

Supporting Information

Table S1. Complete Crystallographic Details for [Fe(TEtP*)(Cl)]SbCl₆

| | |
|--|---|
| formula | C ₂₈ H ₂₈ Cl ₇ FeN ₄ Sb·CH ₂ Cl ₂ |
| FW, amu | 931.22 |
| <i>a</i> , Å | 9.768(2) |
| <i>b</i> , Å | 13.585(3) |
| <i>c</i> , Å | 14.508(3) |
| α , deg | 76.90(3) |
| β , deg | 87.32(3) |
| γ , deg | 71.77(3) |
| <i>V</i> , Å ³ | 1780.2(6) |
| space group | <i>P</i> $\bar{1}$ |
| <i>Z</i> | 2 |
| D _c , g/cm ³ | 1.737 |
| F(000) | 924 |
| μ , mm ⁻¹ | 1.870 |
| power and current settings | 50kV, 30mA |
| detector distance, mm | 40 |
| detector tilt angle, deg | -25 |
| image time, sec | 10 |
| increment, deg | 0.20 |
| crystal dimensions, mm | 0.30 × 0.20 × 0.11 |
| radiation | MoK α , $\bar{\lambda}$ = 0.71073 Å |
| temperature, K | 130(2) |
| diffractometer | Enraf Nonius FAST |
| θ range for collected data, deg | 2.20–29.95 |
| index range | -13 ≤ <i>h</i> ≤ 12 -13 ≤ <i>k</i> ≤ 18 -17 ≤ <i>l</i> ≤ 20 |
| total data collected | 17182 |
| unique data | 9071 (<i>R</i> _{int} = 0.0753) |
| unique observed data [<i>I</i> > 2 σ (<i>I</i>)] | 7801 |
| refinement method | Full-matrix least-squares |
| data/restraints/parameters | 9071 / 0 / 434 |
| goodness-of-fit (based on <i>F</i> ²) | 1.045 |
| max($\Delta\rho$), e/Å ³ | 1.46 |
| min($\Delta\rho$), e/Å ³ | -1.71 |
| final <i>R</i> indices [<i>I</i> > 2 σ (<i>I</i>)] | <i>R</i> ₁ = 0.0516, <i>wR</i> ₂ = 0.1213 |
| final <i>R</i> indices (all data) | <i>R</i> ₁ = 0.0632, <i>wR</i> ₂ = 0.1286 |

Table S2. Atomic Coordinates and Equivalent Isotropic Displacement Parameters (\AA^2) for $[\text{Fe}(\text{TEtP}^*)(\text{Cl})]\text{SbCl}_6^a$

| atom | x | y | z | $U(\text{eq})$ |
|--------|-------------|------------|--------------|----------------|
| Fe(1) | -0.23871(5) | 0.02041(4) | 0.09616(3) | 0.0130(1) |
| Cl(1) | -0.47021(9) | 0.08480(8) | 0.07469(7) | 0.0272(2) |
| N(1) | -0.1937(3) | 0.1134(2) | 0.17896(19) | 0.0165(5) |
| N(2) | -0.1675(3) | 0.1119(2) | -0.01806(18) | 0.0142(5) |
| N(3) | -0.1858(3) | -0.0986(2) | 0.02224(18) | 0.0137(5) |
| N(4) | -0.2095(3) | -0.0978(2) | 0.21820(19) | 0.0189(5) |
| C(a1) | -0.2106(4) | 0.1005(3) | 0.2756(2) | 0.0212(7) |
| C(a2) | -0.1818(4) | 0.2133(3) | 0.1472(2) | 0.0203(6) |
| C(a3) | -0.1617(3) | 0.2135(3) | -0.0234(2) | 0.0176(6) |
| C(a4) | -0.1603(3) | 0.0991(3) | -0.1092(2) | 0.0152(6) |
| C(a5) | -0.1732(3) | -0.0850(3) | -0.0749(2) | 0.0153(6) |
| C(a6) | -0.1995(3) | -0.1986(3) | 0.0534(2) | 0.0179(6) |
| C(a7) | -0.2118(4) | -0.2005(3) | 0.2249(3) | 0.0234(7) |
| C(a8) | -0.2147(4) | -0.0852(3) | 0.3098(2) | 0.0241(7) |
| C(b1) | -0.2076(5) | 0.1943(3) | 0.3036(3) | 0.0297(8) |
| C(b2) | -0.1893(5) | 0.2631(3) | 0.2253(3) | 0.0297(8) |
| C(b3) | -0.1503(4) | 0.2642(3) | -0.1213(3) | 0.0237(7) |
| C(b4) | -0.1496(4) | 0.1942(3) | -0.1733(2) | 0.0217(7) |
| C(b5) | -0.1762(4) | -0.1790(3) | -0.1032(2) | 0.0195(6) |
| C(b6) | -0.1940(4) | -0.2481(3) | -0.0243(3) | 0.0216(7) |
| C(b7) | -0.2143(6) | -0.2525(4) | 0.3222(3) | 0.0377(10) |
| C(b8) | -0.2163(5) | -0.1817(4) | 0.3744(3) | 0.0359(9) |
| C(m1) | -0.2226(4) | 0.0092(3) | 0.3375(2) | 0.0239(7) |
| C(m2) | -0.1665(4) | 0.2615(3) | 0.0526(2) | 0.0190(6) |
| C(m3) | -0.1630(3) | 0.0068(3) | -0.1376(2) | 0.0164(6) |
| C(m4) | -0.2143(4) | -0.2468(3) | 0.1485(3) | 0.0223(7) |
| C(11a) | -0.2665(15) | 0.0083(17) | 0.4393(14) | 0.029(2) |
| C(12a) | -0.4260(9) | 0.0118(7) | 0.4565(6) | 0.0305(16) |
| C(11b) | -0.2221(14) | 0.0139(17) | 0.4413(14) | 0.029(2) |
| C(12b) | -0.0707(9) | -0.0140(7) | 0.4837(5) | 0.0321(17) |
| C(21) | -0.1659(4) | 0.3754(3) | 0.0310(3) | 0.0248(7) |
| C(22) | -0.3193(5) | 0.4519(3) | 0.0144(4) | 0.0372(10) |
| C(31) | -0.1633(4) | 0.0099(3) | -0.2424(2) | 0.0224(7) |
| C(32) | -0.3170(5) | 0.0491(4) | -0.2832(3) | 0.0358(9) |

Table S2. Continued

| atom | <i>x</i> | <i>y</i> | <i>z</i> | <i>U</i> (eq) |
|--------|--------------|-------------|--------------|---------------|
| C(41) | -0.2435(5) | -0.3529(3) | 0.1684(3) | 0.0325(9) |
| C(42) | -0.4053(6) | -0.3360(4) | 0.1656(5) | 0.0528(14) |
| Sb(1) | -0.26385(3) | 0.63664(2) | -0.31326(2) | 0.0231(1) |
| Cl(2a) | -0.0985(5) | 0.5718(9) | -0.4274(6) | 0.0389(19) |
| Cl(2b) | -0.0935(4) | 0.5255(9) | -0.3948(7) | 0.065(2) |
| Cl(3) | -0.42624(17) | 0.71309(12) | -0.44384(8) | 0.0546(4) |
| Cl(4) | -0.16025(16) | 0.77650(11) | -0.35534(7) | 0.0492(3) |
| Cl(5) | -0.42506(12) | 0.73222(13) | -0.21739(9) | 0.0513(3) |
| Cl(6) | -0.09793(12) | 0.55930(8) | -0.18202(9) | 0.0405(3) |
| Cl(7) | -0.36235(18) | 0.49597(11) | -0.27085(13) | 0.0702(5) |
| C(5a) | 0.8221(14) | 0.3643(9) | 0.5024(8) | 0.050(3) |
| C(5b) | 0.6721(14) | 0.4096(9) | 0.5058(8) | 0.052(3) |
| Cl(8) | 0.7095(2) | 0.44892(15) | 0.39777(13) | 0.0718(5) |
| Cl(9) | 0.7751(3) | 0.2652(2) | 0.55309(12) | 0.1013(8) |

^a*U*(eq) is defined as one third of the trace of the orthogonalized \mathbf{U}_{ij} tensor. The estimated standard deviations of the least significant digits are given in parentheses.

Table S3. Bond Lengths for [Fe(TEtP[•])(Cl)]SbCl₆^a

| bond | length (Å) | bond | length (Å) |
|-------------|------------|---------------|------------|
| Fe(1)–N(3) | 2.060(3) | C(a8)–C(b8) | 1.433(5) |
| Fe(1)–N(4) | 2.066(3) | C(b1)–C(b2) | 1.342(6) |
| Fe(1)–N(2) | 2.067(3) | C(b3)–C(b4) | 1.339(5) |
| Fe(1)–N(1) | 2.078(3) | C(b5)–C(b6) | 1.348(5) |
| Fe(1)–Cl(1) | 2.1634(11) | C(b7)–C(b8) | 1.348(7) |
| N(1)–C(a2) | 1.370(4) | C(m1)–C(11a) | 1.52(2) |
| N(1)–C(a1) | 1.381(4) | C(m1)–C(11b) | 1.523(19) |
| N(2)–C(a4) | 1.369(4) | C(m2)–C(21) | 1.510(5) |
| N(2)–C(a3) | 1.384(4) | C(m3)–C(31) | 1.513(4) |
| N(3)–C(a6) | 1.377(4) | C(m4)–C(41) | 1.517(5) |
| N(3)–C(a5) | 1.383(4) | C(11a)–C(12a) | 1.554(14) |
| N(4)–C(a8) | 1.374(4) | C(11b)–C(12b) | 1.529(14) |
| N(4)–C(a7) | 1.383(5) | C(21)–C(22) | 1.527(6) |
| C(a1)–C(m1) | 1.390(5) | C(31)–C(32) | 1.526(5) |
| C(a1)–C(b1) | 1.431(5) | C(41)–C(42) | 1.525(7) |
| C(a2)–C(m2) | 1.403(5) | Sb(1)–Cl(5) | 2.3311(14) |
| C(a2)–C(b2) | 1.433(5) | Sb(1)–Cl(2b) | 2.346(3) |
| C(a3)–C(m2) | 1.395(5) | Sb(1)–Cl(7) | 2.3490(13) |
| C(a3)–C(b3) | 1.446(5) | Sb(1)–Cl(3) | 2.3542(15) |
| C(a4)–C(m3) | 1.412(5) | Sb(1)–Cl(4) | 2.3719(12) |
| C(a4)–C(b4) | 1.440(4) | Sb(1)–Cl(2a) | 2.377(5) |
| C(a5)–C(m3) | 1.395(4) | Sb(1)–Cl(6) | 2.3815(14) |
| C(a5)–C(b5) | 1.437(4) | Cl(2a)–Cl(2b) | 0.686(4) |
| C(a6)–C(m4) | 1.409(5) | C(5a)–Cl(9) | 1.571(10) |
| C(a6)–C(b6) | 1.428(5) | C(5a)–Cl(8) | 1.846(12) |
| C(a7)–C(m4) | 1.398(5) | C(5b)–Cl(8) | 1.602(11) |
| C(a7)–C(b7) | 1.430(5) | C(5b)–Cl(9) | 1.884(12) |
| C(a8)–C(m1) | 1.408(6) | | |

^aThe estimated standard deviations of the least significant digits are given in parentheses.

Table S4. Bond Angles for [Fe(TEtP*)(Cl)]SbCl₆^a

| angle | degree | angle | degree |
|-------------------|------------|---------------------|-----------|
| N(3)–Fe(1)–N(4) | 87.15(11) | C(b5)–C(b6)–C(a6) | 107.2(3) |
| N(3)–Fe(1)–N(2) | 87.20(11) | C(b8)–C(b7)–C(a7) | 107.3(4) |
| N(4)–Fe(1)–N(2) | 153.83(11) | C(b7)–C(b8)–C(a8) | 107.1(3) |
| N(3)–Fe(1)–N(1) | 154.48(10) | C(a1)–C(m1)–C(a8) | 124.0(3) |
| N(4)–Fe(1)–N(1) | 86.84(12) | C(a1)–C(m1)–C(11a) | 121.9(8) |
| N(2)–Fe(1)–N(1) | 87.34(11) | C(a8)–C(m1)–C(11a) | 113.6(8) |
| N(3)–Fe(1)–Cl(1) | 102.39(8) | C(a1)–C(m1)–C(11b) | 113.7(8) |
| N(4)–Fe(1)–Cl(1) | 104.44(9) | C(a8)–C(m1)–C(11b) | 121.7(8) |
| N(2)–Fe(1)–Cl(1) | 101.73(8) | C(11a)–C(m1)–C(11b) | 17.7(6) |
| N(1)–Fe(1)–Cl(1) | 103.13(8) | C(a3)–C(m2)–C(a2) | 124.3(3) |
| C(a2)–N(1)–C(a1) | 106.0(3) | C(a3)–C(m2)–C(21) | 117.9(3) |
| C(a2)–N(1)–Fe(1) | 126.1(2) | C(a2)–C(m2)–C(21) | 117.7(3) |
| C(a1)–N(1)–Fe(1) | 125.6(2) | C(a5)–C(m3)–C(a4) | 123.9(3) |
| C(a4)–N(2)–C(a3) | 105.9(3) | C(a5)–C(m3)–C(31) | 117.9(3) |
| C(a4)–N(2)–Fe(1) | 125.9(2) | C(a4)–C(m3)–C(31) | 118.0(3) |
| C(a3)–N(2)–Fe(1) | 125.5(2) | C(a7)–C(m4)–C(a6) | 124.2(3) |
| C(a6)–N(3)–C(a5) | 105.2(3) | C(a7)–C(m4)–C(41) | 118.0(3) |
| C(a6)–N(3)–Fe(1) | 126.1(2) | C(a6)–C(m4)–C(41) | 117.7(3) |
| C(a5)–N(3)–Fe(1) | 126.0(2) | C(m1)–C(11a)–C(12a) | 113.5(10) |
| C(a8)–N(4)–C(a7) | 105.4(3) | C(m1)–C(11b)–C(12b) | 113.3(11) |
| C(a8)–N(4)–Fe(1) | 126.8(2) | C(m2)–C(21)–C(22) | 110.7(3) |
| C(a7)–N(4)–Fe(1) | 126.5(2) | C(m3)–C(31)–C(32) | 110.9(3) |
| N(1)–C(a1)–C(m1) | 125.8(3) | C(m4)–C(41)–C(42) | 110.4(4) |
| N(1)–C(a1)–C(b1) | 109.5(3) | Cl(5)–Sb(1)–Cl(2b) | 173.7(3) |
| C(m1)–C(a1)–C(b1) | 124.7(3) | Cl(5)–Sb(1)–Cl(7) | 90.93(7) |
| N(1)–C(a2)–C(m2) | 125.8(3) | Cl(2b)–Sb(1)–Cl(7) | 85.6(3) |
| N(1)–C(a2)–C(b2) | 109.8(3) | Cl(5)–Sb(1)–Cl(3) | 91.44(6) |
| C(m2)–C(a2)–C(b2) | 124.4(3) | Cl(2b)–Sb(1)–Cl(3) | 93.8(2) |
| N(2)–C(a3)–C(m2) | 126.2(3) | Cl(7)–Sb(1)–Cl(3) | 89.82(5) |
| N(2)–C(a3)–C(b3) | 109.5(3) | Cl(5)–Sb(1)–Cl(4) | 89.69(6) |
| C(m2)–C(a3)–C(b3) | 124.3(3) | Cl(2b)–Sb(1)–Cl(4) | 93.7(3) |
| N(2)–C(a4)–C(m3) | 125.6(3) | Cl(7)–Sb(1)–Cl(4) | 178.98(5) |
| N(2)–C(a4)–C(b4) | 110.0(3) | Cl(3)–Sb(1)–Cl(4) | 90.96(5) |
| C(m3)–C(a4)–C(b4) | 124.4(3) | Cl(5)–Sb(1)–Cl(2a) | 169.0(3) |

Table S4. Continued

| angle | degree | angle | degree |
|-------------------|----------|---------------------|-----------|
| N(3)–C(a5)–C(m3) | 125.8(3) | Cl(2b)–Sb(1)–Cl(2a) | 16.68(11) |
| N(3)–C(a5)–C(b5) | 110.0(3) | Cl(7)–Sb(1)–Cl(2a) | 99.0(3) |
| C(m3)–C(a5)–C(b5) | 124.2(3) | Cl(3)–Sb(1)–Cl(2a) | 83.94(18) |
| N(3)–C(a6)–C(m4) | 125.1(3) | Cl(4)–Sb(1)–Cl(2a) | 80.4(3) |
| N(3)–C(a6)–C(b6) | 110.5(3) | Cl(5)–Sb(1)–Cl(6) | 88.95(5) |
| C(m4)–C(a6)–C(b6) | 124.3(3) | Cl(2b)–Sb(1)–Cl(6) | 85.8(2) |
| N(4)–C(a7)–C(m4) | 125.5(3) | Cl(7)–Sb(1)–Cl(6) | 90.44(5) |
| N(4)–C(a7)–C(b7) | 110.0(3) | Cl(3)–Sb(1)–Cl(6) | 179.52(5) |
| C(m4)–C(a7)–C(b7) | 124.5(3) | Cl(4)–Sb(1)–Cl(6) | 88.77(5) |
| N(4)–C(a8)–C(m1) | 125.7(3) | Cl(2a)–Sb(1)–Cl(6) | 95.63(18) |
| N(4)–C(a8)–C(b8) | 110.2(3) | Cl(2b)–Cl(2a)–Sb(1) | 79.1(5) |
| C(m1)–C(a8)–C(b8) | 124.0(3) | Cl(2a)–Cl(2b)–Sb(1) | 84.3(6) |
| C(b2)–C(b1)–C(a1) | 107.4(3) | Cl(9)–C(5a)–Cl(8) | 114.7(7) |
| C(b1)–C(b2)–C(a2) | 107.3(3) | Cl(8)–C(5b)–Cl(9) | 111.3(6) |
| C(b4)–C(b3)–C(a3) | 107.1(3) | C(5b)–Cl(8)–C(5a) | 47.4(6) |
| C(b3)–C(b4)–C(a4) | 107.5(3) | C(5a)–Cl(9)–C(5b) | 46.9(6) |
| C(b6)–C(b5)–C(a5) | 107.1(3) | | |

^aThe estimated standard deviations of the least significant digits are given in parentheses.

Table S5. Anisotropic Displacement Parameters (\AA^2) for $[\text{Fe}(\text{TEtP}^*)(\text{Cl})]\text{SbCl}_6^a$

| atom | U_{11} | U_{22} | U_{33} | U_{23} | U_{13} | U_{12} |
|--------|------------|------------|------------|-------------|-------------|-------------|
| Fe(1) | 0.0121(2) | 0.0168(2) | 0.0111(2) | -0.0035(2) | 0.0006(2) | -0.0057(2) |
| Cl(1) | 0.0126(3) | 0.0370(5) | 0.0339(5) | -0.0157(4) | 0.0005(3) | -0.0048(3) |
| N(1) | 0.0156(12) | 0.0223(13) | 0.0132(12) | -0.0069(10) | -0.0002(9) | -0.0062(10) |
| N(2) | 0.0134(11) | 0.0165(12) | 0.0143(12) | -0.0028(9) | 0.0007(9) | -0.0071(9) |
| N(3) | 0.0128(11) | 0.0152(12) | 0.0151(12) | -0.0047(9) | 0.0023(9) | -0.0067(9) |
| N(4) | 0.0191(13) | 0.0228(14) | 0.0136(12) | -0.0012(10) | 0.0005(10) | -0.0070(11) |
| C(a1) | 0.0196(15) | 0.0302(18) | 0.0143(14) | -0.0078(13) | -0.0013(11) | -0.0064(13) |
| C(a2) | 0.0189(15) | 0.0255(16) | 0.0207(15) | -0.0089(13) | -0.0010(12) | -0.0097(13) |
| C(a3) | 0.0147(13) | 0.0173(14) | 0.0199(15) | -0.0015(12) | -0.0006(11) | -0.0055(11) |
| C(a4) | 0.0143(13) | 0.0217(15) | 0.0101(12) | -0.0042(11) | 0.0025(10) | -0.0062(11) |
| C(a5) | 0.0125(13) | 0.0195(14) | 0.0159(14) | -0.0069(11) | 0.0010(10) | -0.0057(11) |
| C(a6) | 0.0160(14) | 0.0163(14) | 0.0221(15) | -0.0048(12) | 0.0018(11) | -0.0059(11) |
| C(a7) | 0.0295(18) | 0.0211(16) | 0.0220(16) | -0.0030(13) | 0.0036(13) | -0.0131(14) |
| C(a8) | 0.0253(17) | 0.0345(19) | 0.0134(14) | -0.0018(13) | 0.0002(12) | -0.0128(14) |
| C(b1) | 0.037(2) | 0.034(2) | 0.0192(16) | -0.0126(15) | -0.0033(15) | -0.0071(16) |
| C(b2) | 0.038(2) | 0.0278(19) | 0.0269(18) | -0.0123(15) | -0.0022(16) | -0.0106(16) |
| C(b3) | 0.0242(16) | 0.0239(17) | 0.0203(16) | 0.0017(13) | -0.0012(13) | -0.0082(13) |
| C(b4) | 0.0277(17) | 0.0226(16) | 0.0159(14) | -0.0001(12) | 0.0003(12) | -0.0122(13) |
| C(b5) | 0.0184(14) | 0.0246(16) | 0.0200(15) | -0.0116(13) | 0.0009(12) | -0.0083(12) |
| C(b6) | 0.0200(15) | 0.0190(15) | 0.0290(17) | -0.0089(13) | 0.0005(13) | -0.0079(12) |
| C(b7) | 0.057(3) | 0.035(2) | 0.0232(19) | 0.0035(16) | 0.0038(18) | -0.024(2) |
| C(b8) | 0.053(3) | 0.039(2) | 0.0160(16) | 0.0033(15) | 0.0030(16) | -0.020(2) |
| C(m1) | 0.0229(16) | 0.0336(19) | 0.0142(14) | -0.0065(13) | -0.0007(12) | -0.0061(14) |
| C(m2) | 0.0173(14) | 0.0178(14) | 0.0242(16) | -0.0041(12) | -0.0023(12) | -0.0084(12) |
| C(m3) | 0.0150(13) | 0.0220(15) | 0.0119(13) | -0.0049(11) | 0.0017(10) | -0.0050(11) |
| C(m4) | 0.0217(16) | 0.0202(15) | 0.0248(17) | -0.0033(13) | 0.0024(13) | -0.0077(13) |
| C(11a) | 0.033(8) | 0.040(3) | 0.0129(18) | -0.0071(19) | -0.002(5) | -0.010(6) |
| C(12a) | 0.033(4) | 0.042(4) | 0.027(4) | -0.015(3) | 0.013(3) | -0.023(3) |
| C(11b) | 0.033(8) | 0.040(3) | 0.0129(18) | -0.0071(19) | -0.002(5) | -0.010(6) |
| C(12b) | 0.039(4) | 0.044(5) | 0.015(3) | -0.005(3) | -0.001(3) | -0.017(4) |
| C(21) | 0.0274(17) | 0.0198(16) | 0.0294(18) | -0.0070(13) | -0.0013(14) | -0.0093(13) |
| C(22) | 0.035(2) | 0.0205(18) | 0.053(3) | -0.0107(17) | -0.0048(19) | -0.0013(16) |
| C(31) | 0.0289(17) | 0.0298(18) | 0.0114(14) | -0.0049(12) | 0.0019(12) | -0.0130(14) |
| C(32) | 0.037(2) | 0.053(3) | 0.0192(17) | -0.0050(17) | -0.0083(15) | -0.0169(19) |

Table S5. Continued

| atom | U_{11} | U_{22} | U_{33} | U_{23} | U_{13} | U_{12} |
|--------|------------|------------|------------|-------------|-------------|-------------|
| C(41) | 0.046(2) | 0.0217(18) | 0.033(2) | -0.0025(15) | 0.0057(17) | -0.0182(17) |
| C(42) | 0.053(3) | 0.047(3) | 0.075(4) | -0.019(3) | 0.020(3) | -0.037(3) |
| Sb(1) | 0.0283(1) | 0.0253(1) | 0.0222(1) | -0.0082(1) | 0.0028(1) | -0.0155(1) |
| Cl(2a) | 0.055(2) | 0.034(4) | 0.037(3) | -0.020(3) | 0.0190(16) | -0.0208(18) |
| Cl(2b) | 0.0687(16) | 0.075(5) | 0.075(4) | -0.059(4) | 0.0317(16) | -0.0299(17) |
| Cl(3) | 0.0755(9) | 0.0761(9) | 0.0274(5) | 0.0073(5) | -0.0175(5) | -0.0555(8) |
| Cl(4) | 0.0818(9) | 0.0620(7) | 0.0238(5) | 0.0043(5) | -0.0093(5) | -0.0588(7) |
| Cl(5) | 0.0282(5) | 0.0797(9) | 0.0445(6) | -0.0329(6) | 0.0022(4) | -0.0015(5) |
| Cl(6) | 0.0334(5) | 0.0295(5) | 0.0548(7) | 0.0040(4) | -0.0164(5) | -0.0115(4) |
| Cl(7) | 0.0742(10) | 0.0443(7) | 0.0964(12) | 0.0219(7) | -0.0423(9) | -0.0447(7) |
| C(5a) | 0.067(8) | 0.042(6) | 0.050(6) | -0.002(5) | 0.004(5) | -0.036(5) |
| C(5b) | 0.073(8) | 0.051(6) | 0.048(6) | -0.023(5) | 0.011(5) | -0.036(6) |
| Cl(8) | 0.0916(13) | 0.0636(10) | 0.0631(9) | -0.0134(8) | -0.0095(9) | -0.0273(9) |
| Cl(9) | 0.173(2) | 0.1059(16) | 0.0367(8) | 0.0016(9) | -0.0313(11) | -0.0681(16) |

^aThe estimated standard deviations of the least significant digits are given in parentheses. The anisotropic displacement factor exponent takes the form: $-2 \pi [h^2 a^{*2} U_{11} + \dots + 2 h k a^* b^* U_{12}]$.

Table S6. Hydrogen Atom Coordinates and Equivalent Isotropic Displacement Parameters (\AA^2) for $[\text{Fe}(\text{TEtP}^*)(\text{Cl})]\text{SbCl}_6^a$

| atom | x | y | z | $U(\text{eq})$ |
|--------|---------|---------|---------|----------------|
| H(b1) | -0.2168 | 0.2057 | 0.3661 | 0.036 |
| H(b2) | -0.1825 | 0.3320 | 0.2221 | 0.036 |
| H(b3) | -0.1445 | 0.3340 | -0.1443 | 0.028 |
| H(b4) | -0.1431 | 0.2052 | -0.2401 | 0.026 |
| H(b5) | -0.1673 | -0.1904 | -0.1657 | 0.023 |
| H(b6) | -0.2015 | -0.3169 | -0.0209 | 0.026 |
| H(b7) | -0.2146 | -0.3236 | 0.3456 | 0.045 |
| H(b8) | -0.2183 | -0.1936 | 0.4415 | 0.043 |
| H(11a) | -0.2516 | 0.0703 | 0.4573 | 0.034 |
| H(11b) | -0.2030 | -0.0567 | 0.4809 | 0.034 |
| H(12a) | -0.4887 | 0.0693 | 0.4088 | 0.046 |
| H(12b) | -0.4528 | 0.0243 | 0.5198 | 0.046 |
| H(12c) | -0.4371 | -0.0562 | 0.4519 | 0.046 |
| H(11c) | -0.2707 | -0.0359 | 0.4780 | 0.034 |
| H(11d) | -0.2785 | 0.0865 | 0.4476 | 0.034 |
| H(12d) | -0.0126 | -0.0843 | 0.4748 | 0.048 |
| H(12e) | -0.0771 | -0.0149 | 0.5515 | 0.048 |
| H(12f) | -0.0255 | 0.0392 | 0.4520 | 0.048 |
| H(2a) | -0.1088 | 0.3886 | -0.0261 | 0.030 |
| H(2b) | -0.1197 | 0.3881 | 0.0846 | 0.030 |
| H(2c) | -0.3683 | 0.4345 | -0.0342 | 0.056 |
| H(2d) | -0.3161 | 0.5250 | -0.0068 | 0.056 |
| H(2e) | -0.3719 | 0.4454 | 0.0735 | 0.056 |
| H(3a) | -0.1141 | -0.0623 | -0.2529 | 0.027 |
| H(3b) | -0.1094 | 0.0577 | -0.2757 | 0.027 |
| H(3c) | -0.3698 | 0.0008 | -0.2513 | 0.054 |
| H(3d) | -0.3146 | 0.0509 | -0.3512 | 0.054 |
| H(3e) | -0.3655 | 0.1207 | -0.2733 | 0.054 |
| H(4a) | -0.2024 | -0.3951 | 0.2315 | 0.039 |
| H(4b) | -0.1961 | -0.3931 | 0.1205 | 0.039 |
| H(4c) | -0.4504 | -0.3035 | 0.2178 | 0.079 |
| H(4d) | -0.4222 | -0.4046 | 0.1721 | 0.079 |
| H(4e) | -0.4472 | -0.2889 | 0.1052 | 0.079 |
| H(5a) | 0.9231 | 0.3389 | 0.4826 | 0.059 |

Table S6. Continued

| atom | x | y | z | $U(\text{eq})$ |
|-------|--------|--------|--------|----------------|
| H(5b) | 0.8197 | 0.4083 | 0.5486 | 0.059 |
| H(5c) | 0.5674 | 0.4196 | 0.5104 | 0.062 |
| H(5d) | 0.6964 | 0.4532 | 0.5448 | 0.062 |

^a $U(\text{eq})$ is defined as one third of the trace of the orthogonalized \mathbf{U}_{ij} tensor. The estimated standard deviations of the least significant digits are given in parentheses.

Table S7. Complete Crystallographic Details for [Fe(TPrP*)(Cl)]SbCl₆

| | |
|--|---|
| formula | C ₃₂ H ₃₆ Cl ₇ FeN ₄ Sb·CH ₂ Cl ₂ |
| FW, amu | 987.32 |
| <i>a</i> , Å | 10.0407(1) |
| <i>b</i> , Å | 14.4882(6) |
| <i>c</i> , Å | 15.7601(9) |
| α , deg | 111.079(5) |
| β , deg | 103.848(7) |
| γ , deg | 101.504(5) |
| <i>V</i> , Å ³ | 1971.21(14) |
| space group | <i>P</i> $\bar{1}$ |
| <i>Z</i> | 2 |
| D _c , g/cm ³ | 1.663 |
| F(000) | 988 |
| μ , mm ⁻¹ | 1.694 |
| power and current settings | 50kV, 30mA |
| detector distance, mm | 40 |
| detector tilt angle, deg | -25 |
| image time, sec | 10 |
| increment, deg | 0.20 |
| crystal dimensions, mm | 0.37 × 0.23 × 0.20 |
| radiation | MoK α , $\bar{\lambda}$ = 0.71073 Å |
| temperature, K | 130(2) |
| diffractometer | Enraf Nonius FAST |
| θ range for collected data, deg | 2.19–29.82 |
| index range | -13 ≤ <i>h</i> ≤ 10 -19 ≤ <i>k</i> ≤ 19 -15 ≤ <i>l</i> ≤ 21 |
| total data collected | 19282 |
| absorption correction | DIFABS |
| relative transmission coefficients (I) | 1.0000 and 0.7870 |
| unique data | 9979 (<i>R</i> _{int} = 0.0701) |
| unique observed data [<i>I</i> > 2 σ (<i>I</i>)] | 8908 |
| refinement method | Full-matrix least-sq |
| data/restraints/parameters | 9979 / 0 / 452 |
| goodness-of-fit (based on <i>F</i> ²) | 1.078 |
| max($\Delta\rho$), e/Å ³ | 1.726 |
| min($\Delta\rho$), e/Å ³ | -1.778 |
| final <i>R</i> indices [<i>I</i> > 2 σ (<i>I</i>)] | <i>R</i> ₁ = 0.0497, <i>wR</i> ₂ = 0.1227 |
| final <i>R</i> indices (all data) | <i>R</i> ₁ = 0.0571, <i>wR</i> ₂ = 0.1338 |

Table S8. Atomic Coordinates and Equivalent Isotropic Displacement Parameters (\AA^2) for $[\text{Fe}(\text{TPrP}^*)(\text{Cl})]\text{SbCl}_6^a$

| atom | x | y | z | $U(\text{eq})$ |
|--------|------------|--------------|--------------|----------------|
| Fe(1) | 0.23787(4) | 0.02952(3) | 0.06908(2) | 0.0103(1) |
| Cl(1) | 0.47041(7) | 0.09086(6) | 0.10837(5) | 0.0212(2) |
| N(1) | 0.1618(2) | 0.10457(17) | -0.01262(15) | 0.0125(4) |
| N(2) | 0.1787(2) | -0.10056(17) | -0.05956(16) | 0.0134(4) |
| N(3) | 0.2116(2) | -0.07114(17) | 0.13374(16) | 0.0146(4) |
| N(4) | 0.1985(2) | 0.13490(17) | 0.18165(15) | 0.0124(4) |
| C(m1) | 0.1719(3) | 0.2668(2) | 0.11903(19) | 0.0155(5) |
| C(m2) | 0.1466(3) | -0.0189(2) | -0.17372(18) | 0.0147(5) |
| C(m3) | 0.2072(3) | -0.2318(2) | 0.0035(2) | 0.0203(5) |
| C(m4) | 0.2264(3) | 0.0524(2) | 0.29454(19) | 0.0162(5) |
| C(a1) | 0.1584(3) | 0.2051(2) | 0.02317(19) | 0.0145(5) |
| C(a2) | 0.1476(3) | 0.0767(2) | -0.10887(18) | 0.0136(4) |
| C(a3) | 0.1609(3) | -0.1020(2) | -0.14869(18) | 0.0148(5) |
| C(a4) | 0.1919(3) | -0.1969(2) | -0.0689(2) | 0.0176(5) |
| C(a5) | 0.2127(3) | -0.1722(2) | 0.0979(2) | 0.0188(5) |
| C(a6) | 0.2189(3) | -0.0446(2) | 0.2285(2) | 0.0166(5) |
| C(a7) | 0.2205(3) | 0.1370(2) | 0.27171(18) | 0.0151(5) |
| C(a8) | 0.1927(3) | 0.2326(2) | 0.19257(18) | 0.0137(4) |
| C(b1) | 0.1427(3) | 0.2417(2) | -0.0512(2) | 0.0200(5) |
| C(b2) | 0.1354(3) | 0.1624(2) | -0.1324(2) | 0.0190(5) |
| C(b3) | 0.1607(3) | -0.2001(2) | -0.21541(19) | 0.0196(5) |
| C(b4) | 0.1819(3) | -0.2580(2) | -0.1661(2) | 0.0219(6) |
| C(b5) | 0.2194(3) | -0.2094(2) | 0.1710(2) | 0.0232(6) |
| C(b6) | 0.2222(3) | -0.1323(2) | 0.2508(2) | 0.0227(6) |
| C(b7) | 0.2318(3) | 0.2378(2) | 0.33990(19) | 0.0191(5) |
| C(b8) | 0.2127(3) | 0.2966(2) | 0.2910(2) | 0.0189(5) |
| C(11) | 0.1714(3) | 0.3773(2) | 0.1461(2) | 0.0186(5) |
| C(12) | 0.3237(3) | 0.4535(2) | 0.1837(2) | 0.0236(6) |
| C(13) | 0.3207(4) | 0.5645(3) | 0.2086(3) | 0.0321(7) |
| C(21) | 0.1330(3) | -0.0366(2) | -0.27652(19) | 0.0188(5) |
| C(22) | 0.2777(3) | -0.0296(3) | -0.2953(2) | 0.0268(6) |
| C(23) | 0.3915(4) | 0.0757(3) | -0.2328(3) | 0.0339(8) |
| C(31) | 0.2218(5) | -0.3393(2) | -0.0194(3) | 0.0342(8) |
| C(32a) | 0.3592(11) | -0.3467(8) | 0.0171(9) | 0.0257(14) |

Table S8. Continued

| atom | <i>x</i> | <i>y</i> | <i>z</i> | <i>U</i> (eq) |
|--------|-------------|-------------|------------|---------------|
| C(33a) | 0.4546(8) | −0.3119(7) | −0.0353(6) | 0.0392(19) |
| C(32b) | 0.3993(12) | −0.3265(9) | 0.0095(9) | 0.0257(14) |
| C(33b) | 0.4256(9) | −0.4311(6) | −0.0100(6) | 0.0357(19) |
| C(41) | 0.2468(3) | 0.0698(2) | 0.3977(2) | 0.0203(5) |
| C(42) | 0.4070(3) | 0.1088(3) | 0.4593(2) | 0.0231(6) |
| C(43) | 0.4262(4) | 0.1314(4) | 0.5636(2) | 0.0361(8) |
| Sb(1) | 0.95613(2) | 0.66319(1) | 0.36357(1) | 0.0177(1) |
| Cl(2) | 0.70589(10) | 0.58033(11) | 0.30939(9) | 0.0532(3) |
| Cl(3) | 0.91839(12) | 0.82530(8) | 0.38609(8) | 0.0429(2) |
| Cl(4) | 0.96877(11) | 0.69160(7) | 0.52256(6) | 0.0361(2) |
| Cl(5) | 0.94337(11) | 0.62697(8) | 0.20241(6) | 0.0377(2) |
| Cl(6) | 0.99945(10) | 0.50329(6) | 0.34263(6) | 0.0324(2) |
| Cl(7) | 1.20642(8) | 0.74833(6) | 0.42024(6) | 0.0291(2) |
| Cl(8) | 1.42263(11) | 0.58968(7) | 0.46924(6) | 0.0380(2) |
| Cl(9) | 1.40350(11) | 0.69185(8) | 0.66159(7) | 0.0444(2) |
| C(1) | 1.3278(5) | 0.5834(3) | 0.5492(3) | 0.0409(9) |

^a*U*(eq) is defined as one third of the trace of the orthogonalized \mathbf{U}_{ij} tensor. The estimated standard deviations of the least significant digits are given in parentheses.

Table S9. Bond Lengths for [Fe(TPrP[•])(Cl)]SbCl₆^a

| bond | length (Å) | bond | length (Å) |
|-------------|------------|---------------|------------|
| Fe(1)–N(2) | 2.060(2) | C(a4)–C(b4) | 1.434(4) |
| Fe(1)–N(4) | 2.064(2) | C(a5)–C(b5) | 1.432(4) |
| Fe(1)–N(3) | 2.069(2) | C(a6)–C(b6) | 1.438(4) |
| Fe(1)–N(1) | 2.071(2) | C(a7)–C(b7) | 1.430(4) |
| Fe(1)–Cl(1) | 2.1700(7) | C(a8)–C(b8) | 1.431(4) |
| N(1)–C(a1) | 1.370(3) | C(b1)–C(b2) | 1.351(4) |
| N(1)–C(a2) | 1.385(3) | C(b3)–C(b4) | 1.347(4) |
| N(2)–C(a3) | 1.365(3) | C(b5)–C(b6) | 1.337(5) |
| N(2)–C(a4) | 1.386(3) | C(b7)–C(b8) | 1.351(4) |
| N(3)–C(a5) | 1.370(3) | C(11)–C(12) | 1.526(4) |
| N(3)–C(a6) | 1.382(3) | C(12)–C(13) | 1.521(4) |
| N(4)–C(a7) | 1.371(3) | C(21)–C(22) | 1.542(4) |
| N(4)–C(a8) | 1.378(3) | C(22)–C(23) | 1.512(5) |
| C(m1)–C(a8) | 1.403(4) | C(31)–C(32a) | 1.402(11) |
| C(m1)–C(a1) | 1.408(4) | C(31)–C(32b) | 1.684(12) |
| C(m1)–C(11) | 1.504(4) | C(32a)–C(33a) | 1.529(12) |
| C(m2)–C(a2) | 1.391(4) | C(32b)–C(33b) | 1.525(13) |
| C(m2)–C(a3) | 1.417(4) | C(41)–C(42) | 1.531(4) |
| C(m2)–C(21) | 1.513(4) | C(42)–C(43) | 1.511(4) |
| C(m3)–C(a4) | 1.394(4) | Sb(1)–Cl(2) | 2.3486(9) |
| C(m3)–C(a5) | 1.407(4) | Sb(1)–Cl(7) | 2.3519(8) |
| C(m3)–C(31) | 1.513(4) | Sb(1)–Cl(4) | 2.3557(8) |
| C(m4)–C(a6) | 1.390(4) | Sb(1)–Cl(6) | 2.3634(8) |
| C(m4)–C(a7) | 1.404(4) | Sb(1)–Cl(5) | 2.3668(8) |
| C(m4)–C(41) | 1.508(4) | Sb(1)–Cl(3) | 2.3677(9) |
| C(a1)–C(b1) | 1.440(4) | Cl(8)–C(1) | 1.768(4) |
| C(a2)–C(b2) | 1.436(4) | Cl(9)–C(1) | 1.749(4) |
| C(a3)–C(b3) | 1.432(4) | | |

^aThe estimated standard deviations of the least significant digits are given in parentheses.

Table S10. Bond Angles for [Fe(TPrP[•])(Cl)]SbCl₆^a

| angle | degree | angle | degree |
|-------------------|------------|---------------------|-----------|
| N(2)–Fe(1)–N(4) | 154.26(9) | N(3)–C(a5)–C(b5) | 109.7(3) |
| N(2)–Fe(1)–N(3) | 87.15(9) | C(m3)–C(a5)–C(b5) | 124.4(3) |
| N(4)–Fe(1)–N(3) | 86.91(9) | N(3)–C(a6)–C(m4) | 126.0(2) |
| N(2)–Fe(1)–N(1) | 87.00(9) | N(3)–C(a6)–C(b6) | 109.7(2) |
| N(4)–Fe(1)–N(1) | 87.16(8) | C(m4)–C(a6)–C(b6) | 124.3(3) |
| N(3)–Fe(1)–N(1) | 153.35(9) | N(4)–C(a7)–C(m4) | 125.7(2) |
| N(2)–Fe(1)–Cl(1) | 103.53(7) | N(4)–C(a7)–C(b7) | 110.2(2) |
| N(4)–Fe(1)–Cl(1) | 102.21(6) | C(m4)–C(a7)–C(b7) | 124.1(2) |
| N(3)–Fe(1)–Cl(1) | 104.01(7) | N(4)–C(a8)–C(m1) | 125.7(2) |
| N(1)–Fe(1)–Cl(1) | 102.64(6) | N(4)–C(a8)–C(b8) | 110.4(2) |
| C(a1)–N(1)–C(a2) | 105.8(2) | C(m1)–C(a8)–C(b8) | 123.8(2) |
| C(a1)–N(1)–Fe(1) | 125.75(17) | C(b2)–C(b1)–C(a1) | 106.8(2) |
| C(a2)–N(1)–Fe(1) | 125.79(17) | C(b1)–C(b2)–C(a2) | 107.4(2) |
| C(a3)–N(2)–C(a4) | 105.5(2) | C(b4)–C(b3)–C(a3) | 107.2(2) |
| C(a3)–N(2)–Fe(1) | 126.42(18) | C(b3)–C(b4)–C(a4) | 107.0(2) |
| C(a4)–N(2)–Fe(1) | 125.54(17) | C(b6)–C(b5)–C(a5) | 107.9(3) |
| C(a5)–N(3)–C(a6) | 105.8(2) | C(b5)–C(b6)–C(a6) | 106.9(3) |
| C(a5)–N(3)–Fe(1) | 126.44(19) | C(b8)–C(b7)–C(a7) | 107.4(2) |
| C(a6)–N(3)–Fe(1) | 126.60(18) | C(b7)–C(b8)–C(a8) | 106.6(2) |
| C(a7)–N(4)–C(a8) | 105.4(2) | C(m1)–C(11)–C(12) | 112.0(2) |
| C(a7)–N(4)–Fe(1) | 125.77(17) | C(13)–C(12)–C(11) | 111.2(3) |
| C(a8)–N(4)–Fe(1) | 125.75(17) | C(m2)–C(21)–C(22) | 113.2(2) |
| C(a8)–C(m1)–C(a1) | 123.7(2) | C(23)–C(22)–C(21) | 113.3(3) |
| C(a8)–C(m1)–C(11) | 117.6(2) | C(32a)–C(31)–C(m3) | 118.1(5) |
| C(a1)–C(m1)–C(11) | 118.6(2) | C(32a)–C(31)–C(32b) | 16.0(5) |
| C(a2)–C(m2)–C(a3) | 123.6(2) | C(m3)–C(31)–C(32b) | 107.7(4) |
| C(a2)–C(m2)–C(21) | 119.5(2) | C(31)–C(32a)–C(33a) | 108.5(7) |
| C(a3)–C(m2)–C(21) | 116.9(2) | C(33b)–C(32b)–C(31) | 111.7(7) |
| C(a4)–C(m3)–C(a5) | 123.8(3) | C(m4)–C(41)–C(42) | 111.7(2) |
| C(a4)–C(m3)–C(31) | 118.6(3) | C(43)–C(42)–C(41) | 111.2(3) |
| C(a5)–C(m3)–C(31) | 117.5(3) | Cl(2)–Sb(1)–Cl(7) | 179.00(4) |
| C(a6)–C(m4)–C(a7) | 123.8(2) | Cl(2)–Sb(1)–Cl(4) | 89.74(4) |
| C(a6)–C(m4)–C(41) | 118.6(2) | Cl(7)–Sb(1)–Cl(4) | 89.49(3) |
| C(a7)–C(m4)–C(41) | 117.6(3) | Cl(2)–Sb(1)–Cl(6) | 90.52(4) |

Table S10. Continued

| angle | degree | angle | degree |
|-------------------|----------|-------------------|-----------|
| N(1)–C(a1)–C(m1) | 126.1(2) | Cl(7)–Sb(1)–Cl(6) | 90.09(3) |
| N(1)–C(a1)–C(b1) | 110.3(2) | Cl(4)–Sb(1)–Cl(6) | 88.12(3) |
| C(m1)–C(a1)–C(b1) | 123.6(2) | Cl(2)–Sb(1)–Cl(5) | 89.84(4) |
| N(1)–C(a2)–C(m2) | 125.9(2) | Cl(7)–Sb(1)–Cl(5) | 90.95(3) |
| N(1)–C(a2)–C(b2) | 109.7(2) | Cl(4)–Sb(1)–Cl(5) | 177.46(3) |
| C(m2)–C(a2)–C(b2) | 124.5(2) | Cl(6)–Sb(1)–Cl(5) | 89.38(3) |
| N(2)–C(a3)–C(m2) | 126.0(2) | Cl(2)–Sb(1)–Cl(3) | 90.76(4) |
| N(2)–C(a3)–C(b3) | 110.5(2) | Cl(7)–Sb(1)–Cl(3) | 88.63(3) |
| C(m2)–C(a3)–C(b3) | 123.5(2) | Cl(4)–Sb(1)–Cl(3) | 91.78(4) |
| N(2)–C(a4)–C(m3) | 125.8(2) | Cl(6)–Sb(1)–Cl(3) | 178.72(4) |
| N(2)–C(a4)–C(b4) | 109.8(2) | Cl(5)–Sb(1)–Cl(3) | 90.73(4) |
| C(m3)–C(a4)–C(b4) | 124.4(3) | Cl(9)–C(1)–Cl(8) | 112.8(2) |
| N(3)–C(a5)–C(m3) | 125.9(3) | | |

^aThe estimated standard deviations of the least significant digits are given in parentheses.

Table S11. Anisotropic Displacement Parameters (\AA^2) for $[\text{Fe}(\text{TPrP}^*)(\text{Cl})]\text{SbCl}_6^a$

| atom | U_{11} | U_{22} | U_{33} | U_{23} | U_{13} | U_{12} |
|--------|------------|------------|------------|------------|------------|------------|
| Fe(1) | 0.0100(2) | 0.0095(2) | 0.0114(2) | 0.0049(1) | 0.0031(1) | 0.0032(1) |
| Cl(1) | 0.0105(3) | 0.0235(3) | 0.0232(3) | 0.0059(3) | 0.0040(2) | 0.0022(2) |
| N(1) | 0.0132(9) | 0.0132(10) | 0.0131(9) | 0.0070(8) | 0.0045(7) | 0.0053(8) |
| N(2) | 0.0115(9) | 0.0124(10) | 0.0143(9) | 0.0052(8) | 0.0029(7) | 0.0026(8) |
| N(3) | 0.0150(10) | 0.0129(10) | 0.0173(10) | 0.0079(8) | 0.0049(8) | 0.0053(8) |
| N(4) | 0.0125(9) | 0.0141(10) | 0.0123(9) | 0.0057(8) | 0.0049(7) | 0.0063(8) |
| C(m1) | 0.0148(11) | 0.0151(11) | 0.0168(11) | 0.0067(9) | 0.0037(9) | 0.0071(9) |
| C(m2) | 0.0110(10) | 0.0175(12) | 0.0143(11) | 0.0063(9) | 0.0033(9) | 0.0037(9) |
| C(m3) | 0.0220(13) | 0.0126(12) | 0.0245(13) | 0.0086(10) | 0.0046(10) | 0.0047(10) |
| C(m4) | 0.0111(11) | 0.0252(13) | 0.0172(11) | 0.0136(10) | 0.0058(9) | 0.0060(10) |
| C(a1) | 0.0147(11) | 0.0141(11) | 0.0166(11) | 0.0075(9) | 0.0058(9) | 0.0058(9) |
| C(a2) | 0.0111(10) | 0.0180(12) | 0.0144(11) | 0.0095(9) | 0.0048(9) | 0.0046(9) |
| C(a3) | 0.0101(10) | 0.0155(11) | 0.0134(10) | 0.0028(9) | 0.0014(8) | 0.0026(9) |
| C(a4) | 0.0161(12) | 0.0116(11) | 0.0189(12) | 0.0035(9) | 0.0021(9) | 0.0024(9) |
| C(a5) | 0.0188(12) | 0.0145(12) | 0.0249(13) | 0.0114(10) | 0.0057(10) | 0.0053(10) |
| C(a6) | 0.0142(11) | 0.0189(12) | 0.0208(12) | 0.0143(10) | 0.0050(9) | 0.0041(9) |
| C(a7) | 0.0139(11) | 0.0195(12) | 0.0135(11) | 0.0085(9) | 0.0050(9) | 0.0052(9) |
| C(a8) | 0.0124(11) | 0.0145(11) | 0.0150(11) | 0.0062(9) | 0.0050(9) | 0.0057(9) |
| C(b1) | 0.0269(14) | 0.0175(12) | 0.0209(12) | 0.0131(11) | 0.0069(11) | 0.0103(11) |
| C(b2) | 0.0233(13) | 0.0199(12) | 0.0161(11) | 0.0108(10) | 0.0058(10) | 0.0068(10) |
| C(b3) | 0.0195(12) | 0.0157(12) | 0.0143(11) | -0.0006(9) | 0.0027(9) | 0.0034(10) |
| C(b4) | 0.0214(13) | 0.0138(12) | 0.0220(13) | 0.0012(10) | 0.0029(10) | 0.0056(10) |
| C(b5) | 0.0236(14) | 0.0217(13) | 0.0324(15) | 0.0198(12) | 0.0088(12) | 0.0091(11) |
| C(b6) | 0.0225(13) | 0.0276(15) | 0.0279(14) | 0.0216(12) | 0.0086(11) | 0.0097(11) |
| C(b7) | 0.0211(13) | 0.0233(13) | 0.0141(11) | 0.0065(10) | 0.0081(10) | 0.0096(11) |
| C(b8) | 0.0206(13) | 0.0190(12) | 0.0178(12) | 0.0061(10) | 0.0078(10) | 0.0094(10) |
| C(11) | 0.0211(13) | 0.0150(12) | 0.0216(12) | 0.0075(10) | 0.0065(10) | 0.0110(10) |
| C(12) | 0.0259(14) | 0.0154(12) | 0.0309(15) | 0.0108(11) | 0.0093(12) | 0.0080(11) |
| C(13) | 0.0398(19) | 0.0166(14) | 0.0410(18) | 0.0127(13) | 0.0140(15) | 0.0099(13) |
| C(21) | 0.0170(12) | 0.0266(14) | 0.0118(11) | 0.0081(10) | 0.0036(9) | 0.0065(10) |
| C(22) | 0.0248(14) | 0.0387(17) | 0.0195(13) | 0.0128(13) | 0.0120(11) | 0.0095(13) |
| C(23) | 0.0213(15) | 0.048(2) | 0.0288(16) | 0.0183(15) | 0.0079(12) | 0.0001(14) |
| C(31) | 0.056(2) | 0.0138(13) | 0.0327(16) | 0.0101(12) | 0.0111(16) | 0.0150(14) |
| C(32a) | 0.029(5) | 0.020(4) | 0.038(3) | 0.019(2) | 0.016(3) | 0.012(3) |

Table S11. Continued

| atom | U_{11} | U_{22} | U_{33} | U_{23} | U_{13} | U_{12} |
|--------|------------|------------|------------|------------|------------|------------|
| C(33a) | 0.029(4) | 0.047(4) | 0.044(4) | 0.018(4) | 0.009(3) | 0.024(3) |
| C(32b) | 0.029(5) | 0.020(4) | 0.038(3) | 0.019(2) | 0.016(3) | 0.012(3) |
| C(33b) | 0.046(4) | 0.033(4) | 0.038(4) | 0.014(3) | 0.017(3) | 0.030(3) |
| C(41) | 0.0178(12) | 0.0298(14) | 0.0171(12) | 0.0143(11) | 0.0062(10) | 0.0072(11) |
| C(42) | 0.0203(13) | 0.0344(16) | 0.0195(12) | 0.0166(12) | 0.0067(10) | 0.0089(12) |
| C(43) | 0.0265(16) | 0.062(2) | 0.0223(15) | 0.0222(16) | 0.0050(12) | 0.0151(16) |
| Sb(1) | 0.0174(1) | 0.0183(1) | 0.0171(1) | 0.0078(1) | 0.0060(1) | 0.0043(1) |
| Cl(2) | 0.0188(4) | 0.0769(8) | 0.0626(7) | 0.0445(6) | 0.0030(4) | -0.0025(4) |
| Cl(3) | 0.0495(5) | 0.0399(5) | 0.0600(6) | 0.0293(5) | 0.0267(5) | 0.0316(4) |
| Cl(4) | 0.0481(5) | 0.0397(4) | 0.0207(3) | 0.0088(3) | 0.0189(3) | 0.0135(4) |
| Cl(5) | 0.0482(5) | 0.0409(5) | 0.0210(3) | 0.0163(3) | 0.0091(3) | 0.0052(4) |
| Cl(6) | 0.0485(5) | 0.0150(3) | 0.0267(4) | 0.0047(3) | 0.0092(3) | 0.0081(3) |
| Cl(7) | 0.0197(3) | 0.0286(4) | 0.0377(4) | 0.0173(3) | 0.0063(3) | 0.0035(3) |
| Cl(8) | 0.0480(5) | 0.0323(4) | 0.0322(4) | 0.0117(3) | 0.0086(4) | 0.0195(4) |
| Cl(9) | 0.0334(4) | 0.0443(5) | 0.0390(5) | 0.0012(4) | 0.0121(4) | 0.0098(4) |
| C(1) | 0.041(2) | 0.0330(19) | 0.0354(18) | 0.0087(15) | 0.0078(16) | 0.0019(16) |

^aThe estimated standard deviations of the least significant digits are given in parentheses. The anisotropic displacement factor exponent takes the form: $-2 \pi [h^2 a^{*2} U_{11} + \dots + 2 h k a^* b^* U_{12}]$.

Table S12. Hydrogen Atom Coordinates and Equivalent Isotropic Displacement Parameters (\AA^2) for $[\text{Fe}(\text{TPrP}^*)(\text{Cl})]\text{SbCl}_6^a$

| atom | x | y | z | $U(\text{eq})$ |
|--------|--------|---------|---------|----------------|
| H(b1) | 0.1384 | 0.3087 | -0.0445 | 0.024 |
| H(b2) | 0.1241 | 0.1631 | -0.1937 | 0.023 |
| H(b3) | 0.1480 | -0.2205 | -0.2820 | 0.023 |
| H(b4) | 0.1889 | -0.3264 | -0.1910 | 0.026 |
| H(b5) | 0.2215 | -0.2770 | 0.1642 | 0.028 |
| H(b6) | 0.2258 | -0.1349 | 0.3106 | 0.027 |
| H(b7) | 0.2495 | 0.2593 | 0.4072 | 0.023 |
| H(b8) | 0.2126 | 0.3668 | 0.3169 | 0.023 |
| H(1a) | 0.1262 | 0.3971 | 0.1966 | 0.022 |
| H(1b) | 0.1123 | 0.3822 | 0.0888 | 0.022 |
| H(1c) | 0.3823 | 0.4500 | 0.2421 | 0.028 |
| H(1d) | 0.3698 | 0.4331 | 0.1339 | 0.028 |
| H(1e) | 0.2611 | 0.5677 | 0.1512 | 0.048 |
| H(1f) | 0.4193 | 0.6113 | 0.2303 | 0.048 |
| H(1g) | 0.2797 | 0.5861 | 0.2603 | 0.048 |
| H(2a) | 0.0941 | 0.0158 | -0.2908 | 0.023 |
| H(2b) | 0.0629 | -0.1064 | -0.3213 | 0.023 |
| H(2c) | 0.3148 | -0.0838 | -0.2832 | 0.032 |
| H(2d) | 0.2605 | -0.0446 | -0.3641 | 0.032 |
| H(2e) | 0.3562 | 0.1297 | -0.2450 | 0.051 |
| H(2f) | 0.4802 | 0.0755 | -0.2485 | 0.051 |
| H(2g) | 0.4118 | 0.0901 | -0.1645 | 0.051 |
| H(3a) | 0.1559 | -0.3751 | 0.0049 | 0.041 |
| H(3b) | 0.1869 | -0.3788 | -0.0906 | 0.041 |
| H(32a) | 0.3514 | -0.4195 | 0.0064 | 0.031 |
| H(32b) | 0.4021 | -0.3017 | 0.0875 | 0.031 |
| H(33a) | 0.4078 | -0.3536 | -0.1052 | 0.059 |
| H(33b) | 0.5486 | -0.3218 | -0.0143 | 0.059 |
| H(33c) | 0.4684 | -0.2381 | -0.0199 | 0.059 |
| H(32c) | 0.4406 | -0.2953 | -0.0287 | 0.031 |
| H(32d) | 0.4494 | -0.2787 | 0.0788 | 0.031 |
| H(33d) | 0.3851 | -0.4621 | 0.0278 | 0.054 |
| H(33e) | 0.5298 | -0.4206 | 0.0085 | 0.054 |
| H(33f) | 0.3789 | -0.4779 | -0.0790 | 0.054 |

Table S12. Continued

| atom | x | y | z | $U(\text{eq})$ |
|-------|--------|--------|--------|----------------|
| H(4a) | 0.1990 | 0.0036 | 0.3987 | 0.024 |
| H(4b) | 0.2001 | 0.1215 | 0.4261 | 0.024 |
| H(4c) | 0.4526 | 0.0554 | 0.4332 | 0.028 |
| H(4d) | 0.4561 | 0.1729 | 0.4556 | 0.028 |
| H(4e) | 0.3948 | 0.1916 | 0.5925 | 0.054 |
| H(4f) | 0.5283 | 0.1467 | 0.5994 | 0.054 |
| H(4g) | 0.3679 | 0.0706 | 0.5667 | 0.054 |
| H(1h) | 1.2263 | 0.5782 | 0.5194 | 0.049 |
| H(1i) | 1.3273 | 0.5196 | 0.5591 | 0.049 |

^a $U(\text{eq})$ is defined as one third of the trace of the orthogonalized \mathbf{U}_{ij} tensor. The estimated standard deviations of the least significant digits are given in parentheses.