Electronic Supplementary Material (ESI) for Journal of Materials Chemistry C

Electronic Supplementary Information

Table S1 Crystal data and structure refinement of $[Ag(dien)]_2(tmhd)_2 \cdot H_2O$.

empirical formula	C60 H132 Ag4 N12 O10	
formula weight	1613.26	
temperature	200(2) K	
wavelength	0.71073 Å	
crystal system	triclinic	
space group	P-1	
unit cell dimensions	a = 10.3610(4) Å	α= 81.415(2)°.
	b = 14.0189(4) Å	β= 71.874(2)°.
	c = 14.7013(4) Å	γ = 70.406(2)°.
volume	1909.47(11) $Å^3$	
Z	1	
density (calculated)	1.403 mg/m^3	
absorption coefficient	1.067 mm^{-1}	
F(000)	844	
crystal size	0.72 x 0.13 x 0.04 mm^3	
theta range for data collection	1.54 to 25.08°.	
index ranges	-12<=h<=11, -16<=k<=16, -17<=l<=17	
reflections collected	14975	
independent reflections	6713 [R(int) = 0.0262]	
completeness to theta = 25.08°	98.8 %	
absorption correction	multi-scan	
max. and min. transmission	0.9586 and 0.5138	
refinement method	full-matrix least-squares on F^2	
Data / restraints / parameters	6713 / 0 / 386	
Goodness-of-fit on F^2	1.127	
final R indices [I>2sigma(I)]	R1 = 0.0334, wR2 = 0.0881	
R indices (all data)	R1 = 0.0496, wR2 = 0.1059	
largest diff. peak and hole	1.288 and -0.848 $e.Å^{-3}$	

Table S2 Atomic coordinates (x 10^4) and equivalent isotropic displacement parameters ($Å^2$ x 10^3) for $[Ag(dien)]_2(tmhd)_2 \cdot H_2O$. U(eq) is defined as one third of the trace of the orthogonalized U^{ij} tensor.

	x	y	z	U(eq)
C(1)	7803(5)	-1647(3)	3643(3)	43(1)
C(2)	6979(4)	-935(3)	4443(3)	40(1)
C(3)	7137(4)	366(3)	5291(3)	33(1)
C(4)	8075(4)	710(2)	5683(3)	29(1)
C(5)	11092(5)	2471(3)	1370(3)	49(1)
C(6)	12271(5)	1487(3)	1114(3)	45(1)
C(7)	12898(4)	-127(3)	388(3)	37(1)
C(8)	12269(4)	-775(3)	39(3)	34(1)
C(9)	190(4)	2849(2)	4016(2)	24(1)
C(10)	-1225(4)	3661(2)	4500(3)	28(1)
C(11)	-2483(4)	3486(3)	4289(3)	47(1)
C(12)	-1393(4)	3505(3)	5575(3)	40(1)
C(13)	-1230(4)	4758(3)	4182(3)	40(1)
C(14)	1463(4)	3098(2)	3716(3)	29(1)
C(15)	2829(4)	2459(2)	3269(2)	23(1)
C(16)	4112(4)	2870(2)	2915(3)	29(1)
C(17)	3760(5)	3984(3)	3125(4)	51(1)
C(18)	5285(4)	2245(3)	3383(3)	43(1)
C(19)	4684(5)	2775(3)	1827(3)	45(1)
C(20)	7049(4)	7448(2)	1543(2)	27(1)
C(21)	5829(4)	6970(3)	1884(3)	44(1)
C(22)	4573(11)	7671(8)	2502(8)	41(3)
C(23)	5934(18)	6183(13)	1333(12)	107(6)
C(24)	5921(18)	6362(12)	2918(12)	101(5)
C(22')	4368(11)	7716(8)	2143(9)	64(3)
C(23')	5487(10)	6946(7)	856(7)	59(3)
C(24')	6218(10)	5906(7)	2204(7)	63(3)
C(25)	8460(4)	6803(2)	1366(3)	27(1)
C(26)	9704(4)	7088(2)	1050(2)	24(1)
C(27)	11167(4)	6268(3)	951(3)	30(1)
C(28)	11139(4)	5179(3)	1110(3)	43(1)

C(29)	12129(5)	6394(3)	-47(3)	61(1)
C(30)	11785(5)	6485(4)	1685(4)	60(1)
N(1)	8477(4)	-1096(2)	2798(2)	37(1)
N(2)	7914(3)	-568(2)	4774(2)	30(1)
N(3)	8495(3)	81(2)	6508(2)	27(1)
N(4)	9751(4)	2287(2)	1956(2)	47(1)
N(5)	11881(3)	891(2)	568(2)	32(1)
N(6)	11866(3)	-362(2)	-856(2)	29(1)
O(1)	81(3)	1993(2)	3962(2)	30(1)
O(2)	3087(2)	1540(2)	3122(2)	27(1)
O(3)	6706(3)	8392(2)	1412(2)	36(1)
O(4)	9735(3)	7990(2)	863(2)	29(1)
O(5)	5620(3)	90(2)	2415(2)	40(1)
Ag(1)	9860(1)	-467(1)	3178(1)	34(1)
Ag(2)	9376(1)	1111(1)	1271(1)	40(1)

Table S3 Bond lengths [Å] and angles [°] for $[Ag(dien)]_2(tmhd)_2 \cdot H_2O$.

C(1)-N(1)	1.470(5)	C(1)-C(2)	1.505(6)
C(1)-H(1A)	0.9900	C(1)-H(1B)	0.9900
C(2)-N(2)	1.464(5)	C(2)-H(2A)	0.9900
C(2)-H(2B)	0.9900	C(3)-N(2)	1.467(4)
C(3)-C(4)	1.501(5)	C(3)-H(3A)	0.9900
C(3)-H(3B)	0.9900	C(4)-N(3)	1.481(4)
C(4)-H(4A)	0.9900	C(4)-H(4B)	0.9900
C(5)-N(4)	1.473(6)	C(5)-C(6)	1.508(6)
C(5)-H(5A)	0.9900	C(5)-H(5B)	0.9900
C(6)-N(5)	1.461(4)	C(6)-H(6A)	0.9900
C(6)-H(6B)	0.9900	C(7)-N(5)	1.465(5)
C(7)-C(8)	1.503(5)	C(7)-H(7A)	0.9900
C(7)-H(7B)	0.9900	C(8)-N(6)	1.481(5)
C(8)-H(8A)	0.9900	C(8)-H(8B)	0.9900
C(9)-O(1)	1.258(4)	C(9)-C(14)	1.398(5)
C(9)-C(10)	1.557(5)	C(10)-C(12)	1.526(5)
C(10)-C(11)	1.531(5)	C(10)-C(13)	1.538(5)
C(11)-H(11A)	0.9800	C(11)-H(11B)	0.9800
C(11)-H(11C)	0.9800	C(12)-H(12A)	0.9800
C(12)-H(12B)	0.9800	C(12)-H(12C)	0.9800
C(13)-H(13A)	0.9800	C(13)-H(13B)	0.9800
C(13)-H(13C)	0.9800	C(14)-C(15)	1.409(5)
C(14)-H(14)	0.9500	C(15)-O(2)	1.262(4)
C(15)-C(16)	1.537(5)	C(16)-C(18)	1.531(5)
C(16)-C(19)	1.532(5)	C(16)-C(17)	1.536(5)
C(17)-H(17A)	0.9800	C(17)-H(17B)	0.9800
C(17)-H(17C)	0.9800	C(18)-H(18A)	0.9800
C(18)-H(18B)	0.9800	C(18)-H(18C)	0.9800
C(19)-H(19A)	0.9800	C(19)-H(19B)	0.9800
C(19)-H(19C)	0.9800	C(20)-O(3)	1.252(4)
C(20)-C(25)	1.403(5)	C(20)-C(21)	1.540(5)
C(21)-C(23)	1.419(15)	C(21)-C(24')	1.453(10)
C(21)-C(22)	1.469(11)	C(21)-C(22')	1.493(11)
C(21)-C(24)	1.641(16)	C(21)-C(23')	1.663(10)
C(22)-H(22A)	0.9800	C(22)-H(22B)	0.9800
C(22)-H(22C)	0.9800	C(23)-H(23A)	0.9800

C(23)-H(23B)	0.9800	C(23)-H(23C)	0.9800
C(24)-H(24A)	0.9800	C(24)-H(24B)	0.9800
C(24)-H(24C)	0.9800	C(22')-H(22D)	0.9800
C(22')-H(22E)	0.9800	C(22')-H(22F)	0.9800
C(23')-H(23D)	0.9800	C(23')-H(23E)	0.9800
C(23')-H(23F)	0.9800	C(24')-H(24D)	0.9800
C(24')-H(24E)	0.9800	C(24')-H(24F)	0.9800
C(25)-C(26)	1.398(5)	C(25)-H(25)	0.9500
C(26)-O(4)	1.263(4)	C(26)-C(27)	1.544(5)
C(27)-C(28)	1.518(5)	C(27)-C(29)	1.519(5)
C(27)-C(30)	1.526(6)	C(28)-H(28A)	0.9800
C(28)-H(28B)	0.9800	C(28)-H(28C)	0.9800
C(29)-H(29A)	0.9800	C(29)-H(29B)	0.9800
C(29)-H(29C)	0.9800	C(30)-H(30A)	0.9800
C(30)-H(30B)	0.9800	C(30)-H(30C)	0.9800
N(1)-Ag(1)	2.153(3)	N(1)-H(1C)	0.9200
N(1)-H(1D)	0.9200	N(2)-Ag(1)	2.595(3)
N(2)-H(2)	0.9300	N(3)-Ag(1)#1	2.143(3)
N(3)-H(3C)	0.9200	N(3)-H(3D)	0.9200
N(4)-Ag(2)	2.248(3)	N(4)-H(4C)	0.9200
N(4)-H(4D)	0.9200	N(5)-Ag(2)	2.407(3)
N(5)-H(5)	0.9300	N(6)-Ag(2)#2	2.171(3)
N(6)-H(6C)	0.9200	N(6)-H(6D)	0.9200
O(5)-H(5C)	0.9963	O(5)-H(5D)	0.8848
Ag(1)-N(3)#1	2.143(3)	Ag(1)-Ag(2)	3.3597(4)
Ag(2)-N(6)#2	2.171(3)	N(1)-C(1)-C(2)	109.5(3)
N(1)-C(1)-H(1A)	109.8	C(2)-C(1)-H(1A)	109.8
N(1)-C(1)-H(1B)	109.8	C(2)-C(1)-H(1B)	109.8
H(1A)-C(1)-H(1B)	108.2	N(2)-C(2)-C(1)	112.0(3)
N(2)-C(2)-H(2A)	109.2	C(1)-C(2)-H(2A)	109.2
N(2)-C(2)-H(2B)	109.2	C(1)-C(2)-H(2B)	109.2
H(2A)-C(2)-H(2B)	107.9	N(2)-C(3)-C(4)	112.3(3)
N(2)-C(3)-H(3A)	109.1	C(4)-C(3)-H(3A)	109.1
N(2)-C(3)-H(3B)	109.1	C(4)-C(3)-H(3B)	109.1
H(3A)-C(3)-H(3B)	107.9	N(3)-C(4)-C(3)	114.9(3)
N(3)-C(4)-H(4A)	108.5	C(3)-C(4)-H(4A)	108.5
N(3)-C(4)-H(4B)	108.5	C(3)-C(4)-H(4B)	108.5
H(4A)-C(4)-H(4B)	107.5	N(4)-C(5)-C(6)	111.1(3)

N(4)-C(5)-H(5A)	109.4	C(6)-C(5)-H(5A)	109.4
N(4)-C(5)-H(5B)	109.4	C(6)-C(5)-H(5B)	109.4
H(5A)-C(5)-H(5B)	108.0	N(5)-C(6)-C(5)	110.2(3)
N(5)-C(6)-H(6A)	109.6	C(5)-C(6)-H(6A)	109.6
N(5)-C(6)-H(6B)	109.6	C(5)-C(6)-H(6B)	109.6
H(6A)-C(6)-H(6B)	108.1	N(5)-C(7)-C(8)	110.4(3)
N(5)-C(7)-H(7A)	109.6	C(8)-C(7)-H(7A)	109.6
N(5)-C(7)-H(7B)	109.6	C(8)-C(7)-H(7B)	109.6
H(7A)-C(7)-H(7B)	108.1	N(6)-C(8)-C(7)	113.6(3)
N(6)-C(8)-H(8A)	108.8	C(7)-C(8)-H(8A)	108.8
N(6)-C(8)-H(8B)	108.8	C(7)-C(8)-H(8B)	108.8
H(8A)-C(8)-H(8B)	107.7	O(1)-C(9)-C(14)	125.3(3)
O(1)-C(9)-C(10)	115.4(3)	C(14)-C(9)-C(10)	119.3(3)
C(12)-C(10)-C(11)	109.3(3)	C(12)-C(10)-C(13)	108.9(3)
C(11)-C(10)-C(13)	108.9(3)	C(12)-C(10)-C(9)	106.0(3)
C(11)-C(10)-C(9)	109.9(3)	C(13)-C(10)-C(9)	113.7(3)
C(10)-C(11)-H(11A)	109.5	C(10)-C(11)-H(11B)	109.5
H(11A)-C(11)-H(11B)	109.5	C(10)-C(11)-H(11C)	109.5
H(11A)-C(11)-H(11C)	109.5	H(11B)-C(11)-H(11C)	109.5
C(10)-C(12)-H(12A)	109.5	C(10)-C(12)-H(12B)	109.5
H(12A)-C(12)-H(12B)	109.5	C(10)-C(12)-H(12C)	109.5
H(12A)-C(12)-H(12C)	109.5	H(12B)-C(12)-H(12C)	109.5
C(10)-C(13)-H(13A)	109.5	C(10)-C(13)-H(13B)	109.5
H(13A)-C(13)-H(13B)	109.5	C(10)-C(13)-H(13C)	109.5
H(13A)-C(13)-H(13C)	109.5	H(13B)-C(13)-H(13C)	109.5
C(9)-C(14)-C(15)	126.6(3)	C(9)-C(14)-H(14)	116.7
C(15)-C(14)-H(14)	116.7	O(2)-C(15)-C(14)	123.8(3)
O(2)-C(15)-C(16)	115.9(3)	C(14)-C(15)-C(16)	120.3(3)
C(18)-C(16)-C(19)	109.2(3)	C(18)-C(16)-C(17)	107.3(3)
C(19)-C(16)-C(17)	108.1(3)	C(18)-C(16)-C(15)	110.1(3)
C(19)-C(16)-C(15)	107.7(3)	C(17)-C(16)-C(15)	114.3(3)
C(16)-C(17)-H(17A)	109.5	C(16)-C(17)-H(17B)	109.5
H(17A)-C(17)-H(17B)	109.5	C(16)-C(17)-H(17C)	109.5
H(17A)-C(17)-H(17C)	109.5	H(17B)-C(17)-H(17C)	109.5
C(16)-C(18)-H(18A)	109.5	C(16)-C(18)-H(18B)	109.5
H(18A)-C(18)-H(18B)	109.5	C(16)-C(18)-H(18C)	109.5
H(18A)-C(18)-H(18C)	109.5	H(18B)-C(18)-H(18C)	109.5
C(16)-C(19)-H(19A)	109.5	C(16)-C(19)-H(19B)	109.5

H(19A)-C(19)-H(19B)	109.5	C(16)-C(19)-H(19C)	109.5
H(19A)-C(19)-H(19C)	109.5	H(19B)-C(19)-H(19C)	109.5
O(3)-C(20)-C(25)	124.5(3)	O(3)-C(20)-C(21)	117.1(3)
C(25)-C(20)-C(21)	118.4(3)	C(23)-C(21)-C(24')	57.1(8)
C(23)-C(21)-C(22)	130.5(9)	C(24')-C(21)-C(22)	117.6(7)
C(23)-C(21)-C(22')	112.9(9)	C(24')-C(21)-C(22')	126.1(6)
C(22)-C(21)-C(22')	24.0(5)	C(23)-C(21)-C(20)	116.4(7)
C(24')-C(21)-C(20)	116.1(5)	C(22)-C(21)-C(20)	109.0(5)
C(22')-C(21)-C(20)	114.5(5)	C(23)-C(21)-C(24)	101.6(9)
C(24')-C(21)-C(24)	45.7(6)	C(22)-C(21)-C(24)	81.9(8)
C(22')-C(21)-C(24)	101.9(8)	C(20)-C(21)-C(24)	107.3(6)
C(23)-C(21)-C(23')	45.9(7)	C(24')-C(21)-C(23')	102.9(5)
C(22)-C(21)-C(23')	108.2(6)	C(22')-C(21)-C(23')	84.2(6)
C(20)-C(21)-C(23')	101.2(4)	C(24)-C(21)-C(23')	144.8(7)
C(21)-C(22)-H(22A)	109.5	C(21)-C(22)-H(22B)	109.5
H(22A)-C(22)-H(22B)	109.5	C(21)-C(22)-H(22C)	109.5
H(22A)-C(22)-H(22C)	109.5	H(22B)-C(22)-H(22C)	109.5
C(21)-C(23)-H(23A)	109.5	C(21)-C(23)-H(23B)	109.4
H(23A)-C(23)-H(23B)	109.5	C(21)-C(23)-H(23C)	109.5
H(23A)-C(23)-H(23C)	109.5	H(23B)-C(23)-H(23C)	109.5
C(21)-C(24)-H(24A)	109.5	C(21)-C(24)-H(24B)	109.4
H(24A)-C(24)-H(24B)	109.5	C(21)-C(24)-H(24C)	109.5
H(24A)-C(24)-H(24C)	109.5	H(24B)-C(24)-H(24C)	109.5
C(21)-C(22')-H(22D)	109.5	C(21)-C(22')-H(22E)	109.5
H(22D)-C(22')-H(22E)	109.5	C(21)-C(22')-H(22F)	109.5
H(22D)-C(22')-H(22F)	109.5	H(22E)-C(22')-H(22F)	109.5
C(21)-C(23')-H(23D)	109.5	C(21)-C(23')-H(23E)	109.5
H(23D)-C(23')-H(23E)	109.5	C(21)-C(23')-H(23F)	109.5
H(23D)-C(23')-H(23F)	109.5	H(23E)-C(23')-H(23F)	109.5
C(21)-C(24')-H(24D)	109.5	C(21)-C(24')-H(24E)	109.4
H(24D)-C(24')-H(24E)	109.5	C(21)-C(24')-H(24F)	109.5
H(24D)-C(24')-H(24F)	109.5	H(24E)-C(24')-H(24F)	109.5
C(26)-C(25)-C(20)	127.0(3)	C(26)-C(25)-H(25)	116.5
C(20)-C(25)-H(25)	116.5	O(4)-C(26)-C(25)	124.8(3)
O(4)-C(26)-C(27)	115.7(3)	C(25)-C(26)-C(27)	119.5(3)
C(28)-C(27)-C(29)	108.4(3)	C(28)-C(27)-C(30)	109.1(3)
C(29)-C(27)-C(30)	108.8(4)	C(28)-C(27)-C(26)	115.7(3)
C(29)-C(27)-C(26)	108.4(3)	C(30)-C(27)-C(26)	106.2(3)

C(27)-C(28)-H(28A)	109.5	C(27)-C(28)-H(28B)	109.5
H(28A)-C(28)-H(28B)	109.5	C(27)-C(28)-H(28C)	109.5
H(28A)-C(28)-H(28C)	109.5	H(28B)-C(28)-H(28C)	109.5
C(27)-C(29)-H(29A)	109.5	C(27)-C(29)-H(29B)	109.5
H(29A)-C(29)-H(29B)	109.5	C(27)-C(29)-H(29C)	109.5
H(29A)-C(29)-H(29C)	109.5	H(29B)-C(29)-H(29C)	109.5
C(27)-C(30)-H(30A)	109.5	C(27)-C(30)-H(30B)	109.5
H(30A)-C(30)-H(30B)	109.5	C(27)-C(30)-H(30C)	109.5
H(30A)-C(30)-H(30C)	109.5	H(30B)-C(30)-H(30C)	109.5
C(1)-N(1)-Ag(1)	109.1(2)	C(1)-N(1)-H(1C)	109.9
Ag(1)-N(1)-H(1C)	109.9	C(1)-N(1)-H(1D)	109.9
Ag(1)-N(1)-H(1D)	109.9	H(1C)-N(1)-H(1D)	108.3
C(2)-N(2)-C(3)	112.2(3)	C(2)-N(2)-Ag(1)	100.7(2)
C(3)-N(2)-Ag(1)	117.4(2)	C(2)-N(2)-H(2)	108.7
C(3)-N(2)-H(2)	108.7	Ag(1)-N(2)-H(2)	108.7
C(4)-N(3)-Ag(1)#1	111.1(2)	C(4)-N(3)-H(3C)	109.4
Ag(1)#1-N(3)-H(3C)	109.4	C(4)-N(3)-H(3D)	109.4
Ag(1)#1-N(3)-H(3D)	109.4	H(3C)-N(3)-H(3D)	108.0
C(5)-N(4)-Ag(2)	108.6(2)	C(5)-N(4)-H(4C)	110.0
Ag(2)-N(4)-H(4C)	110.0	C(5)-N(4)-H(4D)	110.0
Ag(2)-N(4)-H(4D)	110.0	H(4C)-N(4)-H(4D)	108.3
C(6)-N(5)-C(7)	113.4(3)	C(6)-N(5)-Ag(2)	106.5(2)
C(7)-N(5)-Ag(2)	120.3(2)	C(6)-N(5)-H(5)	105.1
C(7)-N(5)-H(5)	105.1	Ag(2)-N(5)-H(5)	105.1
C(8)-N(6)-Ag(2)#2	115.6(2)	C(8)-N(6)-H(6C)	108.4
Ag(2)#2-N(6)-H(6C)	108.4	C(8)-N(6)-H(6D)	108.4
Ag(2)#2-N(6)-H(6D)	108.4	H(6C)-N(6)-H(6D)	107.4
H(5C)-O(5)-H(5D)	115.2	N(3)#1-Ag(1)-N(1)	170.31(11)
N(3)#1-Ag(1)-N(2)	108.27(10)	N(1)-Ag(1)-N(2)	75.77(10)
N(3)#1-Ag(1)-Ag(2)	101.31(8)	N(1)-Ag(1)-Ag(2)	82.52(9)
N(2)-Ag(1)-Ag(2)	126.02(7)	N(6)#2-Ag(2)-N(4)	156.58(13)
N(6)#2-Ag(2)-N(5)	125.79(10)	N(4)-Ag(2)-N(5)	76.71(12)
N(6)#2-Ag(2)-Ag(1)	95.58(8)	N(4)-Ag(2)-Ag(1)	88.35(9)
N(5)-Ag(2)-Ag(1)	94.08(7)		

Symmetry transformations used to generate equivalent atoms:

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

Table S4 Anisotropic displacement parameters ($Å^2 \times 10^3$) for $[Ag(dien)]_2(tmhd)_2 \cdot H_2O$. 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}
C(1)	58(3)	38(2)	49(3)	4(2)	-31(2)	-21(2)
C(2)	42(2)	57(3)	30(2)	7(2)	-13(2)	-30(2)
C(3)	28(2)	34(2)	30(2)	5(2)	-7(2)	-7(2)
C(4)	28(2)	22(2)	31(2)	0(2)	-2(2)	-6(2)
C(5)	90(4)	42(2)	39(2)	5(2)	-33(2)	-41(3)
C(6)	66(3)	50(2)	40(2)	5(2)	-30(2)	-37(2)
C(7)	32(2)	42(2)	41(2)	3(2)	-18(2)	-11(2)
C(8)	35(2)	28(2)	37(2)	2(2)	-9(2)	-8(2)
C(9)	29(2)	24(2)	19(2)	-2(1)	-8(2)	-7(2)
C(10)	26(2)	25(2)	32(2)	-6(2)	-7(2)	-5(2)
C(11)	27(2)	50(2)	60(3)	-19(2)	-13(2)	-1(2)
C(12)	40(2)	36(2)	33(2)	-10(2)	1(2)	-6(2)
C(13)	35(2)	29(2)	43(2)	1(2)	-6(2)	-1(2)
C(14)	31(2)	20(2)	37(2)	-8(2)	-6(2)	-9(2)
C(15)	26(2)	22(2)	22(2)	0(1)	-10(2)	-7(1)
C(16)	26(2)	23(2)	37(2)	-1(2)	-7(2)	-10(2)
C(17)	46(3)	27(2)	78(3)	-6(2)	-7(2)	-16(2)
C(18)	40(3)	44(2)	55(3)	2(2)	-23(2)	-20(2)
C(19)	40(3)	56(3)	38(2)	9(2)	-5(2)	-23(2)
C(20)	31(2)	22(2)	27(2)	-3(2)	-7(2)	-7(2)
C(21)	27(2)	29(2)	71(3)	-2(2)	-10(2)	-7(2)
C(25)	30(2)	17(2)	37(2)	1(2)	-10(2)	-9(2)
C(26)	31(2)	24(2)	19(2)	-1(1)	-10(2)	-9(2)
C(27)	27(2)	25(2)	36(2)	3(2)	-8(2)	-7(2)
C(28)	31(2)	28(2)	62(3)	2(2)	-10(2)	-3(2)
C(29)	47(3)	40(2)	59(3)	9(2)	15(2)	0(2)
C(30)	49(3)	59(3)	84(4)	-2(3)	-43(3)	-9(2)
N(1)	40(2)	42(2)	30(2)	-9(2)	-12(2)	-11(2)
N(2)	29(2)	36(2)	27(2)	2(1)	-12(1)	-11(1)
N(3)	30(2)	26(2)	24(2)	-5(1)	-3(1)	-9(1)
N(4)	75(3)	38(2)	32(2)	-8(2)	-19(2)	-16(2)
N(5)	44(2)	34(2)	28(2)	5(1)	-18(2)	-22(2)

N(6)	25(2)	27(2)	31(2)	-5(1)	-5(1)	-5(1)
O(1)	29(1)	22(1)	39(2)	-5(1)	-7(1)	-9(1)
O(2)	25(1)	22(1)	32(1)	-6(1)	-5(1)	-7(1)
O(3)	31(2)	20(1)	50(2)	-4(1)	-6(1)	-3(1)
O(4)	33(2)	21(1)	36(1)	2(1)	-10(1)	-12(1)
O(5)	27(2)	39(1)	51(2)	-19(1)	-4(1)	-5(1)
Ag(1)	36(1)	34(1)	35(1)	-8(1)	-10(1)	-12(1)
Ag(2)	44(1)	40(1)	42(1)	-10(1)	-13(1)	-17(1)

Table S5 Hydrogen coordinates (x 10^4) and isotropic displacement parameters (Å^2 x 10^3) for $[Ag(dien)]_2(tmhd)_2 \cdot H_2O$.

	x	y	z	U(eq)
H(1A)	8544	-2216	3849	52
H(1B)	7152	-1930	3479	52
H(2A)	6277	-349	4218	48
H(2B)	6445	-1289	4986	48
H(3A)	6336	251	5826	39
H(3B)	6729	908	4852	39
H(4A)	8951	716	5162	35
H(4B)	7570	1416	5880	35
H(5A)	11376	2873	1729	59
H(5B)	10940	2869	775	59
H(6A)	13163	1630	728	53
H(6B)	12443	1096	1706	53
H(7A)	13142	-442	987	45
H(7B)	13787	-79	-98	45
H(8A)	12971	-1459	-71	41
H(8B)	11412	-848	545	41
H(11A)	-2376	3583	3598	70
H(11B)	-3377	3970	4630	70
H(11C)	-2502	2793	4503	70
H(12A)	-585	3612	5711	59
H(12B)	-1419	2814	5786	59
H(12C)	-2284	3991	5917	59
H(13A)	-417	4873	4304	59
H(13B)	-2120	5228	4544	59
H(13C)	-1154	4871	3496	59
H(14)	1400	3766	3824	35
H(17A)	3384	4063	3818	77
H(17B)	3043	4412	2809	77
H(17C)	4627	4189	2883	77
H(18A)	4921	2302	4079	64
H(18B)	6108	2500	3137	64
H(18C)	5575	1532	3232	64

H(19A)	4913	2069	1677	68
H(19B)	5547	2985	1587	68
H(19C)	3958	3210	1522	68
H(22A)	4884	8042	2864	61
H(22B)	3983	7287	2948	61
H(22C)	4015	8153	2105	61
H(23A)	6942	5835	1029	160
H(23B)	5441	6473	838	160
H(23C)	5493	5697	1752	160
H(24A)	5894	6829	3363	152
H(24B)	6815	5801	2826	152
H(24C)	5111	6095	3182	152
H(22D)	4414	8391	1876	96
H(22E)	3990	7729	2842	96
H(22F)	3740	7516	1880	96
H(23D)	5195	7639	581	88
H(23E)	4718	6645	974	88
H(23F)	6348	6539	407	88
H(24D)	7245	5590	1936	95
H(24E)	5693	5562	1987	95
H(24F)	5977	5850	2905	95
H(25)	8583	6097	1473	33
H(28A)	10523	5084	1753	65
H(28B)	12109	4720	1052	65
H(28C)	10766	5030	630	65
H(29A)	11746	6250	-524	91
H(29B)	13090	5922	-102	91
H(29C)	12171	7091	-158	91
H(30A)	11174	6403	2332	90
H(30B)	11830	7182	1574	90
H(30C)	12747	6012	1621	90
H(1C)	7787	-585	2589	44
H(1D)	8996	-1530	2310	44
H(2)	8328	-1066	5182	36
H(3C)	8815	-592	6373	33
H(3D)	7712	177	7037	33
H(4C)	9004	2879	1995	56
H(4D)	9812	2063	2567	56

H(5)	11949	1225	-33	38
H(6C)	12687	-400	-1347	35
H(6D)	11351	313	-788	35
H(5C)	4661	582	2675	48
H(5D)	5633	-401	2095	48

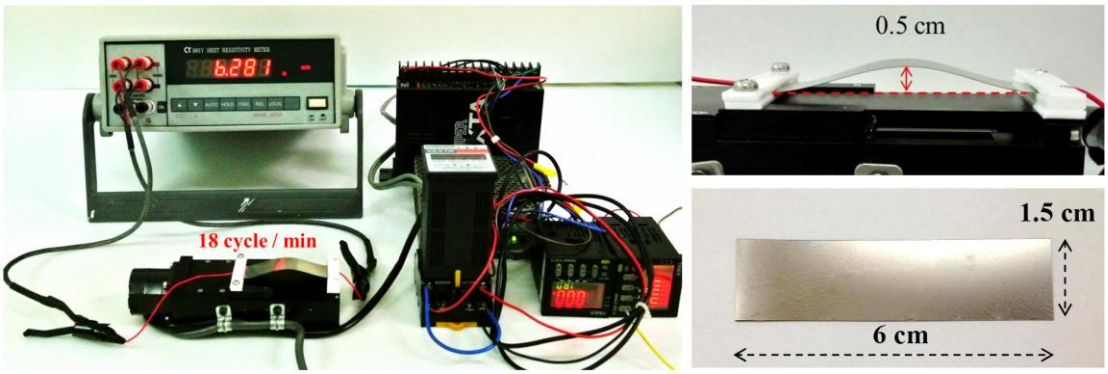

Fig. S1 Illustrations and images of a test sample (15 mm wide and 60 mm long) and the machine.

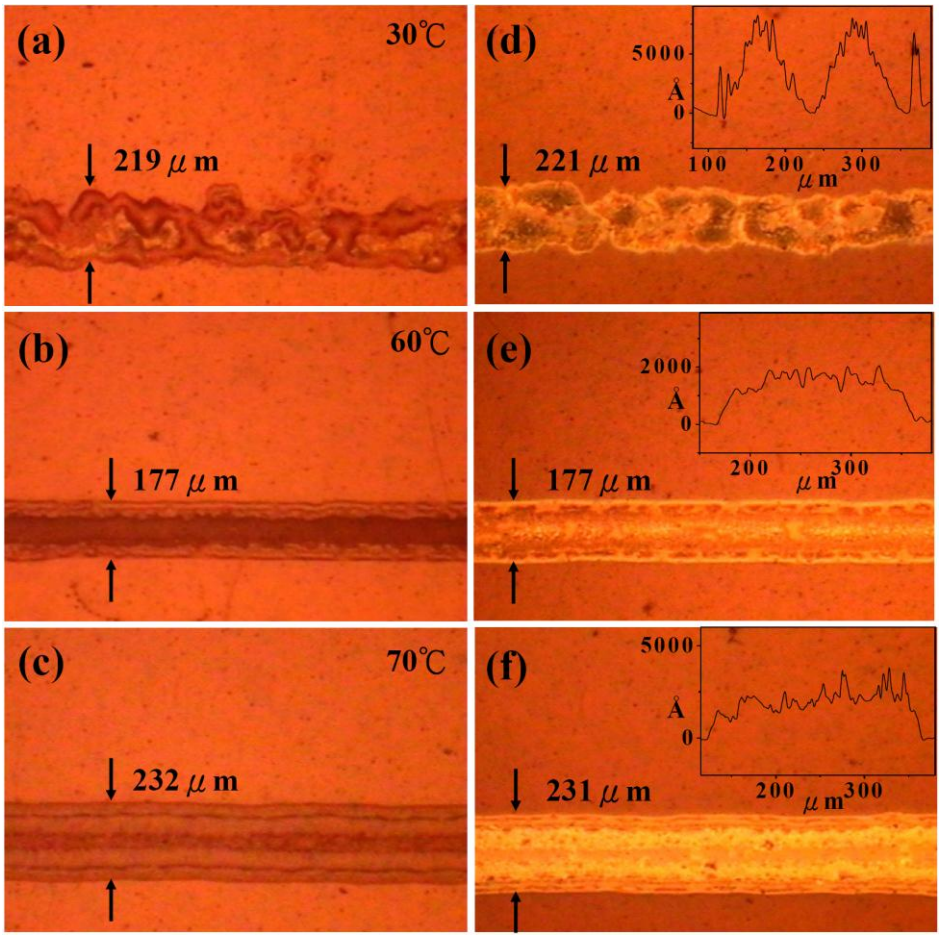

Fig. S2 Optical microscopy images of silver lines prepared by preheating the PI substrates at the temperatures of 30, 60, and 70 °C with dot-to-dot distance of 140 μm before ((a)-(c)) and after ((d)-(f)) the annealing process at 250 °C. Each insert shows the surface profile of the silver line estimated by Alpha-Step Profilometer.

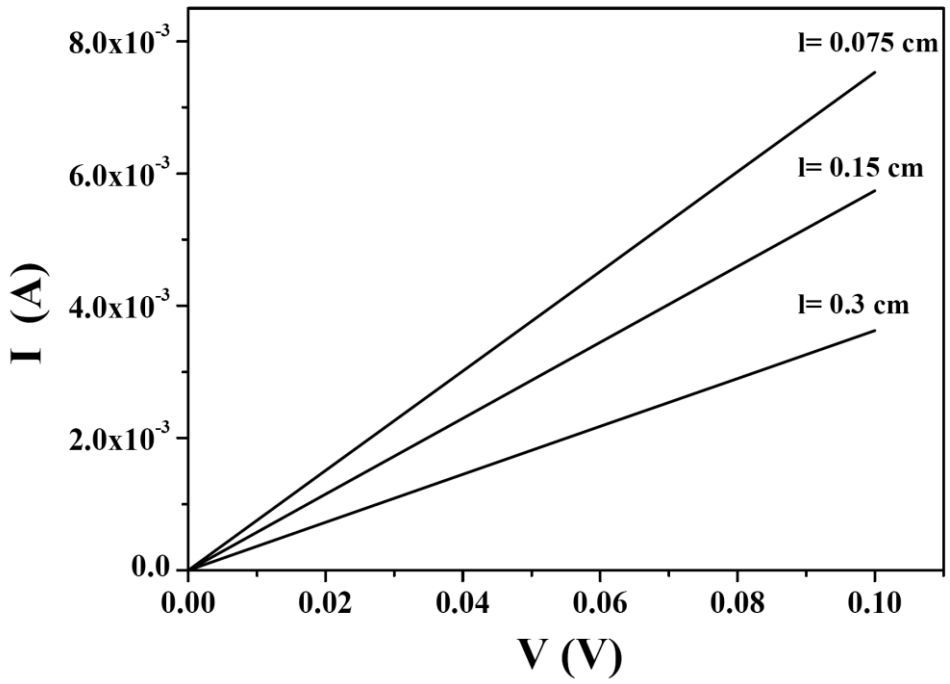

Fig. S3 Current-voltage characteristic measurements for the silver line with width of 177 μm and thickness of 106 nm, prepared under 60 °C preheating process of substrate with a dot-to-dot distance of 140 μm (l: length).