Table 1. Crystal data and structure refinement for Ru5(C)(CO)13(PhCCH)[PtP(t-But)]3.

Identification code	ru5ptcos	
Empirical formula	C61 H90 O13 P3 Pt3 Ru5	
Formula weight	2214.86	
Temperature	293(2) K	
Wavelength	0.71073 Å	
Crystal system	Triclinic	
Space group	P-1	
Unit cell dimensions	a = 14.7755(8) Å	α= 80.3400(10)°.
	b = 16.3794(9) Å	β= 66.3240(10)°.
	c = 17.3720(10) Å	γ = 71.6450(10)°.
Volume	3650.4(4) $Å^3$	
Z	2	
Density (calculated)	2.015 Mg/m^3	
Absorption coefficient	6.849 mm^{-1}	
F(000)	2118	
Crystal size	0.40 x 0.20 x 0.08 mm^3	
Theta range for data collection	1.56 to 28.34°.	
Index ranges	-19<=h<=19, -21<=k<=21, -23<=l<=23	
Reflections collected	38713	
Independent reflections	18034 [R(int) = 0.0317]	
Completeness to theta = 28.34°	99.0 %	
Absorption correction	SADABS	
Max. and min. transmission	1.000 and 0.553	
Refinement method	Full-matrix least-squares on F^2	
Data / restraints / parameters	18034 / 0 / 778	
Goodness-of-fit on F^2	1.019	
Final R indices [I>2sigma(I)]	R1 = 0.0485, wR2 = 0.1275	
R indices (all data)	R1 = 0.0673, wR2 = 0.1401	
Largest diff. peak and hole	7.503 and -2.375 e.$Å^{-3}$	

Table 2. Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$x 10^3) for Ru5(C)(CO)13(PhCCH)[PtP(t-But)]3. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
Pt(1)	3197(1)	250(1)	2582(1)	41(1)
Pt(2)	4464(1)	2812(1)	2394(1)	45(1)
Pt(3)	628(1)	4496(1)	2405(1)	40(1)
Ru(1)	2478(1)	3316(1)	2408(1)	36(1)
Ru(2)	494(1)	2898(1)	3125(1)	41(1)
Ru(3)	1437(1)	1354(1)	3892(1)	37(1)
Ru(4)	3239(1)	1725(1)	3293(1)	32(1)
Ru(5)	2293(1)	1783(1)	2044(1)	39(1)
P(1)	3862(2)	-1227(1)	2394(2)	49(1)
P(2)	5875(2)	3317(2)	2102(2)	57(1)
P(3)	-308(2)	5915(1)	2292(1)	45(1)
O(11)	2318(7)	4449(5)	3690(5)	82(2)
O(12)	4346(5)	3158(5)	734(4)	71(2)
O(13)	2423(5)	4610(5)	911(5)	76(2)
O(21)	-604(10)	3889(7)	4721(6)	137(5)
O(22)	-1089(6)	1909(6)	3608(7)	110(4)
O(23)	-425(6)	3665(5)	1768(5)	77(2)
O(31)	54(6)	2016(5)	5599(4)	79(2)
O(32)	275(6)	64(6)	4041(6)	90(3)
O(41)	3228(7)	2612(5)	4677(5)	80(2)
O(42)	5562(5)	971(5)	2347(5)	76(2)
O(51)	2122(8)	2911(5)	510(5)	94(3)
O(52)	858(7)	818(6)	1999(6)	95(3)
O(53)	4546(6)	1047(5)	921(4)	77(2)
C(1)	1892(5)	2400(5)	3169(4)	36(2)
C(2)	3556(6)	344(5)	3542(5)	43(2)
C(3)	2700(5)	712(5)	4226(5)	38(2)
C(4)	2725(6)	535(6)	5090(5)	46(2)
C(5)	1930(8)	285(7)	5744(6)	61(2)
C(6)	1946(10)	113(8)	6550(7)	78(3)
C(7)	2758(9)	183(7)	6702(6)	71(3)

C(8)	3547(9)	411(7)	6079(7)	71(3)
C(9)	3552(7)	573(6)	5256(6)	55(2)
C(11)	2390(7)	4051(6)	3183(6)	54(2)
C(12)	3897(6)	3174(6)	1469(6)	52(2)
C(13)	2087(6)	4277(5)	1576(6)	50(2)
C(21)	-217(9)	3555(8)	4108(7)	74(3)
C(22)	-448(7)	2246(7)	3431(8)	70(3)
C(23)	-53(6)	3622(6)	2253(6)	53(2)
C(31)	590(7)	1740(6)	4959(6)	52(2)
C(32)	701(7)	557(6)	4022(6)	55(2)
C(41)	3251(7)	2265(6)	4138(5)	48(2)
C(42)	4792(6)	1488(5)	2638(5)	44(2)
C(51)	2164(8)	2547(6)	1125(6)	56(2)
C(52)	1411(8)	1150(7)	2051(7)	68(3)
C(53)	3725(7)	1224(6)	1410(6)	54(2)
C(60)	3506(10)	-1922(7)	3419(8)	77(3)
C(61)	2410(11)	-1472(8)	4006(8)	92(4)
C(62)	4174(12)	-1930(8)	3905(9)	97(4)
C(63)	3535(12)	-2835(7)	3337(9)	97(4)
C(64)	5325(7)	-1553(6)	1829(7)	59(2)
C(65)	5802(8)	-1131(7)	2233(8)	73(3)
C(66)	5846(10)	-2534(7)	1824(9)	91(4)
C(67)	5622(9)	-1191(9)	919(7)	83(3)
C(68)	3288(9)	-1458(7)	1674(8)	71(3)
C(69)	2123(9)	-1399(9)	2210(9)	89(4)
C(70)	3311(10)	-758(8)	960(7)	79(3)
C(71)	3818(13)	-2349(8)	1281(10)	105(5)
C(72)	5704(10)	4433(8)	1542(12)	106(5)
C(73)	5943(13)	4352(11)	610(10)	125(7)
C(74)	6348(13)	4981(11)	1661(14)	147(8)
C(75)	4571(11)	4942(8)	1881(14)	133(7)
C(76)	7133(8)	2585(8)	1435(8)	76(3)
C(77)	6965(9)	2241(9)	754(8)	86(4)
C(78)	8043(9)	3003(10)	1030(10)	104(5)
C(79)	7491(9)	1784(8)	1967(10)	98(5)
C(80)	5954(11)	3401(11)	3155(9)	96(4)

C(81)	5826(12)	2587(12)	3696(8)	112(6)
C(82)	6944(12)	3580(12)	3112(11)	127(6)
C(83)	5036(14)	4146(16)	3614(12)	165(10)
C(84)	-641(7)	6171(6)	1302(6)	50(2)
C(85)	-960(10)	7150(6)	1058(7)	72(3)
C(86)	-1498(8)	5795(7)	1402(7)	63(2)
C(87)	323(8)	5711(7)	558(6)	65(3)
C(88)	-1565(8)	6115(7)	3263(6)	65(3)
C(89)	-2048(8)	5384(8)	3391(8)	86(4)
C(90)	-2374(10)	6957(8)	3232(8)	88(4)
C(91)	-1288(10)	6085(10)	4037(7)	100(5)
C(92)	448(9)	6684(6)	2293(7)	65(3)
C(93)	-217(11)	7594(7)	2556(9)	87(4)
C(94)	1032(11)	6293(7)	2894(9)	85(4)
C(95)	1265(9)	6729(7)	1422(8)	76(3)
C(1S)	10210(20)	9883(19)	620(20)	200(11)
C(2S)	9320(20)	9547(18)	690(20)	200(11)
C(3S)	9210(30)	9670(20)	-50(20)	228(14)

Table 3. Bond lengths [Å] and angles [°] for Ru5(C)(CO)13(PhCCH)[PtP(t-But)]3.

Pt(1)-C(2)	1.983(7)
Pt(1)-P(1)	2.332(2)
Pt(1)-C(53)	2.391(10)
Pt(1)-Ru(5)	2.6583(7)
Pt(1)-Ru(4)	2.9201(6)
Pt(1)-Ru(3)	2.9788(7)
Pt(2)-C(12)	2.022(9)
Pt(2)-C(42)	2.077(8)
Pt(2)-P(2)	2.320(2)
Pt(2)-Ru(4)	2.7762(6)
Pt(2)-Ru(1)	2.7780(6)
Pt(3)-C(13)	2.011(8)
Pt(3)-C(23)	2.093(9)
Pt(3)-P(3)	2.323(2)
Pt(3)-Ru(2)	2.7356(7)
Pt(3)-Ru(1)	2.8090(6)
Ru(1)-C(11)	1.893(9)
Ru(1)-C(1)	1.995(7)
Ru(1)-C(12)	2.046(9)
Ru(1)-C(13)	2.059(9)
Ru(1)-Ru(5)	2.8069(9)
Ru(1)-Ru(4)	2.9351(8)
Ru(1)-Ru(2)	2.9428(8)
Ru(2)-C(22)	1.873(10)
Ru(2)-C(21)	1.908(11)
Ru(2)-C(1)	1.996(6)
Ru(2)-C(23)	2.033(8)
Ru(2)-Ru(5)	2.8297(9)
Ru(2)-Ru(3)	2.8723(8)
Ru(3)-C(31)	1.854(9)
Ru(3)-C(32)	1.881(9)
Ru(3)-C(1)	2.071(7)
Ru(3)-C(3)	2.087(7)
Ru(3)-Ru(4)	2.6696(8)

Ru(3)-Ru(5)	2.9891(9)
Ru(4)-C(41)	1.844(8)
Ru(4)-C(1)	2.028(6)
Ru(4)-C(42)	2.049(8)
Ru(4)-C(2)	2.167(8)
Ru(4)-C(3)	2.215(7)
Ru(4)-Ru(5)	2.9932(8)
Ru(5)-C(51)	1.890(8)
Ru(5)-C(52)	1.899(11)
Ru(5)-C(53)	1.943(9)
Ru(5)-C(1)	2.132(7)
P(1)-C(68)	1.909(10)
P(1)-C(64)	1.915(9)
P(1)-C(60)	1.920(11)
P(2)-C(76)	1.889(12)
P(2)-C(80)	1.911(13)
P(2)-C(72)	1.913(13)
P(3)-C(84)	1.918(8)
P(3)-C(88)	1.921(10)
P(3)-C(92)	1.929(11)
O(11)-C(11)	1.135(11)
O(12)-C(12)	1.179(11)
O(13)-C(13)	1.173(11)
O(21)-C(21)	1.128(13)
O(22)-C(22)	1.156(12)
O(23)-C(23)	1.159(10)
O(31)-C(31)	1.142(11)
O(32)-C(32)	1.158(11)
O(41)-C(41)	1.157(10)
O(42)-C(42)	1.158(10)
O(51)-C(51)	1.148(10)
O(52)-C(52)	1.152(12)
O(53)-C(53)	1.145(11)
C(2)-C(3)	1.388(11)
C(3)-C(4)	1.493(10)
C(4)-C(5)	1.383(13)

C(4)-C(9)	1.385(11)
C(5)-C(6)	1.389(13)
C(6)-C(7)	1.370(16)
C(7)-C(8)	1.340(16)
C(8)-C(9)	1.406(12)
C(60)-C(63)	1.512(15)
C(60)-C(62)	1.530(17)
C(60)-C(61)	1.543(18)
C(64)-C(65)	1.527(14)
C(64)-C(67)	1.528(16)
C(64)-C(66)	1.547(14)
C(68)-C(70)	1.538(17)
C(68)-C(71)	1.547(16)
C(68)-C(69)	1.574(17)
C(72)-C(75)	1.53(2)
C(72)-C(73)	1.53(2)
C(72)-C(74)	1.585(18)
C(76)-C(77)	1.525(17)
C(76)-C(79)	1.551(17)
C(76)-C(78)	1.558(14)
C(80)-C(81)	1.51(2)
C(80)-C(83)	1.54(2)
C(80)-C(82)	1.552(16)
C(84)-C(86)	1.512(13)
C(84)-C(85)	1.559(13)
C(84)-C(87)	1.562(14)
C(88)-C(89)	1.522(17)
C(88)-C(90)	1.523(13)
C(88)-C(91)	1.544(16)
C(92)-C(95)	1.518(16)
C(92)-C(93)	1.530(14)
C(92)-C(94)	1.548(13)
C(1S)-C(3S)#1	1.30(4)
C(1S)-C(2S)	1.53(4)
C(2S)-C(3S)	1.34(4)
C(3S)-C(1S)#1	1.30(4)

C(2)-Pt(1)-P(1)	100.6(2)
C(2)-Pt(1)-C(53)	114.3(3)
P(1)-Pt(1)-C(53)	118.9(2)
C(2)-Pt(1)-Ru(5)	111.6(2)
P(1)-Pt(1)-Ru(5)	147.70(6)
C(53)-Pt(1)-Ru(5)	44.9(2)
C(2)-Pt(1)-Ru(4)	47.9(2)
P(1)-Pt(1)-Ru(4)	145.99(5)
C(53)-Pt(1)-Ru(4)	74.6(2)
Ru(5)-Pt(1)-Ru(4)	64.701(18)
C(2)-Pt(1)-Ru(3)	68.4(2)
P(1)-Pt(1)-Ru(3)	135.05(6)
C(53)-Pt(1)-Ru(3)	104.7(2)
Ru(5)-Pt(1)-Ru(3)	63.749(19)
Ru(4)-Pt(1)-Ru(3)	53.806(16)
C(12)-Pt(2)-C(42)	111.5(3)
C(12)-Pt(2)-P(2)	111.5(3)
C(42)-Pt(2)-P(2)	111.9(2)
C(12)-Pt(2)-Ru(4)	96.5(3)
C(42)-Pt(2)-Ru(4)	47.3(2)
P(2)-Pt(2)-Ru(4)	151.00(6)
C(12)-Pt(2)-Ru(1)	47.3(3)
C(42)-Pt(2)-Ru(1)	105.2(2)
P(2)-Pt(2)-Ru(1)	142.57(7)
Ru(4)-Pt(2)-Ru(1)	63.801(18)
C(13)-Pt(3)-C(23)	109.7(4)
C(13)-Pt(3)-P(3)	111.5(2)
C(23)-Pt(3)-P(3)	112.1(2)
C(13)-Pt(3)-Ru(2)	103.6(2)
C(23)-Pt(3)-Ru(2)	47.5(2)
P(3)-Pt(3)-Ru(2)	144.42(6)
C(13)-Pt(3)-Ru(1)	47.1(2)
C(23)-Pt(3)-Ru(1)	98.0(2)
P(3)-Pt(3)-Ru(1)	148.87(6)
Ru(2)-Pt(3)-Ru(1)	64.096(18)

C(11)-Ru(1)-C(1)	102.1(4)
C(11)-Ru(1)-C(12)	106.6(4)
C(1)-Ru(1)-C(12)	128.0(3)
C(11)-Ru(1)-C(13)	96.3(4)
C(1)-Ru(1)-C(13)	137.4(3)
C(12)-Ru(1)-C(13)	81.1(3)
C(11)-Ru(1)-Pt(2)	77.5(3)
C(1)-Ru(1)-Pt(2)	101.53(18)
C(12)-Ru(1)-Pt(2)	46.6(3)
C(13)-Ru(1)-Pt(2)	120.0(2)
C(11)-Ru(1)-Ru(5)	151.0(3)
C(1)-Ru(1)-Ru(5)	49.2(2)
C(12)-Ru(1)-Ru(5)	92.4(3)
C(13)-Ru(1)-Ru(5)	108.3(3)
Pt(2)-Ru(1)-Ru(5)	101.93(2)
C(11)-Ru(1)-Pt(3)	84.4(3)
C(1)-Ru(1)-Pt(3)	98.14(19)
C(12)-Ru(1)-Pt(3)	126.8(3)
C(13)-Ru(1)-Pt(3)	45.7(2)
Pt(2)-Ru(1)-Pt(3)	155.61(3)
Ru(5)-Ru(1)-Pt(3)	101.81(2)
C(11)-Ru(1)-Ru(4)	94.4(3)
C(1)-Ru(1)-Ru(4)	43.58(18)
C(12)-Ru(1)-Ru(4)	91.3(3)
C(13)-Ru(1)-Ru(4)	168.3(3)
Pt(2)-Ru(1)-Ru(4)	58.071(16)
Ru(5)-Ru(1)-Ru(4)	62.79(2)
Pt(3)-Ru(1)-Ru(4)	140.71(2)
C(11)-Ru(1)-Ru(2)	104.6(3)
C(1)-Ru(1)-Ru(2)	42.50(18)
C(12)-Ru(1)-Ru(2)	148.8(3)
C(13)-Ru(1)-Ru(2)	95.8(2)
Pt(2)-Ru(1)-Ru(2)	143.99(3)
Ru(5)-Ru(1)-Ru(2)	58.91(2)
Pt(3)-Ru(1)-Ru(2)	56.742(17)
Ru(4)-Ru(1)-Ru(2)	86.06(2)

C(22)-Ru(2)-C(21)	94.6(6)
C(22)-Ru(2)-C(1)	122.2(4)
C(21)-Ru(2)-C(1)	101.9(4)
C(22)-Ru(2)-C(23)	92.1(4)
C(21)-Ru(2)-C(23)	104.6(4)
C(1)-Ru(2)-C(23)	134.3(3)
C(22)-Ru(2)-Pt(3)	137.0(3)
C(21)-Ru(2)-Pt(3)	80.5(4)
C(1)-Ru(2)-Pt(3)	100.5(2)
C(23)-Ru(2)-Pt(3)	49.4(3)
C(22)-Ru(2)-Ru(5)	101.4(4)
C(21)-Ru(2)-Ru(5)	150.6(4)
C(1)-Ru(2)-Ru(5)	48.8(2)
C(23)-Ru(2)-Ru(5)	99.3(3)
Pt(3)-Ru(2)-Ru(5)	103.09(2)
C(22)-Ru(2)-Ru(3)	77.2(3)
C(21)-Ru(2)-Ru(3)	97.3(3)
C(1)-Ru(2)-Ru(3)	46.1(2)
C(23)-Ru(2)-Ru(3)	156.4(3)
Pt(3)-Ru(2)-Ru(3)	145.76(3)
Ru(5)-Ru(2)-Ru(3)	63.23(2)
C(22)-Ru(2)-Ru(1)	159.2(4)
C(21)-Ru(2)-Ru(1)	102.3(4)
C(1)-Ru(2)-Ru(1)	42.5(2)
C(23)-Ru(2)-Ru(1)	95.3(2)
Pt(3)-Ru(2)-Ru(1)	59.163(17)
Ru(5)-Ru(2)-Ru(1)	58.15(2)
Ru(3)-Ru(2)-Ru(1)	88.55(2)
C(31)-Ru(3)-C(32)	90.8(4)
C(31)-Ru(3)-C(1)	106.6(3)
C(32)-Ru(3)-C(1)	144.4(3)
C(31)-Ru(3)-C(3)	94.5(3)
C(32)-Ru(3)-C(3)	107.6(4)
C(1)-Ru(3)-C(3)	101.8(3)
C(31)-Ru(3)-Ru(4)	113.9(3)
C(32)-Ru(3)-Ru(4)	148.5(3)

C(1)-Ru(3)-Ru(4)	48.65(18)
C(3)-Ru(3)-Ru(4)	53.8(2)
C(31)-Ru(3)-Ru(2)	91.3(3)
C(32)-Ru(3)-Ru(2)	106.5(3)
C(1)-Ru(3)-Ru(2)	44.01(18)
C(3)-Ru(3)-Ru(2)	145.3(2)
Ru(4)-Ru(3)-Ru(2)	92.65(2)
C(31)-Ru(3)-Pt(1)	157.7(3)
C(32)-Ru(3)-Pt(1)	87.7(3)
C(1)-Ru(3)-Pt(1)	86.96(19)
C(3)-Ru(3)-Pt(1)	64.9(2)
Ru(4)-Ru(3)-Pt(1)	61.975(18)
Ru(2)-Ru(3)-Pt(1)	110.39(2)
C(31)-Ru(3)-Ru(5)	147.7(3)
C(32)-Ru(3)-Ru(5)	105.8(3)
C(1)-Ru(3)-Ru(5)	45.5(2)
C(3)-Ru(3)-Ru(5)	106.1(2)
Ru(4)-Ru(3)-Ru(5)	63.57(2)
Ru(2)-Ru(3)-Ru(5)	57.69(2)
Pt(1)-Ru(3)-Ru(5)	52.903(17)
C(41)-Ru(4)-C(1)	103.2(3)
C(41)-Ru(4)-C(42)	93.9(4)
C(1)-Ru(4)-C(42)	140.3(3)
C(41)-Ru(4)-C(2)	111.4(3)
C(1)-Ru(4)-C(2)	119.6(3)
C(42)-Ru(4)-C(2)	85.4(3)
C(41)-Ru(4)-C(3)	89.5(3)
C(1)-Ru(4)-C(3)	99.0(3)
C(42)-Ru(4)-C(3)	117.0(3)
C(2)-Ru(4)-C(3)	36.9(3)
C(41)-Ru(4)-Ru(3)	106.1(3)
C(1)-Ru(4)-Ru(3)	50.1(2)
C(42)-Ru(4)-Ru(3)	154.7(2)
C(2)-Ru(4)-Ru(3)	73.1(2)
C(3)-Ru(4)-Ru(3)	49.52(18)
C(41)-Ru(4)-Pt(2)	77.7(3)

C(1)-Ru(4)-Pt(2)	100.7(2)
C(42)-Ru(4)-Pt(2)	48.1(2)
C(2)-Ru(4)-Pt(2)	133.5(2)
C(3)-Ru(4)-Pt(2)	158.50(17)
Ru(3)-Ru(4)-Pt(2)	150.79(3)
C(41)-Ru(4)-Pt(1)	153.2(3)
C(1)-Ru(4)-Pt(1)	89.4(2)
C(42)-Ru(4)-Pt(1)	91.0(2)
C(2)-Ru(4)-Pt(1)	42.8(2)
C(3)-Ru(4)-Pt(1)	64.96(19)
Ru(3)-Ru(4)-Pt(1)	64.219(19)
Pt(2)-Ru(4)-Pt(1)	123.64(2)
C(41)-Ru(4)-Ru(1)	95.6(3)
C(1)-Ru(4)-Ru(1)	42.7(2)
C(42)-Ru(4)-Ru(1)	100.8(2)
C(2)-Ru(4)-Ru(1)	151.93(19)
C(3)-Ru(4)-Ru(1)	141.48(18)
Ru(3)-Ru(4)-Ru(1)	92.71(2)
Pt(2)-Ru(4)-Ru(1)	58.128(17)
Pt(1)-Ru(4)-Ru(1)	109.34(2)
C(41)-Ru(4)-Ru(5)	147.4(3)
C(1)-Ru(4)-Ru(5)	45.4(2)
C(42)-Ru(4)-Ru(5)	106.8(2)
C(2)-Ru(4)-Ru(5)	95.45(19)
C(3)-Ru(4)-Ru(5)	102.52(18)
Ru(3)-Ru(4)-Ru(5)	63.42(2)
Pt(2)-Ru(4)-Ru(5)	97.44(2)
Pt(1)-Ru(4)-Ru(5)	53.412(16)
Ru(1)-Ru(4)-Ru(5)	56.510(19)
C(51)-Ru(5)-C(52)	96.4(5)
C(51)-Ru(5)-C(53)	92.5(4)
C(52)-Ru(5)-C(53)	111.6(4)
C(51)-Ru(5)-C(1)	114.5(3)
C(52)-Ru(5)-C(1)	117.0(4)
C(53)-Ru(5)-C(1)	119.7(3)
C(51)-Ru(5)-Pt(1)	148.2(3)

C(52)-Ru(5)-Pt(1)	80.7(3)
C(53)-Ru(5)-Pt(1)	60.3(3)
C(1)-Ru(5)-Pt(1)	94.53(18)
C(51)-Ru(5)-Ru(1)	76.1(3)
C(52)-Ru(5)-Ru(1)	147.7(3)
C(53)-Ru(5)-Ru(1)	100.2(3)
C(1)-Ru(5)-Ru(1)	45.13(19)
Pt(1)-Ru(5)-Ru(1)	121.84(2)
C(51)-Ru(5)-Ru(2)	88.9(3)
C(52)-Ru(5)-Ru(2)	85.8(3)
C(53)-Ru(5)-Ru(2)	162.2(3)
C(1)-Ru(5)-Ru(2)	44.74(17)
Pt(1)-Ru(5)-Ru(2)	122.18(3)
Ru(1)-Ru(5)-Ru(2)	62.94(2)
C(51)-Ru(5)-Ru(3)	148.0(3)
C(52)-Ru(5)-Ru(3)	81.2(3)
C(53)-Ru(5)-Ru(3)	118.2(3)
C(1)-Ru(5)-Ru(3)	43.85(19)
Pt(1)-Ru(5)-Ru(3)	63.349(18)
Ru(1)-Ru(5)-Ru(3)	88.87(2)
Ru(2)-Ru(5)-Ru(3)	59.08(2)
C(51)-Ru(5)-Ru(4)	133.2(3)
C(52)-Ru(5)-Ru(4)	129.6(3)
C(53)-Ru(5)-Ru(4)	79.1(3)
C(1)-Ru(5)-Ru(4)	42.61(17)
Pt(1)-Ru(5)-Ru(4)	61.887(17)
Ru(1)-Ru(5)-Ru(4)	60.70(2)
Ru(2)-Ru(5)-Ru(4)	87.02(2)
Ru(3)-Ru(5)-Ru(4)	53.007(18)
C(68)-P(1)-C(64)	107.4(5)
C(68)-P(1)-C(60)	109.1(5)
C(64)-P(1)-C(60)	108.8(5)
C(68)-P(1)-Pt(1)	105.2(3)
C(64)-P(1)-Pt(1)	112.1(3)
C(60)-P(1)-Pt(1)	113.9(4)
C(76)-P(2)-C(80)	108.0(6)

C(76)-P(2)-C(72)	108.4(6)
C(80)-P(2)-C(72)	109.1(8)
C(76)-P(2)-Pt(2)	113.7(3)
C(80)-P(2)-Pt(2)	107.0(4)
C(72)-P(2)-Pt(2)	110.6(4)
C(84)-P(3)-C(88)	108.5(4)
C(84)-P(3)-C(92)	109.1(4)
C(88)-P(3)-C(92)	108.3(5)
C(84)-P(3)-Pt(3)	113.3(3)
C(88)-P(3)-Pt(3)	107.7(3)
C(92)-P(3)-Pt(3)	109.8(3)
Ru(1)-C(1)-Ru(2)	95.0(3)
Ru(1)-C(1)-Ru(4)	93.7(3)
Ru(2)-C(1)-Ru(4)	171.0(4)
Ru(1)-C(1)-Ru(3)	173.7(4)
Ru(2)-C(1)-Ru(3)	89.9(3)
Ru(4)-C(1)-Ru(3)	81.3(2)
Ru(1)-C(1)-Ru(5)	85.6(3)
Ru(2)-C(1)-Ru(5)	86.5(3)
Ru(4)-C(1)-Ru(5)	92.0(3)
Ru(3)-C(1)-Ru(5)	90.6(3)
C(3)-C(2)-Pt(1)	112.4(5)
C(3)-C(2)-Ru(4)	73.4(5)
Pt(1)-C(2)-Ru(4)	89.3(3)
C(2)-C(3)-C(4)	119.9(6)
C(2)-C(3)-Ru(3)	112.0(5)
C(4)-C(3)-Ru(3)	127.6(5)
C(2)-C(3)-Ru(4)	69.6(4)
C(4)-C(3)-Ru(4)	126.9(5)
Ru(3)-C(3)-Ru(4)	76.6(2)
C(5)-C(4)-C(9)	118.0(8)
C(5)-C(4)-C(3)	120.0(7)
C(9)-C(4)-C(3)	121.9(8)
C(4)-C(5)-C(6)	120.7(9)
C(7)-C(6)-C(5)	120.0(10)
C(8)-C(7)-C(6)	120.7(9)

C(7)-C(8)-C(9)	120.0(9)
C(4)-C(9)-C(8)	120.5(9)
O(11)-C(11)-Ru(1)	175.2(9)
O(12)-C(12)-Pt(2)	128.8(7)
O(12)-C(12)-Ru(1)	144.4(7)
Pt(2)-C(12)-Ru(1)	86.2(4)
O(13)-C(13)-Pt(3)	129.6(7)
O(13)-C(13)-Ru(1)	143.1(7)
Pt(3)-C(13)-Ru(1)	87.3(3)
O(21)-C(21)-Ru(2)	174.6(10)
O(22)-C(22)-Ru(2)	174.1(9)
O(23)-C(23)-Ru(2)	148.2(8)
O(23)-C(23)-Pt(3)	128.1(7)
Ru(2)-C(23)-Pt(3)	83.1(3)
O(31)-C(31)-Ru(3)	176.7(9)
O(32)-C(32)-Ru(3)	175.2(9)
O(41)-C(41)-Ru(4)	178.0(8)
O(42)-C(42)-Ru(4)	146.3(7)
O(42)-C(42)-Pt(2)	128.1(7)
Ru(4)-C(42)-Pt(2)	84.6(3)
O(51)-C(51)-Ru(5)	170.7(9)
O(52)-C(52)-Ru(5)	173.9(11)
O(53)-C(53)-Ru(5)	165.2(8)
O(53)-C(53)-Pt(1)	119.9(7)
Ru(5)-C(53)-Pt(1)	74.9(3)
C(63)-C(60)-C(62)	109.6(10)
C(63)-C(60)-C(61)	107.7(11)
C(62)-C(60)-C(61)	103.6(11)
C(63)-C(60)-P(1)	116.6(9)
C(62)-C(60)-P(1)	110.1(8)
C(61)-C(60)-P(1)	108.5(8)
C(65)-C(64)-C(67)	104.9(10)
C(65)-C(64)-C(66)	108.3(8)
C(67)-C(64)-C(66)	108.3(9)
C(65)-C(64)-P(1)	109.4(7)
C(67)-C(64)-P(1)	110.2(7)

C(66)-C(64)-P(1)	115.2(8)
C(70)-C(68)-C(71)	108.6(10)
C(70)-C(68)-C(69)	106.7(9)
C(71)-C(68)-C(69)	108.8(10)
C(70)-C(68)-P(1)	110.4(7)
C(71)-C(68)-P(1)	114.5(8)
C(69)-C(68)-P(1)	107.5(8)
C(75)-C(72)-C(73)	103.8(14)
C(75)-C(72)-C(74)	107.9(13)
C(73)-C(72)-C(74)	111.7(13)
C(75)-C(72)-P(2)	109.6(10)
C(73)-C(72)-P(2)	110.1(11)
C(74)-C(72)-P(2)	113.3(11)
C(77)-C(76)-C(79)	105.8(11)
C(77)-C(76)-C(78)	110.1(11)
C(79)-C(76)-C(78)	106.1(10)
C(77)-C(76)-P(2)	108.8(8)
C(79)-C(76)-P(2)	110.6(9)
C(78)-C(76)-P(2)	115.0(9)
C(81)-C(80)-C(83)	107.0(15)
C(81)-C(80)-C(82)	108.7(13)
C(83)-C(80)-C(82)	107.4(13)
C(81)-C(80)-P(2)	109.7(9)
C(83)-C(80)-P(2)	107.5(11)
C(82)-C(80)-P(2)	116.2(11)
C(86)-C(84)-C(85)	108.3(8)
C(86)-C(84)-C(87)	106.5(8)
C(85)-C(84)-C(87)	109.0(8)
C(86)-C(84)-P(3)	110.7(7)
C(85)-C(84)-P(3)	114.4(6)
C(87)-C(84)-P(3)	107.6(6)
C(89)-C(88)-C(90)	107.6(10)
C(89)-C(88)-C(91)	107.3(10)
C(90)-C(88)-C(91)	109.3(9)
C(89)-C(88)-P(3)	109.1(7)
C(90)-C(88)-P(3)	115.7(8)

C(91)-C(88)-P(3)	107.6(8)
C(95)-C(92)-C(93)	109.5(10)
C(95)-C(92)-C(94)	106.1(10)
C(93)-C(92)-C(94)	108.8(9)
C(95)-C(92)-P(3)	108.9(7)
C(93)-C(92)-P(3)	114.4(8)
C(94)-C(92)-P(3)	108.9(7)
C(3S)#1-C(1S)-C(2S)	136(3)
C(3S)-C(2S)-C(1S)	109(3)
C(1S)#1-C(3S)-C(2S)	115(4)

Symmetry transformations used to generate equivalent atoms:

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

Table 4. Anisotropic displacement parameters ($Å^2$x 10^3) for Ru5(C)(CO)13(PhCCH)[PtP(t-But)]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}
Pt(1)	40(1)	42(1)	41(1)	-3(1)	-20(1)	-5(1)
Pt(2)	35(1)	51(1)	55(1)	2(1)	-21(1)	-17(1)
Pt(3)	34(1)	40(1)	45(1)	-3(1)	-18(1)	-5(1)
Ru(1)	27(1)	36(1)	46(1)	-1(1)	-15(1)	-7(1)
Ru(2)	26(1)	44(1)	49(1)	3(1)	-15(1)	-7(1)
Ru(3)	28(1)	43(1)	41(1)	2(1)	-15(1)	-12(1)
Ru(4)	26(1)	38(1)	35(1)	-2(1)	-14(1)	-9(1)
Ru(5)	39(1)	41(1)	43(1)	0(1)	-24(1)	-9(1)
P(1)	51(1)	46(1)	56(1)	-9(1)	-29(1)	-6(1)
P(2)	50(1)	60(1)	78(2)	9(1)	-35(1)	-28(1)
P(3)	46(1)	42(1)	52(1)	-6(1)	-28(1)	-2(1)
O(11)	104(6)	74(5)	77(5)	-24(4)	-45(5)	-9(4)
O(12)	44(3)	111(6)	54(4)	6(4)	-17(3)	-22(4)
O(13)	51(4)	73(5)	71(5)	22(4)	-10(3)	-5(3)
O(21)	177(12)	92(7)	71(6)	-17(5)	-27(7)	37(7)
O(22)	66(5)	106(7)	177(10)	49(7)	-64(6)	-51(5)
O(23)	89(5)	73(5)	101(6)	14(4)	-72(5)	-26(4)
O(31)	76(5)	89(5)	49(4)	-13(4)	-9(4)	-5(4)
O(32)	78(5)	95(6)	116(7)	0(5)	-32(5)	-57(5)
O(41)	108(6)	77(5)	71(5)	-24(4)	-45(5)	-19(5)
O(42)	31(3)	62(4)	115(6)	1(4)	-11(4)	-9(3)
O(51)	137(8)	85(6)	60(4)	8(4)	-56(5)	-10(5)
O(52)	86(6)	110(7)	122(7)	-21(6)	-54(5)	-45(5)
O(53)	55(4)	91(5)	54(4)	6(4)	-5(3)	-4(4)
C(1)	26(3)	40(4)	38(4)	0(3)	-14(3)	-3(3)
C(2)	43(4)	44(4)	53(4)	2(3)	-28(4)	-17(3)
C(3)	34(3)	47(4)	40(4)	2(3)	-20(3)	-12(3)
C(4)	43(4)	55(5)	47(4)	-4(4)	-25(4)	-10(4)
C(5)	63(6)	70(6)	59(5)	18(5)	-37(5)	-24(5)
C(6)	83(8)	102(9)	47(5)	22(5)	-29(5)	-28(7)

C(7)	88(8)	80(7)	45(5)	10(5)	-40(5)	-7(6)
C(8)	80(7)	85(7)	75(7)	5(6)	-61(6)	-19(6)
C(9)	60(5)	66(6)	49(5)	2(4)	-33(4)	-18(4)
C(11)	47(5)	51(5)	64(5)	-12(4)	-24(4)	-4(4)
C(12)	37(4)	55(5)	64(6)	-5(4)	-21(4)	-10(4)
C(13)	38(4)	43(4)	59(5)	0(4)	-15(4)	-4(3)
C(21)	67(7)	72(7)	57(6)	-6(5)	-16(5)	7(5)
C(22)	46(5)	71(6)	97(8)	26(6)	-35(5)	-26(5)
C(23)	41(4)	53(5)	72(6)	6(4)	-32(4)	-11(4)
C(31)	45(4)	58(5)	50(5)	0(4)	-15(4)	-15(4)
C(32)	40(4)	65(6)	62(5)	1(4)	-16(4)	-23(4)
C(41)	51(5)	47(5)	45(4)	-9(4)	-18(4)	-8(4)
C(42)	34(4)	47(4)	53(4)	-2(4)	-16(3)	-12(3)
C(51)	77(6)	45(5)	52(5)	3(4)	-39(5)	-6(4)
C(52)	64(6)	78(7)	71(6)	-12(5)	-29(5)	-21(5)
C(53)	44(5)	64(6)	46(5)	-9(4)	-14(4)	-4(4)
C(60)	102(9)	46(5)	88(8)	13(5)	-42(7)	-30(6)
C(61)	114(11)	77(8)	70(7)	1(6)	-14(7)	-37(8)
C(62)	145(13)	67(7)	94(9)	26(7)	-79(9)	-20(8)
C(63)	132(12)	50(6)	112(11)	2(6)	-54(10)	-20(7)
C(64)	41(4)	54(5)	78(6)	-19(5)	-28(4)	7(4)
C(65)	52(5)	75(7)	100(8)	-22(6)	-40(6)	-4(5)
C(66)	80(8)	66(7)	125(11)	-31(7)	-59(8)	23(6)
C(67)	56(6)	100(9)	77(8)	-13(7)	-17(6)	-6(6)
C(68)	70(6)	69(6)	97(8)	-23(6)	-53(6)	-9(5)
C(69)	66(7)	97(9)	127(11)	-34(8)	-49(7)	-20(6)
C(70)	86(8)	88(8)	78(7)	-25(6)	-55(7)	0(6)
C(71)	145(13)	74(8)	142(13)	-33(8)	-103(12)	-10(8)
C(72)	74(8)	71(8)	193(17)	30(9)	-65(10)	-44(7)
C(73)	126(13)	155(15)	125(13)	84(12)	-77(11)	-88(12)
C(74)	116(12)	108(12)	260(20)	48(14)	-100(15)	-83(11)
C(75)	87(10)	59(8)	260(20)	25(11)	-85(13)	-22(7)
C(76)	46(5)	90(8)	98(8)	1(7)	-18(5)	-39(5)
C(77)	59(6)	113(10)	81(8)	-20(7)	-7(6)	-33(7)
C(78)	55(6)	133(12)	125(12)	11(9)	-19(7)	-54(8)
C(79)	61(7)	89(9)	144(13)	30(8)	-52(8)	-22(6)

C(80)	88(9)	146(13)	95(9)	-15(9)	-49(8)	-61(9)
C(81)	98(10)	203(18)	73(8)	12(10)	-47(8)	-80(11)
C(82)	119(12)	179(17)	154(15)	-7(12)	-91(12)	-81(12)
C(83)	98(12)	280(30)	141(16)	-117(18)	-21(11)	-65(16)
C(84)	54(5)	49(5)	59(5)	-1(4)	-36(4)	-10(4)
C(85)	101(9)	54(6)	78(7)	10(5)	-58(7)	-18(6)
C(86)	64(6)	61(6)	81(7)	-3(5)	-45(5)	-17(5)
C(87)	77(7)	74(7)	52(5)	-4(5)	-29(5)	-26(5)
C(88)	56(5)	57(6)	61(6)	-12(4)	-16(5)	9(4)
C(89)	48(6)	83(8)	84(8)	5(6)	-2(5)	2(5)
C(90)	75(8)	79(8)	91(8)	-16(6)	-40(7)	23(6)
C(91)	80(8)	113(11)	61(7)	-20(7)	-13(6)	24(7)
C(92)	86(7)	44(5)	84(7)	-1(5)	-59(6)	-8(5)
C(93)	112(10)	43(5)	133(11)	-14(6)	-79(9)	-10(6)
C(94)	112(10)	67(7)	117(10)	-4(6)	-88(9)	-21(6)
C(95)	71(7)	56(6)	117(10)	10(6)	-46(7)	-31(5)

Table 5. Hydrogen coordinates (x 10^4) and isotropic displacement parameters ($Å^2$x 10^{-3}) for Ru5(C)(CO)13(PhCCH)[PtP(t-But)]3.

	x	y	z	U(eq)
H(2)	4201	-7	3600	51
H(5)	1380	232	5643	73
H(6)	1404	-51	6986	94
H(7)	2762	71	7244	86
H(8)	4092	463	6190	85
H(9)	4115	705	4821	65
H(61A)	1942	-1382	3725	138
H(61B)	2399	-926	4149	138
H(61C)	2206	-1826	4510	138
H(62A)	3891	-2163	4467	145
H(62B)	4189	-1353	3926	145
H(62C)	4859	-2279	3627	145
H(63A)	4223	-3145	3009	146
H(63B)	3083	-2827	3062	146
H(63C)	3317	-3114	3886	146
H(65A)	6537	-1324	1975	110
H(65B)	5590	-1288	2824	110
H(65C)	5578	-517	2154	110
H(66A)	5592	-2806	1535	136
H(66B)	5692	-2769	2392	136
H(66C)	6576	-2637	1541	136
H(67A)	5421	-574	913	124
H(67B)	5279	-1378	643	124
H(67C)	6352	-1395	630	124
H(69A)	1770	-828	2409	134
H(69B)	2071	-1807	2681	134
H(69C)	1816	-1525	1866	134
H(70A)	4003	-833	562	119
H(70B)	3058	-200	1190	119
H(70C)	2884	-804	682	119

H(71A)	3481	-2419	936	158
H(71B)	3777	-2793	1721	158
H(71C)	4526	-2386	943	158
H(73A)	5575	3986	560	187
H(73B)	6667	4107	328	187
H(73C)	5735	4912	358	187
H(74A)	6286	5508	1323	221
H(74B)	7058	4657	1490	221
H(74C)	6092	5110	2243	221
H(75A)	4475	5475	1556	200
H(75B)	4368	5062	2459	200
H(75C)	4160	4611	1843	200
H(77A)	6623	2711	469	130
H(77B)	6549	1848	1008	130
H(77C)	7617	1946	357	130
H(78A)	8594	2647	599	156
H(78B)	8280	3057	1454	156
H(78C)	7815	3563	788	156
H(79A)	6907	1591	2345	146
H(79B)	7814	1932	2284	146
H(79C)	7972	1332	1601	146
H(81A)	5985	2587	4180	168
H(81B)	6282	2095	3376	168
H(81C)	5129	2564	3875	168
H(82A)	7031	4099	2775	191
H(82B)	7527	3107	2865	191
H(82C)	6887	3647	3670	191
H(83A)	4409	3988	3774	247
H(83B)	5019	4652	3245	247
H(83C)	5109	4260	4107	247
H(85A)	-1100	7225	554	108
H(85B)	-411	7394	965	108
H(85C)	-1565	7434	1506	108
H(86A)	-1602	5874	880	95
H(86B)	-2119	6082	1835	95
H(86C)	-1316	5192	1554	95

H(87A)	441	5098	654	97
H(87B)	912	5869	522	97
H(87C)	207	5883	42	97
H(89A)	-2543	5377	3956	128
H(89B)	-1523	4845	3299	128
H(89C)	-2383	5467	3000	128
H(90A)	-2467	7021	2707	132
H(90B)	-2152	7431	3281	132
H(90C)	-3013	6950	3688	132
H(91A)	-1858	6019	4541	150
H(91B)	-1134	6610	4044	150
H(91C)	-699	5606	4006	150
H(93A)	200	7988	2335	130
H(93B)	-512	7603	3159	130
H(93C)	-756	7761	2339	130
H(94A)	1409	5706	2762	127
H(94B)	549	6312	3465	127
H(94C)	1499	6618	2828	127
H(95A)	943	6948	1019	115
H(95B)	1718	6164	1278	115
H(95C)	1652	7105	1419	115
H(1S)	10383	9731	1089	240
H(2S)	8916	9297	1179	240
H(3S)	8764	9460	-158	273