Supplementary Information For: Thermally Triggered Reductive Elimination of Bromine From Au(III) as a Path to Au(I)-Based Coordination Polymers

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Selected Bond Lengths and Angles

Table S1: Selected bond lengths (Å) in **1**[a].

Bond Lengths (Å)	
Zn(1)–N(2)	2.143(14)
Zn(1)–N(11)	2.185(15)
Zn(1)–N(21)	2.183(13)
Au(1)–C(1)	2.011(14)
Au(1)–C(2)	1.966(14)
Au(1)–Br(1)	2.392(2)
Au(1)–Br(2)	2.460(2)
Br(1)–Br(1*)	3.407(4)

[a] Symmetry Operations: *: $-x, -y, -z$; $'$: $x, -y, z$

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Table S2: Selected bond lengths (Å) in **3**[a].

Bond Lengths (Å)	
Zn(1)–N(1)	2.137(3)
Zn(1)–N(2)	2.174(3)
Au(1)–C(1)	1.974(3)
Au(1)–Au(1*)	3.54690(15)

[a] Symmetry Operations: *: $-x+1/2$, y, $z+1/2$

Table S3: Selected bond lengths (Å) and angles (°) in **5** and **6**.

Bond Lengths (Å)		
	5 (M = Co)	**6** (M = Zn)
M(1)–N(1)	2.109(8)	2.156(8)
M(1)–N(11)	2.163(9)	2.178(9)
M(1)–N(21)	2.175(9)	2.186(9)
Au(1)–Br(11)	2.4364(15)	2.4278(14)
Au(1)–C(1)	1.979(10)	1.991(10)
Au(2)–Br(21)	2.436(2)	2.430(2)
Au(2)–Br(22)	2.414(3)	2.412(3)
Au(2)–C(2)	1.981(16)	1.995(16)
Br(11)–Br(22)	3.530(3)	3.525(3)
Bond Angles (°)		
	5 (M = Co)	**6** (M = Zn)
Au(1)–Br(11)–Br(22)	173.63(8)	173.72(8)

Additional Structural Information

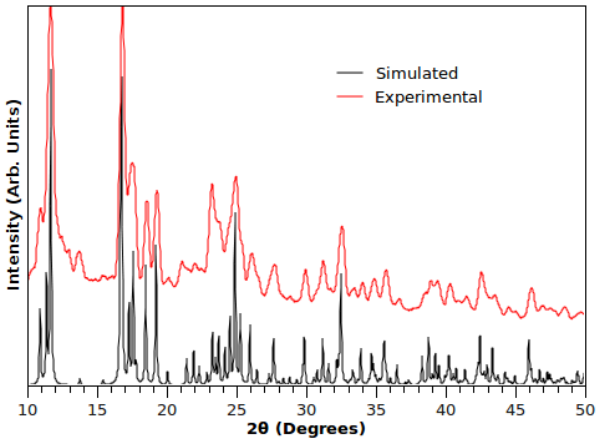

Figure S1: Powder X-ray diffractogram of **6**, demonstrating bulk purity.

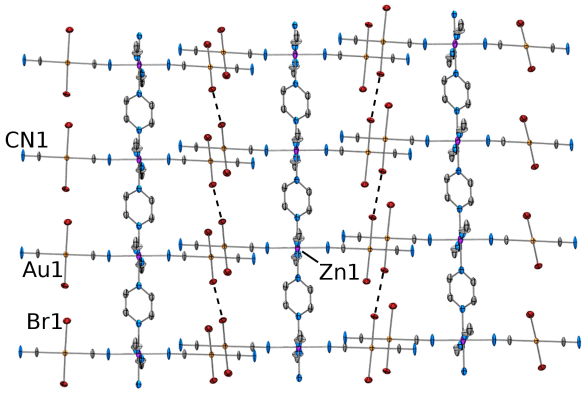

Figure S2: View of the packing motif of individual chains of **1**.

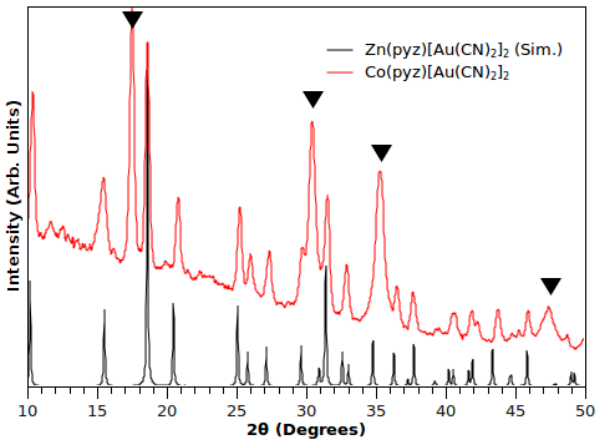

Figure S3: Powder X-ray diffractogram of **4** with simulated PXRD of **3**, showing that the two are isostructural. The triangles mark peaks consistent with a small (but highly diffracting) Co_2O_3 impurity.