

## Supporting Information

### Nuclease activity and protein-binding properties of a novel tetranuclear thiosemicarbazide Pt(II) complex

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#### Figure captions:

**Figure S1** IR spectrum of HAm4M.

**Figure S2** IR spectrum of complex **1**.

**Figure S3** (a) ESI-MS spectrum of  $[\text{Pt}_4(\text{Am4M})_4]$  (**1**) showing the parent ion peak in MeOH.

The peak corresponds to  $\text{M}+\text{H}^+$  species. (b) ESI-MS spectrum of  $[\text{Pt}_4(\text{Am4M})_4]$  (**1**) showing an enlarged view.

**Figure S4** Packing diagram of **1** viewed along the crystallographic [101] showing (a) weak coordinated bonds and (b) extensive  $\pi$ - $\pi$  stackings.

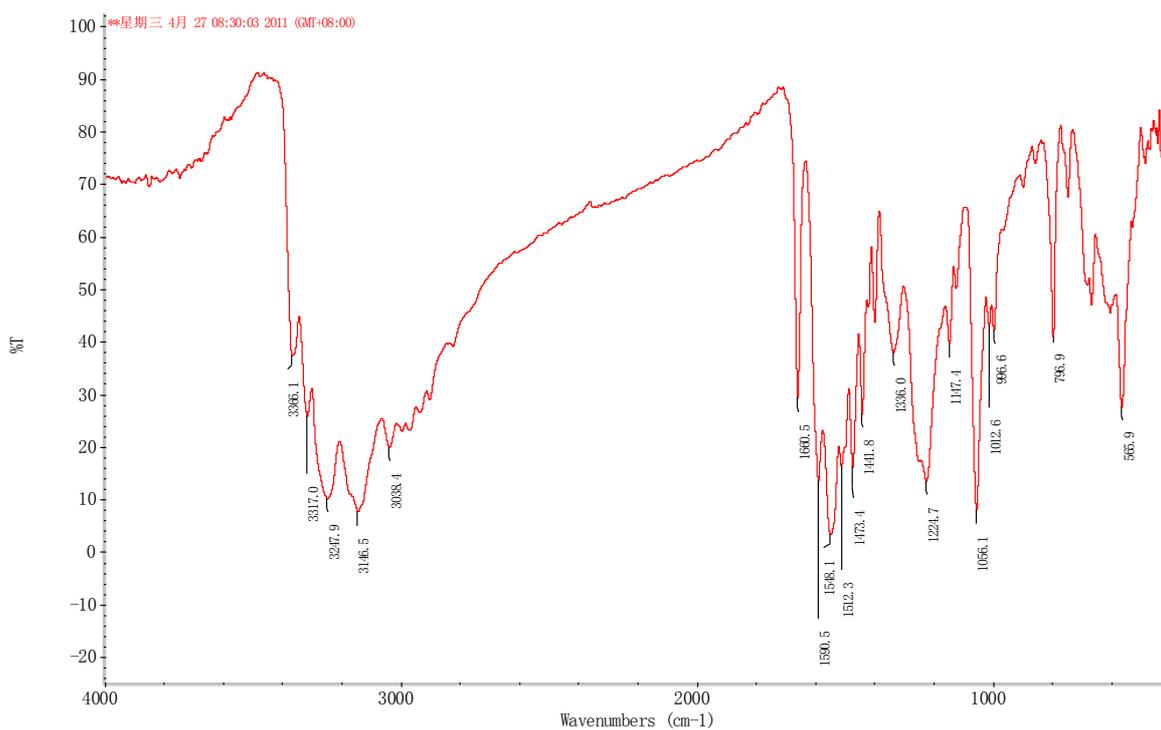
**Figure S5** Absorption spectral traces of **1** in the buffer solution at five different time points (0 min, 30 min, 60 min, 90min and 3h). There was no significant spectral change during the spectral measurements.

**Figure S6** Gel electrophoresis diagrams showing the cleavage of SC pBR322 DNA (40 ng) incubated with **1** in a buffer containing 10% DMF at 37 °C for 2 h. Lane 1: DNA control; Lanes 2–8: DNA + **1** (1, 2, 3, 4, 5, 6 and 7  $\mu\text{M}$ , respectively.)

**Figure S7** Gel electrophoresis diagrams showing the cleavage of SC pUC19 DNA (100 ng) incubated with **1** at 37 °C for 1 h.  $\text{D}_2\text{O}$  was used for dilution of **1** to a volume of 20  $\mu\text{L}$  for lane 3 and 5. Lane 1: DNA control; Lane 2: DNA + **1** (4  $\mu\text{M}$  in  $\text{H}_2\text{O}$ ); Lane 3: DNA + **1** (4  $\mu\text{M}$  in  $\text{D}_2\text{O}$ ); Lane 4: DNA + **1** (5  $\mu\text{M}$  in  $\text{H}_2\text{O}$ ); Lane 5: DNA + **1** (5  $\mu\text{M}$  in  $\text{D}_2\text{O}$ ).

**Figure S8** Fluorescence spectra of BSA [ $c(\text{BSA}) = 3 \times 10^{-5} \text{ M}$ ] in the various concentrations of **1** [ $c(\text{complex } \mathbf{1}) = 0-5.96 \times 10^{-6} \text{ M}$ ] at 288 K (a) and 308 K (b), respectively.

**Table S1** The cleavage of SC pBR322 DNA (40 ng) by  $[\text{Cu}(\text{}^t\text{BuPhimp})(\text{Cl})]$  and **1** ( $\mu\text{M}$ ) at 37 °C for 2 h. (- negative, + positive)



**Figure S1** IR spectrum of HAM4M.

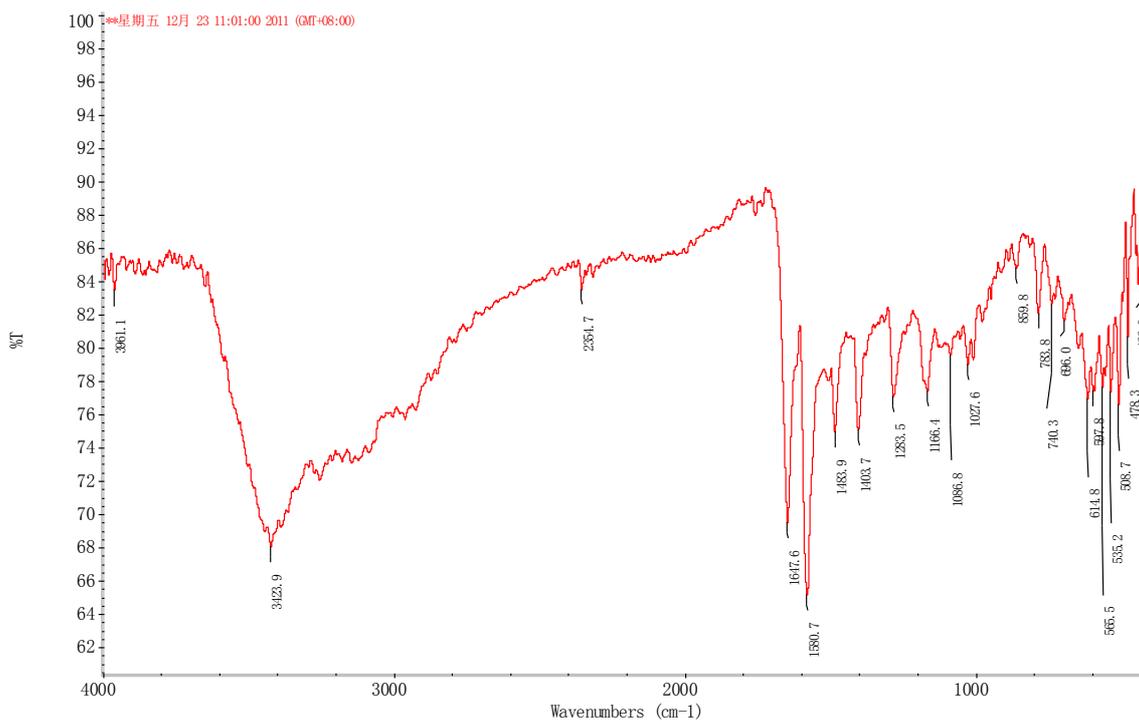
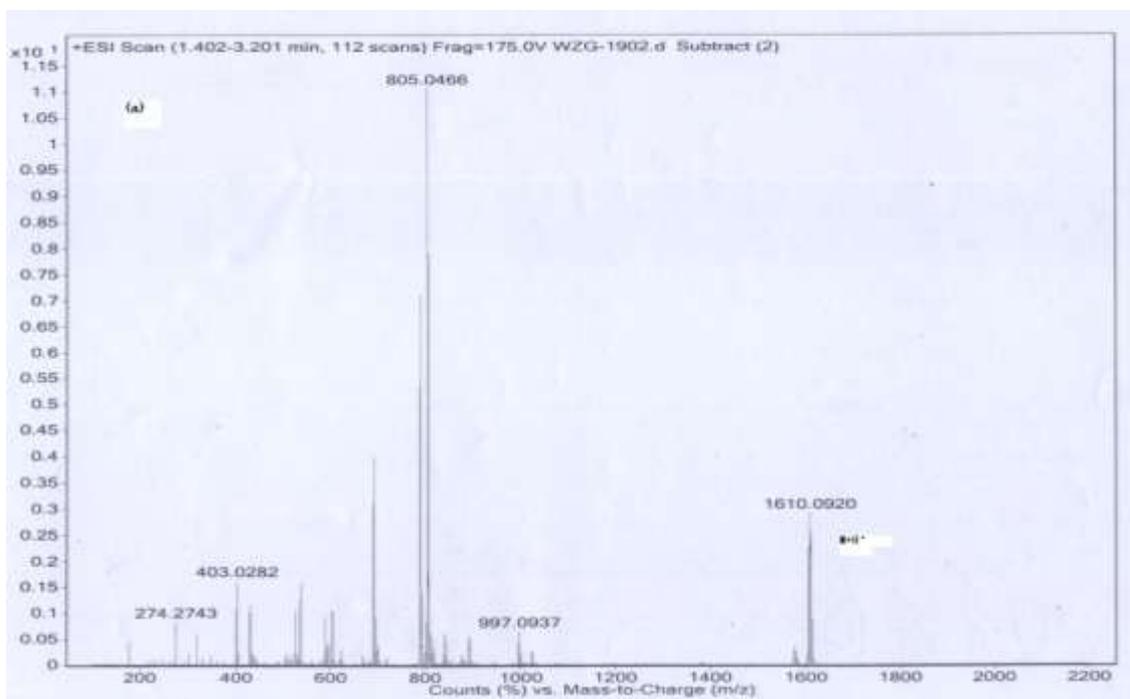
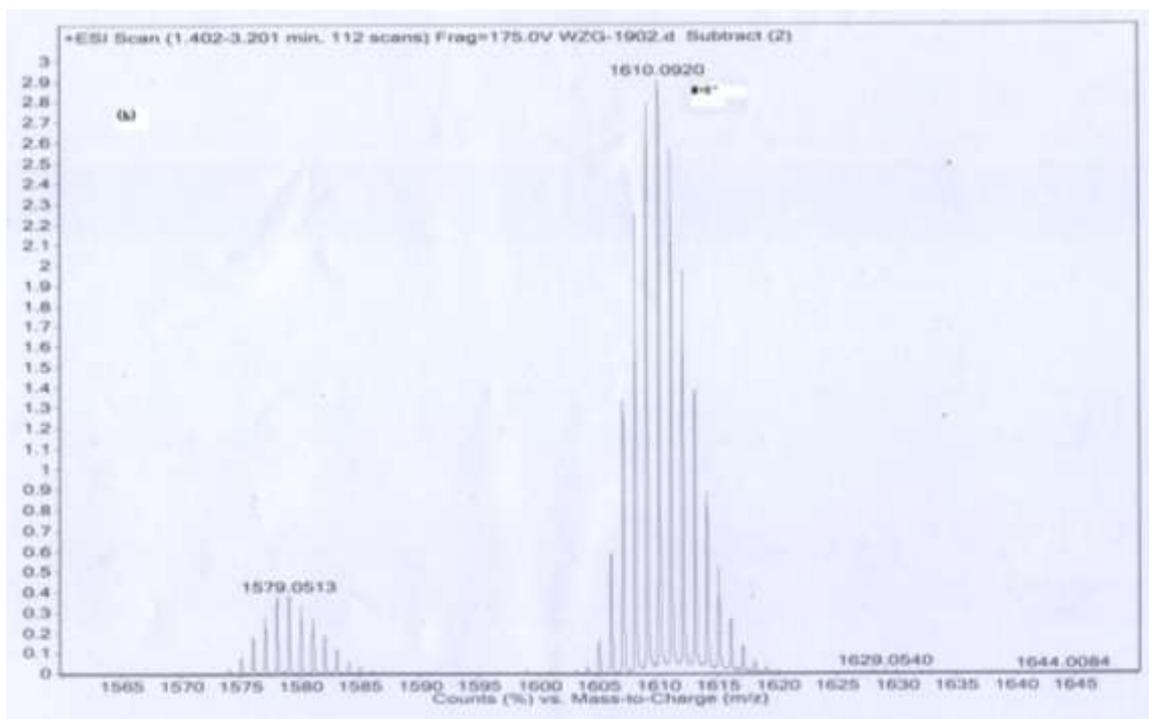


Figure S2 IR spectrum of complex 1.

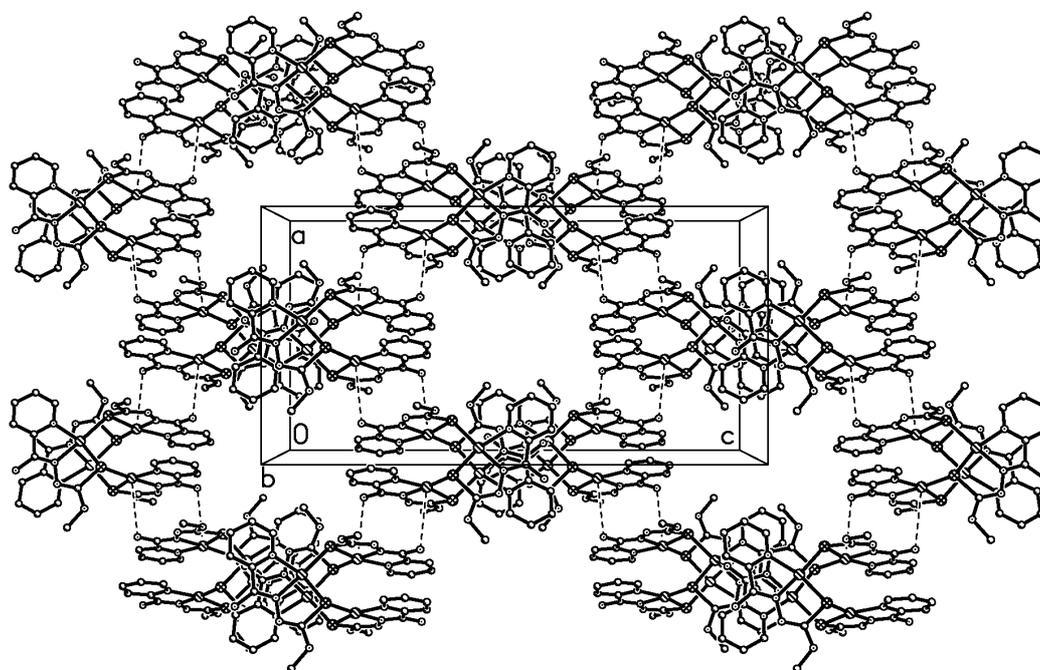


(a)

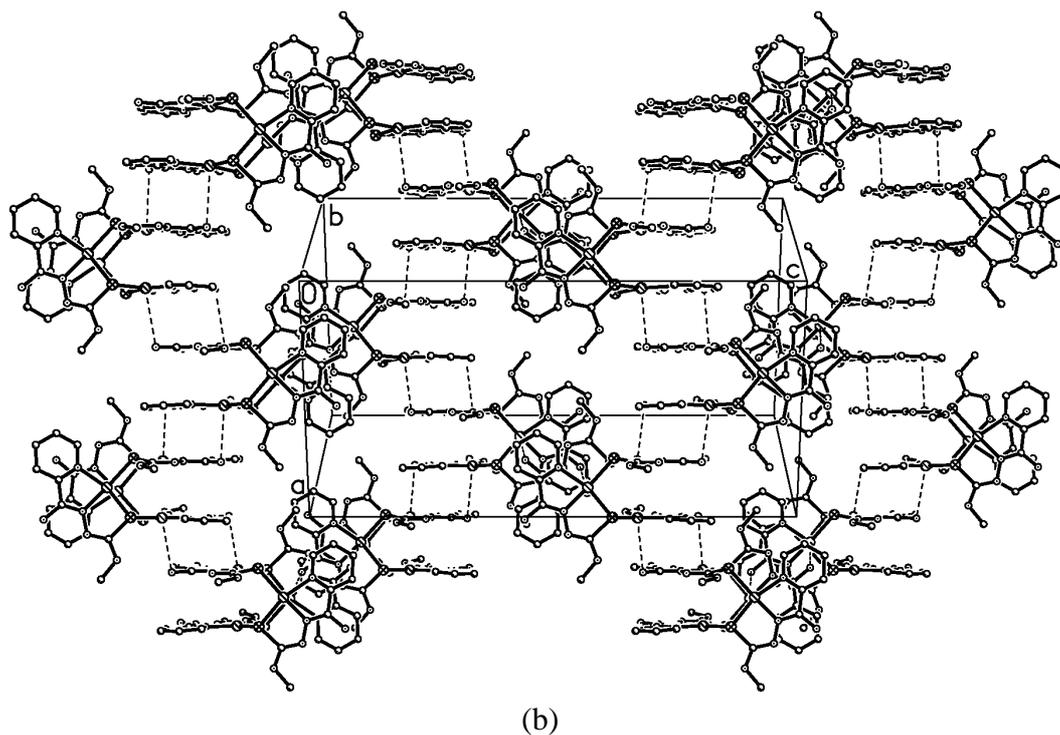


(b)

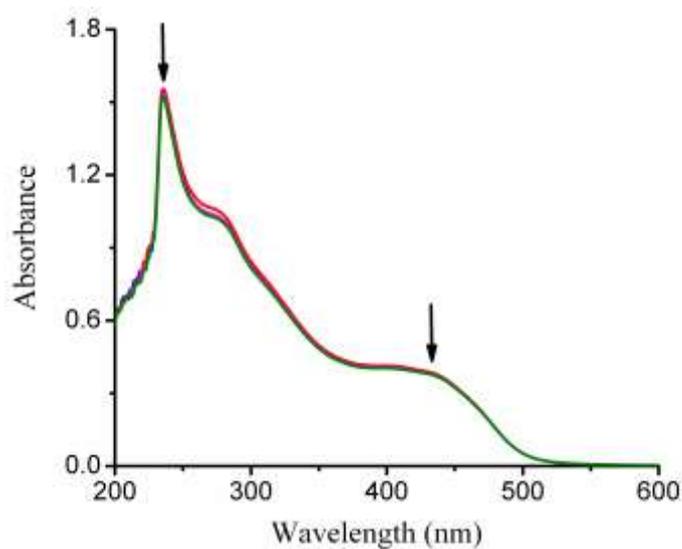
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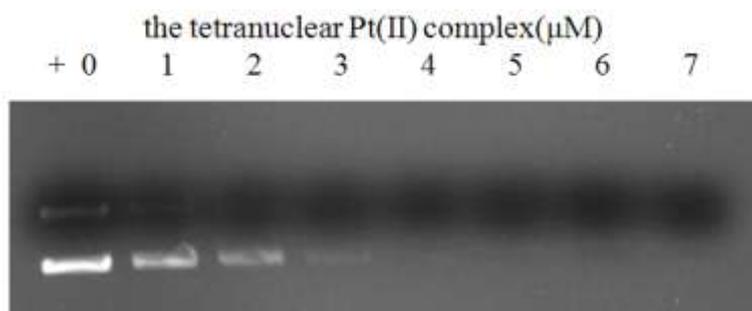
(a)



**Figure S4** Packing diagram of **1** viewed along the crystallographic [101] showing (a) weak coordinated bonds and (b) extensive  $\pi$ - $\pi$  stackings.



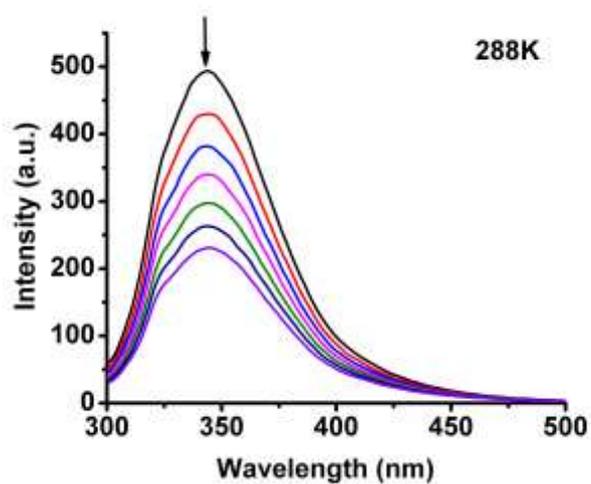
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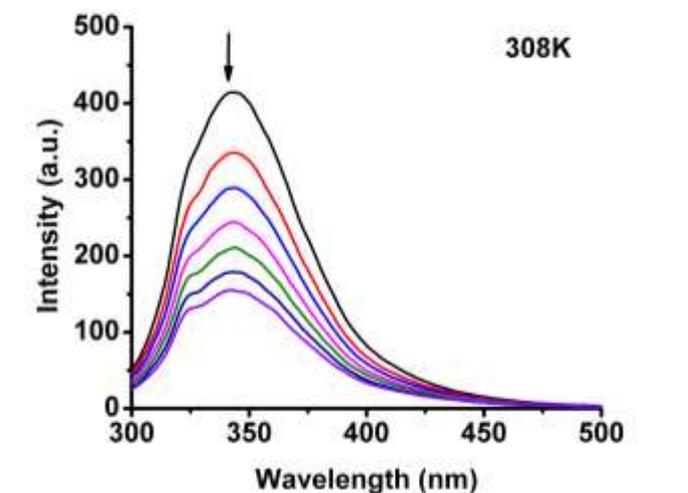
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(a)



(b)

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	$[\text{Cu}(\text{}^t\text{BuPhimp})(\text{Cl})]$	SC disappear	<b>1</b>	SC disappear
	( $\mu\text{M}$ )		( $\mu\text{M}$ )	
1	0	0	1	-
2	0	0	3	+
3	5	-	5	+
4	10	-	7	+
5	20	-		
6	50	+		
7	100	+		