

Electronic supplementary information (ESI)

Tunable photochromic properties of hybrid solids controlled by the conjugated length of non-photochromic units

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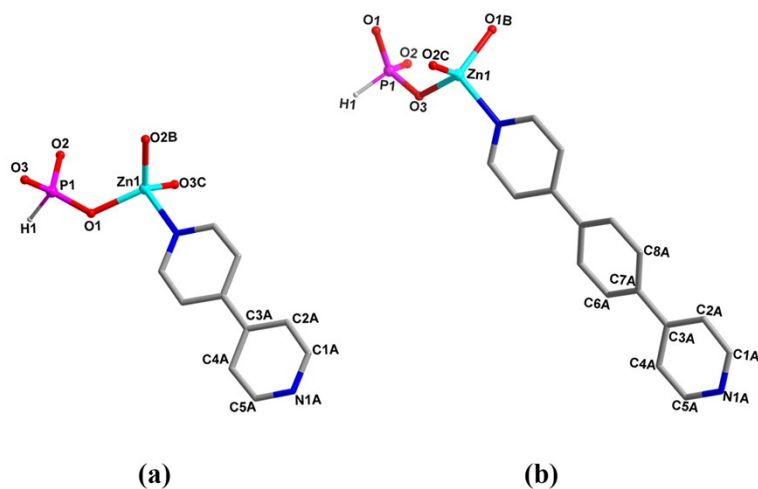


Fig. S1 The asymmetric unit of **1** and **2** (H-atoms of organic units are omitted for clarity). Symmetry codes: A (-x, 1-y, -z), B (1-x, -0.5+y, 0.5-z), C (x, 2.5-y, -0.5+z) for **1**; A (1-x, 2-y, 2-z), B (0.5-x, 0.5+y, 1.5-z), C (x, y, 0.5+z) for **2**.

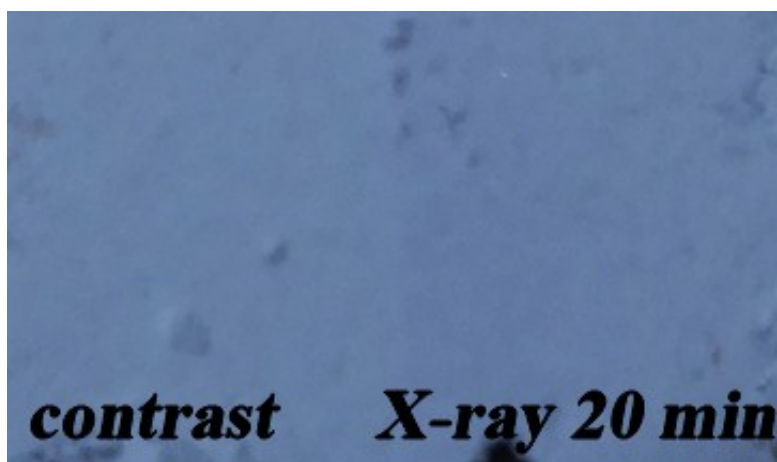


Fig. S2 The X-ray-induced color change for **1** (the right was captured using a powder X-ray diffractometer (Cu-K α , λ = 1.54187 Å; powered at 3 kW)).

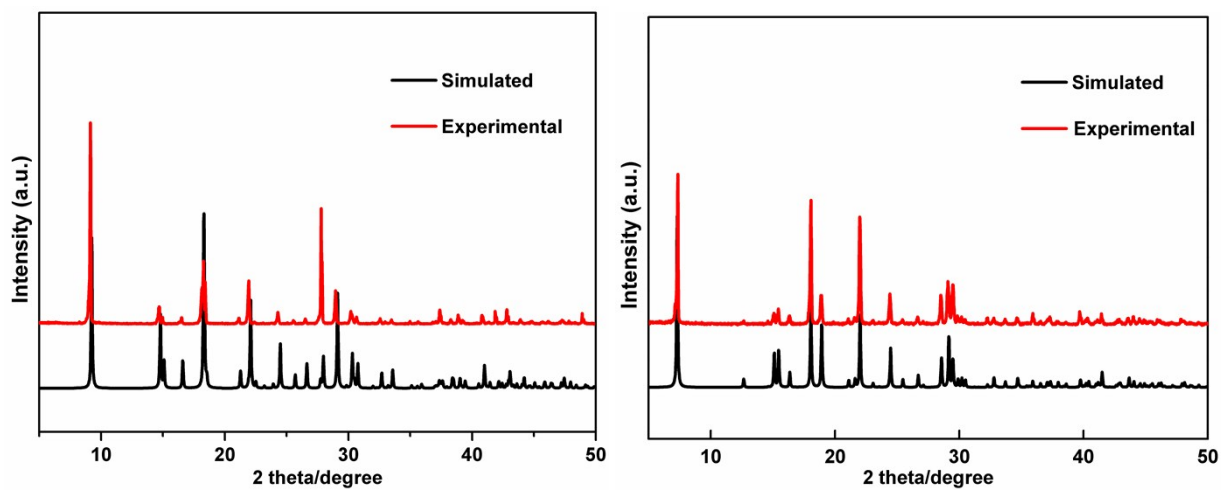


Fig. S3 PXRD patterns of **1** (left) and **2** (right).

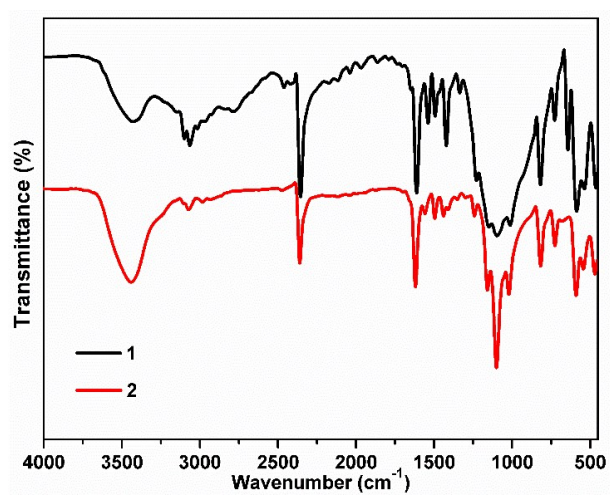


Fig. S4 The IR plots of **1** and **2**.

Table S1. Selected bond lengths (Å) and angles (°) for **1** and **2**

Compound 1			
N(1)-Zn(1)	2.058(5)	O(2)-Zn(1)#1	1.898(4)
O(1)-P(1)	1.509(4)	O(3)-P(1)	1.510(4)
O(1)-Zn(1)	1.920(4)	O(3)-Zn(1)#2	1.925(4)
O(2)-P(1)	1.513(5)		
C(5)-N(1)-Zn(1)	121.2(4)	O(3)-P(1)-O(2)	112.7(3)
C(1)-N(1)-Zn(1)	121.0(5)	O(2)#3-Zn(1)-O(1)	115.5(2)
P(1)-O(1)-Zn(1)	127.0(3)	O(2)#3-Zn(1)-O(3)#4	114.7(2)
P(1)-O(2)-Zn(1)#1	129.8(3)	O(1)-Zn(1)-O(3)#4	110.4(2)
P(1)-O(3)-Zn(1)#2	137.0(3)	O(2)#3-Zn(1)-N(1)	107.1(2)
O(1)-P(1)-O(3)	111.4(3)	O(1)-Zn(1)-N(1)	103.3(2)
O(1)-P(1)-O(2)	112.9(3)	O(3)#4-Zn(1)-N(1)	104.6(2)
Compound 2			
N(1)-Zn(1)	2.056(3)	O(2)-Zn(1)#2	1.919(2)
O(1)-P(1)	1.507(3)	O(3)-P(1)	1.516(2)
O(1)-Zn(1)#1	1.909(2)	O(3)-Zn(1)	1.914(2)
O(2)-P(1)	1.515(2)		
C(5)-N(1)-Zn(1)	119.5(2)	O(2)-P(1)-O(3)	111.47(13)
C(1)-N(1)-Zn(1)	122.8(2)	O(1)#3-Zn(1)-O(3)	114.18(10)
P(1)-O(1)-Zn(1)#1	130.45(15)	O(1)#3-Zn(1)-O(2)#4	114.33(10)
P(1)-O(2)-Zn(1)#2	137.20(15)	O(3)-Zn(1)-O(2)#4	112.20(10)
P(1)-O(3)-Zn(1)	126.70(14)	O(1)#3-Zn(1)-N(1)	106.46(12)
O(1)-P(1)-O(2)	113.32(14)	O(3)-Zn(1)-N(1)	103.95(10)
O(1)-P(1)-O(3)	112.20(14)	O(2)#4-Zn(1)-N(1)	104.46(11)
Symmetry codes: For 1 : (#1) -x+1, y+1/2, -z+1/2; (#2) x, -y+5/2, z+1/2; (#3) -x+1, y-1/2, -z+1/2; (#4) x, -y+5/2, z-1/2. For 2 : (#1) -x+1/2, y-1/2, -z+3/2; (#2) x, -y, z-1/2; (#3) -x+1/2, y+1/2, -z+3/2; (#4) x, -y, z+1/2.			