') | 47.1(4) |
| B(9)-Rh(8)-S(7) | 88.2(2) | B(3')-Rh(8')-B(9') | 82.7(4) |
| P(2)-Rh(8)-S(7) | 157.25(8) | B(4')-Rh(8')-P(1') | 88.9(4) |
| B(4)-Rh(8)-P(1) | 130.1(3) | B(3')-Rh(8')-P(1') | 110.3(3) |
| B(3)-Rh(8)-P(1) | 96.9(3) | B(9')-Rh(8')-P(1') | 104.9(3) |
| B(9)-Rh(8)-P(1) | 174.4(2) | B(4')-Rh(8')-S(7') | 87.1(4) |
| P(2)-Rh(8)-P(1) | 71.30(7) | B(3')-Rh(8')-S(7') | 53.1(3) |
| S(7)-Rh(8)-P(1) | 96.34(8) | B(9')-Rh(8')-S(7') | 87.5(3) |

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| P(1')-Rh(8')-S(7') | 158.62(9) | C(32)-P(3)-C(26) | 104.2(4) |
| B(4')-Rh(8')-P(2') | 128.4(3) | C(38)-P(3)-C(26) | 100.0(4) |
| B(3')-Rh(8')-P(2') | 95.1(3) | C(32)-P(3)-Rh(8) | 110.4(3) |
| B(9')-Rh(8')-P(2') | 174.9(3) | C(38)-P(3)-Rh(8) | 116.3(3) |
| P(1')-Rh(8')-P(2') | 71.45(8) | C(26)-P(3)-Rh(8) | 119.6(3) |
| S(7')-Rh(8')-P(2') | 94.93(10) | C(45)-P(4)-C(39) | 99.8(4) |
| B(4')-Rh(8')-P(3') | 131.4(3) | C(45)-P(4)-C(38) | 100.4(4) |
| B(3')-Rh(8')-P(3') | 147.3(3) | C(39)-P(4)-C(38) | 103.7(4) |
| B(9')-Rh(8')-P(3') | 84.5(3) | C(1')-P(1')-C(7') | 103.1(5) |
| P(1')-Rh(8')-P(3') | 102.01(8) | C(1')-P(1')-C(13') | 107.9(5) |
| S(7')-Rh(8')-P(3') | 96.39(9) | C(7')-P(1')-C(13') | 102.8(4) |
| P(2')-Rh(8')-P(3') | 99.66(8) | C(1')-P(1')-Rh(8') | 123.1(3) |
| B(11)-S(7)-B(2) | 57.3(5) | C(7')-P(1')-Rh(8') | 121.5(3) |
| B(11)-S(7)-B(3) | 99.1(5) | C(13')-P(1')-Rh(8') | 95.5(3) |
| B(2)-S(7)-B(3) | 55.2(4) | C(14')-P(2')-C(20') | 101.6(4) |
| B(11)-S(7)-Rh(8) | 112.0(4) | C(14')-P(2')-C(13') | 106.7(4) |
| B(2)-S(7)-Rh(8) | 109.4(3) | C(20')-P(2')-C(13') | 109.3(4) |
| B(3)-S(7)-Rh(8) | 60.5(3) | C(14')-P(2')-Rh(8') | 123.5(3) |
| B(11')-S(7')-B(2') | 55.6(7) | C(20')-P(2')-Rh(8') | 121.0(3) |
| B(11')-S(7')-B(3') | 98.1(7) | C(13')-P(2')-Rh(8') | 93.1(3) |
| B(2')-S(7')-B(3') | 56.6(5) | C(26')-P(3')-C(32') | 105.2(4) |
| B(11')-S(7')-Rh(8') | 111.8(7) | C(26')-P(3')-C(38') | 100.0(4) |
| B(2')-S(7')-Rh(8') | 110.5(5) | C(32')-P(3')-C(38') | 104.9(4) |
| B(3')-S(7')-Rh(8') | 60.2(3) | C(26')-P(3')-Rh(8') | 120.8(3) |
| C(7)-P(1)-C(1) | 99.5(4) | C(32')-P(3')-Rh(8') | 109.5(3) |
| C(7)-P(1)-C(13) | 107.2(4) | C(38')-P(3')-Rh(8') | 114.9(3) |
| C(1)-P(1)-C(13) | 107.2(4) | C(39')-P(4')-C(45') | 100.7(5) |
| C(7)-P(1)-Rh(8) | 127.4(3) | C(39')-P(4')-C(38') | 103.3(5) |
| C(1)-P(1)-Rh(8) | 120.4(3) | C(45')-P(4')-C(38') | 99.6(5) |
| C(13)-P(1)-Rh(8) | 93.0(3) | B(2)-B(1)-B(3) | 65.7(6) |
| C(14)-P(2)-C(13) | 107.1(4) | B(2)-B(1)-B(6) | 60.0(7) |
| C(14)-P(2)-C(20) | 101.9(4) | B(3)-B(1)-B(6) | 110.7(8) |
| C(13)-P(2)-C(20) | 105.0(4) | B(2)-B(1)-B(4) | 113.2(7) |
| C(14)-P(2)-Rh(8) | 124.6(3) | B(3)-B(1)-B(4) | 60.9(6) |
| C(13)-P(2)-Rh(8) | 96.1(3) | B(6)-B(1)-B(4) | 106.2(8) |
| C(20)-P(2)-Rh(8) | 119.7(3) | B(2)-B(1)-B(5) | 109.2(8) |
| C(32)-P(3)-C(38) | 104.6(4) | B(3)-B(1)-B(5) | 109.6(7) |

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| B(6)-B(1)-B(5) | 58.0(6) | B(10)-B(5)-B(9) | 63.6(6) |
| B(4)-B(1)-B(5) | 59.5(6) | B(6)-B(5)-B(1) | 60.3(6) |
| B(1)-B(2)-B(6) | 61.2(7) | B(4)-B(5)-B(1) | 59.9(6) |
| B(1)-B(2)-B(11) | 107.2(8) | B(10)-B(5)-B(1) | 108.9(8) |
| B(6)-B(2)-B(11) | 57.6(6) | B(9)-B(5)-B(1) | 109.9(7) |
| B(1)-B(2)-B(3) | 57.4(6) | B(5)-B(6)-B(11) | 111.8(8) |
| B(6)-B(2)-B(3) | 105.3(8) | B(5)-B(6)-B(10) | 61.3(6) |
| B(11)-B(2)-B(3) | 106.8(7) | B(11)-B(6)-B(10) | 61.6(6) |
| B(1)-B(2)-S(7) | 110.6(6) | B(5)-B(6)-B(2) | 111.5(8) |
| B(6)-B(2)-S(7) | 106.5(7) | B(11)-B(6)-B(2) | 64.7(6) |
| B(11)-B(2)-S(7) | 58.5(5) | B(10)-B(6)-B(2) | 114.4(8) |
| B(3)-B(2)-S(7) | 64.0(5) | B(5)-B(6)-B(1) | 61.7(6) |
| B(1)-B(3)-B(4) | 60.8(6) | B(11)-B(6)-B(1) | 111.0(8) |
| B(1)-B(3)-B(2) | 56.9(6) | B(10)-B(6)-B(1) | 111.1(8) |
| B(4)-B(3)-B(2) | 106.2(8) | B(2)-B(6)-B(1) | 58.9(6) |
| B(1)-B(3)-S(7) | 107.6(6) | B(4)-B(9)-B(5) | 59.8(6) |
| B(4)-B(3)-S(7) | 109.6(6) | B(4)-B(9)-B(10) | 105.2(7) |
| B(2)-B(3)-S(7) | 60.8(5) | B(5)-B(9)-B(10) | 58.0(5) |
| B(1)-B(3)-Rh(8) | 119.8(7) | B(4)-B(9)-Rh(8) | 65.3(4) |
| B(4)-B(3)-Rh(8) | 65.9(4) | B(5)-B(9)-Rh(8) | 117.3(6) |
| B(2)-B(3)-Rh(8) | 119.4(6) | B(10)-B(9)-Rh(8) | 114.7(6) |
| S(7)-B(3)-Rh(8) | 66.3(3) | B(6)-B(10)-B(5) | 58.6(6) |
| B(5)-B(4)-B(9) | 60.2(6) | B(6)-B(10)-B(11) | 59.1(6) |
| B(5)-B(4)-B(1) | 60.6(6) | B(5)-B(10)-B(11) | 107.5(8) |
| B(9)-B(4)-B(1) | 110.8(7) | B(6)-B(10)-B(9) | 106.5(7) |
| B(5)-B(4)-B(3) | 108.4(7) | B(5)-B(10)-B(9) | 58.4(5) |
| B(9)-B(4)-B(3) | 114.0(7) | B(11)-B(10)-B(9) | 112.1(7) |
| B(1)-B(4)-B(3) | 58.3(6) | B(6)-B(11)-B(10) | 59.3(7) |
| B(5)-B(4)-Rh(8) | 119.8(6) | B(6)-B(11)-B(2) | 57.7(6) |
| B(9)-B(4)-Rh(8) | 68.0(4) | B(10)-B(11)-B(2) | 106.9(7) |
| B(1)-B(4)-Rh(8) | 118.5(6) | B(6)-B(11)-S(7) | 111.2(6) |
| B(3)-B(4)-Rh(8) | 66.9(5) | B(10)-B(11)-S(7) | 112.1(6) |
| B(6)-B(5)-B(4) | 108.4(8) | B(2)-B(11)-S(7) | 64.2(5) |
| B(6)-B(5)-B(10) | 60.0(6) | B(3')-B(1')-B(2') | 66.5(9) |
| B(4)-B(5)-B(10) | 109.6(7) | B(3')-B(1')-B(6') | 110.2(12) |
| B(6)-B(5)-B(9) | 111.9(7) | B(2')-B(1')-B(6') | 58.0(11) |
| B(4)-B(5)-B(9) | 59.9(5) | B(3')-B(1')-B(5') | 109.7(9) |

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|---|---|---|---|
| B(2')-B(1')-B(5') | 110.9(12) | B(4')-B(5')-B(10') | 109.3(10) |
| B(6')-B(1')-B(5') | 61.4(10) | B(9')-B(5')-B(10') | 61.8(7) |
| B(3')-B(1')-B(4') | 60.3(7) | B(4')-B(5')-B(1') | 60.8(8) |
| B(2')-B(1')-B(4') | 113.7(10) | B(9')-B(5')-B(1') | 109.8(9) |
| B(6')-B(1')-B(4') | 107.9(9) | B(10')-B(5')-B(1') | 107.3(14) |
| B(5')-B(1')-B(4') | 59.2(9) | B(4')-B(5')-B(6') | 107.4(11) |
| B(6')-B(2')-B(1') | 62.0(10) | B(9')-B(5')-B(6') | 108.2(11) |
| B(6')-B(2')-B(11') | 56.2(10) | B(10')-B(5')-B(6') | 58.4(10) |
| B(1')-B(2')-B(11') | 106.2(13) | B(1')-B(5')-B(6') | 59.1(10) |
| B(6')-B(2')-B(3') | 105.5(11) | B(11')-B(6')-B(2') | 64.6(11) |
| B(1')-B(2')-B(3') | 56.5(7) | B(11')-B(6')-B(10') | 64.3(10) |
| B(11')-B(2')-B(3') | 106.9(9) | B(2')-B(6')-B(10') | 116.1(11) |
| B(6')-B(2')-S(7') | 106.9(9) | B(11')-B(6')-B(1') | 111.1(11) |
| B(1')-B(2')-S(7') | 110.0(8) | B(2')-B(6')-B(1') | 60.0(9) |
| B(11')-B(2')-S(7') | 59.8(7) | B(10')-B(6')-B(1') | 108.7(11) |
| B(3')-B(2')-S(7') | 64.0(5) | B(11')-B(6')-B(5') | 112.2(11) |
| B(1')-B(3')-B(4') | 61.8(9) | B(2')-B(6')-B(5') | 111.0(10) |
| B(1')-B(3')-B(2') | 57.0(9) | B(10')-B(6')-B(5') | 59.7(9) |
| B(4')-B(3')-B(2') | 107.4(9) | B(1')-B(6')-B(5') | 59.6(10) |
| B(1')-B(3')-S(7') | 106.7(9) | B(5')-B(9')-B(4') | 59.6(7) |
| B(4')-B(3')-S(7') | 110.4(7) | B(5')-B(9')-B(10') | 59.3(8) |
| B(2')-B(3')-S(7') | 59.4(6) | B(4')-B(9')-B(10') | 106.4(9) |
| B(1')-B(3')-Rh(8') | 120.2(8) | B(5')-B(9')-Rh(8') | 117.2(7) |
| B(4')-B(3')-Rh(8') | 66.1(5) | B(4')-B(9')-Rh(8') | 64.8(5) |
| B(2')-B(3')-Rh(8') | 118.6(7) | B(10')-B(9')-Rh(8') | 116.4(8) |
| S(7')-B(3')-Rh(8') | 66.6(3) | B(6')-B(10')-B(5') | 61.9(10) |
| B(5')-B(4')-B(3') | 108.4(11) | B(6')-B(10')-B(11') | 55.1(10) |
| B(5')-B(4')-B(9') | 59.7(7) | B(5')-B(10')-B(11') | 106.6(11) |
| B(3')-B(4')-B(9') | 112.8(10) | B(6')-B(10')-B(9') | 108.7(10) |
| B(5')-B(4')-B(1') | 60.0(9) | B(5')-B(10')-B(9') | 59.0(8) |
| B(3')-B(4')-B(1') | 57.9(8) | B(11')-B(10')-B(9') | 111.0(9) |
| B(9')-B(4')-B(1') | 108.2(10) | B(6')-B(11')-B(2') | 59.2(9) |
| B(5')-B(4')-Rh(8') | 120.2(9) | B(6')-B(11')-B(10') | 60.6(11) |
| B(3')-B(4')-Rh(8') | 66.8(6) | B(2')-B(11')-B(10') | 109.0(13) |
| B(9')-B(4')-Rh(8') | 68.1(5) | B(6')-B(11')-S(7') | 113.4(10) |
| B(1')-B(4')-Rh(8') | 117.5(10) | B(2')-B(11')-S(7') | 64.6(7) |
| B(4')-B(5')-B(9') | 60.7(7) | B(10')-B(11')-S(7') | 112.5(9) |

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|---|---|---|---|
| C(6)-C(1)-C(2) | 116.2(8) | C(29)-C(28)-C(27) | 122.6(9) |
| C(6)-C(1)-P(1) | 123.7(7) | C(28)-C(29)-C(30) | 119.5(9) |
| C(2)-C(1)-P(1) | 120.1(7) | C(29)-C(30)-C(31) | 120.2(9) |
| C(3)-C(2)-C(1) | 122.3(10) | C(26)-C(31)-C(30) | 119.4(8) |
| C(4)-C(3)-C(2) | 119.0(11) | C(37)-C(32)-C(33) | 118.7(7) |
| C(3)-C(4)-C(5) | 122.5(11) | C(37)-C(32)-P(3) | 123.7(6) |
| C(4)-C(5)-C(6) | 117.1(11) | C(33)-C(32)-P(3) | 117.6(6) |
| C(1)-C(6)-C(5) | 122.9(10) | C(34)-C(33)-C(32) | 118.4(9) |
| C(8)-C(7)-C(12) | 118.9(8) | C(35)-C(34)-C(33) | 122.3(10) |
| C(8)-C(7)-P(1) | 117.8(7) | C(34)-C(35)-C(36) | 120.2(9) |
| C(12)-C(7)-P(1) | 123.0(6) | C(35)-C(36)-C(37) | 121.0(10) |
| C(7)-C(8)-C(9) | 121.5(11) | C(36)-C(37)-C(32) | 119.4(9) |
| C(10)-C(9)-C(8) | 118.5(11) | P(3)-C(38)-P(4) | 116.5(4) |
| C(11)-C(10)-C(9) | 120.3(10) | C(40)-C(39)-C(44) | 118.5(8) |
| C(10)-C(11)-C(12) | 120.7(11) | C(40)-C(39)-P(4) | 124.8(6) |
| C(7)-C(12)-C(11) | 120.0(9) | C(44)-C(39)-P(4) | 116.8(6) |
| P(1)-C(13)-P(2) | 96.0(4) | C(41)-C(40)-C(39) | 120.7(9) |
| C(19)-C(14)-C(15) | 118.1(8) | C(42)-C(41)-C(40) | 120.0(9) |
| C(19)-C(14)-P(2) | 122.7(7) | C(43)-C(42)-C(41) | 120.3(9) |
| C(15)-C(14)-P(2) | 119.2(7) | C(42)-C(43)-C(44) | 120.9(9) |
| C(16)-C(15)-C(14) | 120.3(9) | C(39)-C(44)-C(43) | 119.7(9) |
| C(17)-C(16)-C(15) | 121.2(10) | C(50)-C(45)-C(46) | 117.0(10) |
| C(16)-C(17)-C(18) | 120.2(9) | C(50)-C(45)-P(4) | 116.5(9) |
| C(17)-C(18)-C(19) | 118.8(10) | C(46)-C(45)-P(4) | 126.4(8) |
| C(14)-C(19)-C(18) | 121.4(9) | C(45)-C(46)-C(47) | 121.2(12) |
| C(21)-C(20)-C(25) | 118.6(8) | C(48)-C(47)-C(46) | 119.7(15) |
| C(21)-C(20)-P(2) | 122.5(7) | C(49)-C(48)-C(47) | 119.5(14) |
| C(25)-C(20)-P(2) | 118.8(6) | C(48)-C(49)-C(50) | 121.3(16) |
| C(20)-C(21)-C(22) | 121.1(9) | C(45)-C(50)-C(49) | 121.3(14) |
| C(21)-C(22)-C(23) | 119.4(9) | C(2')-C(1')-C(6') | 118.5(11) |
| C(24)-C(23)-C(22) | 119.3(9) | C(2')-C(1')-P(1') | 119.8(10) |
| C(23)-C(24)-C(25) | 120.8(9) | C(6')-C(1')-P(1') | 121.7(9) |
| C(24)-C(25)-C(20) | 120.8(8) | C(1')-C(2')-C(3') | 118.0(15) |
| C(27)-C(26)-C(31) | 119.2(8) | C(4')-C(3')-C(2') | 119.5(15) |
| C(27)-C(26)-P(3) | 125.1(7) | C(5')-C(4')-C(3') | 121.9(18) |
| C(31)-C(26)-P(3) | 115.6(6) | C(4')-C(5')-C(6') | 120(2) |
| C(28)-C(27)-C(26) | 119.2(9) | C(1')-C(6')-C(5') | 122.4(15) |

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|---|---|---|---|
| C(12')-C(7')-C(8') | 117.8(9) | C(28')-C(29')-C(30') | 120.2(11) |
| C(12')-C(7')-P(1') | 121.2(8) | C(31')-C(30')-C(29') | 121.1(11) |
| C(8')-C(7')-P(1') | 121.0(8) | C(30')-C(31')-C(26') | 120.0(10) |
| C(9')-C(8')-C(7') | 119.9(11) | C(37')-C(32')-C(33') | 117.7(10) |
| C(8')-C(9')-C(10') | 121.1(12) | C(37')-C(32')-P(3') | 119.9(8) |
| C(11')-C(10')-C(9') | 118.5(11) | C(33')-C(32')-P(3') | 122.0(8) |
| C(10')-C(11')-C(12') | 121.1(13) | C(32')-C(33')-C(34') | 120.1(11) |
| C(7')-C(12')-C(11') | 121.4(11) | C(35')-C(34')-C(33') | 120.3(12) |
| P(1')-C(13')-P(2') | 96.1(4) | C(34')-C(35')-C(36') | 120.1(12) |
| C(15')-C(14')-C(19') | 119.6(9) | C(35')-C(36')-C(37') | 119.4(12) |
| C(15')-C(14')-P(2') | 117.3(8) | C(32')-C(37')-C(36') | 122.3(11) |
| C(19')-C(14')-P(2') | 123.0(8) | P(3')-C(38')-P(4') | 117.7(5) |
| C(14')-C(15')-C(16') | 120.2(11) | C(44')-C(39')-C(40') | 118.9(12) |
| C(17')-C(16')-C(15') | 120.2(13) | C(44')-C(39')-P(4') | 117.6(10) |
| C(18')-C(17')-C(16') | 118.9(13) | C(40')-C(39')-P(4') | 123.4(9) |
| C(17')-C(18')-C(19') | 121.0(12) | C(39')-C(40')-C(41') | 120.5(13) |
| C(14')-C(19')-C(18') | 119.9(11) | C(40')-C(41')-C(42') | 120.7(16) |
| C(25')-C(20')-C(21') | 116.9(9) | C(43')-C(42')-C(41') | 118(2) |
| C(25')-C(20')-P(2') | 124.2(7) | C(42')-C(43')-C(44') | 122.3(18) |
| C(21')-C(20')-P(2') | 118.9(7) | C(39')-C(44')-C(43') | 119.5(15) |
| C(22')-C(21')-C(20') | 123.1(10) | C(46')-C(45')-C(50') | 120.0 |
| C(21')-C(22')-C(23') | 119.5(11) | C(46')-C(45')-P(4') | 122.5(6) |
| C(22')-C(23')-C(24') | 119.6(10) | C(50')-C(45')-P(4') | 117.3(6) |
| C(25')-C(24')-C(23') | 119.6(11) | C(47')-C(46')-C(45') | 120.0 |
| C(20')-C(25')-C(24') | 121.2(10) | C(46')-C(47')-C(48') | 120.0 |
| C(31')-C(26')-C(27') | 117.9(9) | C(49')-C(48')-C(47') | 120.0 |
| C(31')-C(26')-P(3') | 125.5(7) | C(50')-C(49')-C(48') | 120.0 |
| C(27')-C(26')-P(3') | 116.5(7) | C(49')-C(50')-C(45') | 120.0 |
| C(28')-C(27')-C(26') | 120.7(9) | Cl(4)-C(2S)-Cl(3) | 117.2(11) |
| C(29')-C(28')-C(27') | 120.0(11) | Cl(1)-C(1S)-Cl(2) | 105.4(16) |

Symmetry transformations used to generate equivalent atoms:

Table 9. Interatomic Distances [Å] and Angles [°] for [1,1-($\eta^2$-dppe)-3-($\eta^1$-dppeO)-*closo*-1,2-$RhSB_9H_8$] (**20**).

| | | | |
|---|---|---|---|
| Rh(1)-B(3) | 2.106(4) | B(5)-B(6) | 1.850(8) |
| Rh(1)-P(2) | 2.2638(11) | B(5)-B(8) | 1.905(8) |
| Rh(1)-P(1) | 2.2805(12) | B(6)-B(11) | 1.792(8) |
| Rh(1)-B(6) | 2.337(5) | B(6)-B(9) | 1.798(7) |
| Rh(1)-S(2) | 2.3689(11) | B(7)-B(10) | 1.801(7) |
| Rh(1)-B(5) | 2.370(6) | B(7)-B(9) | 1.816(7) |
| Rh(1)-B(7) | 2.437(5) | B(8)-B(10) | 1.734(8) |
| Rh(1)-B(4) | 2.526(5) | B(8)-B(11) | 1.745(9) |
| S(2)-B(4) | 1.916(5) | B(9)-B(11) | 1.774(8) |
| S(2)-B(5) | 1.957(6) | B(9)-B(10) | 1.777(7) |
| S(2)-B(8) | 1.999(6) | B(10)-B(11) | 1.821(8) |
| P(1)-C(3) | 1.826(5) | C(1)-C(2) | 1.502(6) |
| P(1)-C(9) | 1.847(4) | C(3)-C(4) | 1.380(7) |
| P(1)-C(1) | 1.853(4) | C(3)-C(8) | 1.407(7) |
| P(2)-C(15) | 1.829(4) | C(4)-C(5) | 1.403(7) |
| P(2)-C(2) | 1.847(5) | C(5)-C(6) | 1.373(9) |
| P(2)-C(21) | 1.852(5) | C(6)-C(7) | 1.349(9) |
| P(3)-C(35) | 1.816(6) | C(7)-C(8) | 1.382(8) |
| P(3)-C(29) | 1.822(6) | C(9)-C(14) | 1.369(6) |
| P(3)-C(27) | 1.822(4) | C(9)-C(10) | 1.398(6) |
| P(3)-B(3) | 1.920(5) | C(10)-C(11) | 1.388(6) |
| P(4)-O(1) | 1.513(3) | C(11)-C(12) | 1.398(8) |
| P(4)-C(47) | 1.804(5) | C(12)-C(13) | 1.365(7) |
| P(4)-C(41) | 1.808(5) | C(13)-C(14) | 1.376(7) |
| P(4)-C(28) | 1.822(4) | C(15)-C(20) | 1.395(6) |
| B(3)-B(7) | 1.697(6) | C(15)-C(16) | 1.404(6) |
| B(3)-B(6) | 1.712(8) | C(16)-C(17) | 1.386(7) |
| B(3)-B(9) | 1.738(7) | C(17)-C(18) | 1.382(8) |
| B(4)-B(10) | 1.779(8) | C(18)-C(19) | 1.373(7) |
| B(4)-B(7) | 1.843(7) | C(19)-C(20) | 1.383(7) |
| B(4)-B(8) | 1.910(9) | C(21)-C(26) | 1.364(7) |
| B(5)-B(11) | 1.775(8) | C(21)-C(22) | 1.399(7) |

| | | | |
|---|---|---|---|
| C(22)-C(23) | 1.384(8) | C(41)-C(42) | 1.388(7) |
| C(23)-C(24) | 1.355(9) | C(41)-C(46) | 1.398(7) |
| C(24)-C(25) | 1.350(9) | C(42)-C(43) | 1.395(7) |
| C(25)-C(26) | 1.401(7) | C(43)-C(44) | 1.366(8) |
| C(27)-C(28) | 1.524(5) | C(44)-C(45) | 1.369(8) |
| C(29)-C(34) | 1.373(8) | C(45)-C(46) | 1.384(8) |
| C(29)-C(30) | 1.383(8) | C(47)-C(48) | 1.374(7) |
| C(30)-C(31) | 1.364(11) | C(47)-C(52) | 1.397(7) |
| C(31)-C(32) | 1.382(13) | C(48)-C(49) | 1.398(7) |
| C(32)-C(33) | 1.344(9) | C(49)-C(50) | 1.362(8) |
| C(33)-C(34) | 1.373(8) | C(50)-C(51) | 1.379(8) |
| C(35)-C(40) | 1.381(9) | C(51)-C(52) | 1.375(7) |
| C(35)-C(36) | 1.395(7) | C(1S)-C(2S) | 1.574(9) |
| C(36)-C(37) | 1.390(11) | C(1S)-C(3S)#1 | 1.617(14) |
| C(37)-C(38) | 1.389(13) | C(2S)-C(3S) | 1.514(9) |
| C(38)-C(39) | 1.364(13) | C(3S)-C(1S)#1 | 1.617(14) |
| C(39)-C(40) | 1.390(8) | | |

| | | | |
|---|---|---|---|
| B(3)-Rh(1)-P(2) | 114.09(13) | B(6)-Rh(1)-B(7) | 67.9(2) |
| B(3)-Rh(1)-P(1) | 111.09(14) | S(2)-Rh(1)-B(7) | 87.69(12) |
| P(2)-Rh(1)-P(1) | 84.77(4) | B(5)-Rh(1)-B(7) | 85.4(2) |
| B(3)-Rh(1)-B(6) | 45.0(2) | B(3)-Rh(1)-B(4) | 84.0(2) |
| P(2)-Rh(1)-B(6) | 98.12(13) | P(2)-Rh(1)-B(4) | 157.70(12) |
| P(1)-Rh(1)-B(6) | 154.83(15) | P(1)-Rh(1)-B(4) | 101.24(15) |
| B(3)-Rh(1)-S(2) | 119.56(13) | B(6)-Rh(1)-B(4) | 85.6(2) |
| P(2)-Rh(1)-S(2) | 111.79(4) | S(2)-Rh(1)-B(4) | 45.94(12) |
| P(1)-Rh(1)-S(2) | 110.20(5) | B(5)-Rh(1)-B(4) | 68.6(2) |
| B(6)-Rh(1)-S(2) | 92.04(14) | B(7)-Rh(1)-B(4) | 43.6(2) |
| B(3)-Rh(1)-B(5) | 87.4(2) | B(4)-S(2)-B(5) | 91.0(2) |
| P(2)-Rh(1)-B(5) | 98.12(14) | B(4)-S(2)-B(8) | 58.4(3) |
| P(1)-Rh(1)-B(5) | 158.36(15) | B(5)-S(2)-B(8) | 57.6(3) |
| B(6)-Rh(1)-B(5) | 46.3(2) | B(4)-S(2)-Rh(1) | 71.4(2) |
| S(2)-Rh(1)-B(5) | 48.79(15) | B(5)-S(2)-Rh(1) | 65.6(2) |
| B(3)-Rh(1)-B(7) | 43.1(2) | B(8)-S(2)-Rh(1) | 99.2(2) |
| P(2)-Rh(1)-B(7) | 156.98(12) | C(3)-P(1)-C(9) | 102.1(2) |
| P(1)-Rh(1)-B(7) | 100.34(13) | C(3)-P(1)-C(1) | 103.3(2) |

| | | | |
|---|---|---|---|
| C(9)-P(1)-C(1) | 102.5(2) | B(8)-B(4)-S(2) | 63.0(3) |
| C(3)-P(1)-Rh(1) | 121.5(2) | B(10)-B(4)-Rh(1) | 102.6(3) |
| C(9)-P(1)-Rh(1) | 116.3(2) | B(7)-B(4)-Rh(1) | 65.7(2) |
| C(1)-P(1)-Rh(1) | 108.83(15) | B(8)-B(4)-Rh(1) | 96.5(3) |
| C(15)-P(2)-C(2) | 106.7(2) | S(2)-B(4)-Rh(1) | 62.69(15) |
| C(15)-P(2)-C(21) | 99.3(2) | B(11)-B(5)-B(6) | 59.2(3) |
| C(2)-P(2)-C(21) | 97.4(2) | B(11)-B(5)-B(8) | 56.5(3) |
| C(15)-P(2)-Rh(1) | 118.17(14) | B(6)-B(5)-B(8) | 106.4(4) |
| C(2)-P(2)-Rh(1) | 109.80(15) | B(11)-B(5)-S(2) | 114.5(4) |
| C(21)-P(2)-Rh(1) | 122.7(2) | B(6)-B(5)-S(2) | 125.6(3) |
| C(35)-P(3)-C(29) | 107.2(3) | B(8)-B(5)-S(2) | 62.3(3) |
| C(35)-P(3)-C(27) | 104.8(2) | B(11)-B(5)-Rh(1) | 106.2(3) |
| C(29)-P(3)-C(27) | 105.1(2) | B(6)-B(5)-Rh(1) | 65.9(2) |
| C(35)-P(3)-B(3) | 113.6(2) | B(8)-B(5)-Rh(1) | 102.0(3) |
| C(29)-P(3)-B(3) | 114.4(2) | S(2)-B(5)-Rh(1) | 65.6(2) |
| C(27)-P(3)-B(3) | 111.0(2) | B(3)-B(6)-B(11) | 112.1(4) |
| O(1)-P(4)-C(47) | 112.8(2) | B(3)-B(6)-B(9) | 59.3(3) |
| O(1)-P(4)-C(41) | 111.3(2) | B(11)-B(6)-B(9) | 59.3(3) |
| C(47)-P(4)-C(41) | 110.0(2) | B(3)-B(6)-B(5) | 120.8(4) |
| O(1)-P(4)-C(28) | 113.6(2) | B(11)-B(6)-B(5) | 58.3(3) |
| C(47)-P(4)-C(28) | 102.5(2) | B(9)-B(6)-B(5) | 107.8(4) |
| C(41)-P(4)-C(28) | 106.1(2) | B(3)-B(6)-Rh(1) | 60.3(2) |
| B(7)-B(3)-B(6) | 103.0(4) | B(11)-B(6)-Rh(1) | 106.9(3) |
| B(7)-B(3)-B(9) | 63.8(3) | B(9)-B(6)-Rh(1) | 100.5(3) |
| B(6)-B(3)-B(9) | 62.8(3) | B(5)-B(6)-Rh(1) | 67.8(2) |
| B(7)-B(3)-P(3) | 120.0(3) | B(3)-B(7)-B(10) | 112.0(4) |
| B(6)-B(3)-P(3) | 132.4(3) | B(3)-B(7)-B(9) | 59.2(3) |
| B(9)-B(3)-P(3) | 117.8(3) | B(10)-B(7)-B(9) | 58.8(3) |
| B(7)-B(3)-Rh(1) | 78.9(2) | B(3)-B(7)-B(4) | 123.3(4) |
| B(6)-B(3)-Rh(1) | 74.7(2) | B(10)-B(7)-B(4) | 58.4(3) |
| B(9)-B(3)-Rh(1) | 112.2(3) | B(9)-B(7)-B(4) | 108.4(4) |
| P(3)-B(3)-Rh(1) | 129.9(2) | B(3)-B(7)-Rh(1) | 58.0(2) |
| B(10)-B(4)-B(7) | 59.6(3) | B(10)-B(7)-Rh(1) | 105.3(3) |
| B(10)-B(4)-B(8) | 55.9(3) | B(9)-B(7)-Rh(1) | 96.4(3) |
| B(7)-B(4)-B(8) | 105.8(4) | B(4)-B(7)-Rh(1) | 70.8(2) |
| B(10)-B(4)-S(2) | 114.7(4) | B(10)-B(8)-B(11) | 63.1(3) |
| B(7)-B(4)-S(2) | 124.7(3) | B(10)-B(8)-B(5) | 102.9(4) |

| | | | |
|---|---|---|---|
| B(11)-B(8)-B(5) | 58.0(3) | B(6)-B(11)-B(10) | 103.7(4) |
| B(10)-B(8)-B(4) | 58.2(3) | C(2)-C(1)-P(1) | 108.7(3) |
| B(11)-B(8)-B(4) | 103.6(4) | C(1)-C(2)-P(2) | 112.4(3) |
| B(5)-B(8)-B(4) | 92.7(3) | C(4)-C(3)-C(8) | 118.0(5) |
| B(10)-B(8)-S(2) | 112.7(4) | C(4)-C(3)-P(1) | 119.4(4) |
| B(11)-B(8)-S(2) | 113.9(3) | C(8)-C(3)-P(1) | 122.6(4) |
| B(5)-B(8)-S(2) | 60.1(2) | C(3)-C(4)-C(5) | 120.5(5) |
| B(4)-B(8)-S(2) | 58.6(2) | C(6)-C(5)-C(4) | 119.6(6) |
| B(3)-B(9)-B(11) | 111.7(4) | C(7)-C(6)-C(5) | 120.9(6) |
| B(3)-B(9)-B(10) | 111.3(4) | C(6)-C(7)-C(8) | 120.5(6) |
| B(11)-B(9)-B(10) | 61.7(3) | C(7)-C(8)-C(3) | 120.5(6) |
| B(3)-B(9)-B(6) | 57.9(3) | C(14)-C(9)-C(10) | 117.8(4) |
| B(11)-B(9)-B(6) | 60.2(3) | C(14)-C(9)-P(1) | 123.2(4) |
| B(10)-B(9)-B(6) | 105.3(3) | C(10)-C(9)-P(1) | 119.0(3) |
| B(3)-B(9)-B(7) | 57.0(3) | C(11)-C(10)-C(9) | 120.5(5) |
| B(11)-B(9)-B(7) | 104.9(4) | C(10)-C(11)-C(12) | 120.0(5) |
| B(10)-B(9)-B(7) | 60.2(3) | C(13)-C(12)-C(11) | 119.0(5) |
| B(6)-B(9)-B(7) | 95.2(3) | C(12)-C(13)-C(14) | 120.4(5) |
| B(8)-B(10)-B(9) | 113.6(4) | C(9)-C(14)-C(13) | 122.2(5) |
| B(8)-B(10)-B(4) | 65.9(3) | C(20)-C(15)-C(16) | 118.3(4) |
| B(9)-B(10)-B(4) | 113.2(3) | C(20)-C(15)-P(2) | 118.3(3) |
| B(8)-B(10)-B(7) | 115.7(4) | C(16)-C(15)-P(2) | 123.4(3) |
| B(9)-B(10)-B(7) | 61.0(3) | C(17)-C(16)-C(15) | 120.4(5) |
| B(4)-B(10)-B(7) | 62.0(3) | C(18)-C(17)-C(16) | 120.5(5) |
| B(8)-B(10)-B(11) | 58.7(3) | C(19)-C(18)-C(17) | 119.5(5) |
| B(9)-B(10)-B(11) | 59.1(3) | C(18)-C(19)-C(20) | 121.0(5) |
| B(4)-B(10)-B(11) | 106.0(4) | C(19)-C(20)-C(15) | 120.4(5) |
| B(7)-B(10)-B(11) | 103.6(3) | C(26)-C(21)-C(22) | 118.8(5) |
| B(8)-B(11)-B(9) | 113.2(4) | C(26)-C(21)-P(2) | 122.4(3) |
| B(8)-B(11)-B(5) | 65.6(3) | C(22)-C(21)-P(2) | 118.6(4) |
| B(9)-B(11)-B(5) | 112.2(4) | C(23)-C(22)-C(21) | 119.7(6) |
| B(8)-B(11)-B(6) | 116.5(4) | C(24)-C(23)-C(22) | 121.0(6) |
| B(9)-B(11)-B(6) | 60.5(3) | C(25)-C(24)-C(23) | 119.6(5) |
| B(5)-B(11)-B(6) | 62.5(3) | C(24)-C(25)-C(26) | 121.0(6) |
| B(8)-B(11)-B(10) | 58.1(3) | C(21)-C(26)-C(25) | 119.9(5) |
| B(9)-B(11)-B(10) | 59.2(3) | C(28)-C(27)-P(3) | 116.2(3) |
| B(5)-B(11)-B(10) | 104.7(4) | C(27)-C(28)-P(4) | 112.2(3) |

| | | | |
|---|---|---|---|
| C(34)-C(29)-C(30) | 117.5(6) | C(46)-C(41)-P(4) | 117.4(4) |
| C(34)-C(29)-P(3) | 122.4(4) | C(41)-C(42)-C(43) | 120.4(5) |
| C(30)-C(29)-P(3) | 120.1(5) | C(44)-C(43)-C(42) | 120.4(6) |
| C(31)-C(30)-C(29) | 120.6(7) | C(43)-C(44)-C(45) | 119.3(6) |
| C(30)-C(31)-C(32) | 120.4(7) | C(44)-C(45)-C(46) | 121.7(6) |
| C(33)-C(32)-C(31) | 119.8(7) | C(45)-C(46)-C(41) | 119.4(5) |
| C(32)-C(33)-C(34) | 119.7(7) | C(48)-C(47)-C(52) | 117.9(5) |
| C(29)-C(34)-C(33) | 122.0(5) | C(48)-C(47)-P(4) | 124.3(4) |
| C(40)-C(35)-C(36) | 120.2(6) | C(52)-C(47)-P(4) | 117.4(4) |
| C(40)-C(35)-P(3) | 117.1(4) | C(47)-C(48)-C(49) | 121.0(5) |
| C(36)-C(35)-P(3) | 122.5(6) | C(50)-C(49)-C(48) | 119.7(5) |
| C(37)-C(36)-C(35) | 118.8(8) | C(49)-C(50)-C(51) | 120.3(5) |
| C(38)-C(37)-C(36) | 119.7(8) | C(52)-C(51)-C(50) | 119.9(5) |
| C(39)-C(38)-C(37) | 121.9(8) | C(51)-C(52)-C(47) | 121.0(5) |
| C(38)-C(39)-C(40) | 118.4(9) | C(2S)-C(1S)-C(3S)#1 | 113.2(7) |
| C(35)-C(40)-C(39) | 121.0(7) | C(3S)-C(2S)-C(1S) | 119.5(7) |
| C(42)-C(41)-C(46) | 118.7(5) | C(2S)-C(3S)-C(1S)#1 | 117.2(6) |
| C(42)-C(41)-P(4) | 123.8(4) | | |

Symmetry transformations used to generate equivalent atoms:

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

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Table 10. Anisotropic displacement parameters ($Å^2 \times 10^3$) for [8,8-($\eta^2$-dppp)-8,7-$RhSB_9H_{10}$] (**3**). The anisotropic displacement factor exponent takes the form: $-2\pi^2[ h^2 a^{*2}U^{11} + ... + 2 h k a^* b^* U^{12} ]$

| | $U^{11}$ | $U^{22}$ | $U^{33}$ | $U^{23}$ | $U^{13}$ | $U^{12}$ |
|---|---|---|---|---|---|---|
| Rh(8) | 25(1) | 32(1) | 30(1) | -1(1) | 4(1) | 1(1) |
| S(7) | 31(1) | 54(1) | 45(1) | -14(1) | 10(1) | 3(1) |
| P(1) | 30(1) | 32(1) | 31(1) | 0(1) | 4(1) | 1(1) |
| P(2) | 28(1) | 40(1) | 29(1) | 1(1) | 5(1) | -2(1) |
| B(1) | 31(2) | 107(4) | 48(2) | 2(2) | -4(2) | 7(2) |
| B(2) | 27(1) | 88(3) | 60(2) | -10(2) | 3(1) | 10(2) |
| B(3) | 38(2) | 57(2) | 59(2) | 8(2) | 3(2) | 16(2) |
| B(4) | 30(2) | 70(2) | 37(2) | 1(2) | -4(1) | 0(2) |
| B(5) | 38(2) | 89(3) | 46(2) | -22(2) | 8(2) | -19(2) |
| B(6) | 34(2) | 103(3) | 58(2) | -28(2) | 13(2) | -18(2) |
| B(9) | 38(2) | 45(2) | 43(2) | -10(1) | 12(1) | -9(1) |
| B(10) | 49(2) | 57(2) | 59(2) | -16(2) | 20(2) | -21(2) |
| B(11) | 42(2) | 66(2) | 52(2) | -12(2) | 19(2) | -12(2) |
| C(1) | 36(1) | 44(2) | 39(1) | 3(1) | 4(1) | 9(1) |
| C(2) | 31(1) | 66(2) | 43(2) | 4(1) | 6(1) | 10(1) |
| C(3) | 35(1) | 66(2) | 41(2) | -2(1) | 10(1) | 13(1) |
| C(4) | 32(1) | 38(1) | 33(1) | 3(1) | 3(1) | 1(1) |
| C(5) | 58(2) | 36(2) | 38(1) | 1(1) | 9(1) | -2(1) |
| C(6) | 65(2) | 43(2) | 50(2) | 6(1) | 11(2) | -9(2) |
| C(7) | 60(2) | 64(2) | 44(2) | 8(2) | 17(2) | -11(2) |
| C(8) | 70(2) | 66(2) | 53(2) | -14(2) | 31(2) | -10(2) |
| C(9) | 61(2) | 44(2) | 52(2) | -10(1) | 22(2) | -8(2) |
| C(10) | 35(1) | 39(1) | 33(1) | -3(1) | 4(1) | -5(1) |
| C(11) | 45(2) | 48(2) | 50(2) | -2(1) | -5(1) | -2(1) |
| C(12) | 47(2) | 69(2) | 53(2) | -15(2) | -4(1) | -12(2) |
| C(13) | 75(2) | 57(2) | 59(2) | -17(2) | 9(2) | -27(2) |
| C(14) | 120(3) | 33(2) | 66(2) | 0(2) | -3(2) | -7(2) |
| C(15) | 76(2) | 39(2) | 44(2) | 0(1) | -7(2) | 1(2) |
| C(16) | 61(2) | 51(2) | 32(1) | 2(1) | 6(1) | -22(2) |
| C(17) | 69(2) | 102(3) | 44(2) | 17(2) | -6(2) | -47(2) |
| C(18) | 157(5) | 147(6) | 57(3) | 40(4) | -30(3) | -119(5) |

| | | | | | | |
|---|---|---|---|---|---|---|
| C(19) | 230(20) | 68(10) | 66(11) | 16(7) | -59(12) | -79(12) |
| C(19') | 330(40) | 104(16) | 41(7) | 23(8) | -22(13) | -160(20) |
| C(20) | 212(7) | 46(2) | 61(3) | 8(2) | 12(4) | -24(3) |
| C(21) | 110(3) | 44(2) | 54(2) | 6(2) | 15(2) | -9(2) |
| C(22) | 32(1) | 53(2) | 33(1) | -1(1) | 9(1) | -6(1) |
| C(23) | 61(2) | 58(2) | 39(2) | 3(1) | 8(1) | -3(2) |
| C(24) | 76(2) | 79(3) | 37(2) | 9(2) | 8(2) | -13(2) |
| C(25) | 65(2) | 94(3) | 35(2) | -10(2) | 13(2) | -21(2) |
| C(26) | 62(2) | 70(2) | 49(2) | -19(2) | 10(2) | -6(2) |
| C(27) | 49(2) | 56(2) | 42(2) | -5(1) | 5(1) | -4(1) |
| Cl(1) | 122(1) | 84(1) | 103(1) | 36(1) | -5(1) | -13(1) |
| Cl(2) | 115(1) | 72(1) | 157(1) | 9(1) | 5(1) | 18(1) |
| Cl(3) | 88(2) | 145(4) | 286(7) | 142(5) | -1(4) | 20(3) |
| Cl(3') | 90(2) | 69(2) | 155(3) | 63(2) | 0(2) | 0(1) |
| C(1S) | 77(3) | 40(2) | 244(7) | 20(3) | -82(4) | -12(2) |

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Table 11. Anisotropic displacement parameters ($Å^2 \times 10^3$) for [8,8-($\eta^2$-dppp)-9-(OEt)-*nido*-8,7-$RhSB_9H_9$] (**14**). The anisotropic displacement factor exponent takes the form: $-2\pi^2[ h^2a^{*2}U^{11} + ... + 2\,h\,k\,a^*\,b^*\,U^{12} ]$

| | $U^{11}$ | $U^{22}$ | $U^{33}$ | $U^{23}$ | $U^{13}$ | $U^{12}$ |
|---|---|---|---|---|---|---|
| Rh(8) | 24(1) | 27(1) | 22(1) | -7(1) | -3(1) | -8(1) |
| P(1) | 27(1) | 33(1) | 25(1) | -9(1) | -5(1) | -9(1) |
| P(2) | 25(1) | 28(1) | 23(1) | -9(1) | -4(1) | -6(1) |
| S(7) | 30(1) | 35(1) | 22(1) | -6(1) | -2(1) | -9(1) |
| B(1) | 25(2) | 37(2) | 31(2) | -10(2) | -8(1) | -8(1) |
| B(2) | 24(2) | 44(2) | 31(2) | -10(2) | -1(1) | -9(2) |
| B(3) | 28(2) | 38(2) | 26(2) | -11(2) | -3(1) | -13(2) |
| B(4) | 26(2) | 31(2) | 25(2) | -8(1) | -4(1) | -8(1) |
| B(5) | 31(2) | 29(2) | 24(2) | -6(1) | -7(1) | -6(1) |
| B(6) | 27(2) | 37(2) | 32(2) | -12(2) | -4(1) | -4(2) |
| B(9) | 28(2) | 28(2) | 26(2) | -9(1) | -6(1) | -7(1) |
| B(10) | 31(2) | 29(2) | 27(2) | -11(1) | -6(1) | -8(1) |
| B(11) | 31(2) | 33(2) | 33(2) | -12(2) | -3(2) | -5(2) |
| O(1) | 30(1) | 30(1) | 30(1) | -5(1) | -1(1) | -12(1) |
| C(1) | 31(2) | 47(2) | 31(2) | -14(1) | -5(1) | -17(1) |
| C(2) | 27(2) | 55(2) | 34(2) | -18(2) | -2(1) | -13(1) |
| C(3) | 28(2) | 40(2) | 29(2) | -13(1) | -1(1) | -10(1) |
| C(4) | 27(2) | 36(2) | 27(2) | -10(1) | -9(1) | -5(1) |
| C(5) | 41(2) | 47(2) | 35(2) | -14(2) | -5(1) | -13(2) |
| C(6) | 44(2) | 70(2) | 31(2) | -18(2) | -4(2) | -14(2) |
| C(7) | 48(2) | 66(2) | 43(2) | -34(2) | -11(2) | 0(2) |
| C(8) | 66(2) | 41(2) | 57(2) | -25(2) | -18(2) | -5(2) |
| C(9) | 53(2) | 37(2) | 34(2) | -7(1) | -13(2) | -9(2) |
| C(10) | 33(2) | 38(2) | 27(2) | -12(1) | -7(1) | -6(1) |
| C(11) | 56(2) | 43(2) | 29(2) | -1(1) | -14(2) | -19(2) |
| C(12) | 106(3) | 43(2) | 37(2) | 2(2) | -23(2) | -25(2) |
| C(13) | 88(3) | 45(2) | 56(3) | -3(2) | -27(2) | 8(2) |
| C(14) | 55(3) | 71(3) | 91(3) | -4(3) | -39(2) | 4(2) |
| C(15) | 49(2) | 45(2) | 78(3) | -7(2) | -32(2) | -5(2) |
| C(16) | 33(2) | 29(2) | 23(2) | -7(1) | -8(1) | -5(1) |
| C(17) | 39(2) | 36(2) | 31(2) | -11(1) | -5(1) | -10(1) |

| | | | | | | |
|---|---|---|---|---|---|---|
| C(18) | 62(2) | 39(2) | 39(2) | -6(2) | -3(2) | -22(2) |
| C(19) | 78(3) | 29(2) | 45(2) | -2(2) | -12(2) | -6(2) |
| C(20) | 54(2) | 38(2) | 44(2) | -8(2) | -12(2) | 7(2) |
| C(21) | 36(2) | 40(2) | 32(2) | -6(1) | -6(1) | -4(1) |
| C(22) | 23(1) | 32(2) | 23(1) | -11(1) | -2(1) | -6(1) |
| C(23) | 40(2) | 29(2) | 32(2) | -12(1) | -8(1) | -3(1) |
| C(24) | 44(2) | 36(2) | 30(2) | -5(1) | -11(1) | -6(1) |
| C(25) | 37(2) | 46(2) | 26(2) | -12(1) | -10(1) | -5(1) |
| C(26) | 43(2) | 39(2) | 34(2) | -13(1) | -11(1) | -13(1) |
| C(27) | 36(2) | 31(2) | 30(2) | -6(1) | -4(1) | -11(1) |
| C(28) | 51(2) | 35(2) | 48(2) | -3(2) | 3(2) | -19(2) |
| C(29) | 63(2) | 58(2) | 51(2) | -9(2) | 5(2) | -36(2) |