Platinum-based Metallomesogens Bearing Pt(4,6-dfppy)(acac) Skeleton: Synthesis, Photophysical Properties and Polarized Phosphorescence Application

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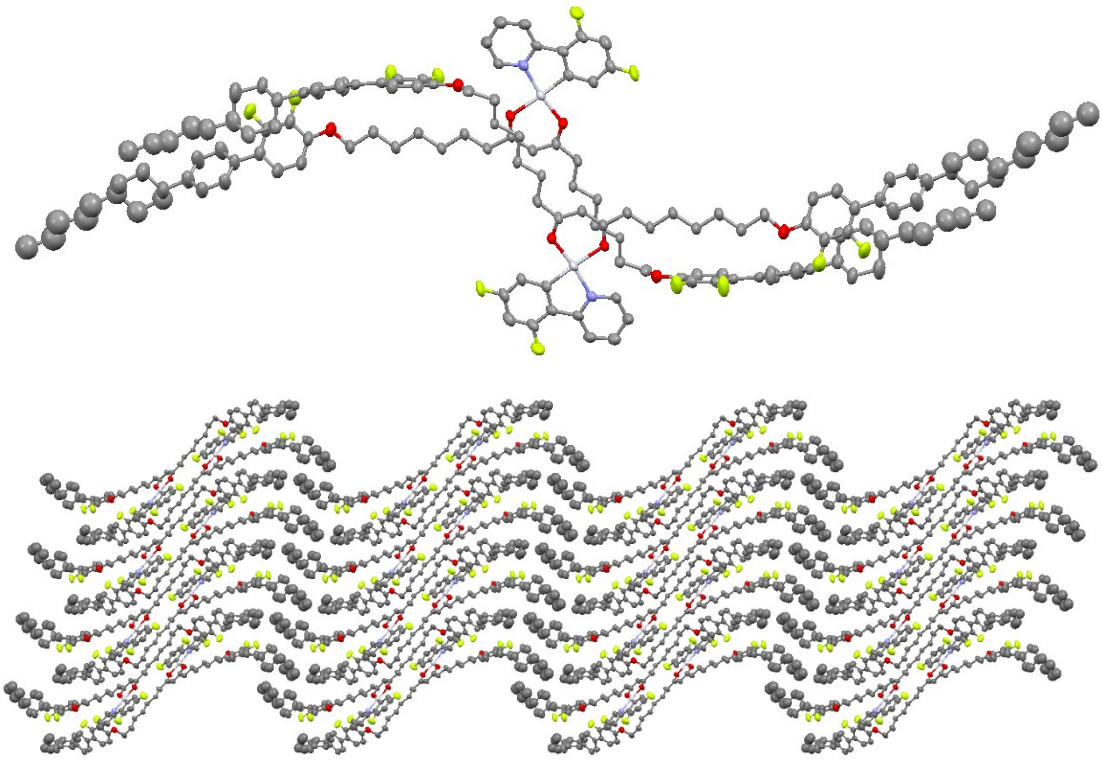

Figure S1 Stacked structure of the complex Pt1 crystal

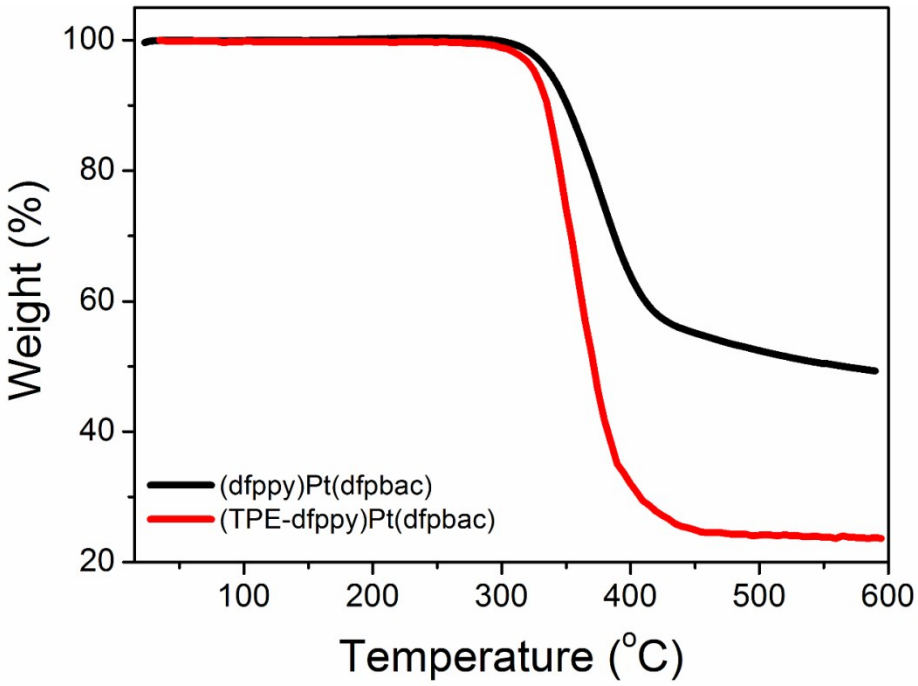

Figure S2 TGA curves of platinum complexes collected in N_2 at a heating rate of 20°C min^{-1}

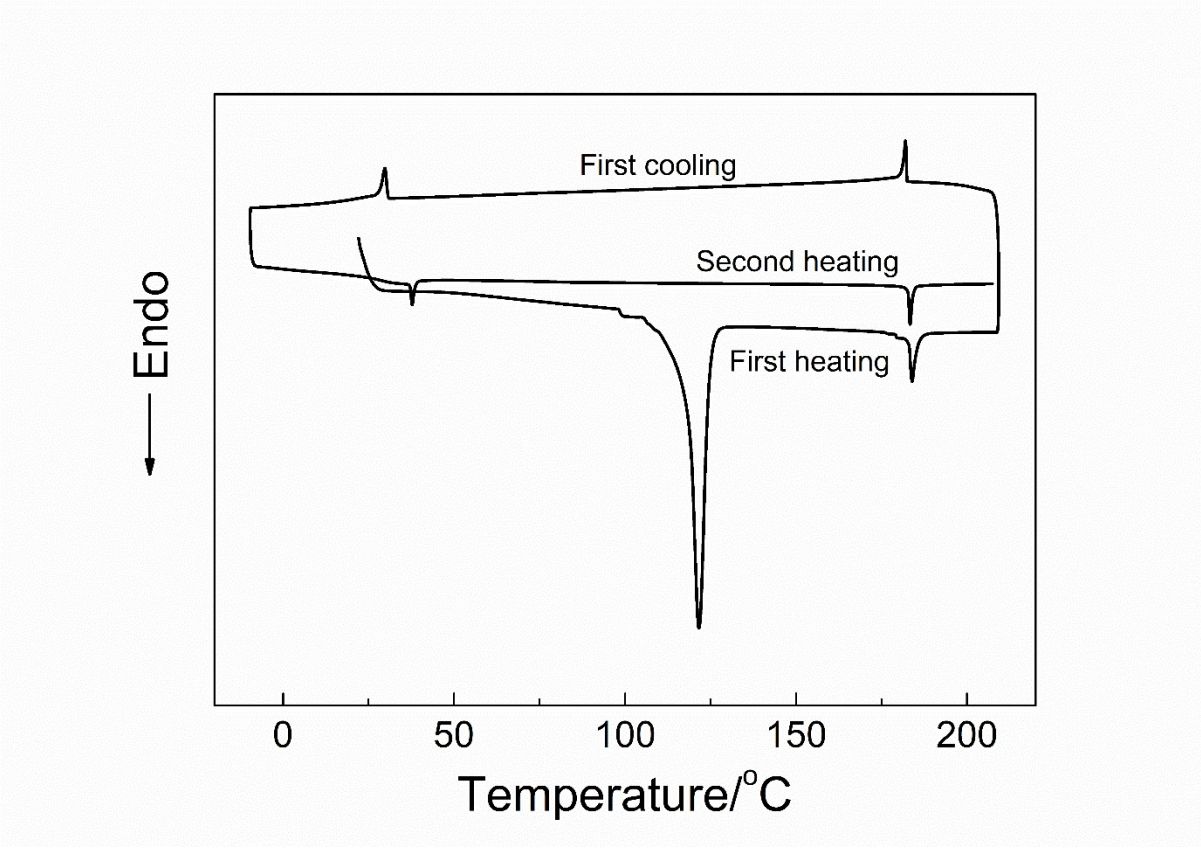

Figure S3 DSC traces of **Pt1** on the heating and cooling processes

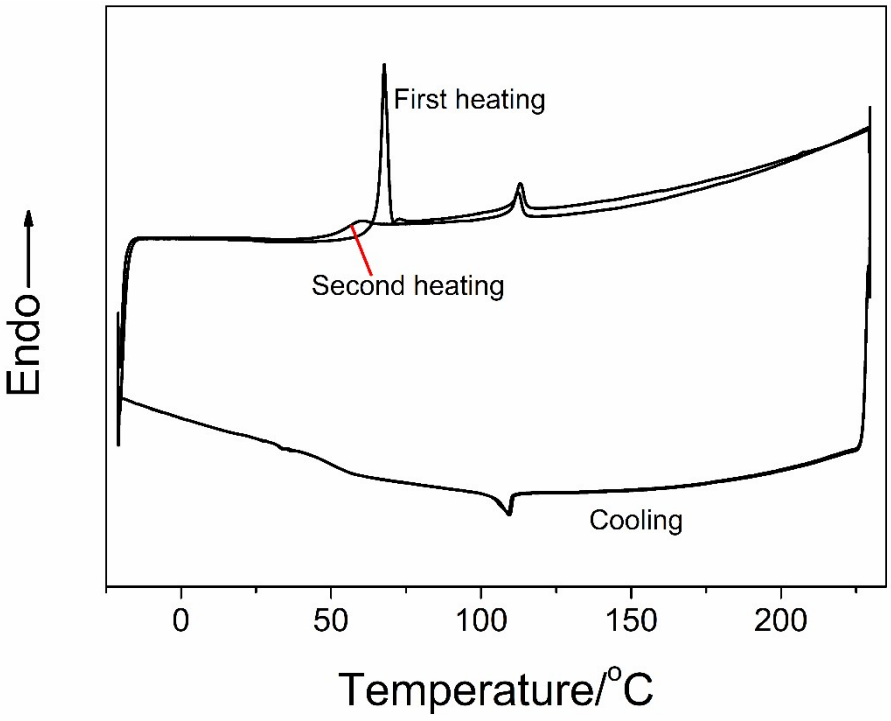

Figure S4 DSC traces of **Pt2** on the heating and cooling processes

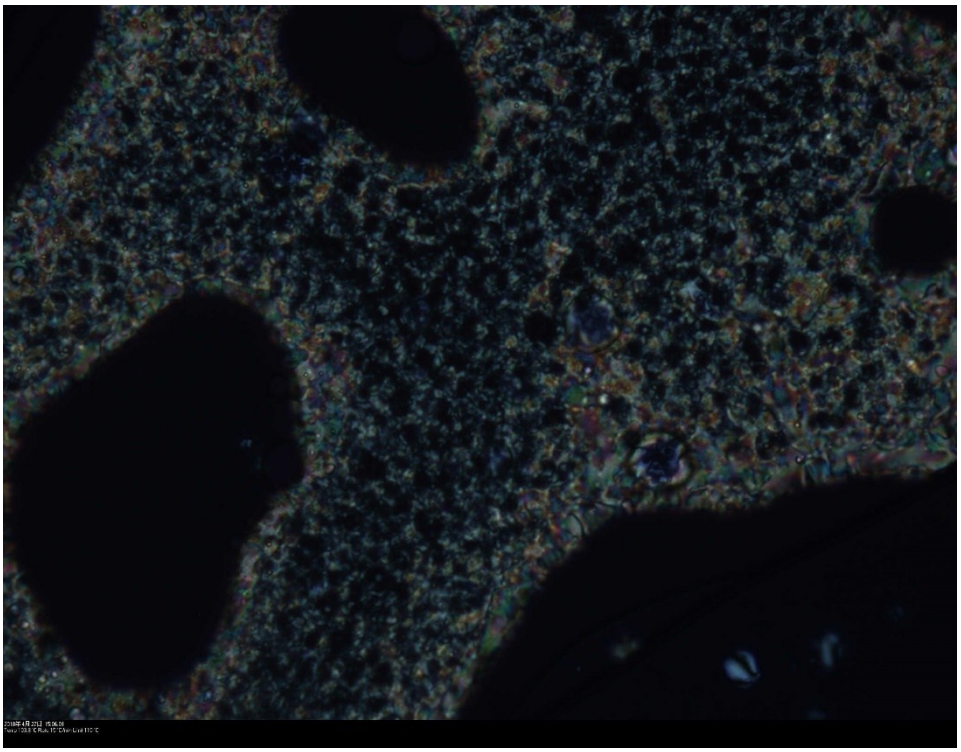

Figure S5 POM image of **Pt2** at 103.8°C on cooling process

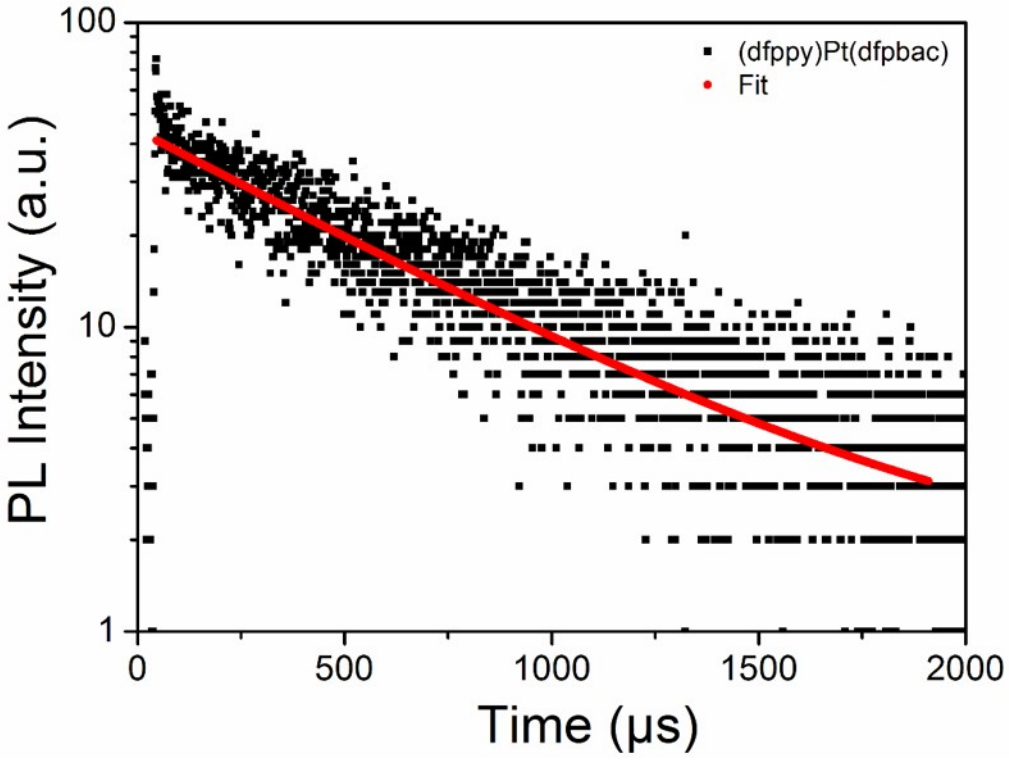

Figure S6 The PL transient decay curves of complex Pt1 measured in degassed toluene solution at room temperature

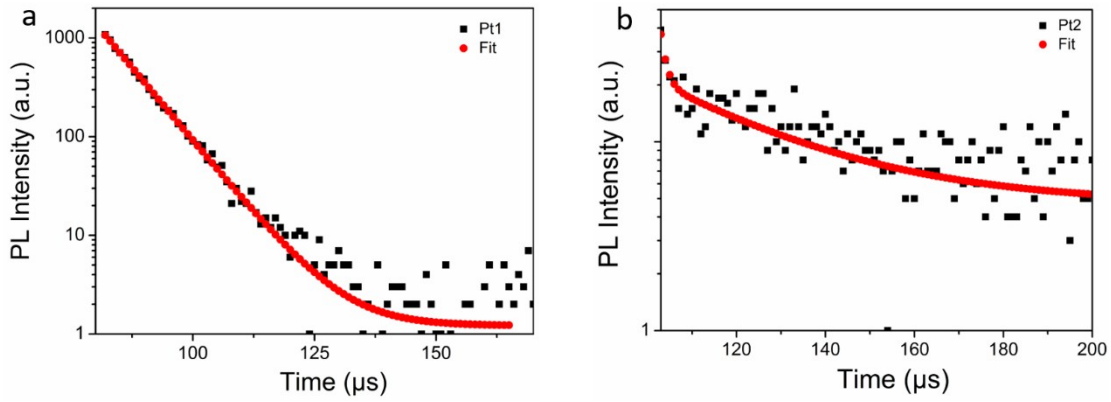

Figure S7 The PL transient decay curves of platinum complex measured in degassed toluene solution at 77 K

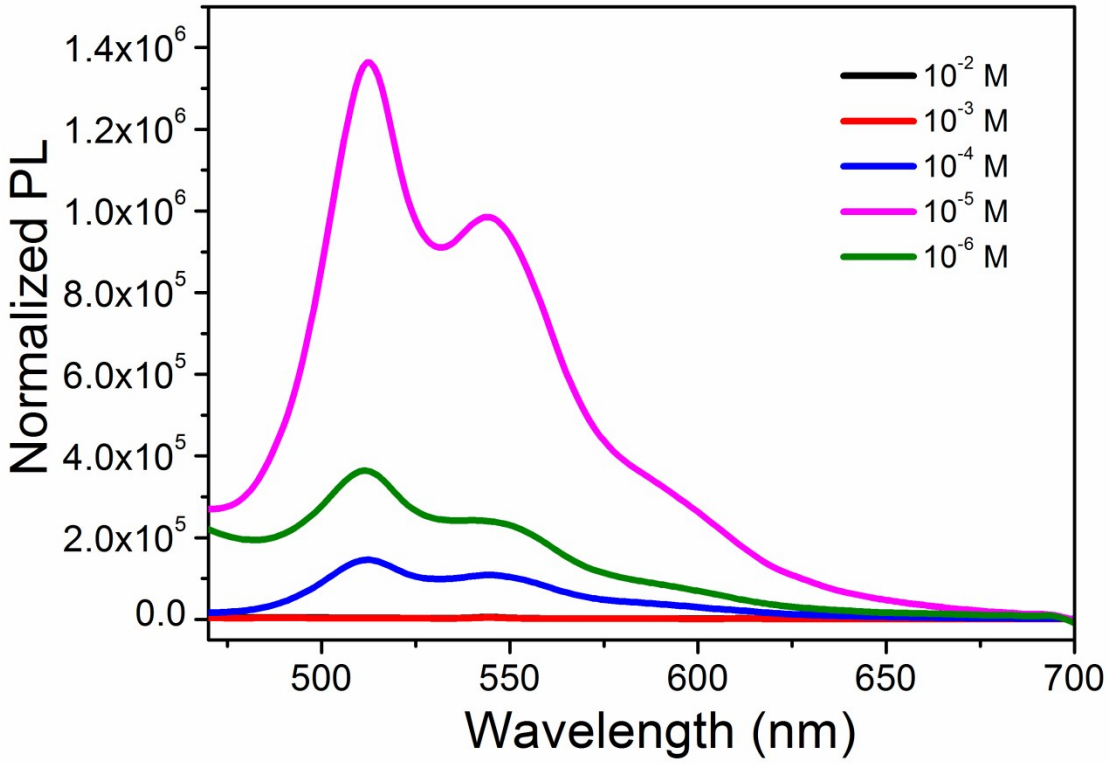

Figure S8 The concentration-dependent emission spectra of complex Pt2 measured in degassed CH_2Cl_2 solution at room temperature

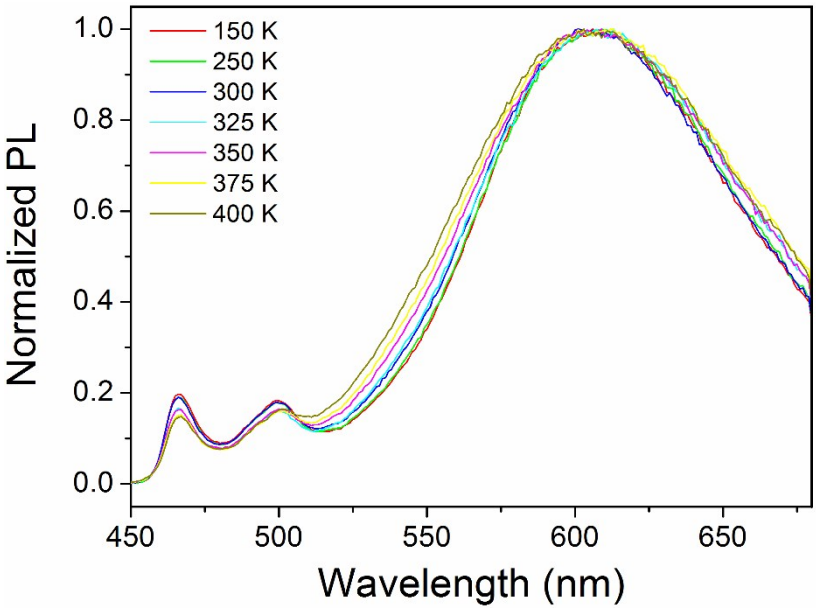

Figure S9 The temperature-dependent emission spectra of complex Pt1 measured in neat films

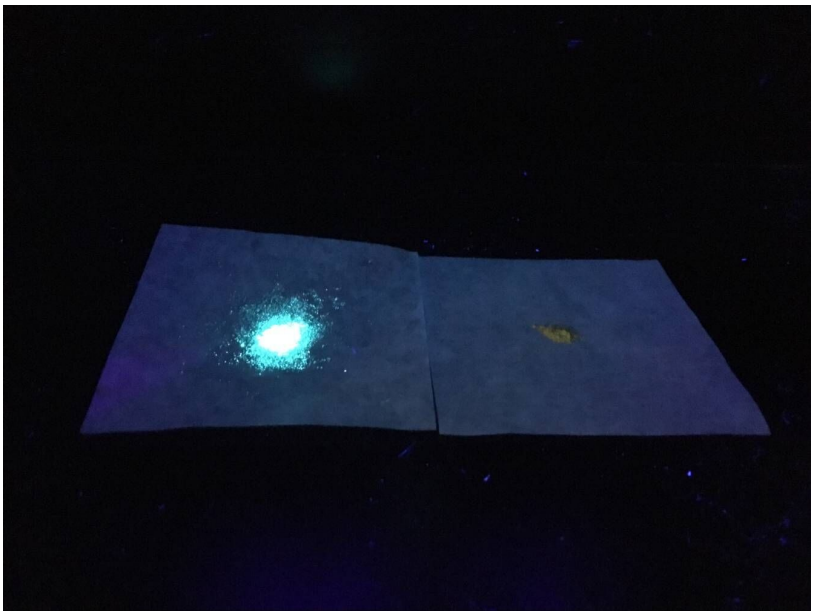

Figure S10 The emission images under UV irradiative (365 nm) at room temperature (the emissive one is complex Pt1, the non-emissive is complex Pt2)

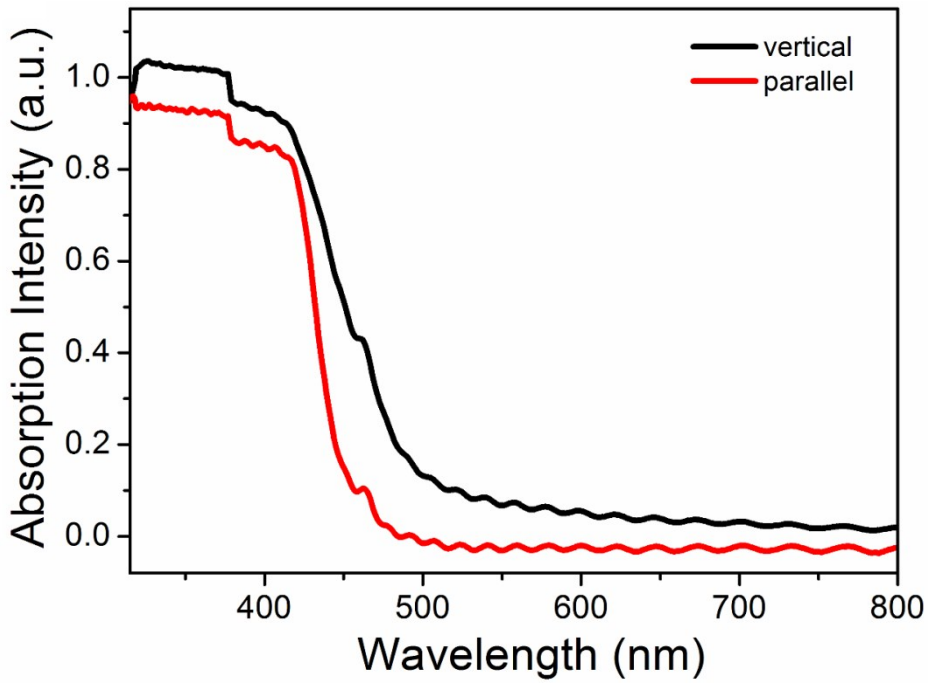

Figure S11 absorption spectra of the annealed Pt1:PI mixture film measured with the polarization parallel with and perpendicular to the rubbing direction

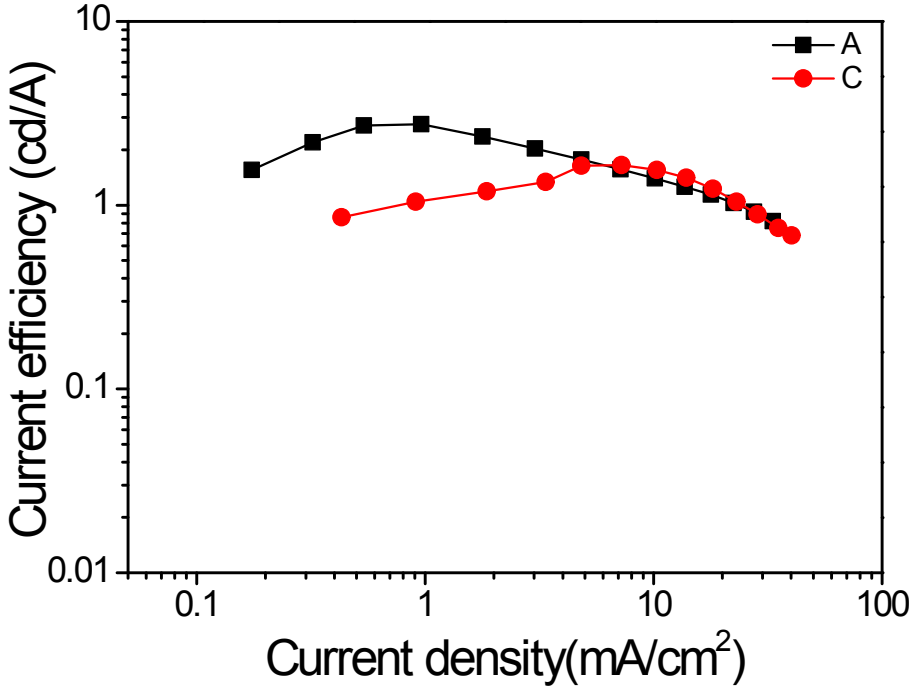

Figure S12 Current efficiency-current density curves of devices A and C

Table S1 Fractional Atomic Coordinates ($\times 10^4$) and Equivalent Isotropic Displacement Parameters ($Å^2 \times 10^3$) for ZZ. U_{eq} is defined as 1/3 of of the trace of the orthogonalised U_{IJ} tensor.

Atom	*x*	*y*	*z*	U(eq)
Pt1	7559.0(3)	3422.5(2)	4028.2(2)	39.57(8)
F1	7099(6)	-698(4)	4774.8(18)	83.9(15)
F2	10796(6)	447(5)	3942.4(19)	80.4(15)
F3	10212(7)	12763(6)	1493.9(17)	89.7(17)
F4	10250(8)	14790(5)	1130.0(16)	91.2(18)
F5	-475(7)	2685(5)	6912.3(16)	80.4(18)
F6	-1158(7)	919(5)	7388.5(16)	88(2)
O1	5893(6)	3059(5)	4361.3(16)	47.8(12)
O2	7096(5)	5018(4)	3842.0(16)	44.8(12)
O3	-2017(6)	2470(5)	6147.0(17)	56.1(15)
O4	8877(8)	12221(6)	2149.8(19)	76.6(17)
N1	9270(7)	3565(5)	3721.9(19)	41.7(14)
C01L	-1671(10)	1628(7)	6770(3)	56(2)
C1	8050(8)	1943(6)	4175(2)	39.6(15)
C2	7332(9)	1089(7)	4437(2)	49.8(18)
C3	7798(10)	110(7)	4521(3)	59.5(19)
C4	8970(10)	-136(8)	4356(3)	63(2)
C5	9616(9)	686(7)	4103(3)	54.6(18)
C6	9229(8)	1715(7)	4003(2)	44.2(16)
C7	9905(8)	2649(6)	3735(2)	42.7(15)
C8	11115(10)	2730(8)	3526(3)	62(2)
C9	11624(10)	3675(8)	3300(3)	65(2)
C10	10948(11)	4602(8)	3280(3)	73(2)
C11	9763(10)	4530(7)	3489(3)	56.9(19)
C12	4965(9)	4714(7)	4179(2)	47.6(17)
C13	6029(9)	5326(6)	3933(2)	44.4(16)
C14	5802(8)	6492(6)	3759(2)	45.6(17)
C15	6886(9)	7132(7)	3489(2)	50.3(19)
C16	6561(9)	8302(7)	3342(2)	50.0(19)
C17	7598(10)	8918(7)	3042(2)	54.2(19)
C18	7279(9)	10085(7)	2898(2)	48.4(19)
C19	8202(10)	10616(7)	2581(3)	56(2)
C20	8025(10)	11872(7)	2473(3)	61(2)
C21	8877(11)	13308(8)	1996(3)	67(2)
C22	9508(11)	13548(9)	1644(3)	66(2)
C23	9513(11)	14619(9)	1464(3)	65(2)

C24	8893(11)	15483(8)	1610(3)	63(2)
C25	8321(13)	15287(10)	1983(3)	81(2)
C26	8293(13)	14193(9)	2161(3)	89(2)
C27	8872(12)	16641(8)	1417(3)	68(2)
C28	8625(15)	16562(10)	993(3)	91(4)
C29	8515(16)	17641(10)	812(3)	105(4)
C30	8748(16)	18787(10)	1055(3)	95(3)
C31	8993(14)	18788(10)	1470(3)	88(3)
C32	9107(13)	17771(9)	1662(3)	79(3)
C33	8585(15)	19953(11)	863(4)	99(3)
C34	9701(16)	20387(12)	578(4)	113(3)
C35	9551(17)	21581(13)	418(4)	122(3)
C36	8135(19)	21446(11)	199(5)	149(3)
C37	6911(19)	20968(16)	467(5)	152(3)
C38	7081(19)	19711(15)	633(5)	147(3)
C39	8248(13)	22802(11)	80(5)	187(3)
C40	6755(14)	22843(12)	-145(5)	212(4)
C41	7337(16)	24180(12)	-295(6)	200(3)
C42	5810(15)	24306(11)	-472(6)	204(4)
C43	6110(20)	25669(12)	-592(6)	189(5)
C44	4971(8)	3678(7)	4376(2)	45.4(16)
C45	3830(9)	3135(7)	4651(3)	54.7(18)
C46	2756(8)	3811(6)	4747(2)	39.2(16)
C47	1735(8)	3098(7)	5039(2)	41.1(16)
C48	561(8)	3665(7)	5141(2)	41.8(16)
C49	-413(8)	2913(7)	5434(2)	44.1(17)
C50	-1795(9)	3256(8)	5485(3)	56.0(19)
C51	-2799(9)	2312(8)	5724(3)	56(2)
C52	-2513(9)	1489(7)	6370(2)	49.6(18)
C53	-3712(10)	419(8)	6251(3)	57(2)
C54	-4033(10)	-539(8)	6504(3)	62(2)
C55	-3248(9)	-465(7)	6888(2)	47.7(18)
C56	-2022(9)	680(7)	7018(2)	46.5(18)
C57	-3547(9)	-1539(7)	7136(2)	47.5(18)
C58	-4830(10)	-2595(8)	6999(3)	63(2)
C59	-5137(10)	-3672(8)	7183(3)	61(2)
C60	-4169(10)	-3793(8)	7523(3)	56.4(19)
C61	-2912(12)	-2750(9)	7665(3)	76(3)
C62	-2575(12)	-1616(9)	7486(3)	79(3)
C63	-4455(11)	-5068(9)	7687(3)	70(2)

C64	-4295(13)	-4981(9)	8149(3)	80(3)
C65	-4707(17)	-6301(11)	8289(4)	116(3)
C66	-3569(16)	-6983(9)	8131(4)	107(3)
C67	-3736(13)	-7029(10)	7680(4)	88(3)
C68	-3388(11)	-5704(9)	7543(3)	75(2)
C69	-3930(16)	-8284(10)	8252(3)	131(3)
C70	-3226(19)	-8465(11)	8650(4)	167(3)
C71	-3439(17)	-9840(9)	8687(5)	157(3)
C72	-4794(16)	-10952(10)	8515(5)	144(3)
C73	-4642(19)	-12007(11)	8759(4)	147(5)

Table 3 Anisotropic Displacement Parameters ($Å^2×10^3$) for ZZ. The Anisotropic displacement factor exponent takes the form: $-2\pi^2[h^2a^{*2}U_{11}+2hka^*b^*U_{12}+\ldots]$.

Atom	U_{11}	U_{22}	U_{33}	U_{23}	U_{13}	U_{12}
Pt1	48.04(14)	32.12(12)	47.82(15)	14.83(10)	15.04(11)	20.94(10)
F1	102(3)	60(2)	119(3)	60(2)	45(3)	44(2)
F2	78(3)	74(3)	117(4)	36(3)	41(3)	50(2)
F3	123(4)	86(3)	77(3)	32(2)	41(3)	44(3)
F4	137(4)	84(3)	63(3)	33(2)	49(3)	33(3)
F5	104(4)	47(3)	71(3)	12(2)	3(3)	1(3)
F6	114(4)	59(3)	62(3)	19(2)	-11(3)	-3(3)
O1	51(2)	47(2)	59(3)	28(2)	23(2)	25.1(18)
O2	46(2)	35(2)	63(3)	19.6(19)	21(2)	18.6(17)
O3	67(3)	49(3)	58(3)	18(2)	19(2)	19(2)
O4	98(4)	80(3)	79(3)	51(2)	42(3)	46(3)
N1	41(3)	33(2)	53(3)	5(2)	8(2)	14.0(19)
C01L	70(4)	42(3)	59(3)	7(2)	17(3)	21(3)
C1	36(3)	31(3)	47(3)	5(2)	1(2)	7(2)
C2	60(4)	38(3)	57(4)	18(2)	15(3)	19(2)
C3	67(4)	38(3)	78(4)	21(3)	11(3)	21(2)
C4	62(4)	50(4)	83(4)	19(3)	7(3)	26(3)
C5	50(3)	39(3)	79(4)	12(3)	8(3)	22(2)
C6	41(3)	36(3)	57(3)	4(2)	6(2)	17(2)
C7	48(3)	34(3)	49(3)	1(2)	10(2)	18(2)
C8	67(4)	53(4)	77(4)	9(3)	32(3)	30(3)
C9	67(4)	60(4)	81(5)	15(3)	30(3)	29(3)
C10	85(4)	53(4)	103(5)	29(3)	58(3)	33(3)
C11	72(4)	44(3)	74(4)	23(3)	36(3)	33(3)
C12	52(3)	44(3)	61(3)	28(2)	22(3)	25(2)

C13	54(3)	37(3)	53(3)	22(2)	20(2)	22(2)
C14	52(4)	39(3)	58(4)	23(2)	19(3)	23(2)
C15	63(4)	39(3)	59(4)	24(3)	23(3)	22(3)
C16	62(4)	41(3)	59(4)	25(3)	21(3)	25(3)
C17	68(4)	51(3)	59(4)	28(3)	27(3)	31(3)
C18	59(4)	38(3)	51(4)	16(3)	12(3)	16(3)
C19	62(4)	55(3)	64(4)	29(3)	23(3)	26(3)
C20	75(5)	49(3)	70(4)	31(3)	28(3)	24(3)
C21	69(4)	67(3)	76(4)	41(3)	29(3)	25(3)
C22	78(4)	63(3)	62(3)	29(3)	25(3)	19(3)
C23	84(4)	65(3)	49(3)	25(2)	23(3)	20(3)
C24	76(4)	62(3)	56(3)	25(2)	17(3)	20(3)
C25	109(6)	81(4)	80(4)	46(3)	44(4)	46(4)
C26	117(5)	87(4)	103(5)	62(3)	63(4)	56(3)
C27	96(6)	57(3)	49(3)	19(2)	16(3)	18(3)
C28	147(9)	67(4)	55(4)	17(3)	10(4)	32(4)
C29	193(11)	74(4)	57(4)	26(3)	29(5)	50(4)
C30	152(8)	69(4)	67(4)	21(3)	28(4)	35(4)
C31	134(8)	61(4)	71(4)	20(3)	35(4)	26(4)
C32	125(8)	58(3)	55(4)	15(3)	22(4)	25(3)
C33	144(5)	72(4)	91(5)	32(3)	45(4)	32(4)
C34	146(6)	109(6)	102(6)	49(4)	46(5)	47(4)
C35	136(4)	111(4)	118(4)	30(3)	29(3)	33(3)
C36	155(4)	148(4)	147(4)	27(3)	25(3)	50(3)
C37	155(4)	148(4)	159(4)	30(3)	25(3)	55(3)
C38	153(4)	143(4)	148(4)	29(3)	26(3)	52(3)
C39	194(4)	179(4)	190(5)	37(3)	31(3)	62(3)
C40	214(5)	209(4)	215(5)	38(3)	32(3)	71(3)
C41	203(4)	198(4)	199(5)	36(3)	36(3)	66(3)
C42	207(5)	200(4)	203(5)	33(3)	36(4)	64(3)
C43	206(8)	182(6)	182(8)	36(5)	38(7)	62(5)
C44	43(3)	41(3)	59(3)	25(2)	13(2)	17(2)
C45	54(3)	42(3)	84(4)	34(3)	29(3)	24(2)
C46	39(3)	38(3)	45(3)	21(2)	11(2)	13(2)
C47	41(3)	40(3)	46(3)	19(3)	13(2)	11(2)
C48	45(3)	39(3)	48(3)	17(3)	12(3)	19(2)
C49	53(3)	44(3)	49(3)	24(3)	20(3)	25(2)
C50	58(3)	56(4)	71(4)	28(3)	26(3)	31(3)
C51	55(4)	68(4)	68(4)	29(3)	24(3)	40(3)
C52	55(3)	50(3)	58(3)	17(2)	26(3)	30(3)

C53	55(4)	58(3)	65(4)	22(3)	11(3)	23(3)
C54	57(4)	58(4)	63(3)	16(3)	8(3)	9(3)
C55	54(4)	47(3)	50(3)	9(2)	19(3)	23(2)
C56	57(4)	38(3)	50(3)	8(2)	12(3)	21(2)
C57	54(3)	44(3)	53(3)	11(2)	25(3)	20(2)
C58	57(4)	56(3)	72(4)	23(3)	5(4)	12(3)
C59	66(4)	53(4)	64(4)	19(3)	20(3)	16(3)
C60	62(4)	63(3)	57(4)	20(3)	29(3)	27(3)
C61	87(5)	70(4)	68(5)	27(3)	12(4)	16(3)
C62	75(5)	73(4)	77(4)	35(3)	1(4)	4(4)
C63	71(4)	67(4)	78(4)	29(3)	24(3)	22(3)
C64	89(6)	72(4)	83(4)	39(3)	31(4)	19(4)
C65	160(7)	95(5)	97(6)	53(4)	38(5)	31(4)
C66	115(7)	79(5)	108(5)	20(3)	1(4)	12(4)
C67	75(6)	78(4)	108(5)	26(3)	7(4)	23(4)
C68	67(4)	71(4)	92(5)	25(3)	19(4)	24(3)
C69	136(4)	117(4)	132(4)	30(3)	16(3)	32(3)
C70	174(5)	160(4)	165(4)	35(3)	18(3)	54(3)
C71	157(5)	150(4)	165(5)	32(3)	15(4)	55(3)
C72	144(5)	140(4)	149(5)	30(3)	16(3)	51(3)
C73	156(8)	141(6)	150(7)	35(5)	27(6)	53(5)

Table 4 Bond Lengths for ZZ.

Atom	Atom	Length/Å	Atom	Atom	Length/Å
Pt1	O1	1.991(5)	C27	C32	1.376(13)
Pt1	O2	2.094(5)	C28	C29	1.420(15)
Pt1	N1	1.987(6)	C29	C30	1.388(15)
Pt1	C1	1.942(7)	C30	C31	1.338(14)
F1	C3	1.359(10)	C30	C33	1.541(16)
F2	C5	1.384(10)	C31	C32	1.377(14)
F3	C22	1.357(12)	C33	C34	1.495(17)
F4	C23	1.365(10)	C33	C38	1.45(2)
F5	C01L	1.350(9)	C34	C35	1.521(19)
F6	C56	1.317(9)	C35	C36	1.39(2)
O1	C44	1.280(9)	C36	C37	1.54(2)
O2	C13	1.230(9)	C36	C39	1.579(13)
O3	C51	1.442(9)	C37	C38	1.60(2)
O3	C52	1.367(9)	C39	C40	1.521(11)
O4	C20	1.418(10)	C40	C41	1.573(13)

O4	C21	1.359(11)	C41	C42	1.539(13)
N1	C7	1.347(10)	C42	C43	1.561(13)
N1	C11	1.375(10)	C44	C45	1.511(11)
C01L	C52	1.399(11)	C45	C46	1.497(11)
C01L	C56	1.379(11)	C46	C47	1.541(10)
C1	C2	1.414(10)	C47	C48	1.503(11)
C1	C6	1.396(11)	C48	C49	1.537(10)
C2	C3	1.343(12)	C49	C50	1.503(12)
C3	C4	1.388(14)	C50	C51	1.531(11)
C4	C5	1.347(12)	C52	C53	1.352(11)
C5	C6	1.370(11)	C53	C54	1.394(12)
C6	C7	1.470(11)	C54	C55	1.348(11)
C7	C8	1.394(12)	C55	C56	1.419(10)
C8	C9	1.343(13)	C55	C57	1.485(11)
C9	C10	1.385(13)	C57	C58	1.392(11)
C10	C11	1.373(13)	C57	C62	1.395(12)
C12	C13	1.417(11)	C58	C59	1.363(12)
C12	C44	1.378(10)	C59	C60	1.385(12)
C13	C14	1.534(10)	C60	C61	1.372(12)
C14	C15	1.494(10)	C60	C63	1.530(13)
C15	C16	1.543(10)	C61	C62	1.409(13)
C16	C17	1.531(11)	C63	C64	1.480(13)
C17	C18	1.532(11)	C63	C68	1.508(15)
C18	C19	1.487(11)	C64	C65	1.536(14)
C19	C20	1.536(11)	C65	C66	1.62(2)
C21	C22	1.372(13)	C66	C67	1.450(16)
C21	C26	1.382(15)	C66	C69	1.494(11)
C22	C23	1.381(13)	C67	C68	1.538(14)
C23	C24	1.364(14)	C69	C70	1.435(12)
C24	C25	1.402(13)	C70	C71	1.511(12)
C24	C27	1.497(13)	C71	C72	1.483(12)
C25	C26	1.399(14)	C72	C73	1.515(13)
C27	C28	1.359(12)			

Table 5 Bond Angles for ZZ.

Atom	Atom	Atom	Angle/°	Atom	Atom	Atom	Angle/°
O1	Pt1	O2	91.7(2)	C30	C29	C28	121.8(10)
N1	Pt1	O1	171.8(2)	C29	C30	C33	122.3(10)
N1	Pt1	O2	96.5(2)	C31	C30	C29	115.8(10)

C1	Pt1	O1	91.4(3)	C31	C30	C33	121.7(10)
C1	Pt1	O2	176.8(3)	C30	C31	C32	124.8(10)
C1	Pt1	N1	80.4(3)	C27	C32	C31	118.7(9)
C44	O1	Pt1	124.7(5)	C34	C33	C30	111.6(12)
C13	O2	Pt1	123.2(5)	C38	C33	C30	112.2(11)
C52	O3	C51	116.4(6)	C38	C33	C34	108.8(11)
C21	O4	C20	117.1(8)	C33	C34	C35	109.3(13)
C7	N1	Pt1	117.7(5)	C36	C35	C34	114.9(12)
C7	N1	C11	120.3(7)	C35	C36	C37	110.9(14)
C11	N1	Pt1	121.9(6)	C35	C36	C39	105.4(11)
F5	C01L	C52	120.2(7)	C37	C36	C39	112.2(14)
F5	C01L	C56	119.0(7)	C36	C37	C38	107.9(14)
C56	C01L	C52	120.8(7)	C33	C38	C37	111.0(13)
C2	C1	Pt1	126.2(6)	C40	C39	C36	112.5(11)
C6	C1	Pt1	116.1(5)	C39	C40	C41	98.8(11)
C6	C1	C2	117.7(7)	C42	C41	C40	99.1(11)
C3	C2	C1	120.5(9)	C41	C42	C43	108.1(12)
F1	C3	C4	117.2(8)	O1	C44	C12	127.2(7)
C2	C3	F1	119.7(9)	O1	C44	C45	110.9(6)
C2	C3	C4	123.1(9)	C12	C44	C45	121.8(7)
C5	C4	C3	114.9(8)	C46	C45	C44	119.3(6)
C4	C5	F2	114.8(8)	C45	C46	C47	109.7(6)
C4	C5	C6	126.2(9)	C48	C47	C46	114.1(6)
C6	C5	F2	119.0(8)	C47	C48	C49	111.5(6)
C1	C6	C7	113.8(7)	C50	C49	C48	114.9(6)
C5	C6	C1	117.7(7)	C49	C50	C51	110.1(7)
C5	C6	C7	128.4(8)	O3	C51	C50	108.3(6)
N1	C7	C6	111.9(7)	O3	C52	C01L	115.3(7)
N1	C7	C8	118.9(7)	C53	C52	O3	127.6(7)
C8	C7	C6	129.1(8)	C53	C52	C01L	117.0(7)
C9	C8	C7	121.5(9)	C52	C53	C54	121.2(8)
C8	C9	C10	119.4(9)	C55	C54	C53	124.2(8)
C11	C10	C9	119.2(9)	C54	C55	C56	114.4(7)
C10	C11	N1	120.6(8)	C54	C55	C57	122.8(7)
C44	C12	C13	125.9(8)	C56	C55	C57	122.6(7)
O2	C13	C12	127.2(7)	F6	C56	C01L	115.4(7)
O2	C13	C14	117.1(7)	F6	C56	C55	122.3(7)
C12	C13	C14	115.8(7)	C01L	C56	C55	122.3(7)
C15	C14	C13	116.7(7)	C58	C57	C55	118.9(7)
C14	C15	C16	111.8(7)	C58	C57	C62	116.2(8)

C17	C16	C15	112.4(7)	C62	C57	C55	124.7(7)
C16	C17	C18	112.3(7)	C59	C58	C57	123.4(8)
C19	C18	C17	112.0(7)	C58	C59	C60	121.7(8)
C18	C19	C20	112.3(7)	C59	C60	C63	120.1(8)
O4	C20	C19	106.2(7)	C61	C60	C59	115.4(8)
O4	C21	C22	117.0(9)	C61	C60	C63	124.2(8)
O4	C21	C26	126.0(9)	C60	C61	C62	124.3(9)
C22	C21	C26	117.0(9)	C57	C62	C61	118.9(8)
F3	C22	C21	118.7(8)	C64	C63	C60	114.2(8)
F3	C22	C23	121.0(8)	C64	C63	C68	108.6(9)
C21	C22	C23	120.1(10)	C68	C63	C60	109.6(8)
F4	C23	C22	114.6(9)	C63	C64	C65	111.3(9)
C24	C23	F4	121.0(8)	C64	C65	C66	107.8(10)
C24	C23	C22	124.3(9)	C67	C66	C65	107.4(10)
C23	C24	C25	116.0(9)	C67	C66	C69	111.0(9)
C23	C24	C27	125.1(8)	C69	C66	C65	110.3(11)
C25	C24	C27	118.7(9)	C66	C67	C68	112.4(9)
C26	C25	C24	119.6(10)	C63	C68	C67	110.3(9)
C21	C26	C25	122.8(10)	C70	C69	C66	119.7(10)
C28	C27	C24	118.8(9)	C69	C70	C71	113.1(11)
C28	C27	C32	120.2(9)	C72	C71	C70	127.3(13)
C32	C27	C24	121.1(8)	C71	C72	C73	105.6(12)
C27	C28	C29	118.6(10)				

Table 6 Hydrogen Atom Coordinates (Å×10^4) and Isotropic Displacement Parameters (Å^2×10^3) for ZZ.

Atom	*x*	*y*	*z*	U(eq)
H2	6514	1209	4555	60
H4	9293	-831	4416	76
H8	11591	2103	3542	74
H9	12440	3707	3156	78
H10	11301	5279	3124	87
H11	9280	5152	3471	68
H12	4176	5049	4211	57
H14A	4770	6232	3595	55
H14B	5856	7122	3999	55
H15A	6819	6523	3242	60
H15B	7926	7397	3648	60
H16A	5499	8045	3200	60

H16B	6692	8932	3589	60
H17A	7462	8289	2794	65
H17B	8661	9170	3183	65
H18A	6197	9848	2778	58
H18B	7498	10742	3143	58
H19A	7897	9994	2323	67
H19B	9277	10757	2689	67
H20A	6951	11761	2376	73
H20B	8412	12532	2721	73
H25	7954	15893	2114	98
H26	7855	14051	2406	107
H28	8527	15801	821	109
H29	8276	17577	516	126
H31	9096	19547	1644	105
H32	9342	17848	1959	95
H33	8786	20657	1097	119
H34A	9512	19714	339	136
H34B	10736	20563	731	136
H35A	9800	22255	660	146
H35B	10305	21866	233	146
H36	7914	20832	-62	179
H37A	5898	20778	298	183
H37B	7035	21623	707	183
H38A	6331	19404	818	176
H38B	6873	19040	393	176
H39	9149	23512	141	224
H40	5768	22243	-184	255
H41A	7900	24854	-59	239
H41B	7972	24182	-513	239
H42A	5139	24164	-259	244
H42B	5314	23667	-722	244
H43A	5690	25614	-887	284
H43B	7197	26121	-544	284
H43C	5624	26128	-418	284
H45A	3222	2263	4518	66
H45B	4395	3062	4921	66
H46A	2129	3858	4484	47
H46B	3327	4687	4884	47
H47A	1222	2210	4906	49
H47B	2375	3083	5304	49

H48A	-95	3674	4878	50
H48B	1063	4552	5276	50
H49A	-731	1999	5325	53
H49B	217	3045	5713	53
H50A	-2365	3248	5206	67
H50B	-1493	4122	5640	67
H51A	-3769	2470	5725	68
H51B	-3014	1435	5587	68
H53	-4349	317	5989	69
H54	-4856	-1291	6399	74
H58	-5529	-2563	6766	76
H59	-6038	-4357	7075	73
H61	-2224	-2796	7899	92
H62	-1700	-916	7603	95
H63	-5509	-5619	7564	84
H64A	-4960	-4533	8248	96
H64B	-3241	-4481	8276	96
H65A	-5763	-6807	8166	139
H65B	-4605	-6224	8598	139
H66	-2508	-6469	8260	128
H67A	-4781	-7552	7552	105
H67B	-3047	-7441	7574	105
H68A	-2336	-5181	7664	90
H68B	-3491	-5779	7234	90
H69	-4623	-8989	8067	157
H70	-2682	-7789	8867	200
H71	-2610	-10011	8837	188
H72	-5591	-10996	8297	173
H73A	-4064	-12461	8622	220
H73B	-5647	-12596	8768	220
H73C	-4117	-11644	9045	220