

Supporting Information

Synthesis, crystal structures, DNA interactions, and antitumor activity of two new dinuclear copper(II) complexes with thiazole ligand

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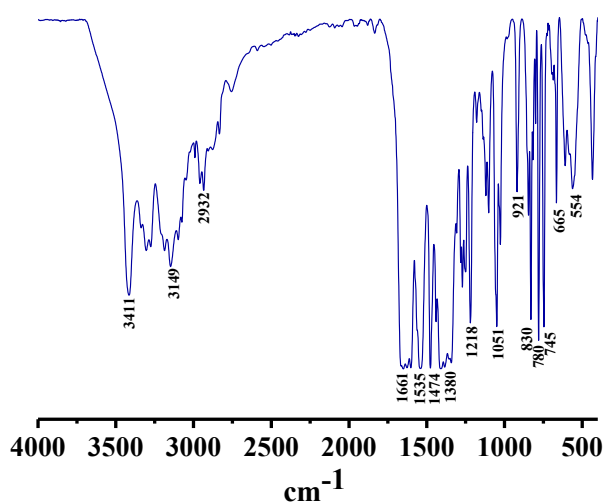


Fig. S1. IR spectrum of the complex 1.

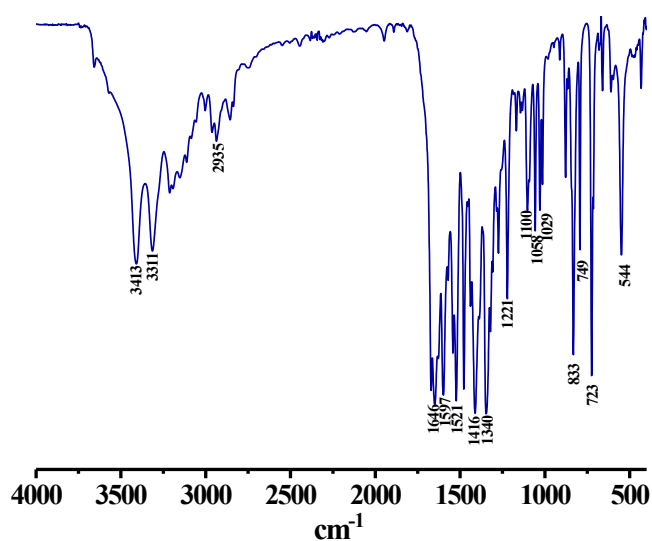


Fig. S2. IR spectrum of the complex 2.

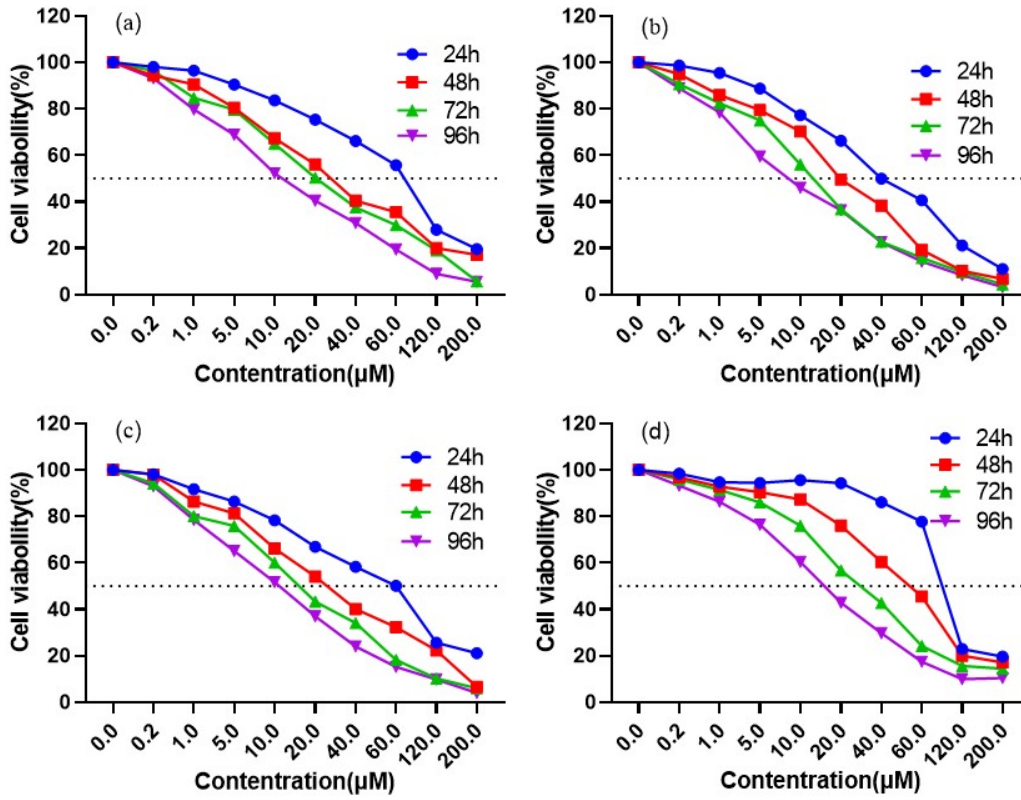


Fig. S3. Effects of $[\text{Cu}(\text{ambt})_2(\text{cnba})_4]$ on cell viability and proliferation in cell lines A549 (a), HeLa (b), and HepG2 (c), LO2 (d).

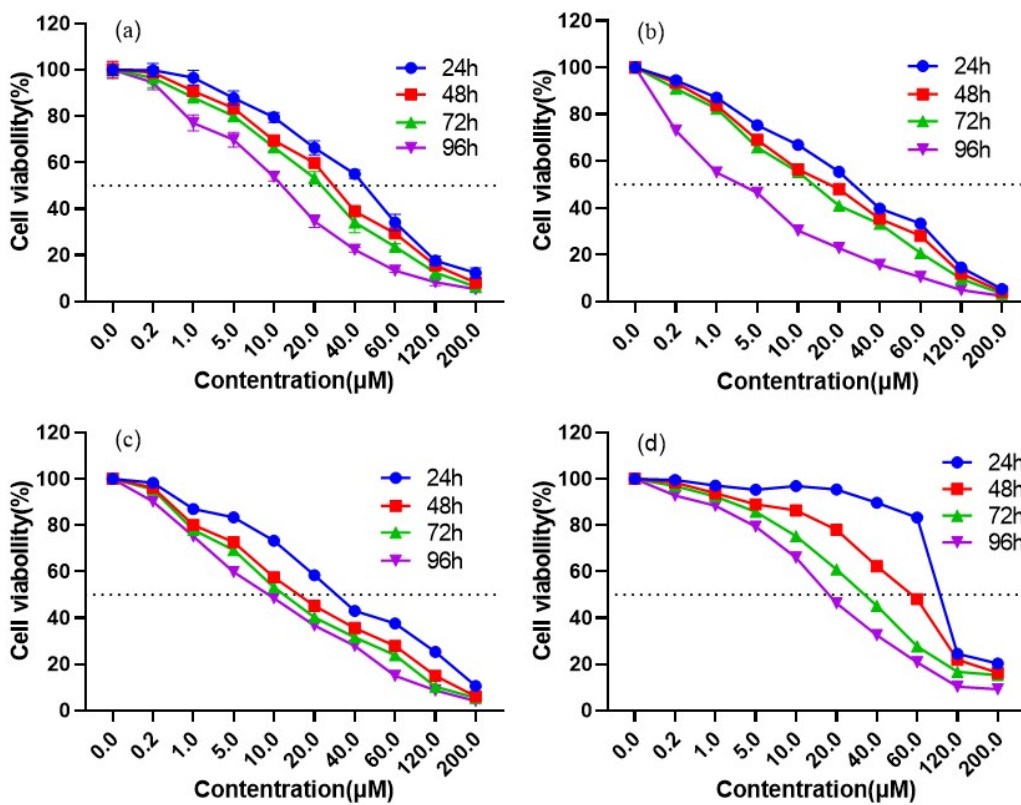


Fig. S4. Effects of $[\text{Cu}(\text{ambt})_2(\text{clba})_4]$ on cell viability and proliferation in cell lines A549 (a), HeLa (b), and HepG2 (c), LO2 (d).

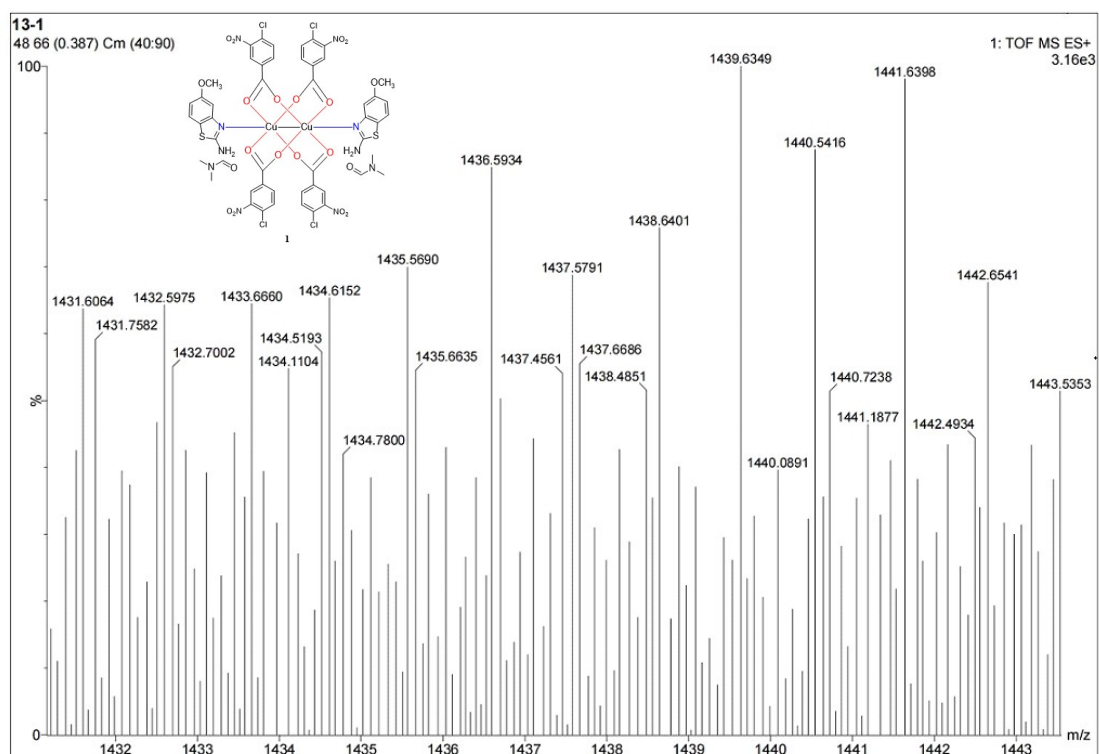


Fig. S5. ESI-MS spectrum of $[\text{Cu}(\text{ambt})_2(\text{cnba})_4]$.

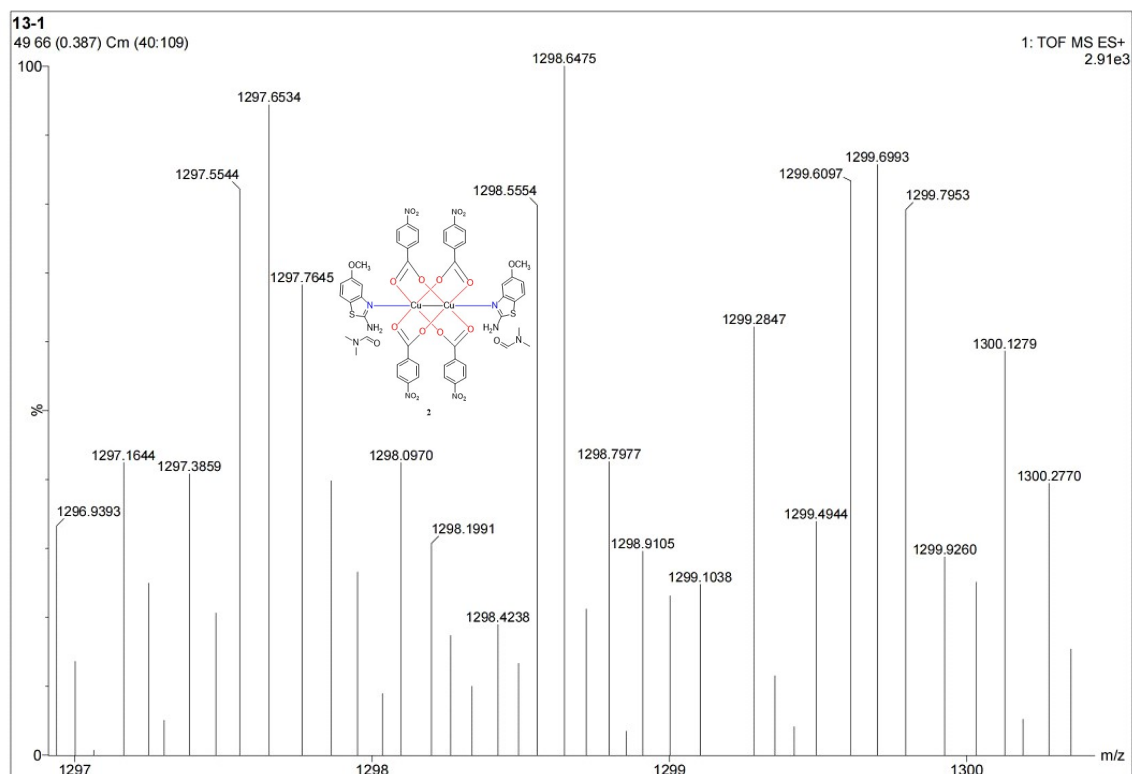


Fig. S6. ESI-MS spectrum of $[\text{Cu}(\text{ambt})_2(\text{clba})_4]$.

Table S1. Bond lengths and bond angles parameters for $[\text{Cu}(\text{ambt})_2(\text{cnba})_4]$ and $[\text{Cu}(\text{ambt})_2(\text{clba})_4]$.

Bond length (Å)

[Cu(ambt) ₂ (cnba) ₄]		[Cu(ambt) ₂ (clba) ₄]	
Cu(1)-O(1)	1.9640(13)	Cu(1)-O(3)#1	1.956(2)
Cu(1)-O(4)#1	1.9850(13)	Cu(1)-O(4)#1	1.971(2)
Cu(1)-N(1)	2.1453(17)	Cu(1)-N(1)	2.163(2)
O(3)-Cu(1)#1	1.9873(13)	O(3)-Cu(1)#1	1.9558(19)
Cu(1)-O(2)	1.9713(13)	Cu(1)-O(2)	1.9723(19)
Cu(1)-O(3)#1	1.9873(13)	Cu(1)-O(1)	1.989(2)
Cu(1)-Cu(1)#1	2.7290(4)	Cu(1)-Cu(1)#1	2.6970(6)
O(4)-Cu(1)#1	1.9850(13)	O(4)-Cu(1)#1	1.971(2)

Bond angle (°)

[Cu(ambt) ₂ (cnba) ₄]		[Cu(ambt) ₂ (clba) ₄]	
O(1)-Cu(1)-O(2)	88.33(6)	O(3)#1-Cu(1)-O(2)	166.78(8)
O(1)-Cu(1)-O(4)#1	89.71(6)	O(3)#1-Cu(1)-O(4)#1	88.86(9)
O(2)-Cu(1)-O(4)#1	165.95(6)	O(2)-Cu(1)-O(4)#1	88.53(9)
O(1)-Cu(1)-O(3)#1	165.99(6)	O(3)#1-Cu(1)-O(1)	89.46(8)
O(2)-Cu(1)-O(3)#1	90.00(6)	O(2)-Cu(1)-O(1)	90.14(8)
O(4)#1-Cu(1)-O(3)#1	88.54(6)	O(4)#1-Cu(1)-O(1)	166.84(8)
O(1)-Cu(1)-N(1)	97.71(6)	O(3)#1-Cu(1)-N(1)	100.11(9)
O(2)-Cu(1)-N(1)	99.21(6)	O(2)-Cu(1)-N(1)	93.09(9)
O(4)#1-Cu(1)-N(1)	94.84(6)	O(4)#1-Cu(1)-N(1)	98.46(9)
O(3)#1-Cu(1)-N(1)	96.28(6)	O(1)-Cu(1)-N(1)	94.69(9)
O(1)-Cu(1)-Cu(1)#1	84.85(4)	O(3)#1-Cu(1)-Cu(1)#1	85.78(6)
O(2)-Cu(1)-Cu(1)#1	87.53(4)	O(2)-Cu(1)-Cu(1)#1	81.09(6)
O(4)#1-Cu(1)-Cu(1)#1	78.44(4)	O(4)#1-Cu(1)-Cu(1)#1	85.33(6)
O(3)#1-Cu(1)-Cu(1)#1	81.18(4)	O(1)-Cu(1)-Cu(1)#1	81.52(6)
N(1)-Cu(1)-Cu(1)#1	172.83(4)	N(1)-Cu(1)-Cu(1)#1	173.01(6)
C(14)-O(1)-Cu(1)	122.27(13)	C(14)-O(1)-Cu(1)	125.41(18)
C(7)-O(2)-Cu(1)	118.38(12)	C(7)-O(2)-Cu(1)	125.71(18)
C(14)-O(3)-Cu(1)#1	125.30(13)	C(7)-O(3)-Cu(1)#1	120.76(18)
C(7)-O(4)-Cu(1)#1	128.64(12)	C(14)-O(4)-Cu(1)#1	121.72(18)
C(15)-N(1)-Cu(1)	122.66(14)	C(15)-N(1)-Cu(1)	122.83(19)
C(16)-N(1)-Cu(1)	126.52(13)	C(16)-N(1)-Cu(1)	124.41(18)